

Increased Local Content Strategy of Toyota SA

By

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CONFIDENTIALITY CLAUSE

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TO WHOM IT MAY CONCERN

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DECLARATION

This research has not been previously accepted for any degree and is not being currently submitted in candidature for any degree.

Signed.....*Pillay*.....

Date.....*8-9-2003*.....*096382*

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ABSTRACT

The increased globalisation of the automotive industry of South Africa has brought with it both opportunities and threats for the various players. Companies taking advantage of the government's Motor Industry Development Plan have quickly learned that exporting both components and vehicles is the most suitable way forward. Toyota SA, in its new role as a global player has strategized that sourcing parts from local suppliers will give it the competitive advantage to then compete internationally. The company has planned to increase its local content targets from 40% to around 70% in the next few years.

The question that rises to the fore is "are the local suppliers able to cope in meeting this challenge?" This study explores the various issues faced by Toyota SA as well as its local suppliers in attempting to achieve these targets. While Toyota SA has to deliver the expectations of developed countries, it is faced by a local supplier base that for many reasons, lags behind the rest of the world. The study adopts classical techniques for analysis as well as recent techniques in evaluating the suitability of the increased localisation strategy. Finally, based on the impact of the various forces, recommendations are made as to the strong and weak points of the strategy.

Poor product development capabilities and technical/operational improvement requirements at suppliers, the lack of internal resources at Toyota SA and finally the weak second and lower tier supplier levels all emerge as issues to be addressed. These issues cannot be ignored for the implementation of the increased localisation strategy to be successful.

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1 CHAPTER ONE INTRODUCTION

1.1 Introduction

Motor vehicle manufacturers in South Africa have in the past been faced with a small domestic market, ageing supplier facilities, labour unrest as well as many other political and trade pressures. In addition to this they now have to contend with competition, from international manufacturers in the form of imports of completely built up units. Needless to say, the quality and price competitiveness of these imports cannot be ignored.

Various strategies have been implemented in the face of such competition. Toyota SA has in the past depended largely on imported components for their assembly requirements. Increased costs of importing components, a weakening SA rand, globalisation as well as the acquisition of Toyota SA by the Japanese parent company has made exporting of motor vehicles a very viable proposition. As the global market now becomes available and *global manufacturing* in strategic countries starts to take shape, the role of local component manufacturers rises to the fore.

While Toyota SA has been left to develop its own sub Saharan market, the quality of its exports to countries such as Australia and Europe are under the auspices of the international Toyota Motor Corporation. The question is, are all South African suppliers ready to compete with their international counterparts? The answer to this question forms the basis of the study. While many component manufacturers have been supplying tyres etc. to international markets for decades, more complex parts that require very advanced technologies are still being imported.

The drive to have such parts manufactured locally as well as to improve the quality and costs of existing parts forms the basic strategy of component localisation. Economic pressures are dictating that the percentage of local components be increased at a rapid pace to ensure that Toyota SA remains competitive and retains its market leadership position. Are the local suppliers able to cope?

1.2 Background to the study

The critical aspects of this study include Toyota's marketing, manufacturing and purchasing structures. The latter is closely intertwined with the supplier base. Each of these will be discussed briefly.

1.2.1 Marketing

Wednesday, July 17, 2002 marked an important milestone in the history of Toyota SA. It was the day when Toyota Motor Corporation (TMC) of Japan formally announced its acquisition of a majority shareholding in Toyota South Africa. Thus began a new and challenging era for Toyota SA as a member of the Toyota global community.

However, along with the many attractive market-opportunities presented by the global market come the pressures associated with competing in such markets. Automotive manufacturers globally are experiencing severe over-capacity in the highly industrialised countries. This over-capacity has resulted in the motor vehicle industry becoming increasingly competitive and subsequently high domestic wages and social costs in highly developed countries (HDCs) motivate vehicle manufacturers to move to the more economical production centres of less developed countries (LDCs).

Since 1961 Toyota SA has enjoyed consistent growth with the added status of domestic market leadership for 23 consecutive years. With the influx of new entrants such as Renaults, Peugeots, Citroens, Volvos etc. into South Africa, that market share is becoming increasingly difficult to retain. Hence the decision for TMC to invest in Toyota SA as a global manufacturer forms a perfect match for Toyota SA to complement its market share by exporting.

In order to sustain continued industry/market share growth, often under unfavourable market conditions, the focus continues to remain upon higher quality levels and cost cutting measures.

1.2.2 Manufacturing

Toyota SA boasts a modern assembly plant and several world-class satellite component-manufacturing divisions. The main plant has a capacity to produce over 460 vehicles daily spread across six different base models. Satellite operations, which feed into the main assembly plant, include:

- Toyota Stamping Division
- Tool and Die Manufacturing and
- Toyota Automotive Components.

Each of these business units was once an independent company, which was later vertically integrated into the supply chain. Other supply divisions such as engine machining, seat-manufacture and other smaller sections also support the assembly plant. Owing to the relatively high volume production, diverse model builds and minimum stockholding of parts, stable delivery of acceptable quality components is paramount to ensuring prevention of delays and line stoppages amounting to millions of rands. Being fitted off-line can accommodate short supply of some parts, however, non-standard practices such as these, result in additional costs of retro-fitment and possible quality defects through double handling.

1.2.3 Purchasing

The assembly operations rely upon four strategic options for sourcing their components:

- Complete knock-down (CKD)
- Multi-sourced parts (MSP)
- In-house manufacture (vertical integration) and
- Local vendors

A brief description of each follows:

CKD – in the past Toyota SA imported a large proportion of fully built up components for use in their assembly operations. However the higher costs of imports from the developed countries coupled with a weaker SA rand is making this an increasingly expensive option.

MSP – refers to the import of components from overseas countries other than Japan. Due to more competitive pricing than Japan, as well as improved quality, countries such as Thailand and Indonesia are able to supply components that were previously only obtainable from TMC.

In-house manufacture – where the importing of larger components such as body shells, seats, exhaust systems etc. was not economically viable, Toyota SA set up in-house operations or acquired local manufacturers through backward vertical integration to provide them.

Local Vendors – during the earlier years, local vendor sourcing represented about 40% of the assembled vehicle. With the current economic conditions it is seen that this option presents the most opportunities for acquiring significant cost reductions.

The following figure shows the flow of parts from the various sources into the Toyota assembly plant.

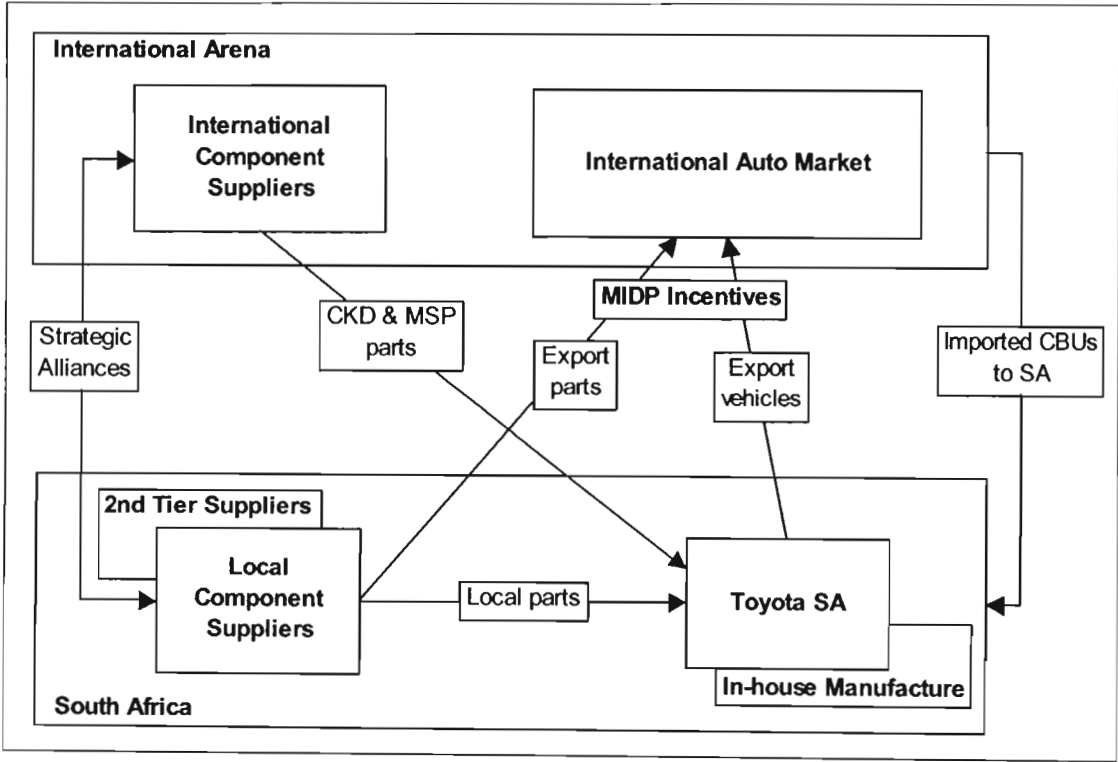


Figure 1.1 Schematic flow of parts into Toyota SA

The research will focus upon the last option. Within a space of 4-5 years the Purchasing Division of Toyota SA is planning to increase the local sourcing via vendors from 40 to 70%. While Toyota SA, although still gearing up for the challenges of global manufacturing, is ably supported by TMC, does the strategy match the resources and competencies of local vendors?

1.3 Literature Survey

The evaluation of this strategy will be done against a backdrop of theoretical models pertaining to strategic fit, strategic resource planning, implementing and evaluating strategies and so forth. Supporting information for the theory will be researched from local industry publications, books, company information, conferences and the Internet. In particular the following theoretical techniques will be reviewed:

1.3.1 Building resource strengths and organisation capabilities

The theoretical basis for the section will be referenced from Thompson and Strickland (2003). In order to support the implementation of an organisation's strategy, the appropriate people and structures have to be developed. It is people who implement and execute strategies, not companies. The discussion will list the bases that have to be covered to aid successful strategy implementation and execution.

1.3.2 Competitive Strategies

The above source will once again be referenced here with greater emphasis on Porter's (1980) five generic competitive strategies. Two strategies will be focussed on viz. low-cost and best-cost strategies, as they are considered to be most relevant to suppliers and to Toyota SA respectively. Theoretical suggestions for companies to be able to achieve these objectives will be researched. Furthermore, the gaining of competitive advantage through strategic alliances and vertical integration will be researched. The advantages and disadvantages of vertical integration strategies will be discussed as it is considered that this aspect remains a key issue in the Toyota - supplier relationship.

1.3.3 Strategic Alliances and Joint Ventures

Further to the theory under 1.3.2 above, specific theory relating to strategic alliances and joint ventures with *foreign* partners will be researched to support the underlying complexities related to this area.

1.3.4 The Role of Cultural Differences

The expansion into global arenas and the acquisition of Toyota SA by TMC demands that both Toyota SA and its suppliers are able to cope with the cultural differences that prevail between the local and Japanese business thinking. Particular areas related to communication and management style will be researched.

1.3.5 Strategy Evaluation

A specific technique suggested by Johnson and Scholes (2002) will be discussed. This is included in an attempt to answer the question of whether the strategy adopted by Toyota SA is a suitable one. Although the three criteria are suggested for the evaluation of strategies, only the *suitability* criterion will be focussed upon.

1.3.6 Impact Analysis

A technique suggested by Ambrosini (1988), will be researched as this has been found to be useful in extending the benefits of a basic SWOT analysis. The fundamental techniques will be described with a view to highlighting how the model can be used to identify key strengths and areas requiring improvement in the strategy.

1.4 Motivation for the Research

Apart from formulating long-term strategies in line with organisations' visions and missions, organisations have to often revise existing strategies or formulate business/divisional strategies in response to changing environmental conditions. Such responses have to be quick and decisive to avoid losing competitive advantages yet

well researched and analysed to ensure that the strategic remedy is not worse than the malady.

However few organisations have the luxury of having sufficient time and dedicated resources to engage in thorough exploration of all the major facets that bear upon their strategic choices. Therefore the purpose of this research is to explore the environment and attempt to assess via the use of an analytical framework, whether the strategic option adopted by the Purchasing Division is a suitable one.

1.5 The Importance and Benefit of the Study

Currently the Purchasing Division's increased localisation strategy is being translated into numerous departmental strategies. The impact therefore, of not taking into consideration the various strategic influences, is felt by the organisation not only in the short term but also in the longer term. Based on the Toyota philosophy of establishing a long-term partnership with vendors, the study will also serve to highlight the opportunities and challenges faced by vendors in formulating future divisional strategies.

As a secondary benefit, the needs analysis, based on problems faced by vendors, may perhaps be utilised as groundwork for the establishment of a supplier development resource within Toyota SA, to support local vendors. Although this initiative will serve the organisation, the spin-offs will be the uplifting of local vendors to world-class standards.

1.6 Problem Statement

“Are all South African automotive component suppliers capable of responding to the increased local content strategy of Toyota SA Motors?”

1.7 Objectives of the Study

There are many issues that impact on whether suppliers are capable of meeting the requirements of automakers. An analysis of **all** of the factors is considered to be

beyond the scope of this study. Hence the study will be narrowed to focus on three primary objectives viz.

- i. To determine the benefits gained by local automakers, Toyota SA in particular and component manufacturers in increased local content.
- ii. To explore the challenges faced by most local component manufacturers in attempting to meet the demanding export requirements of Toyota SA.
- iii. To assess if Toyota SA's strategy, of increased local content is suitable at this point in time.

In this study references to either "increased local content" or "increased localisation" is deemed to portray the same meaning as these terms are used synonymously in the industry.

1.8 Research Methodology

The methodology will be qualitative in nature. The *Case Study* approach will be used as the method is seen to lend itself suitably to fully understanding and depicting the experiences of both Toyota SA and its suppliers under the current environment. The method will also allow for conducting comprehensive and in depth investigations.

Another advantage of the Case Study method is that it is considered to be a powerful means to illustrate the real situation. Limitations are also recognised, in that it is time consuming to collect, organise and describe the information and furthermore there will be difficulties in attempting to generalise the findings.

1.9 Limitations of the Project

As stated previously under "Objectives of the Study", to address **all** issues relating to **all** suppliers is beyond the scope of the study. When one considers that each supplier represents an organisational entity with its own cultures, strengths and shortfalls, the collective experiences can only be deemed meaningful when portrayed as trends and patterns. It is not the intention of this study to interview selected suppliers regarding

the challenges they face as it is considered that suppliers will not be entirely truthful in divulging such information to its customer.

In addition, most local suppliers to Toyota SA also supply components to other automakers. Information pertaining to supplier's successes or failures in supply of manufactured components to the other automakers is not readily available and therefore this issue will only be touched upon.

1.10 Structure of the Study

The proposed brief contents of the dissertation is as follows:

Chapter One – Introduction

The overview of the entire study will be included here

Chapter Two – Literature surveys and reviews

This chapter will cover the theoretical section of the project. Discussions will revolve around relevant strategic theories and models pertinent to the topic

Chapter Three – Case Study

The case study will describe the following areas in attempting to align itself to the framework of the theoretical models as well as the objectives of the study:

- Background to Toyota SA and its local suppliers
- The strategic supply options available to Toyota SA
- What makes increased local content a very attractive strategy to both automakers and component manufacturers?
- What are Toyota SA's requirements of its component manufacturers?

Chapter Four – Analysis

An analysis of the environment under which Toyota SA and its suppliers operate will be undertaken. In addition to views held by local organisations on the subject, the major part of the analysis will be based on the writers close interactions through meetings, conferences, audits and so forth, involving local suppliers over a period of

2-3 years as well as conclusions drawn by long-serving staff within Toyota SA. This will then be followed by an evaluation of the division's strategy against the models. Critical aspects of the case will be evaluated against specific models and theories with a view to assessing whether the division's strategy is suitable.

Chapter Five – Recommendations

The successes of the division's strategy will be emphasised as well as the aspects, which the strategy has failed to consider. Recommendations will be made on how to revise the divisional strategy to address the shortfalls in achieving a better strategic fit.

1.11 Summary

This chapter has outlined the approach to the entire study being undertaken. A brief description of the critical structures pertinent to the increased localisation strategy was given. This was followed by a review of the key literature sources and some of views proposed by authorities on the subject matter. The motivation, importance and benefit of the study, key objectives and limitations were identified. Finally the structure of the study was covered with brief notes on chapter contents.

2 CHAPTER TWO THEORY

2.1 Introduction

Management texts on strategy abound with theory on strategy formulation, implementation and formulation. It is considered that while many modern analytical techniques and views are of an academic nature, older, classical techniques, adapted to global businesses and the *new economy* are nevertheless suitable for 'broad-brush' exploratory studies such as the one envisaged in this dissertation.

Modern management employed in the fast-changing business world cannot afford to view the business challenges it faces in a static framework. The dynamism of unfolding global events forces management to continually resort to emergent rather than prescriptive strategies. Thus the setting of medium to long-term objectives, undertaken to address vital business needs, seldom explores all strategic issues impacting on an organisation. The utilisation of classic techniques coupled with relevant theories on strategic thinking in an exploratory study are therefore deemed useful in highlighting concerns that may otherwise be overlooked or attributed a lower priority in formal strategy formulation and implementation.

The *SWOT* analysis is one such technique. It is used in the study to examine the various forces that impact on suppliers and Toyota SA. Included in the discussion is the building of resources strengths and organisational capabilities. A discussion on generic competitive strategies is included from which more elaborate strategies can be based. Relevant theoretical extracts relating to the value chain are included. Particular attention is given to enhancing value through vertical integration and the formation of strategic alliances. A discussion on the effects of socio-cultural differences, primarily related to Japanese culture, is then included as this forms an underlying framework upon which business in Toyota operates. Next, a model relating to the assessment of suitability of strategies is presented. Further to the basic *SWOT* analysis, the technique of carrying out an impact analysis is discussed from which key variables can be identified. Finally the economic concepts of *local content* and the South African *MIDP* are discussed, as a backdrop against which the case study is based.

2.2 Building Resource Strengths and Organisational Capabilities

Thompson and Strickland (2003) suggest that whereas crafting strategy is largely a market-driven activity, implementing strategy is primarily an operations-driven activity revolving around the management of people and business processes. Furthermore, whereas successful strategy *making* depends on business vision, shrewd industry and competitive analysis and good resource fit, successful strategy *implementation* depends on a good job of leading, working with and through others, allocating resources, building and strengthening competitive capabilities, installing strategy-supportive policies, and shaping how the organisation performs its core business activities. *Executing* strategy is an action-oriented, make-things-happen task that tests a manager's ability to direct organisational change, motivate people, develop core competencies, build valuable organisational capabilities, achieve continuous improvement in business processes, create a strategy-supportive culture, and meet or beat performance targets.

2.2.1 Executing Strategy

Thompson and Strickland (2003) suggest that implementing and executing strategy entails converting the organisation's strategic plan into action and then into results. While, in this context the organisation refers to the company carrying out the strategy, it is considered that it could also apply to Toyota's supplier base as they in turn need to respond with their own strategies. Hence the model for building resource strengths and capabilities will be used for suppliers as well.

Although there are no checklists for tackling the implementation process, Thompson and Strickland (2003) suggest that while managers should tailor their approaches to each situation, certain 'bases' have to be covered no matter what the organisation's circumstances; these include:

- a) Building an organisation with the competencies, capabilities, and resource strengths to carry out the strategy successfully.
- b) Developing budgets to steer ample resources into those value chain activities critical to the strategic success.
- c) Establishing strategy-supportive policies and procedures.

- d) Instituting best practices and pushing for continuous improvement in how value chain activities are performed.
- e) Installing information, communication, e-commerce, and operating systems that enable company personnel to carry out their strategic roles successfully.
- f) Tying rewards and incentives to the achievement of performance objectives and good strategy execution.
- g) Creating a strategy-supportive work environment and corporate culture.
- h) Exerting the internal leadership needed to drive implementation forward and keep improving on how the strategy is being executed.

Thompson and Strickland (2003) add that one or two of these tasks usually end up being more crucial or time-consuming than others, depending on whether there are important resource weaknesses to correct or new competencies to develop, the strength of ingrained behaviour patterns that have to be changed, any pressures for quick results and near-term financial improvements, and any other such factors particular to the companies circumstances.

2.2.2 Building a Capable Organisation

Thompson and Strickland (2003) consider building a capable organisation a top priority in strategy execution as proficient strategy execution depends heavily on competent personnel, better-than-adequate competitive capabilities, and effective internal organisation. They suggest that three types of organisation-building actions are paramount viz. staffing the organisation, building core competencies and competitive capabilities and structuring the organisation and work effort.

2.2.2.1 *Staffing the organisation*- includes putting together a strong management team, and recruiting and retaining employees with the needed experience, technical skills, and intellectual capital.

The following are given as practices used by some of the best companies to develop their knowledge base and build intellectual capital:

- a) Spend considerable time and effort in screening, evaluating job applicants and selection.
- b) Put employees through training programs in their early as well as later years.

- c) Give them challenging, interesting and skill-stretching assignments.
- d) Rotate them through jobs.
- e) Encourage employees to be creative and innovative, to challenge existing ways of doing things and offer better ways, and to submit ideas for new products or businesses.
- f) Foster a stimulating and engaging work environment.
- g) Exert efforts to retain high-potential, high performing employees.

2.2.2.2 *Building core competencies and competitive capabilities* that will enable good strategy execution and then keeping the competence/capability portfolio updated as strategy and external conditions change.

The following actions are suggested to achieve this:

- a) Develop and strengthen core competencies
- b) Develop and strengthen organisation capabilities
- c) Update and reshape competencies and capabilities as external conditions and company strategy change
- d) Use training as an important strategic activity.

2.2.2.3 *Matching organisation structure to strategy* - organising business functions and processes, value chain activities, and decision-making in a manner conducive to successful strategy execution.

There are few hard-and-fast rules for organising the work effort to support strategy. Despite the need for situation-specific structures, the following considerations are common to all companies.

- a) Identifying strategy-critical activities.
- b) Deciding which value chain activities to perform internally and which to outsource from partners.
- c) Make internally performed strategy-critical value chain activities the main building blocks in the organisation structure.
- d) Decide how much authority to centralise at the top and how much to delegate to down-the-line managers and employees.
- e) Provide for cross-unit coordination and collaboration to build / strengthen internal competencies and capabilities.
- f) Provide for the necessary collaboration and coordination with outsiders.

In summary, all organisation structures have advantages and disadvantages; there is no one best way to organise. Functionally specialised organisation structures have traditionally been the most popular way to organise single-business companies. The drawbacks suggested viz. functional myopia, empire building, interdepartmental rivalries, excessive process fragmentation and vertically layered management hierarchies, are all, prevalent to a certain extent in both Toyota and within many of its suppliers.

2.3 Competitive Strategies

Porter (1980) lists five generic competitive strategies which companies use in their strategic approach. These include:

- A low-cost provider strategy
- A broad differentiation strategy
- A best-cost provider strategy
- A focussed strategy based on lower cost and
- A focussed strategy based on differentiation.

Of these the first and third ones will be explored in greater detail as they both have relevance to the study of suppliers and Toyota SA respectively.

2.3.1 Low-cost Provider Strategies

Thompson and Strickland (2003) suggest that to achieve cost advantage, a firm's cumulative costs across its value chain must be lower than competitor's cumulative costs. These may be achieved by:

- Doing a better job than rivals of performing internal value chain activities efficiently and of managing the factors that can drive down the costs of value chain activities
- Revamping the firm's value chain to bypass some cost-producing activities altogether.

With regard to the first avenue, Thompson and Strickland (2003) list nine major cost drivers that determine a company's costs in each activity segment of the chain.

2.3.1.1 Economies or diseconomies of scale - arise whenever activities can be performed more cheaply at larger volumes than smaller volumes and from the ability to spread out certain costs like R&D and shipping over a greater sales volume. In addition, astute management of activities subject to scale economies or diseconomies can be a major source of cost savings. Simplifying the product line, scheduling longer production runs for fewer models, and using common parts in different models can for example, achieve manufacturing economies. In global industries, making separate products for each country market instead of selling a mostly standard product world-wide tends to boost unit costs because of lost time in model changeover, shorter production runs, and inability to reach the most economic scale of production for each country model. With regard to *market share*, boosting local or regional market share can lower sales and marketing costs per unit, whereas opting for a bigger national share by entering new regions can create scale diseconomies unless and until market penetration in the newly entered regions reaches efficient proportions.

2.3.1.2 Learning and experience curve effects - the cost of performing an activity can decline over time due to economies of experience and learning. Thompson and Strickland (2003) suggest that experience-based cost savings can come from much more than just personnel learning how to perform their tasks more efficiently and the debugging of new technologies. Other valuable sources of learning / experience economies come from seeing ways to improve plant layout and work flows, making product design modifications that enhance manufacturing efficiency, redesigning machinery and equipment to gain increased operating speed and to tailor parts and components in ways that streamline the assembly process.

Astute managers make a conscious effort not only to capture learning benefits but also to keep the benefits proprietary. As will be seen later Toyota espouses

to a knowledge sharing philosophy not only to its suppliers but also directly and indirectly to competing motor manufacturers (Womack & Jones 1996).

2.3.1.3 The cost of key resource inputs - the cost of performing value chain activities depends in particular what a firm has to pay for key resource inputs. Firms do not all incur the same costs for items purchased from suppliers or for resources used in performing value chain activities. How well a company manages the costs of acquiring key resources is often a big driver of costs. These input costs are a function of three factors:

- a) *Union versus non-union labour* - avoiding the use of union labour is often a key to low-cost manufacturing, not just to escape paying high wages but rather to escape union work rules that stifle productivity. While union activity is very strong in the South African motor vehicles plants, the highly regulated labour legislation causes unionisation to be a deterrent among smaller suppliers. Hence various types of incentive schemes are offered to non-union employees to discourage unionisation.
- b) *Bargaining power vis-à-vis suppliers* - many large enterprises including the major motor vehicle producers, have used their bargaining clout in purchasing large volumes to wrangle good prices on their purchases from suppliers. Differences in buying power among industry rivals can be an important source of cost advantage or disadvantage. Suppliers in the South African tyre industry are constantly faced with a dilemma to supply large-volume contracts to the automakers against the higher profit alternative of supplying to the replacement market.
- c) *Location variables* - Locations differ in their prevailing wage levels, tax rates, energy costs, inbound and outbound shipping and freight costs etc. Opportunities may exist for reducing costs by relocating plants, field offices, warehousing, or headquarters operations. This is a significant factor in Toyota's purchasing strategies as, while the proximity to the port makes imported components more cost-viable, the geographic spread of the local suppliers creates a comparative disadvantage.

2.3.1.4 Link with other activities in the company or industry value chain - when the cost of one activity is affected by how other activities are performed, costs can

be managed downward by making sure that linked activities are performed in co-operative and co-ordinated fashion. For example, when a company's quality control costs or materials inventory costs are linked to the activities of suppliers, cost savings can be achieved by working co-operatively with key suppliers on the design of parts and components, quality-assurance procedures, just-in-time delivery, integrated materials supply, and online order processing. The costs of new product development can often be managed downwards by having cross-functional task forces, including representatives of suppliers, jointly work on R&D, product design and manufacturing plans. Links with forward channels can centre on location of warehouses, materials handling, outbound shipping and packaging. It is emphasised that effective coordination of linked activities anywhere in the value chain system holds potential for cost reduction.

2.3.1.5 Sharing opportunities with other organisational or business units within the enterprise - different product lines or business units within an enterprise can share administration systems, warehousing and distribution facilities or rely on common technical support teams. Such combining of like activities and sharing of resources across sister units can create significant cost savings. Cost sharing can also help achieve scale economies, shorten the learning curve in mastering a new technology, and/or promote fuller capacity utilisation. Furthermore the know-how gained in one division or geographic unit can be used to help lower costs in another; sharing know-how across organisational lines has significant cost-saving potential when the activities are similar and know-how is readily transferred from one unit to another.

2.3.1.6 The benefits of vertical integration versus outsourcing - partially or fully integrating into the activities of either suppliers or forward channel allies can allow an enterprise to detour suppliers or buyers with considerable bargaining power. Vertical integration forward or backward also has potential if there are significant cost-savings from having a single firm perform adjacent activities in the value chain. But, more often, it is cheaper to outsource certain functions and activities to outside specialists, who by virtue of their expertise and

volumes can perform the activity/function more cheaply. This cost driver will be expanded upon in the next section.

2.3.1.7 Timing considerations associated with first-mover advantages and disadvantages - this is not considered to be relevant to the study.

2.3.1.8 The percentage of capacity utilisation - capacity utilisation is a big cost driver for those value chain activities that have substantial fixed costs associated with them. Higher rates of utilisation allow depreciation and other fixed costs to be spread over a larger unit volume, thereby lowering fixed costs per unit. The more capital-intensive the business, or the higher the percentage of fixed costs as a percentage of total costs, the more important this cost driver becomes because there's such a stiff unit-cost penalty for under-utilising existing capacity. In such cases, finding ways to operate close to full capacity year-round can be an important source of cost advantage.

2.3.1.9 Strategic choices and operating decisions - a firm's costs can be driven up or down by a fairly wide assortment of managerial decisions.

Thompson and Strickland (2003) suggest several innovative ways to restructure processes and tasks and cut out low-value adding activities as a means of revamping the value chain. A selected few, which have relevance to both Toyota and its suppliers, are:

- *Shifting to e-business technologies* - the advent of electronic data interchange (EDI) has facilitated the spontaneous processing of orders between Toyota and its major suppliers
- *Simplifying product design* - utilising computer-assisted design techniques, reducing the number of parts, standardising parts and components across models and styles, shifting to an easy-to-manufacture product design all can simplify the value chain.
- *Shifting to a simpler, less capital-intensive, or more streamlined or flexible technological process* - computer-aided design and manufacture, or other flexible manufacturing systems, can accommodate both low-cost efficiency and product

customisation. Streamlined job flow, especially in assembly-type operations is a fundamental feature of Toyota Production Systems (TPS). Flexibility of production lines is also encouraged to minimise the duplication of similar equipment and also to facilitate quick changeover between different production runs.

- *Relocating facilities* - moving supplier plants closer to the assembly plant can help curtail outbound logistics costs for suppliers.
- *Reengineering core business processes to consolidate work steps and cut out low value-added activities* - major technological advances can be incorporated into manufacturing processes to yield high returns.

2.3.2 Best-Cost Provider Strategies

While low-cost strategies are suitable for most of Toyota's suppliers the company itself aims to be a best-cost provider. According to Thompson and Strickland (2003), best-cost provider strategies aim at giving customers *more value for money*. The objective is to deliver superior value to buyers by satisfying their expectations on key quality-service-features-performance attributes and beating their expectations on price (given what other motor manufacturers are charging for much of the same attributes). A company achieves best-cost status from an ability to incorporate attractive attributes at a lower cost than rivals. To become a best-cost provider, a company must have the resources and capabilities to:

- achieve good-to-excellent quality,
- incorporate appealing features,
- match product performance and so forth, all at a lower cost than rivals.

From a competitive positioning standpoint, best-cost strategies are a *hybrid*, balancing a strategic emphasis on low-cost against a strategic emphasis on differentiation (superior value). The market target is value-conscious buyers, perhaps a sizeable part of the market. The competitive advantage of a best-cost provider is lower costs than rivals in incorporating good-to-excellent attributes, putting it in a position to under-price rival brands with similar appealing attributes.

Furthermore, a best-cost provider strategy is very appealing in certain market situations. It is explained that in markets where buyer diversity makes product differentiation the norm and where many buyers are also sensitive to price and value, a best-cost provider strategy can be more advantageous than a pure low-cost producer strategy or a pure differentiation strategy keyed to product superiority. This is because a best-cost provider strategy can position itself near the middle of the market with either a medium-quality product at a below average price or with a very good product with a medium price. Often, substantial numbers of buyers prefer midrange products rather than cheap, basic products or the expensive products of top-of-the-line differentiators. Finally it is cautioned that unless a company has the resources, know-how, and capabilities to incorporate upscale product or service attributes at a lower cost than rivals, this strategy is ill advised.

2.3.3 Competitive Advantage through Strategic Alliances

Over the years, companies in all types of industries and in all parts of the world have formed strategic alliances and partnerships to complement their own strategic initiatives and strengthen their competitiveness in domestic and international markets. Thompson and Strickland (2003) view this as an about-face from times past when the vast majority of companies remained alone, confident that they already had or could independently develop whatever resources and know-how were needed to be successful in their markets. It is considered that in the case of South Africa, the country's isolation, during the apartheid years, forced many companies to have to develop on their own. Globalisation of the world economy, revolutionary advances in technology across a broad front, and untapped opportunities in national markets in Asia, Latin America and Europe that are opening up, deregulation, and/or undergoing privatisation have made strategic partnerships of one kind or another integral to a firm's competitiveness.

As a result, many companies now find themselves thrust in the midst of two very demanding competitive races:

- a) the global race to build a market presence in many different national markets and to establish an attractive position among the global market leaders and

- b) the technology race to capitalise on today's technological and information age revolution and build the resource strengths and business capabilities to compete successfully in the industries and product markets of the future.

Even the largest and most financially strong companies have concluded that simultaneously running the races for global market leadership and for a stake in the industries of the future requires more diverse and expansive skills, resources, technological expertise, and competitive capabilities than they can assemble and manage alone. As will be seen later, Toyota is a challenger in both of these races. Firstly, the global company has attained second position among the global auto manufactures, despite having only started in the middle of the last century and secondly, it is pioneering the mass production of hybrid fuel vehicles.

The gaps in resources and competitive capabilities between local and global suppliers are clearly apparent in the disadvantaged local companies. Toyota SA has realised that to allow such gaps to go un-addressed can endanger the company's competitive position. When rivals can develop new products faster or achieve better quality at lower cost or have more resources and know-how to exploit opportunities in attractive new market arenas, a company has little option but to try to close the gap quickly; the fastest way to do this is often with the capabilities and strengths of strategic allies. More and more companies are concluding that well-chosen alliances can allow them to bypass the comparatively slower and more costly process of building one's own capabilities internally to access new opportunities. Although Toyota SA has taken on the goal of striking up strategic alliances between some of its suppliers and world-class international counterparts, this is proving to be an arduous task, as will be discussed later.

2.3.4 Competitive Advantage through Vertical Integration

Both Toyota and its suppliers are involved in various levels of vertical integration. The importance of this competitive advantage is considered high enough to the study, to warrant a fuller discussion.

According to Thompson and Strickland (2003), vertical integration extends a firm's competitive scope within the same industry. It involves expanding the firm's range of

activities backward into sources of supply and/or forward toward end users of the final product. Thus, if a manufacturer invests in facilities to produce certain component parts that it formerly purchased from outside suppliers, it remains essentially in the same industry as before. The only change is that it has business units in two production stages in the industry's value chain. Vertical integration strategies can aim at *full integration* (participating in all stages of the industry value chain) or *partial integration* (building positions in selected stages of the industry's value chain). Furthermore a firm can accomplish vertical integration by starting its own operations in other stages in the industry's activity chain or by acquiring a company already performing the activities it wants to bring in-house.

2.3.5 Strategic Advantages of Vertical Integration

Thompson and Strickland (2003) state that unless vertical integration produces sufficient cost savings to justify the extra investment or adds materially to a company's technological and competitive strengths or truly helps differentiate its product offering, it has no real payoff profit-wise or strategy-wise. While a firm may integrate either forward or backward, forward vertical integration is not considered relevant to the study and will be omitted from the discussion.

Integrating backward generates cost savings only when the volume needed is big enough to capture the same scale economies suppliers have and when suppliers' production efficiency can be matched or exceeded with no drop-off in quality. The best potential for being able to reduce costs via backward integration exists in situations where suppliers have sizeable profit margins, where the item being supplied is a major cost component, and where the needed technological skills are easily mastered or can be gained by acquiring a supplier with the desired technological know-how. Integrating backward can sometimes significantly enhance a company's technological capabilities and give it expertise needed to stake out positions in the industries and products of the future.

Backward integration can also spare a company the uncertainty of being dependent on suppliers of crucial components or support services and it can lessen a company's vulnerability to powerful suppliers that raise prices at every opportunity. Stockpiling,

fixed-price contracts, multiple sourcing, long-term cooperative partnerships, or the use of substitute inputs are considered not always attractive ways for dealing with uncertain supply conditions or with economically powerful suppliers. When firms have to wait for shipments from their suppliers, this wreaks havoc in the company's own production and customer relations' activities, and backward integration can then be an advantageous strategic solution.

2.3.6 Strategic Disadvantages of Vertical Integration

Thompson and Strickland (2003) caution that vertical integration has some substantial drawbacks. Boosting a firm's capital investment in a particular industry is considered to increase the business risk, especially if the industry growth and profitability decline - this denies the financial resources to more worthwhile pursuits. A vertical integrated firm has vested interests in protecting its present investments in technology and production facilities. Because of the high costs of abandoning such investments before they are worn out, fully integrated firms tend to adopt new technologies slower than partially integrated or non-integrated firms. The second disadvantage is that integrating forward or backward locks a firm into relying on its own in-house activities and sources of supply (that later may prove to be more costly than outsourcing) and potentially results in less flexibility in accommodating buyer demand for greater product variety.

Thirdly, vertical integration can pose problems of balancing capacity at each stage in the value chain. The example of motor vehicle manufacturing is cited, where the most efficient scale of operation for making axles is different from the most economic volume for radiators and different again for both engines and transmissions. Producing just the right number of axles, radiators, engines, and transmissions - and doing so at the lowest unit costs for each - is the exception, not the rule. If internal capacity for making transmissions is deficient, the difference has to be bought externally. The generation of by-products - as occurs in the processing of many chemical products - require arrangements for disposal.

Fourth, integration forward or backward often calls for radically different skills and business capabilities. Parts and components manufacturing, assembly operations and

wholesale distribution among others are different businesses with different key success factors. Integrating backward into parts and components manufacture is not considered simple or profitable as it sometimes sounds.

Fifth, backward vertical integration into the production of parts and components can reduce a company's manufacturing flexibility, lengthening the time it takes to make design and model-changes and bring new products to market. Companies that alter designs and models frequently in response to shifting buyer preferences often find vertical integration into parts and components burdensome because of constant retooling and redesign costs and the time it takes to implement coordinated changes throughout the value chain. Outsourcing parts and components is often cheaper and less complicated than making them in-house, allowing a company to be more flexible and more nimble in adapting its product offering to fast-changing buyer preferences. Most of the world's automakers, despite their expertise in automotive technology and manufacturing, have concluded that purchasing many of their key parts and components from manufacturing specialists result in higher quality, lower costs, and greater design flexibility as compared to the vertical integration option of supplying their own needs via in-house manufacture.

2.4 Strategic Alliances and Joint Ventures with Foreign Partners

Thompson and Strickland (2003) propose the view that strategic alliances and cooperative agreements of one kind or another with foreign companies are a favourite and potentially fruitful means of strengthening a firm's competitiveness in world markets. Recently companies from different parts of the world have formed strategic alliances and partnership agreements to strengthen their mutual ability to serve whole continents and move toward more global market participation. Furthermore, of late, the number of alliances, joint ventures, and other collaborative efforts has exploded, involving joint research efforts, technology sharing, joint use of production facilities and joining forces to manufacture components or assemble finished products. One of the reasons stated for cooperative agreements between domestic and foreign companies is to fill gaps in technical expertise. Owing to the vast gaps in technical expertise between South African suppliers to the automotive industry and their

international counterparts, this is a key reason for Toyota SA strongly encouraging their suppliers to become involved in strategic alliances.

Risks - many pitfalls that could be faced by companies undertaking strategic alliances with foreign partners. The danger most relevant to the South African supplier situation is that of domestic hosts becoming overly dependent on the foreign company for essential expertise and capabilities over the long term. To be a serious market contender, a company must ultimately develop internal capabilities in all areas important to strengthening its competitive position and building a sustainable competitive advantage. When learning from allies holds only limited potential (because those allies guard their most valuable skills and expertise), acquiring or merging with a company possessing the desired know-how and resources is a better solution.

2.4.1 Benefiting from Strategic Alliances with Foreign Partners

Thompson and Strickland (2003) suggest that whether a company realises the potential of alliances and collaborative partnerships with foreign enterprises seems to be a function of six factors.

- a) *Picking a good partner* - one who shares the company's vision about the purpose of the alliance and has the desired expertise and capabilities.
- b) *Being sensitive to cultural differences* - unless the foreign company exhibits respect for the local culture and local business practices and unless there is good chemistry among key personnel, productive working relationships are unlikely to emerge.
- c) *Recognising that the alliance must benefit both sides* - Information must be shared as well as gained, and the relationship must remain forthright and trustful.
- d) *Ensuring that both parties live up to their commitments* - both parties have to deliver on their commitments for the alliance to produce the intended benefits.
- e) *Structuring the decision-making process so that actions can be taken swiftly when needed* - in many instances, technology and competitive changes occur at such a fast pace that decisions need to be made fast. If the parties get

bogged down in discussions among themselves or in gaining approval from higher-ups, the alliance can turn into an anchor of delay and inaction.

- f) *Managing the learning process and then adjusting the alliance agreement over time to fit new circumstances* - in today's fast moving markets, few alliances can succeed by holding only to initial plans. One of the keys to longevity and success is learning to adapt to change and adjusting the terms and objectives of the alliance as may be needed.

2.5 The Sociocultural Effect

2.5.1 Introduction

Hofstede (1980) defines culture as the collective programming of the mind, which distinguishes the members of one human group from another. ... Culture, in this sense, includes the system of values; and values are among the building blocks of culture.

Deresky (2002) states that an understanding of the local culture and business environment can give managers an advantage in competitive industries; foreign companies - no matter how big - can ignore those aspects to their peril. Such differences in culture and the way of life in other countries necessitate that managers develop international expertise to manage on a contingency basis according to the host-country environment. Powerful, interdependent factors in that environment - political, economic, legal, technological, and cultural - influence management strategy, functions and processes. Managers should never assume that they can successfully transplant American, or Japanese, or any other country's styles, practices, expectations, and processes. Instead they should practise a basic tenet of good management - contingency management. Contingency management requires managers to adapt to the local environment and people and to manage accordingly.

2.5.2 Layers of Culture

Hollensen (2001) states that the norms of behaviour accepted by the members of the company organisation become increasingly important with the company's internationalisation. When people, with increasingly diverse national cultural

backgrounds are hired by international firms, the layers of culture can provide a common framework to understand the various individual's behaviour and their decision-making process of how to do business. In his model of the different layers of culture, Hollensen (2001) believes that the behaviour of the individual person is influenced by different layers of culture. Furthermore, the national culture determines the values that influence business/industry culture, which then determines the culture of the individual company. The following model where the different levels are looked at from a 'nesting' perspective, and where the different culture levels are nested into each other in order to grasp the cultural interplay between the levels.

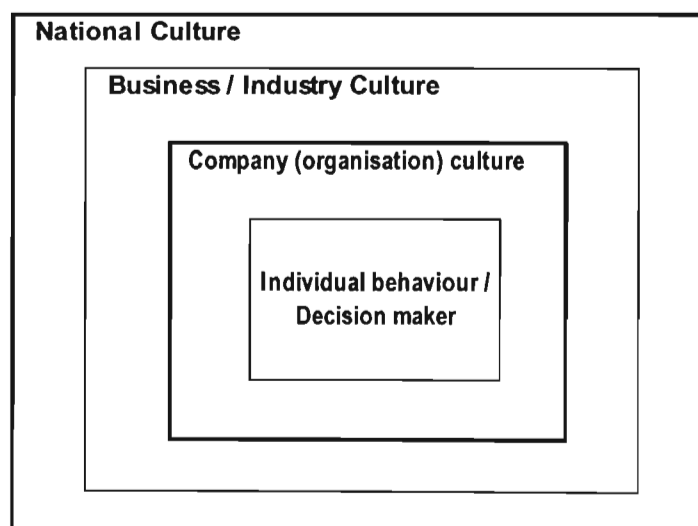


Figure 2.1 Layers of culture

Source: Hollensen (2001)

- *National culture* gives the overall framework of cultural concepts and legislation for business activities
- *Business / industry culture*. Every business is conducted within a certain competitive framework and within a specific industry.
- *Company culture (organisational culture)*. The total organisation often contains subcultures of various functions. Functional culture is expressed through the shared values, beliefs, meanings and behaviours of the members of a function within an organisation (e.g. marketing, finance, shipping, purchasing, top management and blue-colour workers).

- *Individual behaviour.* The individual is affected by the other cultural levels. In the interaction environment, the individual becomes the core person who 'interacts' with the other actors in industrial settings.

The effect of cultural differences is considered to play a significant role within the company, within supplier organisations and between the suppliers and Toyota SA. As Toyota SA faces the effect of increasing Japanese presence, so will local suppliers. To understand the background of TMC corporate culture necessitates an understanding of Japanese business culture.

2.5.3 Profile of Japanese Business Culture

Much of the Japanese culture - and the basis of working relationships - can be explained by the principle of *wa*, "peace and harmony" (Deresky 2002, p. 107). This principle, embedded in the value they attribute to *amae* ("indulgent love"), probably originated in the Shinto religion, which focuses on spiritual and physical harmony. *Amae* results in *shinyo*, which refers to the mutual confidence, faith, and honour necessary for successful business relationships.

Japan ranks high on pragmatism, masculinity, and uncertainty avoidance, and fairly high on power distance. At the same time, much importance is attached to loyalty, empathy, and the guidance of subordinates. The result is a mix of authoritarian and humanism in the workplace, similar to a family system. These cultural roots are evident in a very homogenous managerial value system, with strong middle management, strong working relationships, strong seniority systems that stress rank and an emphasis on looking after employees.

The principle of *wa* carries forth into the work group - the building block of Japanese business. The Japanese strongly identify and thus seek to cooperate with their work groups. The emphasis is on participative management, consensus problem solving, and decision making with a patient long-term perspective. Open expression or conflict is discouraged, and it is of paramount importance to avoid the shame of not fulfilling

one's duty. These elements of work culture result in a devotion to work, collective responsibility, and a high degree of employee productivity.

2.5.4 Decision-making in Japanese Companies

"It is the above culture of collectivism and shared responsibility that underlies the Japanese *ringi* system of decision-making" (Deresky 2002, p. 184). In the *ringi* system, the process works from the bottom up. Americans are used to a centralised system, where major decisions are made by upper-level management in a "top-down" approach typical of individualistic societies. The Japanese process, however, is dispersed throughout the organisation, relying on group consensus.

The *ringi* system is cumbersome and very time-consuming prior to the implementation stage, although implementation is facilitated because of the widespread awareness of and support for the proposal already gained throughout the organisation. This process is the opposite of the American's top-down decisions, which are made quite rapidly and without consultation, but which take some time to implement because unforeseen practical or support problems often arise. Furthermore, the Japanese spend considerable time in the early stages of the process defining the issue, considering what the issue is all about, and determining whether there is an actual need for a decision. However, in a rapidly changing environment, quick decisions are often necessary - to respond to competitors' actions, a political uprising, and so forth - and it is in these contexts that the *ringi* system sometimes falls short because of its slow response rate.

2.5.6 High- and Low-context Cultures

Hollensen (2001) cites the 'high and low contexts' concept of Edward T. Hall (1960), as a way of understanding different cultural orientation. The model is useful in describing how suppliers have to switch between the extremes of German and Japanese cultural contexts.

- *Low-context cultures* rely on spoken and written language for meaning. Senders of messages encode their messages, expecting that the receivers will accurately decode the words used to gain a good understanding of the intended message.
- *High-context cultures* use and interpret more of the elements surrounding the message to develop their understanding of the message. In high-context cultures, the social importance and knowledge of the person and social setting add extra information, and will be perceived by the message-receiver.

The figure below shows the contextual differences in cultures around the world. At one extreme are the low-context cultures of northern Europe and at the other extreme are the high-context cultures. The Japanese have a complex way of communicating with people according their socio-demographic background. Hollensen (2001) states that the greater the context difference between those trying to communicate, the greater the difficulty in achieving accurate communication.

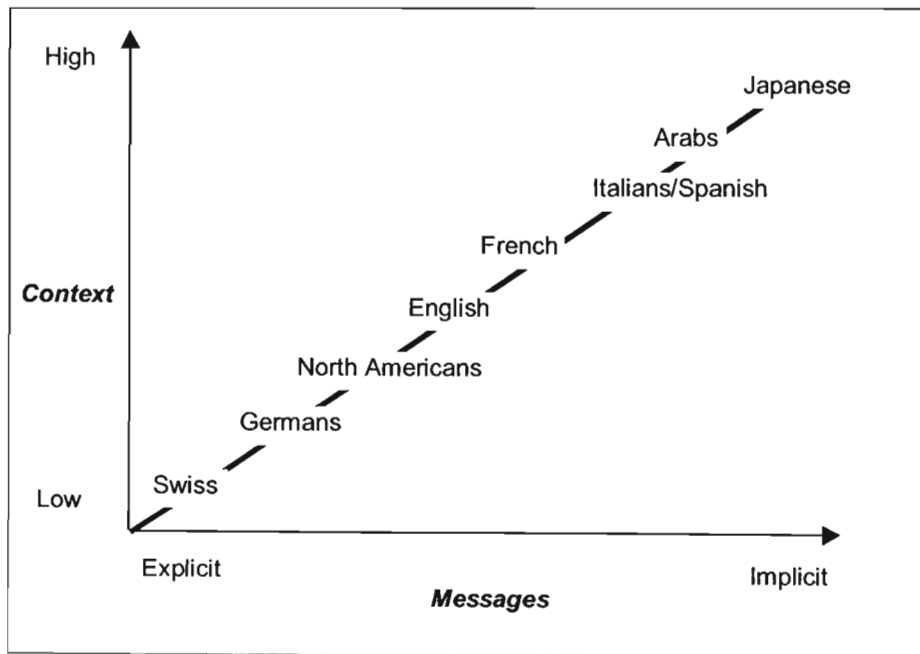


Figure 2.2 The Contextual continuum of differing cultures
Source: Hollensen (2001)

2.5.7 Elements of Culture

Hollensen (2001) includes the following elements, amongst others, in the concept of culture:

- Language, both verbal and non-verbal
- Manners and customs
- Technology and material culture
- Values and attitudes
- Aesthetics

Each of these elements plays a different role in the business environment. The difference between high- and low-context cultures helps us understand why, for example, Asian (high context) and Western (low-context) styles are so different, why Asians prefer indirect verbal communication and symbolism over the direct assertive communication approaches used by Western people.

2.6 Strategy Evaluation and Selection

When an organisation is presented with a challenge of having to choose between selections of strategic options, it can employ one a suite of models to assist in the evaluation and screening process. In the absence of formal evaluation, such selection models or analytical techniques can also be used to assess a chosen strategy.

2.6.1 Introduction

Johnson and Scholes (2002) suggest that in assessing strategies whether by a formal or informal process, three types of criterion can be used:

- *Suitability* broadly assesses whether a strategy addresses the circumstances in which the organisation is operating: for example, the extent to which new strategies would *fit* with the future trends and changes in the environment; or how the strategy might exploit the core competences of the organisation. Suitability can often be the basis of a *qualitative* assessment concerned with testing out the *rationale* of a strategy and, as such, can be useful for 'screening' options.
- *Acceptability* is concerned with the expected *performances* (such as the return or risk) if the strategy was implemented, and the extent to which these would be in line with the expectations of stakeholders.

- *Feasibility* is concerned with whether the strategy could be made to work in practice. Assessing the feasibility of a strategy requires an emphasis on more detailed, often quantitative - assessment of the practicalities of resourcing and strategic capability.

Johnson and Scholes (2002) suggest a framework for the evaluation and selection of strategies. The framework shows how the various aspects of evaluation and selection can be fitted together.

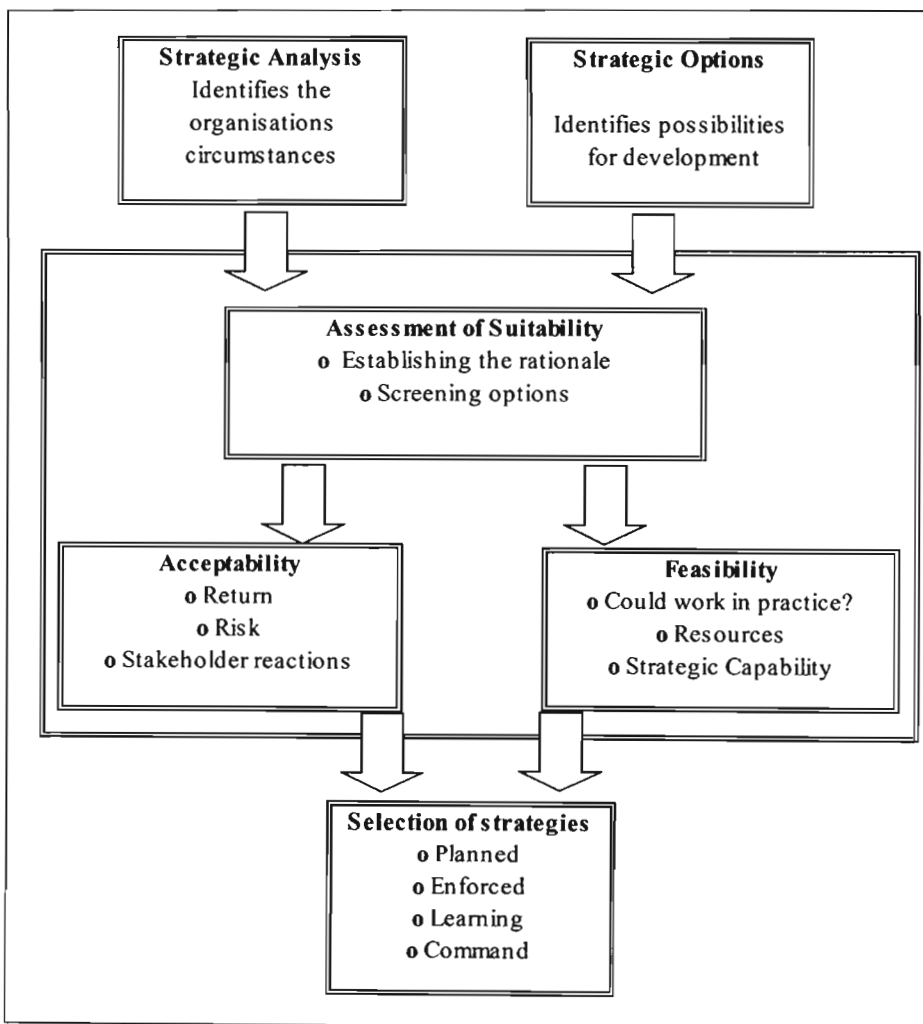


Figure 2.3 Framework for the evaluation and selection of strategies

Source: Johnson and Scholes (2002)

As the criterion, which lends itself most appropriately to the *qualitative* assessment of strategies is the suitability criterion, this model is presented in greater detail.

2.6.2 The Assessment of Suitability

Suitability concerns whether a strategy addresses the circumstances in which the organisation is operating. Assessing the suitability of strategic options can be a useful basis on which to screen options before more detailed analyses are undertaken concerning the acceptability and feasibility of those options. The development of an analytical assessment model to assess the merits of a single adopted strategy will focus on establishing the rationale only.

Establishing the rationale behind a strategy prompts the clarification of '*why is the strategy a good idea?*' Johnson and Scholes (2002) emphasise that the main purpose of strategic analysis is to establish an understanding of the basis on which the suitability of strategies can be judged. Furthermore it will consist of assessing the extent to which a strategy exploits the opportunities in the environment and avoids the threats; capitalises on the organisation's strengths and core competences and avoids or remedies the weaknesses or addresses the cultural and political context.

The following framework is suggested as a summary of different categories of analytical technique and their main contribution, which they make to assess the suitability of strategies.

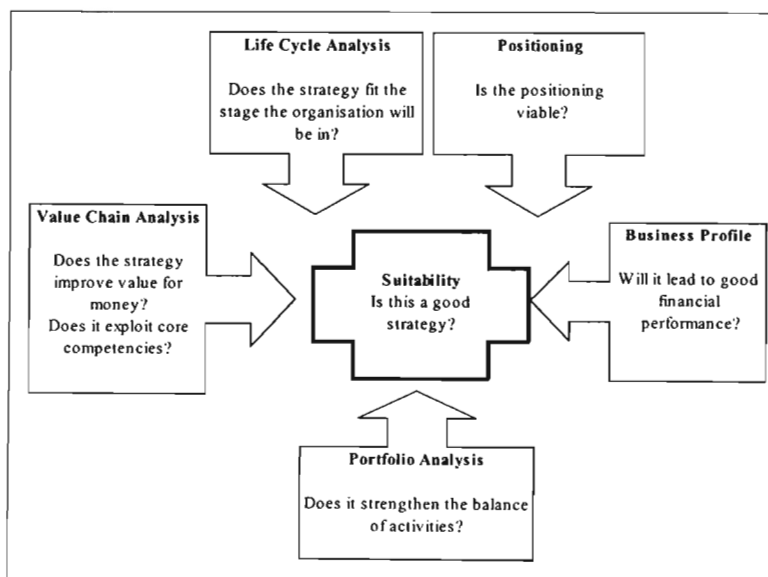


Figure 2.4 Testing Suitability

Source: Johnson and Scholes (2002)

2.6.3 Life Cycle Analysis

A *life cycle analysis* assesses whether a strategy is likely to be appropriate given the stage of the product life cycle. Johnson and Scholes (2002) combine this with the relative strength or weakness of the organisation in its market to produce a life cycle/portfolio matrix. The matrix consists of two dimensions, the *market situation*, which is described in four stages ranging from embryonic to ageing, and the *competitive position* in five categories ranging from weak to dominant.

		Stages of Industry Maturity			
		Embryonic	Growth	Mature	Ageing
Competitive Position	Dominant	Fast grow Start up	Fast grow Attain cost leadership Renew Defend position	Defend position Attain cost leadership Renew Fast grow	Defend position Focus Renew Grow with industry
	Strong	Start up Differentiate Fast grow	Fast grow Catch up Attain cost leadership	Attain cost leadership Renew, focus Differentiate Grow with industry	Find,, hold niche Hang in Grow with industry Harvest
	Favourable	Start up Differentiate Focus Fast grow	Differentiate, focus Catch up Grow with industry	Harvest, hang in Find, hold niche Renew, turnaround Differentiate, focus Grow with industry	Retrench Turnaround
	Tenable	Start up Grow with industry	Harvest, catch up Find niche Turnaround Focus Grow with industry	Harvest Turnaround Find niche Retrench	Divest Retrench
	Weak	Find niche Catch up Grow with industry	Turnaround Retrench	Withdraw Divest	Withdraw

Figure 2.5 Industry maturity-competitive position matrix

Source: Johnson and Scholes (2002)

The purpose of the matrix is to establish the appropriateness of particular strategies in relation to these two dimensions. The crucial issue is establishing where an organisation is currently positioned on the matrix, and therefore what types of strategy are most likely to be suitable:

- The *position within the life cycle* can be determined in relation to eight external factors or descriptors of the evolutionary stage of the industry. These are: market growth rate, growth potential, breadth of product lines, number of competitors, spread of market share between these competitors, customer loyalty, entry barriers and technology. It is the *balance* of these factors, which determines the life cycle stage. An embryonic industry is characterised by rapid growth, changes in technology, fragmented market shares and pursuit of new customers. In contrast, many of the ageing industries are best described by falling demand, declining number of competitors and, often, a narrow product line.
- The *competitive position* of the organisation within its industry can be also be established by looking at the characteristics of each category. A *dominant* position is considered rare in the private sector and usually results from quasi-monopoly, whereas, in the public sector, this may be a legalised monopoly status for instance a public utility. *Strong* organisations are those that can follow strategies of their own choice without too much concern for competition. A *favourable* position is where no single competitor stands out, but the leaders are better placed. A *tenable* position is that which can be maintained by specialisation or focus. *Weak* competitors are ones, which are too small to survive independently in the long run.

Johnson and Scholes (2002) caution that the A. D. Little matrix can only be helpful in guiding strategic choice.

2.6.4 Positioning

Positioning is considered by Johnson and Scholes (2002) to be a key test of suitability. The choice of generic product and market strategies forms the basis or framework within which the more detailed directions and methods of development are constructed. Therefore assessing whether current and future positionings are viable can be done by asking whether *demand* is likely to grow or decline. In mature markets, the size of the core market is often reduced by the development of a number of smaller viable 'niches'; the degree of competitive rivalry which exists; and the relative competence of the organisation in facing these competitive rivals with a

particular product or market positioning. They further explain that the extent to which the organisation's unit costs are better than those of competitive rivals will determine the long-term viability of low-price positioning. The uniqueness of the competences, which underpin the value-added features of a product or service, will determine the suitability of a positioning of differentiation.

A technique is presented to examine the extent to which an organisation is capable of supporting a particular positioning in its markets.

- a) The first step in assessing the suitability of a particular strategy is to list key resources and competences underpinning the strategy. These competences might be identified by means of a competence analysis.
- b) Second, the above are then examined in terms of the different bases of the product or market strategy.
- c) Finally, each of the resources and competences is revisited to establish whether it is sustainable or difficult to imitate: in other words, whether it is a genuinely unique resource or core competence and hence provides competitive advantage to the organisation. The criteria used to judge require an assessment of the extent to which competences are:
 - *valuable* to buyers
 - *rare* (i.e. not easily obtained by competitors)
 - *complex* (made up, for example, of several organisational processes or
 - embedded in the *tacit* knowledge or routines.

Analysis may well reveal that very few resources and competences are difficult to imitate on their own. They consider rather, that is likely to be the ability to manage linkages between separate activities and the tacit knowledge of the organisation that provides competitive advantage.

- d) Assessing the relationship between the generic product / market strategy and the strategic capability of the organisation (resources and competences) are also considered useful in a more detailed assessment of the feasibility of one or more of the strategies.

2.6.5 Value Chain Analysis

Value Chain analysis describes the activities within and around an organisation and relates them to an analysis of the competitive strength of the organisation. Johnson and Scholes (2002) maintain that understanding how cost was controlled and value created within the value system is very important when assessing the strategic capability of an organisation. Furthermore, an assessment of the products positioning usually reveals that the key to sustainable success can be found in the way in which the value system is configured - that the linkages between value activities are just as important as the competence in the separate activities. Therefore, the suitability of strategic developments may also be tested by the extent to which the strategy will reconfigure the value chain in a way, which improves value for money and the competitive position of the organisation.

The concept of *synergy* is introduced where synergy is concerned with assessing how much extra benefit (value for money) can be created from reconfiguring the linkages in the value chain. Synergy could arise through many types of link or interrelationship. Examples of such synergistic effects are; in the market (by exploiting brand name, sharing outlets or pooling or promotional activities); in the company's operations (by shared purchasing, facilities, maintenance, quality control, etc.); and in product/process development (by sharing information and know-how). Synergy is often used as a justification for product or market *diversification*, particularly through acquisition or merger.

2.6.6 Portfolio Analysis

Portfolio analysis analyses the balance of an organisation's strategic business units and can also be used to establish the basis for an organisation's approach to diversity. Therefore, when evaluating specific options for the future, they can be plotted onto a matrix and the long-term rationale of business development can be highlighted. If, for instance, a Boston Consulting Group (BCG) matrix were used, the following questions could be asked:

- Will the strategy move the company to a dominant position in its markets? Which strategies are most likely to ensure a move from question marks through to stars

and eventually to cash cows? Question marks require a sufficient level of innovative capability. If this is not present then perhaps the organisation should 'side-step' question marks via its acquisition strategy.

- Since question marks and stars generally require an investment of funds, will there be sufficient cash cows to provide this necessary investment? A major reason for company bankruptcies is that a firm may invest heavily in the promotion and stocking policy for products in rapid growth, without profitable and well-established products from which it can fund these new ventures.

2.6.7 Business Profile Analysis

A *business profile analysis* shows the extent to which a strategy matches the favourable performance parameters from PIMS analyses. The PIMS database can be used to profile the strategy of a strategic business unit against the parameters, which PIMS has researched in relation to the strategy/performance match. As there is little relevance to the topic being explored, this category will not be elaborated on further.

2.7 Impact Analysis

As an extension to the basic SWOT analysis, Ambrosini (1998) suggests a technique, which can be employed to assess the *impact*, which the various forces have on a company's strategy. Assessing the impact of environmental changes on the current strengths and weaknesses of an organisation can help managers to understand the changing environment in such a way that will allow them to identify opportunities, or to recognise threats which are especially important - the key issues.

2.7.1 Impact Analysis Technique

The identified strengths, weaknesses, opportunities and threats are collated into a matrix. A scoring mechanism is also used as an aid to provide clarity to the analysis and as a means of getting managers to assess:

- The environmental changes that are most critical

- The internal strengths that will remain as strengths or become weaknesses in the changing environment
- The internal element that is most influenced by each external change.

The suggested scoring system is:

- A positive (+) score denotes that a strength that a company possesses would help it take advantage of, or counteract, a problem arising from an environmental change or a weakness that would be offset by the environmental change.
- A negative (-) score denotes that a strength would be reduced by the environmental change or a weakness would prevent the organisation from overcoming the problems associated with an environmental change or be accentuated by the change.
- A zero (0) score indicates that current strength or weakness would not be affected by an environmental change.

The overall indication of the company's position, given the changes it faces, is shown by the 'environmental impact score' at the foot of the matrix.

2.8 Local-content Laws and Requirements

2.8.1 Local Content as a Trade Policy Instrument

A local content requirement is one of the seven main trade policy instruments imposed by nations on foreign companies that assemble products from foreign made components. Laws stipulating that a specified fraction of a good or service be supplied by producers in the domestic market are called local content requirements. These requirements can state that a certain portion of the end product consists of domestically produced goods, or that a certain portion of the final cost of a product has domestic sources. The requirement can be expressed either in physical terms (e.g. 70 percent of components for the product must be produced locally) or in value terms (e.g. 70 percent of the value of the product must be produced locally).

The purpose of local content requirements is to force companies from other nations to employ local resources in their production processes - particularly labour. The benefit, as with other restraints on imports, is to help protect domestic producers from the

price advantage of companies based in other low wage countries. Although South Africa is viewed as a developing nation it suffers from diseconomies of scale against other competing developing countries.

Local content regulations have also been widely used by developing countries to shift their manufacturing base from the simple manufacture of products whose parts are manufactured elsewhere into the domestic manufacture of component parts. Local content requirements are not restricted to Third World countries. They have also been used by developed countries to try to protect local jobs and industry from foreign competition. The European Union has a 45 per cent local requirement for foreign owned assemblers. "This requirement has been important for Far East car producers" (Hollensen 2001, p.133).

From the point of view of a domestic producer of parts going into a final product, local content regulations provide protection in the same way as an import quota does: by limiting foreign competition. The aggregate economic effects are also the same; domestic producers benefit, but the restrictions on imports raises the prices of imported components. In turn, higher prices for imported components are passed on to consumers of the final product in the form of higher final prices. It is generally believed that, as with all trade policies, local content regulations tend to benefit producers not consumers.

2.8.2 Questions regarding Local Content

With the automotive industry accounting for about 29 percent of the South Africa's manufacturing output in 2002, it is not clear as to how much of this is the simple assembly of mainly imported components and how much is really locally produced (AIDC, 2002b). It is also questionable how the complex formulae involving exports offsetting imports assists in the arrival of a local content figure. Furthermore it is believed that the volatility of the rand over the period 2001-2002 has skewed figures and clouded the issue even further.

According to Roger Pitot (AIDC, 2002b), an MIDP expert, "The imported content includes not only what is imported by the vehicle manufacturers, but also all the

imported content included in locally-made components. As a result of using this method, local manufacturing, admin and selling costs incurred by manufacturers are included as local content, but so is any profit earned. Also the method is subject to large fluctuations from sudden currency movements."

The following is related as an example: assume a vehicle sells for R100 000 and the imported content is \$4 000; if the rand weakens from R10/\$ to R12/\$ before prices are increased, the imported content would increase from 40 percent to 48 percent, so the local content would drop from 60 percent to 52 percent in a short space of time. The motor industry is working together with the Department of Trade and Industry to find a more meaningful calculation. He believes that probably for the above reasons, some manufacturers seem reluctant to divulge the local content of their vehicles.

2.8.3 The Motor Industry Development Programme (MIDP)

The motor industry tends to be highly regulated and supported by Governments worldwide. The origin of the South African automotive industry can be traced back to the early 1920's, and for the most part has developed into a competitive sector with monopolistic behaviour, behind a wall of high tariffs and non-tariff barriers. (Onyango, 2002). The local content programme, introduced in the early 1960's, aimed to rationalise both the number of assembly plants and models, so as to boost vehicle sales. However, by the advent of Phase VI of the programme, in 1989, it was clear that these objectives had not been achieved. As South Africa moved to liberalise its economy at the beginning of the 1990's, the expansion of automotive exports was increasingly seen as the solution to the twin problems of rising trade deficits and attaining efficient scale of production.

The Motor Industry Development Programme (MIDP) is the name of the legislation governing the local motor industry, with the major objective of slowly reintroducing South Africa into the international motor industry. The MIDP unveiled in 1995, was characterised by inter alia, the reduction of duties on light vehicles and components below the GATT bindings and with tariffs being phased down faster than required by WTO commitments. Not only were local content requirements abolished, but the duty-free importation of components to the value of up to 27 percent of wholesale

value of vehicle prices were permissible. In addition, the MIDP allowed for duty credit rebates to be earned on the export of vehicles and components, to be used in the duty-free importation of vehicles (FBUs or CBUs) and components. As the import duty credits earned by exports can only be used to rebate import duties and cannot be used in any other way, Roger Pitot has the view that the MIDP is a trade facilitation scheme and not an export incentive scheme. He states further that the MIDP is not protectionism but was introduced as a structural adjustment program and will continue until the Southern African auto industry has become more integrated into the global industry.

2.8.4 MIDP Tariff Reduction Schedules

Essentially, the MIDP lays out a schedule of reducing import tariffs for completely built up (CBU) and completely knocked down (CKD) components for cars and light commercial vehicles. The MIDP has been through two reviews to fine-tune it and extend the programme through to 2012. This was done to give a longer planning horizon to participants and to address some of the minor imbalances, which had crept in. Clive Williams of NAACAM considers that the component manufacturers, OEMs, retailers and labour have all had input into the review and the programme is strongly supported by the players as being a balanced system that is feasible, but tough.

Passenger cars and light commercial vehicles are subject to the following tariffs:

Table 2.1 Reduction in CKD and CBU tariffs

Year	CBU (%)	CKD (%)
2002	40	30
2003	38	29
2004	36	28
2005	34	27
2006	32	26
2007	30	25
2008	29	24
2009	28	23
2010	27	22

2011	26	21
2012	25	20

Source: *NAACAM*, 2003

(CBU = completely built up and CKD = completely knocked down)

The import duties on cars and light commercials were 30 percent in 2002 and will reduce to 25 percent in 2007. This is the same duty, 25 percent, as the US applies on light commercial vehicles in a market of several million pickups a year. He therefore believes that the fact that vehicle prices are among the cheapest in the world is also a strong indication that South Africa has low protectionism - i.e. actual duties can be zero after rebates are earned.

In the seven years since the MIDP was introduced, there have been far-reaching changes in the automotive sector. For instance, the importation of motor vehicles surged from 7 percent to 27 percent, largely due to the use of duty-free credits. Onyango (2002) citing the work of Black and Mitchell (2002) noted however that the many new firms established to export components did not supply domestic assemblers and it seemed that new models would have to rely more heavily on imported components. Similarly, there has been some rationalisation of the sector, with the large volume of output now arising from fewer model platforms, together with cost-cutting measures being implemented by domestic firms.

2.8.5 MIDP - DTI Views

The Department of Trade and Industry (DTI) believes that the MIDP has boosted exports by enabling auto manufacturers to include total exports values as part of their local content total (Tiley, 2002). The system has led to a "rapid expansion of exports, especially of components". The DTI says that the previous strategies aimed at developing local industry placed high tariffs on imports. "Although this policy was effective in leading to the establishment of a significant assembly industry supported by a diversified component sector, most producers were not internationally competitive and most domestic assembled vehicles were sold at premium compared to world prices. The protected environment led to a proliferation of vehicle models

being produced in South Africa, and the low resulting volumes per model have been a significant cost-raising factor. Exports were also minimal, the DTI added. However, the MIDP has led to a sharp turnaround in sentiment.

Between 1995 and 2001, the total domestic production of vehicles has risen from 242,000 in 1995 to 320,000 at the end of 2001, and in addition, exports have risen more than tenfold, from 9,000 to 115,000. South Africa's exports of auto components grew by 47 percent to R18.5 billion in 2001, while the industry's international trade deficit narrowed from R9.7 billion in 2000 to R8 billion in 2001 (Tiley 2002).

2.8.6 MIDP - Successes

According to the National Association of Automobile Manufacturers of SA (NAAMSA), the MIDP has been successful in realising key objectives of the program (AIDC, 2002a), including:

- Improvements in vehicle affordability, vehicle quality and consumer choice.
- Improvements in the international competitiveness of the South African auto manufacturing industry and significant model rationalisation. (Direct labour costs per vehicle have been reduced by some 30 percent over the past five years and the number of car and light commercial vehicle base models has declined from over 42 at the beginning of the program to 27 at present).
- Exponential growth in exports of automotive components and motor vehicles. Stability in industry employment levels and, more recently, confirmation of strong employment growth in the component industry.
- Improving the balance between industry forex usage and forex earnings.

With regard to the last point NAAMSA director, Nico Vermeulen (AIDC, 2002a) states that "The MIDP is a flexible target, and the formula is based on the ex-factory price of a vehicle less imported content, which equals local content." He agrees with Roger Pitot that exchange rates have a huge impact. He goes on to say that often,

local companies will not be in a position to supply all the parts needed for a new model, so the local content will be gradually increased over the life of the vehicle. For instance, Toyota's new Corolla was launched with 60 percent local content and will increase to 70 percent over a few years.

2.8.7 MIDP - Negative Effects

On the contrary the National Union of Metal workers of SA (NUMSA) has lashed out at the negative impact of the MIDP, claiming that the motor industry had lost 16,200 jobs in the past five years (AIDC, 2002b). Dumisa Ntuli, a NUMSA spokesman, said the rationalisation of workers in the industry had undermined the fundamental objectives of the MIDP. "According to the 2002 trade and industry department figures, the motor assembly industry, which in 1996 employed 38 600 workers, has witnessed a drastic decline. Today it employs a mere 32 700 workers," he said. Ntuli added that the MIDP encouraged the rise of imports, which had undermined local products, while vehicles had become very expensive. He also claimed that there was a lack of support for component companies not linked to multinational corporations.

2.8.8 MIDP - the Debate Continues

In response to Ntuli's claims, NAAMSA director Nico Vermeulen said the motor industry export council was doing a survey of employment in the industry from 1996 to 2001 and results to date (end 2002) suggested that employment levels were stable and rising (AIDC, 2002b). He said more than four hundred companies involved in the manufacture and exports of vehicle products were being surveyed. Of the quarter of the responses, which had been received, it had been found that "three out of four companies have increased their head count over the past five years." Vermeulen (AIDC, 2002b) maintains that had it not been for the MIDP, there would have been huge job losses and only three or four manufacturers.

Clive Williams of NAACAM, maintains the view that the "MIDP is relatively simple in concept, but the ramifications on company strategy can be vast and contorted" (AIDC, 2002b). He agrees that there is constant debate between the industry players

about how well objectives are being met and what the effects of the various parameters of the programme are. Williams holds that whereas there has been little commonality in the past between NAACAM, NAAMSA, NUMSA, the RMI and the DTI, these bodies are now devoting considerable effort to coming together and defining objectives and strategies for the industry to ensure its future success and measuring the progress through time.

2.9 Summary

This chapter has explored in detail, the various theoretical views and models, which are considered relevant to the evaluation of the increased localisation strategy. The chapter began with detailed views, mainly by Thompson and Strickland (2003), regarding resource strengths and organisational capabilities. It is suggested in order for implementation of strategies to be successful, they be supported by adequate organisational structures and resources.

This was followed by discussions on competitive strategies and strategic alliances. Firms can enhance their competitive strengths by utilising various strategies, which will give them even greater competitive advantage. The model of Johnson and Scholes (2002) was then presented as a useful tool in evaluating strategies. Of key interest was the suitability criterion. Pertinent strategic issues are considered to evaluate whether a strategy is suitable. A technique proposed by Ambrosini (1998) was included as an extension to the traditional SWOT analysis. The impact that opportunities and threats have on a firm's strengths and weaknesses is assessed by the use of two-dimensional matrix. The chapter ended on a discussion on local-content laws in South Africa, the role that the MIDP plays in the automotive industry and finally, differing views held by various stakeholders on the MIDP.

3 CHAPTER THREE CASE STUDY

3.1 Introduction - Overview of the Automotive Industry in South Africa

SA has emerged from small beginnings to become the 18th largest manufacturer of vehicles in the world and, while representing 80% of Africa's vehicle output, only 0.9% of the world market (*AIDC*, 2002a). The slowdown in the industry saw global production of vehicles increase by 3.8% in 2000, however, SA production expanded by 9.6%. The major players represented in SA are Toyota, VW, Daimler Chrysler, BMW, Delta, Ford, Nissan and Ford. From an economic viewpoint, the automotive industry contributes to 5.7% of GDP and is the third largest sector in the SA economy, accounting for 29% of the country's manufacturing output, while from an employment perspective, it employs 261,000 people directly and many more indirectly. Capital investment by manufacturers and supportive industries amounted to R26.5 billion in 2001.

Eight of the top ten global component manufacturers have invested in SA, as well as three of the four largest tyre manufacturers. To support the growing production of vehicles for export, many large multinational companies have invested in SA. In 2001 the number of component suppliers had grown to over 400. Vehicle imports have grown from 18,000 in 1995 to approximately 70,000 in 2001, and are expected to account for 25% of vehicle sales by 2007. Exports have increased at an average annual rate of 39% since 1995. Vehicle exports increased by 54% in 2001, reaching almost 140,000 units, from only 18,000 in 1997. There has been a corresponding increase in component exports over the same period, reaching a value of R18.6 billion in 2001.

Vehicle production in 2001 rose above 400,000 units. The total revenue from the industry expected to have reached R110 billion in 2002, with component and vehicle exports amounting to R40 billion. Direct labour costs per vehicle have reduced by 30% over the period 1997 - 2001, however, productivity (vehicle per head), which increased by 68% over the same period, still lags behind international standards. Although growth figures might appear encouraging, volumes of new vehicle sales are

still too small to attract international companies looking for markets, especially when it is considered that the market is shared between 7 vehicle assemblers, and many independent importers, offering over 750 model variants into the local market (<http://www.naacam.co.za>).

3.2 Toyota South Africa

Although a massive organisation in its own right, Toyota SA started off in this country as an entrepreneurial business venture. The company has braved the sanction years, fierce competition from American, European and Far-eastern brands and numerous labour unrests that, at times, brought the automotive industry to its knees.

3.2.1 The Early Years

Toyota SA had its humble beginnings in the importation of the Toyopet Stout from Japan. The founder, Dr Albert Wessels had to contend not only with the Japanese corporation allowing him to start the franchise but also to convince the local South African government as to why yet another model was required in the country. Dr Wessels had shrewdly established that the Toyopet Stout, a pioneering Japanese bakkie could not only carry more than the large American pick-ups farmers were then using, but he could sell it for less.

The South African car market then was a 'hodge-podge' of makes and models, some of them tracing their lineage to early post war models. It was against this backdrop that Albert Wessels started his Toyota venture, and by several accounts he did not find the going easy. The prime difficulty was that South Africans did not trust "Japanese plastic", as it was commonly known. Japan has earned a reputation for shoddy workmanship in the immediate post war years and it was taking time to change these perceptions. After striking a few crucial deals with motor retailers of the time, Albert Wessels strengthened his foot-in-the-door position. Even though the original 'bakkies' were by no means ideal for South African conditions and tended to wobble disconcertingly at highway speeds, they just kept on going.

The shortage of money in the early days forced Toyota in Japan to be innovative. Since the company did not have money to stockpile parts and materials in its very first Japanese assembly plant, it evolved the "Kanban" system by which products are pulled through by market demand rather than being driven by the supply of raw materials. The principle seems simple but in those anxious post war years it was nothing short of revolutionary and was certainly one of the production systems the world's motor industry later came to copy. "Just in time" manufacturing was to form the basis of one of the most enduring Toyota management philosophies: that of no waste. This belief, coupled with the Japanese proclivity for productivity and their quest for ever-improving quality, formed the very foundation upon which Toyota was able to build its extraordinary growth. And, of course, Albert Wessels, his engineers and his managers soon became converts. "I had realised at a very early stage that if we were to take on the established giants of the motor business - and beat them - we had to do three things and do them well," said Dr Wessels shortly before his death. "We had to provide value for money and excellent quality. And we had to back this up with a customer service that was second to none."

3.2.2 The Middle Years: Enter the Corona - Toyota's first world car

Following resounding successes in the Japanese market, Toyota Motor Corporation (TMC) focussed its efforts in trying to crack the American market. At the same time Dr Wessels was exploring ways to improving his market share in South Africa. After an initial disappointment in trying to transfer the Japanese Crown saloon in the States, Toyota realised that the car designed for the narrow lanes of congested Japan was, not surprisingly, sluggish on the US motorways and a slowcoach at the traffic lights. TMC realised that it needed a car designed for the "new world", a car that could more than hold its own under any conditions. This realisation saw the birth of the Toyota Corona.

This played perfectly into the hands of the South African company that had realised it needed a car to supplement its growing bakkie sales. The Corona was built for long open roads. It could outrun many of the smaller Continentals that were then vehicles of choice for people who could not afford American or Australian sourced cars. The

spaciousness and impressively good value at R1 678 influenced Dr Wessels into realising that he needed an assembly plant to make his Toyota vehicles.

3.2.3 Toyota's Acquisition of Motor Assemblies

In December 1964, Dr Wessels bought the lion's share of Motor Assemblies from McCarthy Rodway. The Corona duly made its arrival and was accompanied by praises from the motor journalists. In 1968, Elizabeth Bradley, Albert Wessels' daughter joined the holding company, Wesco. In 1969 the University of the Free State gave Albert Wessels an honorary doctorate in commerce in recognition of his business achievements. By that time he was a wealthy man. Toyota's net profit before tax in the same year was R7, 2 million. It was at that time that Dr Wessels' son, the late Bert Wessels was brought into the family business. In 1971 the Toyota Landcruiser was introduced, a vehicle that soon earned the deepest respect of all off-roaders. To cope with its sudden and dramatic success Toyota established its modern headquarters at Wesco Park adjacent to Wynberg in the Rand. In 1972 the first Hino heavy vehicle was introduced to South Africa. Its arrival seemed to emphasise that Toyota was well and truly here to stay; a year earlier (in May and June 1971) the company had topped the sales charts for the first time.

Toyota announced that a new range of passenger vehicles, Corolla, would soon make an appearance. In 1973 when the first of the fuel crises hit SA, Toyota increased its lead on the opposition as the large American fuel 'guzzlers' became more and more uneconomical to run. Of course while Toyota punted the Johannesburg to Durban on a single tank, designers had to rethink the lack of boot space and poor headlights in comparison to the American saloons. Despite this, the Corolla was fast becoming South Africa's and the world's best seller.

3.2.4 The Company Today

Within a matter of a few decades the diminutive Motor Assemblies Plant evolved into the gigantic Toyota SA Motors producing seven different base models.

Model Range - local manufacture comprises the Corolla, Tazz, Hilux, Condor, Hiace, Dyna and Hino. In 2002 the company discontinued the highly successful Camry in line with the global strategy of rationalising platforms.

Operations - In December 2002 the total company had a headcount of 7200 employees at its various divisions including sales and marketing. The operational divisions consist of:

- a) Assembly operations
 - i. Body assembly through to vehicle hand-over to distribution
- b) Manufacturing Operations
 - i. Component manufacturing
 - ii. Engine assembly and soft trim
 - iii. Drums and flywheels
 - iv. Discs and brake assemblies
 - v. Engine parts machining and assembly
 - vi. Soft trim for seats and door panels
- c) Product Development and Procurement
 - i. Vehicle and component engineering
 - ii. Testing and development
 - iii. Component buying
- d) Toyota Stamping Division
 - i. Heavy and light press parts
- e) Tool and Die Manufacturing
 - i. Tools, dies and fixtures for body parts
- f) Toyota Automotive Components
 - i. Mainly metal welding and fabrication of exhaust systems, fuel tank assemblies, chassis and seat frames

The Assembly plant has a daily production capacity of around 460 units and covers an area of 42.5 Ha.

3.2.5 Toyota - Looking to the Future

The increase in imported completely built-up (CBU) vehicles has seen all the local automakers grapple with each other for a dwindling domestic market. In 2002 the new entrants accounted for almost 70,000 units a year out of the total market (including light commercial vehicles, LCVs) of 340,000 i.e. of cars only, over 30 per cent. The company has realised that based on the MIDP benefits, there is a strong incentive to rationalise. The intention is to rationalise to only two fully manufactured local models in South Africa. With the two production models it is estimated that a market share of about 18 to 20 per cent (of the domestic market) will be achieved. However TMC's objective and Toyota South Africa's mission is to achieve a market share in excess of 25 per cent. Toyota thus intends to make up the shortfall by importing its own brand of CBUs.

To facilitate the importation of between 25,000 and 30,000 CBUs, the company has embarked on exports of vehicles in large quantities. Exports to Australia started early in 2003 while exports to Europe and later into Africa are planned for 2005. The rationalisation to two models will allow for greater economies of scale and production is being planned to double from the current 90,000 units per year to about 180,000. Half of the production is destined for the domestic market while the remainder is for exports. The figure of 90,000 units for export represents a marked increase for Toyota SA. The Corolla is set to remain, as a core product while the other model is an integrated pick-up / passenger vehicle designed to replace both the Hilux and Condor. The IMV or Innovative Multipurpose Vehicle is designed so that very little is sourced from Japan, the direct benefit being the maximisation of protection against currency fluctuations.

Toyota's import strategy is to focus on a new and inexpensive entry-level vehicle and is unlikely to spread the range of imports. It is considered that the constraint in importing too many vehicles lies in having to support all these vehicles from a service point of view. This may compromise the company's levels of service.

With the establishment of the MIDP and developments over the next period, the company considers that, fundamentally, duties will continue to come down and the

Government will continue with its export complementation. Toyota believes strongly that the plan is designed to encourage exports, indeed making them mandatory. The company realised right from the beginning that it could only export with assistance from the source (TMC) plant. This, together with the opportunity of becoming part of the global Toyota network, were some of the main reasons for Toyota SA selling up its majority shareholding to TMC. The global parent had made it clear that Toyota SA had the freedom to develop the sub Saharan market as a whole, but when it came to first world countries, it was Toyota's design and name, and hence they (TMC) were responsible for quality.

3.3 Toyota's Purchasing Strategy

"Today, global changes are forcing every organisation, supplier and employee to do things differently in order to satisfy the final customer. In general, there is a worldwide production over capacity for most products. The world is becoming a buyer's market for every industrial, commercial and consumer product.

An increasingly rare occurrence is that a special application or proprietary product may still own an exclusive marketplace niche. And if the product is not updated periodically, another technology or emulator will try to capture the exclusive market. In the quest for efficiency and competitiveness, companies world wide are changing the ways in which products are manufactured and materials are purchased" (Hutchins 1992, p.19).

3.3.1 General Strategy

The core competence of the Manufacturing Division of Toyota SA lies in the assembly of vehicles. As such the division depends on reliable and competitively priced sourcing of quality components and sub assemblies. Four basic sourcing routes are used viz. complete knock down (CKD), multi-sourced parts (MSP), in-house manufacture and supplier sourcing.

CKD: this refers to the import of components and assemblies from Japan. Such components are either complex or difficult to manufacture locally and include

gearboxes, high-tech instruments etc. Over the years increased prices, high costs of importing as well as high import duties has forced Toyota to shift to local sourcing of components

MSP: this refers to import of components from overseas countries other than Japan. Due to more competitive pricing than Japan as well as improved quality, countries such as Thailand are able to supply components that were previously only obtainable from TMC.

In-house Manufacture (Vertical Integration): while the importation of small and compact components remained economically viable, the astronomical transportation costs related to bulky parts such as bumpers and seats did not justify importing. However in order to maintain high quality standards, and not having local supplier competency, vertical integration provided the only solution. For many years, automakers followed a vertical integration strategy, thereby controlling the entire design, production and distribution process. Little was purchased, and everything related to vehicle assembly was done in-house. Conventional wisdom said that if a company owned the sources of raw material, processed the raw material, designed the products, machined, fabricated, marketed and finally distributed the product, profits and market-share would be assured (Hutchins 1992, p. 15). A strategy of vertical integration offered the advantages of standardisation of products; control of operating, marketing, and distribution channels; and size and cost efficiencies. Hutchins maintains that this philosophy, however, may not work as well in a global disintegrated economy. He continues that in such a market, no company, not even a multinational conglomerate, has the resources to be the best in each element of the business, and to be all things to all people - this being especially true in an economy characterised by small discrete markets.

Thus within the Manufacturing Division, while most vehicle bumpers, engines and all seats are produced internally, the downfall is that Toyota cannot expect to remain competitive and advanced in all of these technologies. It requires the expertise of external suppliers from whom it is able to source.

Vendor Sourcing: this refers to purchasing components and sub assemblies from various suppliers in South Africa. Toyota has for many years supported and developed

local suppliers. The increasing dependence on this route in contrast to the reducing volume of imports forms the basis of Toyota's increased local content strategy. The local supplier base will be discussed in greater detail later.

3.3.2 *Increased Localisation Strategy*

The underlying objectives to Toyota's increased localisation strategy are:

- To improve profit performance to greater than 5% NPBT
- To increase local content to reduce exposure to exchange rates and
- To achieve 100% yen-free sourcing.

The current and target local contents of the two base models, the company intends rationalising to, are shown in the table below:

Table 3.1 Current and future local content targets

Model	Current	Target	Gap
Corolla	58%	70% (2007)	-12%
IMV	61%	70% (2005)	-9%

Source: Toyota SA: 5 Year Action Plan

The targets represent some of the highest in the local automotive industry. Amongst other initiatives, Toyota plans to support the strategy, by the globalisation of the supplier base and the development of a KZN Automotive supplier park.

3.4 **The OE Supplier Base**

Toyota's supplier base is split into two sections, original equipment (OE) suppliers and materials and facilities (M & F) suppliers. In general, OE suppliers provide components, which are actually assembled onto vehicles while M & F suppliers, produce consumables, such as machine oils, which are used up in the manufacturing process. The focus of this study will be on the OE suppliers.

3.4.1 Geographic Location

The supplier base is spread across the country, which is divided into four regions viz. Gauteng, KwaZulu Natal (KZN), Western Cape and Eastern Cape. The map below shows that due to its unique location along the eastern coast of South Africa, as compared to the other automakers, Toyota is at a considerable distance from the clusters of OE suppliers.



Figure 3.1 Geographic spread of SA suppliers

Toyota SA has to thus attract and depend upon a majority of suppliers within KZN. The distance from the other regions presents added costs in terms of transport and other logistical problems. Distances from the other major automotive 'centres':

- Gauteng 600 km
- Eastern Cape 500 km
- Western Cape 1800 km

Toyota SA has attempted to eliminate the number of problems related to the vast distances by employing depots at each centre. Suppliers drop off their components at these centres and combo trucks then forward them to the assembly plant on a daily, twice-weekly or thrice-weekly basis.

3.4.2 *Size of Companies and Parts Supplied*

OE suppliers range literally from one-man operations, supplying non-critical items such as labels to multimillion rand multinational companies employing hundreds of staff. Some suppliers serve merely as agents for forwarding components from overseas companies while most of the others manufacture components themselves. The number of parts supplied, for any one vehicle, varies from for example, a single steering wheel to 5 tyres. Thus for a daily vehicle production of say four hundred vehicles, this further translates into supplying four hundred steering wheels or two thousand tyres. Some suppliers supply a range of related parts such as plastic moulded parts or pressed parts while larger volume requirements such as tyres may be sourced from several suppliers simultaneously. Capability to produce complex parts and capacity to produce a large volume of parts are key criteria used in determining the selection of suppliers. The purchasing department uses the turnover at each supplier as a basis of its relative importance.

3.4.3 *Turnover*

The following table depicts the split of suppliers across the various regions and the turnover in 2002 attributed to each region. The figures exclude Toyota Automotive Components (TAC) and Toyota Stamping Division (TSD), two previously independent companies that were vertically integrated into the supply chain. They are now both considered to be in-house manufacturers.

Table 3.2 Distribution of suppliers and Turnover in 2002

Region	Number of Suppliers	Turnover (R millions)
KwaZulu Natal	65	935
Gauteng	5	396
Eastern Cape	11	432
Western Cape	25	56
Total	156	1,819

Source: Toyota Supplier Statistics, 2002.

3.4.4 OE Supplier Business Orientation

Toyota's share of business at suppliers varies from about 20 percent to 100 percent.

The range encompasses three major categories:

- Suppliers facilities are dedicated to the supply to Toyota
- Suppliers supply to Toyota as well as one or more of the other auto makers and
- Suppliers supplying automotive as well as non-automotive components

As will be seen in the analysis later, each category represents a different set of challenges.

3.4.4.1 Dedicated Toyota Suppliers: These suppliers, excluding vertically integrated operations, are fairly small, stand-alone companies or JIT (Just-in-time) facilities. JIT facilities are satellite operations of bigger companies strategically located close to the Toyota's assembly plant. They offer advantages of minimising the shipment of bulky components from other centres thus achieving cost savings, minimising risk and damage to components as well as holding safety buffer stocks of key parts. Examples of such operations are windscreens and batteries.

3.4.4.2 Suppliers to other OEMs: Such suppliers supply a range of parts to Toyota SA as well as to one or more of the other automakers. As will be seen later this represents advantages as well as challenges for the supplier as well as to Toyota.

3.4.4.3 Suppliers of non-automotive components: Owing to the type of technology employed such companies do not supply to automakers only but diversify their product offerings to other markets. A typical example of this is plastic injection moulders whose technology lends itself to the manufacture of components for household and industrial products, such as pool accessories, appliances and other similar parts. Here again this represents challenges to Toyota in the way of differing quality standards and supply chain requirements as will be explored later.

3.5 Toyota's Requirements and Expectations of OE Suppliers

As the vehicle market moves from a producers to buyers market so does the shift in customer expectations. The now famous words of Henry Ford, "the customer can have any colour he wants as long as it is black", characterised the limit of choice by the auto customers of decades ago. Today in an industry of over capacity, producers have to be able to provide a range of models to suit customers needs in terms of affordability, features, style, after sales service etc. While the final fulfilment of customer needs has to be satisfied by the auto makers themselves, OE suppliers play a major role in developing parts in time to market, supplying defect-free parts, supplying the correct quantity of parts when they are needed and in being competitively priced.

3.5.1 Product Development

As the major part of product design is governed by TMC, local suppliers only require developing the parts. Designs are provided in the form of 'hard-copy' drawings and more recently in digital format. The supplier is supported all along the development process, from the initial feasibility stages right through to delivery, by cross-functional teams consisting of engineers from several of the local divisions and departments.

The latter include:

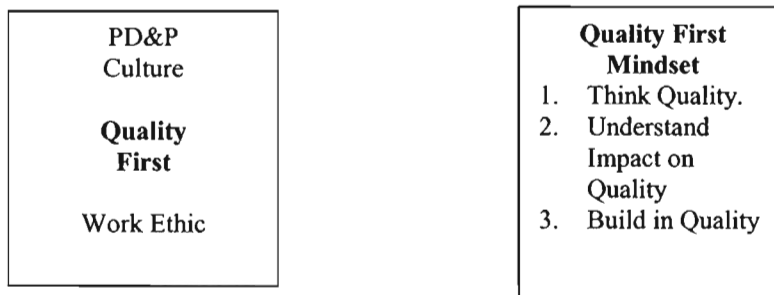
- The OE Purchasing Department
- The Product Engineering Department
- The Quality Control Engineering Department
- The Supplier Technical Support Department
- The Logistics Department

At different stages of the development process, different engineers within the 'design teams', which include a supplier representative, assume a leadership role. While in Japan, Europe and the US many specialist suppliers lead the product development process by submitting design proposals to TMC, in contrary, the poor design /

development capability of most South African suppliers requires constant surveillance activities by design teams to ensure that delivery targets will be met. Toyota has a dedicated *Supplier Parts Tracking Team* activity, which controls this process. Further challenges faced by suppliers will be discussed in the next chapter.

3.5.2 *Quality*

The Purchasing Department of Toyota espouses a "Quality First" culture. The following memory jogger is given to every employee in the division. The front and reverse sides are shown below:



Unlike traditional purchasing departments, which buy goods mainly on the basis of the price tag, Toyota's promise to customers, of reliability, supports a 'Quality First' purchasing strategy. All new or potential suppliers have to heed to the following basic requirements.

- Quality system accreditation
- Continuous improvement targets for quality, maintenance and other key manufacturing measures
- Have proven process capability
- Have a management mindset for further development

For existing suppliers, parts per million defects (PPMs) and warranty claims form the two basic criteria by which quality is measured. PPM refers to the number of defective parts for every million parts supplied to the company. As Toyota cannot physically inspect every part received, such defects are only highlighted on the assembly line.

Even though defective parts are 'weeded-out' and not fitted, they do pose other threats such as potential line stoppages, thorough sorting and retrofitting in extreme cases. Warranty claims have historically been very low and will therefore not be focussed upon. The specific requirement is that suppliers resolve warranty claims within 30 days and dispose of payment 30 days thereafter.

3.5.3 *Quality Targets*

In the past while quality standards were relatively high, Toyota had only to meet the expectations of local and some African customers. However with the advent of the export strategy to ship vehicles to the Australian and European markets, the company had to then benchmark itself with the standards of overseas automakers. For instance, in the case of Australia, the number of minor defects per unit (DPU) had to be reduced from 2 to 0.5 i.e. one minor defect for every two vehicles (no major defects are allowed). In addition the number of vehicles (Corollas) produced increased from to 150 to 180 per day. Hence to ensure stability of production it was of paramount importance that the suppliers' targets for PPMs be reduced. This was done incrementally in line with Toyota's continuous improvement philosophy. The following table depicts how the PPM target has been reduced over the last few years and is set to be reduced in the near future:

Table 3.3 Reduction in PPM target

Year	PPM Target
1999	400
2000	200
2001	200
2002	50
2003	50
2004	35
2005	20
2006	20
2007	15

Source: Toyota SA: 5 Year Action Plan

As Toyota's initial requirement was not met successfully, the company has had to institute a "punitive" intervention to achieve a desired result.

An intervention strategy that had been implemented successfully in Toyota Thailand was the issuing of "Yellow-cards". This strategy, borrowed from the sports of soccer and rugby, proceeds with the issuing of a letter, termed a yellow card, to the MD of the supplier whose quality level has not been acceptable or depicts a rising trend over a certain period. The supplier has to then clear the supply chain of defective parts and institute a 100% inspection procedure for all parts supplied to Toyota. In addition, the MD has to chair a task force, hold weekly meetings and submit reports to Toyota SA indicating what progress has been made. Selected engineers from the Technical Support and Quality departments of Toyota are co-opted on the task forces to assist where required. Failure to achieve the desired result is met with the issue of a second yellow card and finally a "Red-card" is issued, summoning the CEO of the parent company to address the quality concerns at the supplier. The significant drop in supplier PPMs is largely attributed to the successful implementation of the yellow card strategy.

3.5.5 *Quality System Requirements*

Unlike some of the other major vehicle manufacturers who prescribe what quality system be in place e.g. VDA 6 for Volkswagen and QS 101 for Ford, Toyota SA requires that suppliers are accredited to a basic quality management system such as ISO 9002. However, in addition to the latter, suppliers are expected to conform to the specific quality requirements pertinent to the model and undertake *Kaizen* (continuous improvement) activities. New markets have also necessitated compliance to further standards. For instance, for Toyota SA to supply vehicles to the Australian market, the company has to adhere to Conformance of Production (COP) regulations. In addition, certain suppliers are audited periodically by Toyota SA as well as the Australian authorities for compliance. It is envisaged that similar requirements will precede exports to the European market.

3.5.6 *Kaizen Activities*

During the early stages of PPM reduction and supplier levelling-up, Toyota embarked on a supplier development strategy to uplift the capabilities of local suppliers. This

involved the formation of a six-member Supplier Development Team (SDT), with each engineer specialising in a particular technology. In October 2000, the SDT was realigned under the responsibility of the Purchasing Department. Together with co-opted members from other departments and Japanese specialists, the teams travelled extensively to local suppliers and shared best practises while training key supplier management representatives in the *Toyota Way*. Improvements at supplier companies were monitored monthly and full-scale assessments were conducted twice annually. Although development activities of the '15 point plan' focussed on quality the following supporting areas were also included:

- Control of received goods
- Control of maintenance activities
- Housekeeping and safety
- Problem solving and prevention

In March 2002, the basic development activities were enhanced to include production controls. This '20 point plan' was used across the world in all developing countries where new Toyota vehicles were to be manufactured. However, later in 2002, due to increased localisation of parts and the subsequent need for more tracking and the majority of suppliers having achieved an acceptable rating, the Supplier Development Team was disbanded and kaizen activities were incorporated into general supplier support functions.

3.5.7 Cost

Toyota's Simultaneous Engineering (SE) activities at the inception of every new model development program, includes the supplier at the very early stages of product development. SE activities allow the supplier to become accustomed to the parts, its functionality and critical aspects. Furthermore, based on supplier in-house capabilities and expertise, final production level drawings are completed, taking into account limitations or improvement suggestions from suppliers. Prototype drawings are submitted to several potential suppliers who are then invited to tender quotations. Final business placement by the OE Purchasing department takes into consideration price quotation as well as many other variables. During the course of production,

suppliers are invited to submit cost reduction proposals. Toyota also requests cost reductions on currently supplied components based on:

- Localisation of sub components
- Efficiency improvements
- Raw material price reductions
- Favourable exchange rate fluctuations etc.

In addition, suppliers are requested to benchmark their material and process costs to global standards. Toyota, itself, utilises two international measures of cost comparison, CIM and CIL.

CIM or 'Cost Index of Manufacture' is the ex-works cost and is used to benchmark the South African supplier's cost against that of a Japanese or lowest available overseas cost. The index is obtained by dividing the local cost against the overseas target. For the IMV project indices of less than 0.85 are being sought from suppliers to have sourcing awarded to them.

CIL or 'Cost Index of Manufacture Landed' refers to the cost of goods landed in SA. The index is calculated by adding 40% to the overseas ex-works cost and then dividing by the landed cost. The current target for suppliers is 1.

3.5.8 Stable Production

Providing continuity of supply of quality parts is a key aspect of supplier capability. Early on during the development stages, after prototype samples are produced, the supplier's own supply chain is tested through a series of mass production trials (MPTs). These trials involving the production of a limited number of components, allows the supplier to upgrade from engineering-supervised prototypes to full scale manufacturing conditions. When problem areas are discovered, countermeasures are identified and prevention measures undertaken to ensure that similar problems do not recur during normal production.

The many facets of stable production are encompassed in the world renowned Toyota Production Systems (TPS). This system together with learning gained from other

Japanese manufacturers form the foundations of World Class Manufacturing, Lean Manufacturing, Manufacturing Excellence etc. All suppliers to Toyota SA are invited to send representatives to attend a three-day course covering the basics of TPS. In addition, Kaizen activities at suppliers promote the major TPS principles such as streamlined flow, error-proofing, elimination of waste in all forms and so forth. The purchasing department also facilitates the despatch of specialist TPS teams out to suppliers to assist in the event of 'bottle-necking', unnecessary accumulation of stock and other production related constraints. Further challenges will be discussed in the next chapter.

3.5.9 Delivery

The 'Just-in-time' (JIT) concept is also a Toyota innovation. All suppliers to Toyota SA are required to produce just what is necessary and when required. The simplicity of the concept obviates the need for suppliers to carry large quantities of raw materials, work-in-progress or finished goods. Parts are called-off in specific quantities or *kanbans* and delivered, sometimes several times a day, to the assembly plant. As mentioned previously, suppliers from further afield such as Gauteng and the Cape supply to depots. To eliminate risk in the way of work stoppages through industrial actions, breakdowns and other unscheduled work stoppages, both suppliers and Toyota SA carry a certain level of safety or buffer stock.

3.5.10 Technology Improvement

Suppliers are required to keep up to date with global technological progress. The latter can take the form of improved raw materials, more efficient processes, advanced machinery, better testing facilities etc. While in the past the slow progress of many family-owned businesses was adequate, competition with global firms is now making such pace unacceptable. The Purchasing Department of Toyota SA is encouraging supplier partnering or strategic alliances through collaboration with overseas companies. The most common forms of partnering are licensing arrangements, technical aid agreements and joint ventures. The following table shows the status of supplier partnering in 2002.

Table 3.4 Number and type of alliances

Alliance Type	Number
SA / Joint venture	6
SA / Technical aid	60
Japan owned	2
Other	88

Source: Toyota Supplier Statistics, 2002

As can be seen, the majority of suppliers fall in the 'Other' category and can be termed *isolated*. Some of the reasons for the isolation as well as the challenges this presents will be explored in the next chapter.

3.5.11 2nd and 3rd Tier Supplier Development

All suppliers are expected to conduct supplier development activities at their major sub-suppliers. Japanese manufacturers achieved a significant level of success by not depending on the assurance of the 1st tier alone. As the quality of received raw material forms a key component of manufactured quality the assurance of sub suppliers is an important requirement to ensure stable production. In some cases Toyota engineers also assist in the assessment and selection of 2nd tier suppliers. 1st tier suppliers thus benefit from Toyota's wealth of experience with a wide network of companies, processes and capabilities. The following figure depicts how demands are passed up the supplier chain:

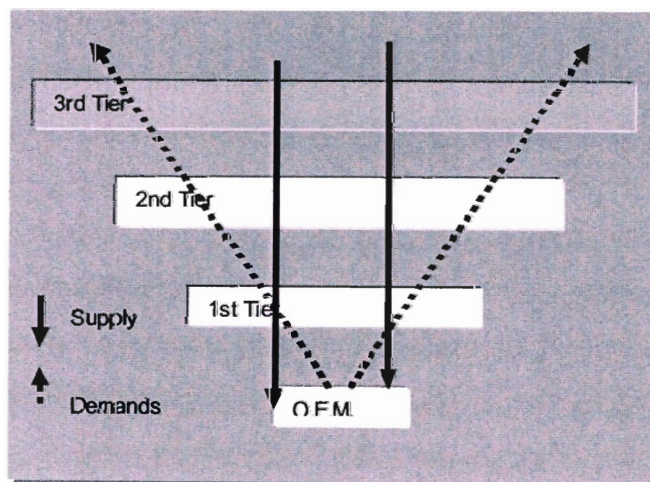


Figure 3.2 Flow of supply and demand

Source: KZN Benchmarking Club

3.5.12 Development of Human Resources

The major skills shortage in the country is well recognised by Toyota. Suppliers are thus expected to embark on skills development programs especially for lower levels of staff. As TPS entrusts far more decision-making authority on operators, they are therefore expected to be fairly literate, numerate and possess good communication skills.

Other Requirements

In addition to the above basic requirements, political developments within SA as well as exports to developed countries have necessitated suppliers to take cognisance of the following criteria.

3.5.13 Black Ownership

TSA has embarked on a program to increase the awarding of business to fully owned Black SMMEs. Although the program is still in its infancy, the value of OE components supplied by wholly black owned companies exceeded R5 million in 2002. Furthermore civil engineering contracts outsourced to Black Empowerment companies was in the order of R7.25 million.

3.5.14 Environmental Management Systems

With South Africa's re-emergence into the global market, firms are under increasing pressure to comply with local and international environmental standards. ISO 14001 is the international environment management standard (EMS) that involves practices, processes, resources and responsibilities that are necessary for implementing effective environmental management. As part of its drive to increase environmental responsibility, TSA requires all suppliers of parts to its new models be ISO 14001 compliant by the end of 2005.

3.5.15 Substances of Concern (SOC)

As part of the end-of-vehicle-life (ELV) program to ban the use of hazardous substances, suppliers are required to declare the consumption, in their products and processes, of the following:

- Mercury
- Cadmium
- Hexavalent chromium and
- Lead

This program is also in its infancy and once such substance levels have been ascertained, suppliers have to then reduce and finally eliminate the use of SOC to ensure environment-friendly vehicles.

3.6 The Proposed Model

Many management texts view suppliers as being external to an organisation's immediate environment. Toyota has a long history of fostering close relationships with its suppliers. In addition, it is considered that for Toyota's increased localisation strategy to be successful, the strategies of its suppliers have to be successful. Hence the model incorporates the supplier base as an intrinsic part of the organisational entity.

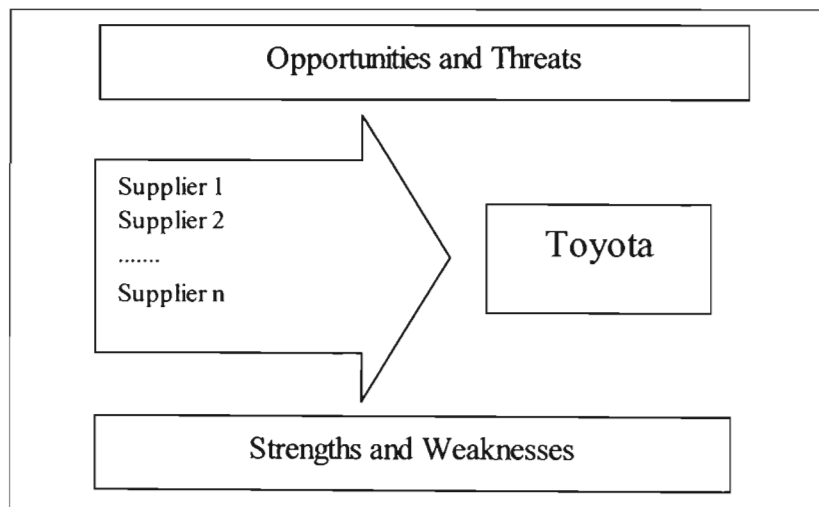


Figure 3.3 Unified Supplier-base Toyota model

The analysis of the environment and assessment of organisational resources and strengths will thus be carried out on both Toyota and its suppliers as depicted by the figure above.

3.7 Summary

This chapter began with the historical development of Toyota SA into the company it is today. Although marketing and manufacturing were discussed, the key focus was placed on the purchasing department. Various sourcing strategies are available to Toyota SA. Of these the increased localisation by the use of local vendors appears to be the most suitable. A description of the supplier base given. Suppliers vary in size, geographic location and other factors. Each of these present challenges to the company.

This led to a detailed review of Toyota's requirements of its supplier base. While local suppliers grapple with current requirements, greater challenges appear eminent as Toyota SA venture out into new markets, each with their own intrinsic requirements. The chapter ended with a proposal of a 'unified Supplier-base Toyota' model which will be used in the analysis section.

4 CHAPTER FOUR EVALUATION

4.1 Introduction

The analysis will be approached in three stages. Firstly a SWOT analysis will be carried out on Toyota SA and its suppliers. This will be limited to a discussion only on the issues surrounding the supply value chain. Of primary importance will be the exploration of the various challenges faced by suppliers to Toyota SA, as this forms the major theme of the study.

The analysis will then proceed with an evaluation of the strategy using the model presented by Johnson and Scholes (2002). As stated previously, the analysis will be limited to the suitability criterion. The major forces revealed in the exploratory stages of the SWOT analysis will be used as variables in the life cycle analysis, positioning, value chain analysis and portfolio analysis.

The final part of the analysis will entail an impact analysis as proposed by Ambrosini (1998). Key issues arising from the SWOT analysis will be identified and the impact on the increased localisation strategy assessed. An attempt will then be made to highlight strong and weak components of the strategy.

4.2 Strengths of Toyota SA

Toyota's leadership in the automotive market of South Africa for over twenty years lays testimony to the company's strong competencies in various facets of the industry. For the purposes of this study, only the strengths and weakness related to the supplier value chain will be explored; hence strengths related to marketing and other downstream activities are not included. Following are some of the strengths of the organisation:

4.2.1 Manufacturing Competencies

The company boasts almost unparalleled skills in auto manufacturing. Built on basic foundations of waste (muda) elimination in all forms, transparency in reporting information, adherence to meeting deadlines etc. the company has led the way in 'lean' manufacturing (Womack & Jones 1996).

4.2.2 Teamwork

There is a strong advocating of team-based activities and decision making in the various functions within the organisation. Each staff member within teams has clearly defined roles and responsibilities. As such, employees are trained to accept accountability and are less dependent on management for their actions. Kiichiro Toyoda, founder of Toyota Motor Corporation, said, "*if each person makes the most sincere effort in his assigned position the entire company can achieve great things*" (team Toyota, September 2002, No. 2, p.12).

4.2.3 Continuous Improvement

All activities related to quality improvement are done in a continuous improvement manner. Toyota has adopted the plan-do-check-act (PDCA) cycle proposed by Dr. Edward Deming, a post world war II quality guru, and this philosophy is practised by operatives and senior management alike. The team-based structures also align themselves to 'quality circles' activities where employees take ownership of production and other problems and seek ways of solving them. The company also fosters an incentive-based suggestion scheme, where employees at all levels can suggest improvements to existing processes.

4.2.4 Global Support

Toyota's global presence and profitability provides strong financial and technological support to the local organisation. Apart from the Japanese advisors who are employed in the plant and within all divisions on a contractual basis, the local company also has

recourse to assistance from the global parent in cases where specialised skills are required. This aid is also available to suppliers.

4.3 Challenges faced by Toyota SA

Despite the many strength factors, the increased local content strategy is also placing strain on the organisation's internal resources.

4.3.1 Structure

The decision of the parent organisation to centralise design and development in Japan and to utilise companies to manufacture has resulted in many structures having to be reshuffled. For instance the R&D and Vehicle testing departments are no longer required in South Africa. The restructure has created uncertainty within those departments.

4.3.2 Staffing

While at operational level, manning requirements are carefully planned and utilised, this does not apply to staff and management levels. Increased local content means more suppliers and more procured components - however, the number of engineers has not been increased to manage with the increased workload.

4.3.3 Distances from Local Suppliers

Owing to the geographic spread of Toyota's suppliers, considerable time and money are spent on travelling to and from their plants. Efforts to communicate by telephone, in order to save costs and respond quickly, is however not conducive to solving production or shop floor problems at suppliers. The construction of the KZN auto industrial park is seen as a way of bringing some of the suppliers closer to the assembly plant, thus alleviating some of the logistical problems.

4.3.4 Communication Barriers

As English is not the first language for the parent company, increased interaction between Japanese co-ordinators and local staff and also between co-ordinators and local suppliers presents numerous challenges in interpretation of requirements. While the Japanese convey information implicitly, local recipients prefer a more explicit and detailed explanation in their business communications. Within Toyota SA, meetings have to be scheduled to coincide with TMC working-hours as Japan is seven hours ahead of South Africa. In addition, shutdowns between the different countries also fall during varying periods. Very little interaction is possible during Japan's "golden week" in August of each year, which is the equivalent of the local summer holidays.

4.3.5 Leadership Styles

Whereas many of the local management personnel have become acquainted with Japanese style leadership i.e. a hands-on, shop-floor approach to problem-solving, supplier management tend to be office-based with the expectation that lower levels should be responsible for solving shop-floor based problems. The weakness arises as Japanese co-ordinators do not adapt to local styles and hence minor differences in understanding, between headstrong people, usually leads to unnecessary conflict situations.

4.4 Toyota SA – Key Opportunities

The total number of opportunities presented by the successful implementation of the increased localisation strategy is too many to cover in detail. Hence, only the key opportunities will be discussed.

4.4.1 The Toyota Global Supply Network

The identification of the South African manufacturing plant, by TMC, as a small but key player in the international auto manufacturing arena has presented Toyota SA with invaluable opportunities to develop both itself and its suppliers into world class

producers of motor vehicles and components respectively. The company's aim is to be able to produce over 180,000 vehicles for the domestic as well as the international market. Such economies of scale, together with the rationalisation to two platforms will allow for reductions in costs, lower inventories, less handling and less storage requirements. These will then translate into higher profit margins and competitive prices for the end customer.

4.4.2 Export Incentives

Under the current MIDP, exporters are permitted to accumulate credits by exporting goods from South Africa. These credits are then utilised to offset tariffs on the import of CBUs. Toyota's strategic intention is to import entry-level vehicles to supplement their range rather than have to manufacture another model. The company also intends exploiting its core competencies in engine building to assemble and export engines to other parts of the world. Toyota's newly commissioned Cataler plant, which produces catalytic converters for many parts of the world, has proven that this strategy works.

4.4.3 Increased Local Content

Toyota's drive in increasing the local content of its vehicles is primarily to make the company less vulnerable to the fluctuations in the exchange rate. In addition the gradual decline in the value of the Rand against the world's major currencies, over the past years, has resulted in the importing of components becoming an expensive option. The increase in manufactured vehicle volumes as well as the rationalisation to two platforms presents opportunities to source more components from existing suppliers as well as expanding the number of its local suppliers.

4.5 Threats faced by Toyota SA

Even with a relatively low local content, Toyota SA faced many challenges emanating from its supplier base. It is considered that the following will have a greater impact with an increased local content:

4.5.1 Cost Competitiveness

Having been adopted as a manufacturer in the global network, the company has to ensure that its own costs remain competitive and its suppliers meet the challenge of low costs. If this is not achieved Toyota SA will not be able to compete against other developing countries and possibly lose export contracts.

4.5.2 Quality Standards

Standards of quality have to be maintained for the various reasons discussed previously – the most important threat presently is that poor quality will result in delays in production and jeopardising the export program. In the past, initiatives implemented by Toyota SA resulted in short-term quick fixes by suppliers that could not be sustained. This aspect will be discussed in greater detail under challenges faced by suppliers.

4.5.3 Market Share

As stated previously the domestic market is served by seven different automakers making the industry very competitive. The company has recognised that the local market alone cannot sustain long-term profitability and hence the need to export. Failing to win such export contracts could lead to cutbacks and job losses.

4.5.4 Monopolies

In spite of the hundreds of first, second and lower tier suppliers serving the automotive manufacturing industry, there still exists a strong dependence on certain sole suppliers. Supreme Springs, a key supplier to Toyota is one such example. The supplier has caused costly interruptions of production on several occasions but remains on the company's approved supplier list. The reason is that the supplier is the only spring manufacturer in the country and importing springs is not economically viable.

4.5.5 Protected Industries

In the case of government-protected industries such as the steel industry, both Toyota and suppliers face the challenges of inconsistent quality and import parity pricing. While many organisations import small volumes of special grade steel, large-scale import of mild steel remains uneconomical and therefore companies have no alternative but to source from Iscor (<http://www.naacam.co.za/rms.htm>).

4.5.6 e-Commerce

Almost every organisation is increasing its dependency on electronic systems to manage the large volumes of data and transactions that flow through. In addition there is also reliance on electronic networks to be able to communicate both within and outside of businesses. Toyota SA, like many other organisations, is no different. However along with the benefits of the intranet, Internet connectivity, EDI to suppliers etc. come the risks of security breaches via virus infiltration. Despite the existence of 'firewalls' to protect the traffic of such viruses, the global network that exists with Toyota SA and its suppliers makes the company vulnerable to potential problems from virtually anywhere in the world.

4.6 Supplier Base - Opportunities

The incentives to be gained by automakers in increased local content and exports translate into direct benefits for the component manufacturers. Economic and other benefits are obtained through the opening of new markets, larger economies of scale, improved quality and efficiency and strategic alliances amongst others.

4.6.1 New Markets

South African automakers such as Volkswagen, Daimler-Chrysler and BMW have been exporting vehicles for years. In the process, suppliers to these companies have proven their capability to the European parent companies. Due to their favourable pricing in comparison to European suppliers and competitive quality, some local suppliers have also been contracted to supply replacement parts for exported vehicles.

This has enabled local suppliers to earn valuable foreign exchange via these transactions. As an offshoot to this, suppliers are also being awarded contracts to supply components for overseas assembly plants. Ford's recent decision to source 200,000 engine sub assemblies a year from local suppliers, destined for the US, is of a magnitude unheard of previously.

4.6.2 Economies of Scale Effects

South Africa has historically been a relatively small market for the seven automakers in the country. The opportunity to supply vehicles to overseas markets is coupled with a many-fold increase in the demand for components. As stated previously, the rationalisation to a fewer base models coupled with the increased demand allows suppliers to plan longer production runs and fewer changeovers. This gives rise to reduced costs, greater operational efficiencies, less scrap, better asset utilisation and hence overall improved profitability.

Furthermore, suppliers who have produced components mainly for the domestic market, are exposed to the quality and manufacturing requirements of their global counterparts. The bandwagon effect also allows for the production of parts and accessories for the global replacement markets. The much higher returns received on these latter parts, in comparison to the OE parts, are a source of long-term incentive for many suppliers. Under the MIDP, component suppliers are also eligible for gaining export credits. These are then used in exchange to offset tariffs on the import of sub-components. By increasing the production volumes, rationalising the number of parts and gaining rebates on imported components, cost savings are realised - these can then be passed on to the customer or reinvested in development and other projects.

4.6.3 Improved Quality

As tool and other capital amortisation becomes spread over a significantly larger number of components, suppliers are willing to invest in people and facilities to enhance quality in their production processes. Investments in expensive automated processes also become viable. Such fail-safe measures reduce the dependency on 'human' operators for assuring quality. The recruitment of skilled quality-trained

personnel allows for the implementation of quality management systems and thus preventative measures.

4.6.4 Supplier Development

Many of the country's automakers have implemented supplier development as part of their quality improvement programs. Although the level of input varies between the OEMs, suppliers are nevertheless afforded the opportunity to upgrade their in-house quality programs through continuous improvement and problem prevention. Suppliers to Toyota are afforded training in the world-renowned Toyota Production Systems as well as one-to-one education in specialised operations. Such skills and training, if contracted by external consultants, can be at substantial costs to the suppliers. Apart from upgrading people skills, supplier development also focuses on improving the various manufacturing systems.

4.6.5 Technical Expertise

Engaging in exports has seen an increase in the cross-functional technical activities between overseas and local component manufacturers. By having to produce to the latest technology, suppliers have an opportunity to gain access to the most recent developments and disseminate the new knowledge across their other product lines. This knowledge covers aspects such as the latest raw materials employed, new processes and machinery, advanced testing methods, modern shipping regulations etc. Toyota SA has encouraged and facilitated supplier partnering with suitable overseas organisations through strategic alliances.

4.6.6 Human Resources Development

Apart from new knowledge being brought into the country, engineers and other staff are also given the opportunity to travel overseas and gain first hand knowledge from their principals. Such incentives allow for career development and promote loyalty within companies. Local companies hosting international visitors also provides incentives for supplier management to improve the general facilities for the workforce from the previous 'third world' conditions.

4.7 Threats faced by Suppliers

Although many of the local suppliers have international alliances, the management culture in most cases, is distinctly South African. Unfortunately such a culture has been rooted in the distorted governing regime of the past. Together with external pressures, suppliers have to also deal with many structural problems associated with the South African imbalances.

4.7.1 Competitiveness

With the advent of rationalised models across the world, and the consequent interchangeability of parts, Toyota SA is not restricted to source from local suppliers. If local suppliers are not competitive in terms of cost and quality, Toyota has the option of sourcing from other developing countries. In the middle to long term, Toyota SA plans to export vehicles to Europe. The formation of the EU has brought about more attractive incentives in that Europe-sourced parts, fitted to vehicles bound for export back to Europe, are *free of import tariffs* (Purchasing Manager at Toyota SA. July 2003, Personal conversation). Although this incentive is deemed attractive to Toyota SA, it presents a huge threat to suppliers, as their comparative cost advantage against European suppliers is reduced.

4.7.2 Loss of Reputation

Issues, regarding supplier quality, are discussed jointly by the OEMs during the monthly NAAMSA meetings. Thus a failure to supply to Toyota SA, either through poor quality, interruptions in supply or for other reasons, is highlighted at these meetings and could lead to a loss in reputation and possible loss of other customers as well. Furthermore, besides losing local customers, such suppliers could also lose export business.

4.7.3 South African Circumstances

In addition to the market related environmental threats, suppliers also have to contend with ongoing internal pressures. Many suppliers are losing invaluable skills through *HIV-Aids* related deaths. Although this factor largely affects the operational workforce, it nevertheless places a strain on replacing key positions. Furthermore, many days are lost through workers attending funerals of their colleagues and family members. The South African *labour legislation* is considered by a number of suppliers to be overly restrictive. Thus in many cases, management tend to tolerate poor performance on the part of employees, rather than endure appeals and so forth in the labour courts (Supplier Management 2001-2003, Personal conversations). The auto industry is also characterised by strong *trade union* influences. Many days have been lost through calls for stay-away by unions such as Cosatu. Due to the nature of just-in-time supply, work stoppages at Toyota have also resulted in no production at suppliers. While the implementation of centralised bargaining forums has reduced the number of wage related strikes, the demands for industry-level wages has placed financial strains on smaller suppliers. Hence smaller suppliers tend to maintain union-free workforces (Supplier Management 2001-2003, Personal conversations).

4.8 Strengths of Suppliers

Although the major part of the analysis focuses on the challenges and difficulties faced by suppliers, there are some favourable aspects to the supplier base which are listed below:

4.8.1 Rand-based Trading

The overall low costs of components supplied by local vendors in comparison to overseas suppliers, makes increased localisation of components an attractive option. These costs are assisted by relatively low wage rates and fixed overhead costs. Dealing with the rand also obviates the need for exchange rate considerations and forward contracts.

4.8.2 Quality

Although it has been stated that the quality of components received from local suppliers is generally inferior to those supplied from both Japan and the Japanese joint venture operations in countries such as Thailand, South African quality is still competitive against other developing countries. With continuous improvement programs and other quality initiatives in place, suppliers have steadily improved their quality levels.

4.8.3 Reliability of Supply

In comparison to imported components, all local parts and assemblies are transported from the vendors by road and rail. In particular, occasional strikes at the port and other shipping delays, due to clearing of imported goods, have resulted in line stoppages thus affecting the receipt of imported goods.

4.8.4 Lower Cost of Containers

Almost all the containers (*dunnage*), used to transport local components, are returnable to suppliers and reused. In contrast, imported components are transported in more robust but non-returnable packaging, which adds to the logistical costs of transportation and subsequent disposal.

4.8.5 Lower Tooling Costs

Tooling and facility construction, in preparation for new projects, is a major component of product development costs. Although more complex tools are manufactured overseas, the simpler tools can be manufactured locally at a fraction of the overseas prices. However there are various challenges related to tooling, which will be discussed later.

4.9 Challenges faced by Suppliers

This section forms the key focus of the study and is therefore discussed in detail. As with many other South African companies, local suppliers to Toyota SA have come from a past that was mostly characterised by isolation from the rest of the world, prone to frequent industrial disputes and subject to devaluation of the rand. The challenges and difficulties faced by suppliers in meeting Toyota's requirements range from the product development stage right through to final delivery of production level parts. Countermeasures and initiatives, taken by Toyota SA, other industry organisations and the suppliers, to address some of the difficulties will be included.

4.9.1 Product Development and Innovation

Hollensen (2003, p. 406) suggests that customer needs are the starting point for product development, whether for domestic or global markets. As a consequence of increasing international competition, time is becoming a key success factor for an increasing number of companies, which manufacture technologically, sophisticated products. This time competition and the level of technological development mean that product life cycles are getting shorter and shorter. In parallel to shorter product life cycles, development times for new products are being greatly reduced. This applies not only to technical products in the field of office communication equipment, but also to cars and consumer electronics. In some cases there have been reductions in development times of more than half. For instance, the time for development of Honda cars has been reduced from 8 years during the 1980s to 3 years in the 90s. Are South African suppliers able to meet this challenge?

4.9.1.1 Design Capability

“A focus on design rather than simply manufacturing helps firms to find other ways of generating revenue in a world where even the most hi-tech products eventually become commodities, subject to greater competition and falling prices” (Comrie 2002). Subsidiaries of global multinationals have far easier access to source design technology but are restricted to supplying OEMs, which their parent company relates to at a global level. Furthermore, a survey done by the Benchmarking Club found that

overseas firms in the Benchmarking Club database devote 3.07% of their turnover to R&D. In comparison, the South African firms surveyed only spend an average of 1,29% of their turnover on R&D. The survey also revealed that the international norm for firms with a formal R&D function is to devote around two thirds of the development budget to new product development. However, in South Africa the reverse is the case, with more than three fifths of the R&D budget at surveyed firms being devoted to product reengineering rather than new product development.

In the case of Toyota SA, although most of the components are designed by the parent company, suppliers are required to be able to develop tooling to produce parts from these designs. In the past all designs were available on hard paper copy. Recently these have given way to electronic computer assisted drawings (CAD). Due to the multitude of CAD software and versions available, suppliers are required to have updated software and capable hardware to be able to utilise these new technologies. In cases where such software is not available, Toyota SA translates the CAD data into a package usable by the supplier. However in this process, and as translations are never perfect, numerous problems arise which cost valuable time to resolve. In addition to software issues, there exists a shortage of skilled designers in South Africa and suppliers have to outsource to a limited number of design houses as an alternative.

4.9.1.2 Tool-making Capacity and Capability

It is widely known in the automotive industry that South Africa has a serious problem in the limited number of toolmakers and tool rooms for tool and die making. There are various reasons contributing to this (*SATISI* July 2003, Conference); some of which are:

- Tool making as a trade has given way to more glamorous career options such as IT and commerce for school leavers and therefore the number of apprentices entering this sector is dwindling every year. TASA (Toolmakers association of South Africa) is a new organisation currently being formed to address this shortfall together with the DTI, toolmakers, technical colleges and other role players.

- Skilled toolmakers are emigrating to developed countries where the remuneration for their trade is many-fold that earned in South Africa.
- The present crime situation as well as poor future prospects in South Africa has been cited as a major reason for the mainly White toolmakers emigrating to set up their businesses in other countries.
- Tool rooms serve most of the automotive manufacturers together with their component suppliers, the white goods (domestic appliances) market and other growth industries. Hence the demand exceeds the available capacity.

The time to develop tools (including dies, moulds, fixtures and fittings), called *lead times* has been found historically, to be far longer than those of international tool rooms. This has been a major cause of delays in the development of vehicles. The lack of design capability, as discussed above, outdated equipment and different work ethic are some of the reasons contributing to longer lead times. For instance, with regard to work ethic, whilst many overseas tool rooms operate on a twenty-four hour basis, South African tool rooms only work during the day. With regard to tool-making equipment, almost all of the specialised equipment is imported from European and East Asian manufacturers. The low value of the rand, against currencies of developed countries where equipment is sourced from, makes continual upgrade of equipment a prohibitive option.

As a consequence, despite the premium paid for overseas tools, a limited number of suppliers who are able to afford the extra expense are outsourcing to overseas tool rooms to ensure timely completion of development projects. However, due to pressures to reduce costs, this form of tool sourcing is not affordable to the majority of suppliers. Furthermore, once tools are completed, they are required to be measured and verified for accuracy. The number of accredited metrology laboratories is also very limited in South Africa. Only a few tool rooms are able to verify their own tools - those that cannot, have to outsource and be subject to further delays in having to wait for certification.

4.9.1.3 *Project Management*

As stated above, product life cycles are becoming shorter as model life becomes customer driven. Thus automakers are developing new models and modifying existing models (facelifts) continuously. Owing to the large number of projects running at any one time, suppliers, mainly those who serve several automotive and white goods customers, are restricted in the number of personnel who can be dedicated to projects for any one customer. Additional pressures are created when design changes are made during the development phase. As with all auto manufacturers these delays are not allowed for in the plans and the deadlines for product launches remain fixed. As with other disciplines, work ethic also has a role to play in this scenario. While almost all Japanese project engineers at Toyota spend ten or twelve-hour days at work, with the exception of a few suppliers, most work eight-hour days. Thus the expectations of Toyota SA become difficult to achieve.

In addition to time constraints, the quality of supplier project management has been criticised by Japanese visitors on many occasions. Japanese engineers and specialists devote a large proportion of project time in the detailed planning stages and a minimal proportion to corrections and modifications. Such a level of detail has not been found to prevail among local suppliers. It remains a culture to plan and execute quickly, without due consideration to risk management, and then spend a large amount of time doing corrections. On many occasions, Toyota SA has had to abandon failed projects by suppliers, and resort to importing parts, albeit at higher costs (Purchasing Management. 2002, Personal conversations). As of 2003, Toyota has instituted a punitive financial measure on suppliers who fail to deliver tools on time.

4.9.2 *Achieving Quality Targets and Certifications*

"In an increasingly competitive industry, where consistent quality and continual improvement are necessary for survival, how do the Original Equipment Manufacturers (OEMs) ensure that the components they receive from suppliers are of consistent quality?" This is the question posed by the Durban Automotive Cluster (DAC), a body established to foster the development of the industry in the greater Durban area. The DAC suggest (*DAC*, June 2003) that the most effective strategy is

one of requiring organisational registration according to certain automotive standards, which assist in achieving a level of confidence in quality assurance throughout the supply chain. By developing and then mandating the implementation of quality certifications, OEMs should be confident that their suppliers effectively implement and then adhere to a consistent set of quality standards.

The DAC holds the view that quality goalposts have shifted because the re-emergence of South Africa into the global automotive market has had a significant impact on domestically based OEMs and component suppliers. While South Africa's exposure to the global arena has resulted in opportunities for firms to gain access to global markets, it has brought with it a vast number of pressures. Global production over capacity, the finite future of the MIDP and the increasing attractiveness of larger Chinese and South American markets, have made their parent companies cautious about investing or increasing ownership in their South African operations. The DAC advises that it is very important that domestically based OEMs and suppliers, irrespective of their ownership, create a global confidence in the South African automotive industry. Quality is the best assurance of attaining customer recognition, loyalty and commitment. In addition, it is also South Africa's best defence against international competition and the best way to ensure sustained growth.

4.9.2.1 Quality System Requirements

Although the implementation of a Quality Management System (QMS) may sound as a panacea for assuring consistent quality, the reality is quite complex. Suppliers serving several OEMs are effectively required to conform to different international standards. For instance, BMW, Volkswagen and Mercedes require compliance to German standards while Ford and General Motors require American standards and Nissan, Toyota, Honda, Isuzu and Mitsubishi require Japanese based standards. Most supplier companies employ a single Quality manager. The demands in complying to the various standards are great and impose pressures on the limited resources. The introduction of ISO/TS 16949, a common standard adopted by the various OEMs internationally is seen as a partial solution to this problem, however only a few South African supplier companies have upgraded to the new standard. With ISO 9000:1994

set to expire in December 2003, suppliers are under pressure to upgrade to the new standard or risk losing their accreditation.

According to the DAC (*DAC*, June 2003), the effective implementation of ISO/TS16949, holds a number of merits and can be summarised as follows:

- It creates the conditions for South African based suppliers, irrespective of their ownership, to supply domestic OEMs as well as global markets.
- It provides firms with a competitive advantage - giving a customer confidence in the quality and performance of products, thus potentially differentiating suppliers from cheaper competitors.
- It reduces costs. By having a single global automotive quality system, suppliers avoid having to obtain multiple registrations when supplying more than one customer.
- It potentially assists suppliers in the improvement of quality within the organisation.

Toyota SA has not stipulated that their suppliers conform to any one international standard, however the company does require suppliers to conform to their model-specific quality assurance manuals. The view that compliance to a quality standard is sometimes carried out as 'window-dressing' is supported by the many process audits carried out at suppliers, by Toyota QC staff, and where numerous deficiencies had been identified. There are other reasons why Japanese companies generally do not support the various international standards, however this falls out of the scope of the present discussion.

The difficulties in achieving and maintaining QMS certification, even a common standard, do not end at the supplier. New standards require that suppliers further ensure that their 2nd and lower tier sub-suppliers also comply to a QMS. Given the costs of implementation and the associated perceived benefit, smaller companies, whose resources are even more restricted, do not find implementation a viable task.

4.9.2.2 *Quality Performance Targets*

In line with a change in QMS requirements, the goalposts for the quality of supply to the OEMs have also shifted. Earlier discussions have shown how Toyota, due to the pressure to produce vehicles with lower defects per unit, has had to reduce their supplier quality targets to unprecedented levels. The targets are set to be reduced even further in the next few years. Although the overall supplier average has dropped over the last two years, this has been at a considerable cost to many suppliers. As stated previously, the improvement in quality performance is mainly attributable to the yellow-card strategy. However the stringent measures required by the yellow-card, impose considerable pressures on the supplier resources, some of which are:

- *Cost of 100% inspection* - most supplier quality control systems institute assurance through a sampling plan. The requirement to carry out 100% inspection necessitates the recruitment of one or more additional heads per shift to carry out this function. These costs are generally not budgeted for and even if the workers performing the function are recruited from elsewhere within the supplier organisation, there is still a strain on resources.
- *System purging costs* - Toyota requires that once defects have been identified within the supply chain, these defects be eliminated (purged). The supply chain could include the supplier's work-in-progress in production, finished goods storage, depot, stock-in-transit, Toyota's receiving store and on Toyota's assembly lines. Supplier quality staff are generally responsible for purging the system and re-labelling the parts, although Toyota staff assist where necessary. For suppliers based outside of KZN, the costs include travelling, boarding and subsistence allowances.
- *Other costs* - apart from the above, the weekly task force meetings require chairmanship by the company's MD. If other senior management are also co-opted onto the task force, this necessitates their travel and absence from other schedules in order to be able to attend the meetings. For the smaller suppliers this is not significant, however, for suppliers who have several branches, the MD and senior management are typically situated at head offices in other provinces.

4.9.2.3 *Environmental Management Systems*

According to the DAC, there has been a global shift towards an increased emphasis on sound environmental management in the automotive industry, and as a result Environmental Management Systems (EMS) are becoming increasingly important in the South African automotive industry. Compliance with ISO 14001 is therefore no longer optional and firms that have not been accredited are under increasing pressure to do so. Owing to the absence of stringent environmental regulations and requirements in the past, many suppliers, especially those involved in paints and chemicals, committed themselves only to the bare minimum of requirements and hence face major challenges in implementing the system. An examination, of 43 South African firms, highlights that South African firms are not as progressive as one would expect - only 20% of the firms are ISO 14001 accredited.

Research by the DAC (DAC, June 2003) has shown that a number of suppliers argue that it is the responsibility of the OEMs to assist in the training and implementation of such systems, and in doing so, contribute to the long-term future of the automotive industry. The DAC maintains that meeting the OEMs requirements is no longer an option, and it has become the responsibility of the suppliers to meet the challenges set before them, and commit to ongoing quality improvement in order to maintain business. The challenge for the suppliers, therefore, is to avoid adopting or repeating "a futile window dressing exercise" - but rather to implement the Environmental Management Systems in a way that can be used to best benefit the company. The challenge of overcoming these difficulties need not be a complex one. There is a need for a realisation that effective implementation requires perseverance and commitment.

4.9.3 *Continuous Improvement Activities*

"ISO/TS 16949 requires continual monitoring, and emphasises improvement of customer satisfaction. In addition, it requires communication between a firm and its suppliers and customers to ensure the required quality is achieved. Unlike other Quality Management Systems, ISO/TS 16949 also includes preventative action processes, improved employee quality responsibilities" (DAC, June 2003). Although

this latest international standard and a predecessor, ISO 9000:2000 began specifying that firms engage in continuous improvement activities, Toyota has, through its ongoing supplier development, been fostering such activities for decades. As discussed earlier, the formation of a dedicated Supplier Development Team (SDT), supported by TMC co-ordinators led the process of upgrading Toyota's local suppliers to acceptable levels. For similar reasons, pertaining to the implementation of Quality and Environmental Management Systems above, the process was difficult to drive and required persistent efforts by Toyota SA management and teams to maintain. This is supported by the observation that upon disbanding of the SDT, supplier efforts ceased. Suppliers stopped submitting progress reports and most in-house developments also stopped. Suppliers have cited that Toyota-specific requirements are not explicit and hence difficult to interpret and implement. This is in contrast to the QM system requirements of other OEMs. The language barriers have not assisted the east-west context issues. The change in emphases in various requirements pertaining to quality management systems, largely due to different cultures, has also been cited as grounds for difficulties (Supplier Management. 2001-2003, Personal conversations).

4.9.4 Cost Reductions

Suppliers are under constant pressure to reduce costs to remain competitive both with other domestic and international counterparts. Toyota's request for quotation (RFQ) process entails the supplier declaring fixed and variable costs as well as profit margins pertaining to all new and continued business. The reduction of profit margins sometimes forces suppliers to adopt 'lean manufacturing' techniques (Womack & Jones 1996), prematurely. For instance, certain low value-adding activities, such as quality inspections by patrol inspectors is deemed unnecessary and such functions eliminated to save costs. Thereafter, quality defects begin slipping through the supply chain and reaching Toyota's assembly lines.

During the start of new product developments, suppliers have to sometimes outlay millions of rands to procure raw material for tool making etc. Despite receiving progress payments, completion of payments could take over a year. During this time all finance charges related to servicing loans are borne by suppliers. While major

companies generally do not have problems raising finance, the smaller suppliers, including many family-owned businesses, require Toyota's firm commitment of business intent in order to raise loans.

4.9.5 Continuity of Supply

Although the product development phase is the most demanding in terms of management resources, problems do not end once parts have been approved for production. Apart from the usual quality defects and further problems related to sub-supplier deliveries, Toyota suppliers also experience the following in trying to ensure stable production.

- Small batch sizes/lots - due to the relatively low volumes requested by customers, frequent changeovers between products are required - this results in a loss of production time.
- Other OEMs and non-automotive customers - suppliers serving many customers have the added pressure of shifting production schedules to cater for different customer needs. It is not uncommon in the industry for actual production to vary quite significantly from forecasted production.
- Range of base models - in the case of Toyota, suppliers have the capability of producing several variants of the same part. Rationalising of models would mean fewer changeovers between parts and thus less time lost.

4.9.6 Storage and Delivery

Most automotive customers require JIT delivery. Hence the volume of parts stored at supplier's warehouses is limited to a buffer or safety stock. Nevertheless owing to the range of parts and customers served, the following challenges come to the fore:

- Separate stock holdings - most OEM customers require their products to be stored separately from those of other customers. This is done to facilitate audits of products and processes and also prevent incorrect parts being delivered. However this places constraints on suppliers as the space requirements are greater.
- First-in-first-out (FIFO) - with the exception of items such as paint, most automotive components do not have a shelf life. However to facilitate traceability

and recall, if necessary, Toyota requires suppliers to practise the first-in-first-out policy - this is mostly facilitated with sloped racks having two-way access. However the set-up costs are far higher than standard racking/shelving and also utilise more space.

- Packaging and labelling - in order to facilitate the provision of parts directly to the assembly line, Toyota specifies the type, packing, containers and labelling to be implemented by suppliers. The uniqueness of packaging sometimes places a restriction on suppliers especially when there is a shortage of containers or when breakage occurs.

4.9.7 Strategic Alliances

The advantages of local supplier partnering were discussed in detail in an earlier chapter. However setting up alliances with overseas companies has met with the following challenges:

- Company size - local companies have been found by international giants to be too small to warrant any form of tie-ups or investment. Some of the reasons given were that the costs of despatching specialists to South Africa are not recoverable and the setting up of a local agent/office was not warranted.
- Country risk - the crime situation in the country and the lack of financial stability have been cited by some companies, as grounds which, are not suitable for investment.
- The costs of establishing alliances and other forms of partnering are at rates such that small local companies cannot afford them on a continuous basis.
- Country-of-origin effect - suppliers that serve more than one OEM are confronted by having to partner with American, European or Japanese companies as favoured by the OEMs. Hence the supplier does not benefit from partnering to serve one particular customer only.

4.9.8 2nd and 3rd tier Supplier Development

The challenges faced by Toyota's first tier suppliers are amplified further up the supply chain. Second and third tier suppliers are also seen as being critical to Toyota

SA in that supply problems impacting on the first tier also jeopardises continuity of production. As discussed previously, the first tier is responsible for the further development of lower level suppliers. Furthermore the following challenges are faced:

- Size of operations - most lower-levels tend to be even smaller operations with limited resources - companies such as these carry out the bare minimum in terms of compliance to quality, environmental and other standards.
- Number of lower levels - each second-tier supplier can have up to twelve sub-suppliers. As supplier resources are already under strain to develop themselves to Toyota requirements, as discussed previously, they cannot undertake to develop lower level suppliers as Toyota SA does.
- The tiering of the industry results in the demands of the OEM being filtered back up the supply chain. Logically a time lag exists between the demands being placed on the 1st tier by the OEM and the demands being placed on the 2nd tier by the 1st tier and so on. Consequently, while 1st tier firms are generally given the opportunity to strategize around the demands made by the OEMs on a real-time basis, the 2nd and 3rd tier firms tend to respond with more of a knee-jerk reaction (Comrie 2002).

4.9.9 Development of Human Resources

This is perhaps one of the most challenging tasks faced in supplier development - while the replacement of old equipment and the updating of old technologies can be accomplished with ease, the upgrading of people skills, both at managerial and operational levels, together with the old mindsets is not that straightforward.

- Skill levels - in terms of lower operational levels, many suppliers still have in their employ operators with sub-matric education. While the lower wage demands serve as an advantage, it is difficult to teach such operators key production concepts or technical skills. For instance most of the common quality management systems are document based. However, if operators are unable to read, such instructions

have been found merely to serve as window-dressing. Suppliers have with Toyota's assistance, employed visual instructions with limited success. Other suppliers have instituted adult basic education classes to address these issues.

- Costs attached to training - although the importance and urgency of training is well understood, high employee turnover serves as a deterrent to investing in training. The shortage of skills and generic nature of many of the technical/engineering positions, within the industry allows frequent job rotation. Suppliers are hesitant to train employees only to see them leave.

4.10 Evaluation of the Suitability of Toyota's Increased Localisation Strategy

As discussed earlier, of the suitability, acceptability and feasibility criteria proposed by Johnson and Scholes (2002), the *suitability* criterion will be used in this study to evaluate if Toyota's increased localisation strategy is a good strategy at this point in the company's business growth. Furthermore the impact analysis model proposed by Ambrosini (1998) will be used to assess the extent to which the strategy exploits the opportunities in the environment and avoid the threats; capitalises on the organisation's strengths and core competences and avoids or remedies the weaknesses. The elements of the suitability framework that were chosen to evaluate the strategy are life cycle analysis, positioning, value chain analysis and portfolio analysis.

4.10.1 Life Cycle Analysis

Competitive position - having held the leadership position in the overall automotive market in SA for 23 consecutive years, Toyota SA can safely be said to have a dominant position in the market. Although companies such as Volkswagen and Daimler Chrysler are serious challengers in the passenger vehicle segments, they do not offer products in the light commercial vehicle category, a segment where the Toyota Hilux has acquired strong brand loyalty. As the new IMV is going to be one of Toyota's two base models, dominance in this segment will strengthen its overall competitive position.

Stages of industry maturity - the automotive industry of South Africa can be deemed a mature industry. While the emerging international markets of Australia and Europe may appear to be growth markets to Toyota SA, the marketing of exported models, will be controlled by the parent company, which has had many years of experience in international markets.

A review of the above two factors indicates that Toyota SA has a dominant position in a mature industry. Based on the life cycle/portfolio matrix (Figure 2.5), the type of strategies, appropriate to this configuration is to:

- defend position
- attain cost leadership
- renew and fast grow.

Toyota SA can be seen to having encompassed all of the above in their increased localisation strategy. The threat of imported CBUs by other automakers will be countered by the importation of Toyota's own successful models such as the Yarius, Camry, Lexus and Landcruiser from other manufacturing countries. The drive to increase local content, thus reducing the content of imported components in its manufactured models, will ensure that costs are reduced and remain competitive. The increased local content included in the development of new models and planned upswing in volumes are seen as drivers in the 'renew' and 'fast grow' strategies.

4.10.2 Positioning

The resource strengths and competencies of Toyota SA and its suppliers have been discussed in a preceding section. This forms the first step of the positioning evaluation. Thompson and Strickland (2003, p. 121) give a comprehensive list of 17 potential resource strengths and competitive capabilities that can be looked for in a company. The following have been identified as being key to underpinning the increased localisation strategy:

- A1 Ability to take advantage of economies of scale and/or learning and experience curve effects.
- A2 Proven skills in improving production processes.
- A3 Superior skills in supply chain management.

The formation of alliances, such as joint ventures with other firms that provide access to valuable technology and competencies is considered to be a key resource that still needs to be realised.

Step 2 involves an examination of each of the above key competencies in terms of the different bases of the strategy. The bases of the increased localisation strategy are considered to be:

- B1 Cost reduction
- B2 Reduction in the effect of exchange rate fluctuations and
- B3 Reduction in the distance from suppliers

Step 3 requires the assessment of whether these competences are valuable, rare, complex or embedded in the tacit knowledge.

The following table summarises the three steps and also depicts the effect /contributions that the key competencies have on the bases of the localisation strategy:

Table 4.1 Assessing the suitability of a product/market strategy

	A	B1	B2	B3	C
	Resources and competencies underpinning strategy	Cost reduction	Reduction in subjectivity to exchange rate	Distance reduction	Which will be sustainable / difficult to imitate
A1	Economies of scale and learning curve effects	High	High	Medium	Valued
A2	Improving production processes	High	Medium	Low	Valued, complex
A3	Skills in supply chain management	Medium	Medium	High	Complex , tacit

The above analysis highlights that the increased localisation strategy will enable Toyota SA to improve its competitiveness. This will be achieved through the cost reduction and reduction in subjectivity to exchange rate fluctuations in the increased economies of scale locally.

Improving supplier's production processes and reconfiguring the supply chain will also support the reduction in costs. Although 'Column C' shows that none of these competencies are difficult to imitate, in comparison to the other local OEMs, Toyota SA is regarded as being first to implement such high local content levels in its high volume products (AIDC, 2002b).

4.10.3 Value Chain Analysis

Johnson and Scholes (2002) state that the suitability of strategic developments may be tested by the extent to which the strategy will reconfigure the value chain in a way that improves value for money and the competitive position of the organisation. The advantages and disadvantages of backward vertical integration have been discussed extensively in a previous chapter. The following are some of the initiatives that have been undertaken by Toyota SA as part of their increased localisation strategy:

- Outsourcing of seat manufacture - for many years, Toyota SA has manufactured vehicle seats in-house. This part of the business is highly labour- and space-intensive. Due to the growing complexity of seats in terms of leather/upholstery/vinyl aesthetics, comfort, safety and functionality, Toyota SA has established an alliance with a Japanese based seat manufacturer, which will result in the outsourcing of seats and thus the return of valuable space to the assembly division. This reconfiguration will ensure that Toyota SA maintains the specialisation as well as lower its overhead costs.
- In-house bumper painting - since the advent of plastic bumpers, Toyota has moulded bumpers in-house and shipped the parts to an external company for painting. The following figure shows the flow of bumpers from moulding to fitment:

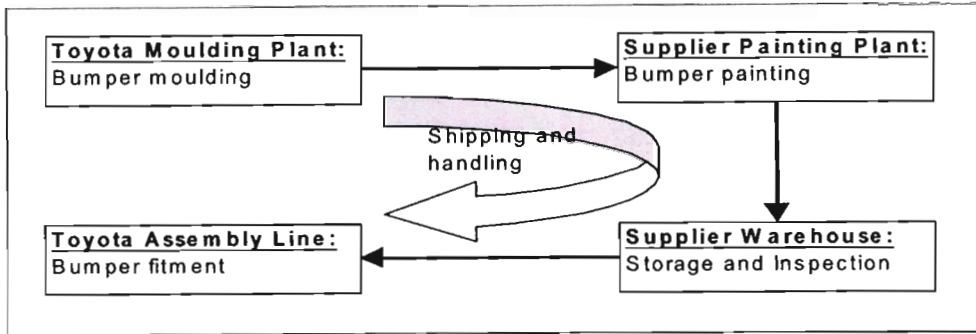


Figure 4.1 Flow of bumpers

Despite the precautions taken during transportation, the bumpers are still subject to scratches and chipping due to the amount of handling undertaken. Apart from the cosmetic damages two further problems, associated with painting, arise. Firstly the sequencing of colours in the supplier's paint plant must exactly match that of Toyota's assembly line - due to this restriction, ad hoc changes in the assembly sequence, due to shortage of other components, upsets the sequencing at the supplier as well. To safeguard this threat, the supplier has to carry a large buffer stock of each colour to ensure supply during changes. Secondly the usage of vehicle paint and bumper paint varies. As buyers at different companies purchase the paint, the stockholding of batches of the same colour also varies and hence colour mismatches arise. To eliminate all of these logistical problems, Toyota SA has taken the decision to paint the bumpers in-house. The reconfigured value chain will look as depicted in the following figure:

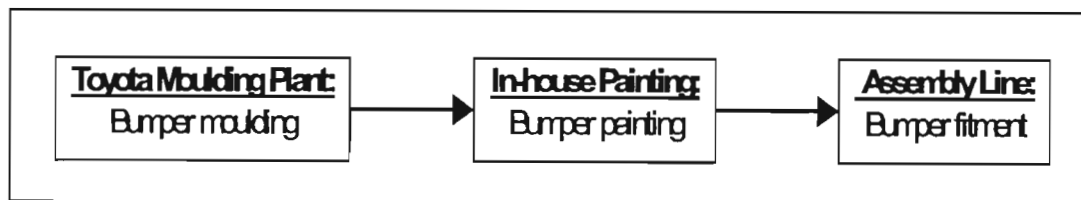


Figure 4.2 Reconfigured bumper flow

It is considered that this configuration will add value in lower costs associated with a drop in quality rejects, less time lost in transportation and improved inventory levels.

- Establishment of a regional 'supplier park' - as discussed in the previous chapter, the regional park proposes to encourage suppliers from outlying regions to set up operations close to Toyota's manufacturing plant. Advantages of this type of supply chain were also discussed. The following figure shows how the traffic into the plant will be reduced:

The new configuration will allow for both an increase in volumes of incoming components as well as outflow of manufactured vehicles.

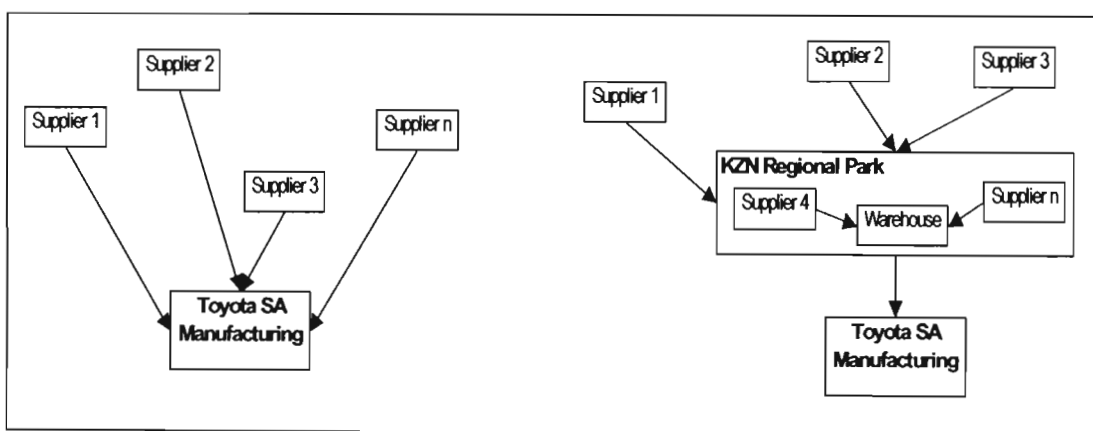


Figure 4.3 Reconfiguration of traffic flow into plant

Apart from the above three examples the company is also encouraging the partnering of local suppliers with international organisations in an effort to obtain synergistic effects.

4.10.5 Portfolio Analysis

Whilst marketing texts generally employ portfolio analyses to evaluate the performance of an organisation's various business units, Ambrosini (1998), states that portfolio analyses can facilitate an organisation's assessment of the balance of its mix of services, products or businesses. In this study, the popular Boston Consulting Group (BCG) matrix will be used to plot three of Toyota's largest products viz. the Tazz, Corolla and Hilux. All figures used are relative and are depicted for illustrative purposes only.

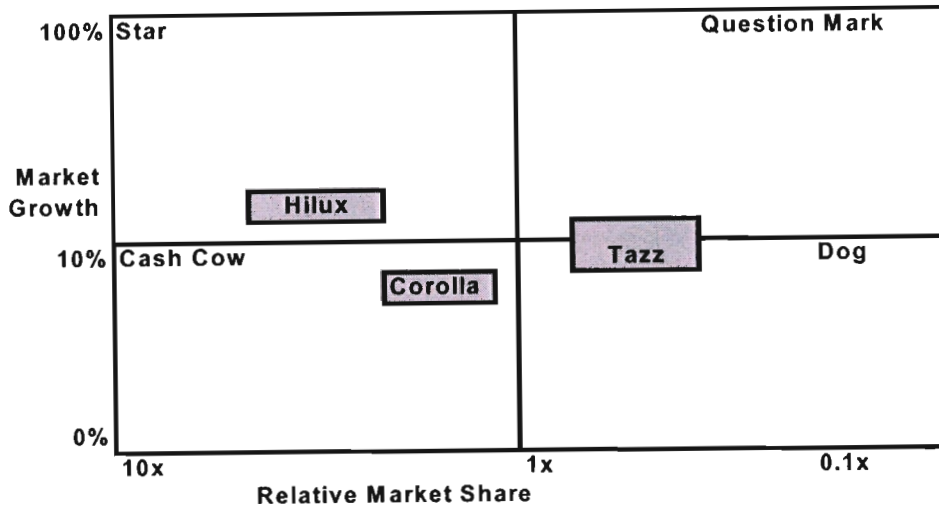


Figure 4.4 BCG model of high volume vehicles

Source: Based on Toyota SA sales information

Hilux: -this is Toyota's light commercial vehicle that is well suited to the agricultural regions of South Africa. The strong market share, as well as the potential for exports into Europe, makes it a 'star'.

Corolla: - Toyota's passenger car offering, although highly successful, is challenged with customers opting for leisure vehicles as well as many new imports into the country. The high prices of passenger cars, high interest rates as well as high fuel prices are also forcing consumers to scale down to less luxurious and more economical vehicles.

Tazz: - this is Toyota's entry-level vehicle. Although the current model has been scaled down from the popular Conquest, represents very good value for money and holds high resale value, the product is facing considerable pressure from latest European as well as East Asian imports. The Tazz borders on being a 'question mark' as it will be discontinued as of 2007 to be replaced by an imported CBU. Ageing tools at suppliers as well the downward sloping stage of its product life cycle will make continuation of the Tazz an expensive option.

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4.11 Impact Analysis for Toyota and its Suppliers

As a variation to the method of analysis suggested by Ambrosini (1998), whereby the impact analysis is carried out on the company, the technique is employed here to assess the impact of the various key issues on the increased localisation *strategy*. As suggested earlier, the proposed model consists of both Toyota and its suppliers, hence key strengths, weaknesses, opportunities and threats related to both will be concurrently discussed.

4.11.1 Key SWOT issues

The specific issues relating the Toyota's increased localisation strategy have been covered in sufficient detail earlier. However, only the key ones are listed below, as it is considered that these will have the most impact on the successful implementation of the strategy.

a) Strengths

- Toyota global support
- Toyota's strong manufacturing competencies
- Low-cost advantage of suppliers

b) Weaknesses

- Toyota internal resources
- Poor product development capabilities of suppliers
- Poor technical capabilities of suppliers

c) Opportunities

- Toyota global supply network
- Increased export and local content incentives
- Supplier economies of scale effects
- Supplier development (including quality, efficiency etc.)

d) Threats

- Toyota cost competitiveness
- Supplier lower-tier support

Table 4.2 below shows the matrix, where the technique suggested by Ambrosini has been used to map out the strengths and weaknesses against the opportunities and threats.

Table 4.2 Impact analysis for increased localisation strategy

Environmental change (opportunities and threats)	Global supply network	Export & local incentives	Economies of scale	Supplier development	Cost competitiveness	Lower-tier support	+	-
Strengths								
Toyota global support	+3	+2	+1	+1	-1	0	+7	-1
Manuf. competencies	+2	+2	+1	+1	+1	0	+7	0
Low-cost advantage	+2	+2	+3	+2	+2	-1	+11	-1
Weaknesses								
Toyota internal resources	+1	+2	0	0	-1	0	+3	0
Product development	+1	+1	+2	+1	-1	-1	+5	-2
Technical capabilities	0	+1	+1	+1	-1	-1	+3	-2
Environmental impact scores	+9 0	+10 0	+8 0	+6 0	+3 -4	0 -3		

4.11.2 Discussion of Impact Analysis Scores

As can be expected, the high positive scores indicate that the strengths of both Toyota SA and its suppliers are boosted by the opportunities presented by increased localisation and hence support the strategy. However, the prevalence of negative scores indicates that the threats, of Toyota SA remaining cost-competitive and the lack of lower-tier supplier support can endanger the strategy.

Based on Ambrosini (1998), Toyota SA should enhance those strengths that take advantage of opportunities and also develop additional strengths that can exploit latent opportunities. On the other hand, threats facing both Toyota SA and its suppliers have to be reduced if not eliminated and areas of weakness developed. Suggestions on how the above can be accomplished are made in the next chapter.

4.12 Summary

The evaluation of the increased localisation strategy began by carrying out a basic SWOT analysis of Toyota SA and its suppliers. The unified Supplier-base Toyota model, proposed by the writer, was used. The key focus of the chapter was placed on the challenges faced by local suppliers involved in the implementing process of the increased localisation strategy. It was found that poor product development capability, poor resource to technology and so forth rank as key challenges to suppliers. The dwindling in Toyota's resources as engineers are despatched to a greater number of suppliers also present an area of concern.

The model proposed by Johnson and Scholes (2002) was then used to evaluate whether the strategy was suitable at this point in the company's growth. Based on various stages of the suitability analysis, it was found that the strategy is indeed suitable. Finally an impact analysis, using the technique suggested by Ambrosini (1998), was used to evaluate and determine what aspects arising from the SWOT analysis could support or endanger the strategy

5 CHAPTER FIVE RECOMMENDATIONS

5.1 Introduction

The exploration of the various issues surrounding the Toyota SA-supplier relationship has shown that there exist both positive and negative effects in the increased localisation strategy. However, prior to entering into the discussion it is considered useful to depict what the DAC's view of the demands made by the various OEMs is.

From the OEM perspective, these are some of the challenges that they have had to face in recent years:

- Reduced protection from competing OEMs bringing in fully imported models.
- A realisation that economies of scale on the back of exports are required to compete with imported vehicle prices.
- The challenge of attracting new ownership in many cases in order to be fully incorporated into their respective global families before they can export.
- A global over capacity of vehicle production of roughly 30%, which makes parent companies reluctant to invest or increase ownership in South African operations.
- The uncertainty of securing follow-up models for export programs as a result of the limited life span of the MIDP and the increasing attractiveness of larger markets such as China and those in South America.
- A global move towards "order qualifying" verse "order winning" criteria, which places increasing pressure on non-price related requirements.

It is clear that the South African automotive industry can no longer be seen as distinct from the global industry - there is only one industry, and the firms based in South Africa, including the OEMs, must therefore fight for their survival in a global arena.

The suitability analysis has shown that the strategy is suitable, and an attempt was made to show the extent of suitability by use of the impact analysis. The following two sections will discuss both the positive aspects of the strategy and areas, which require improvements in order for the strategy to be successful.

5.2 Positive Aspects of the Increased Localisation Strategy.

It is considered that both Toyota SA and its suppliers are addressing the many recommendations, as suggested by various authors in the strategic texts. Some of the major issues cover the gaining of competitive advantage through the following initiatives:

5.2.1 Adoption of Low-cost Provider Strategies to Improve Competitiveness

The lower costs of local parts have been identified as a competitive advantage that local suppliers have over their overseas counterparts. Whereas in the past, the local suppliers had to compete with suppliers from developed countries, they now have to also compete with suppliers from other developing countries, such as Philippines, India etc.

Through price comparisons done by the Purchasing Department, it has been found that these countries boast even lower relative wage rates than SA. Hence to retain their cost advantage, local suppliers cannot allow their prices to become uncompetitive. Issues such as high scrap rates, low productivity, poor staff attendance etc. have to be addressed as part of low-cost provider strategies in order to achieve this.

5.2.2 Formation of Strategic Alliances to Enhance Technical Capability

Despite the various challenges faced, this initiative still has good strategic intent. South Africa's isolation in the past has left many suppliers lagging behind their international counterparts. Although various supplier-led initiatives are being undertaken, it is considered that the existing gap will not be closed by self-effort alone. The quickest transfer of technology, skills and expertise will be achieved by supplier alliances.

5.2.3 Rationalising the Number of Products to Gain Economies of Scale

In the past, the political isolation of SA and trade sanctions imposed, forced the country to basically 'fend for itself' in many areas. The 'pulling-out' of the country by major automakers resulted in the remaining OEMs such as Toyota, having to diversify their product offerings to meet local customer needs. Although both Toyota SA and its suppliers met this challenge, it was accompanied by production inefficiencies through frequent changeovers and non-specialisation. As discussed earlier, the strategy to rationalise will allow both Toyota SA and its suppliers to gain economies of scale effects.

5.2.4 Development of Human Resources to Improve the Skills Base

The various initiatives being undertaken by both Toyota SA and its suppliers, is considered encouraging in addressing human resource deficiencies caused by previous political dispensations. While management structures in the automotive industry remain predominantly White, positions at operational levels are still filled by Blacks, Indians and Coloureds. Unfortunately it is at these critical levels that basic educational and skill deficiencies exist. Toyota's requirement of its suppliers to develop their human resources is considered mandatory to ensure that the increased localisation strategy is successful in the future.

5.2.5 Maximising the Benefits from the MIDP by Expanding the Export Drive

Toyota SA, like the other OEMs has realised that the South African automotive market is too small to foster long-term business growth. Growth has to be achieved through expansion of the export markets. TMC's awarding of the Australian and European export contracts to Toyota SA indicates the parent company's confidence in the latter. This strategy is also being assisted by the government's MIDP incentive. Through the MIDP, many observers in the industry consider the automotive industry to be one of the biggest post-1994 successes. While the increased localisation strategy fits well with the workings on the MIDP, Toyota SA has to consider the long-term ramifications of the phasing out of the MIDP after 2012.

5.2.6 Vertical Integration Management

Particular reference was made to Toyota's management of the supply chain in adding value through vertical integration strategies. The outsourcing of seat manufacture and the return to in-house painting of vehicle bumpers, indicates that the company is striving to reduce costs while improving quality. In addition to the above the rationalising of the number of models produced will reduce the complexity of operations in various areas and allow for high volume production. The very serious challenge faced with 2nd and lower tier suppliers, is being addressed by some 1st tier suppliers incorporating those activities as part of their manufacturing operations. The very specialised area of plastic chrome plating is one such case in point. At least two 1st tier suppliers, frustrated with inconsistent quality, high scrap rates and unreliable supply from a 2nd tier supplier, have recently decided to incorporate multi-million rand chrome-plating plants as part of their operations.

5.3 Issues Requiring Attention

A number of issues have to be addressed to ensure the greater likelihood of a successful strategy implementation. Although these issues relating to both Toyota SA and its suppliers, have been discussed previously, recommendations are made here as to how these challenges can be overcome.

5.3.1 Product Development Capability

This area presents one of the most critical challenges to increased localisation. As discussed previously, the major underlying reasons for poor product development capability lies in the lack of design competencies, shortage of tool-making capacity in SA and general poor project management skills. While supplier's failure in the past to develop parts in time for model launch, was counteracted by resourcing CKD parts from Japan, this recourse is no longer available. Hence with increased local content, there is even greater pressure upon existing suppliers to develop acceptable products on time. It has been observed that although the number of local parts has increased, the supplier base has not increased proportionately.

It is recommended that Toyota SA seeks and develops more suppliers in order to spread the loading. Attempts to accomplish this in the past have been mostly rejected due to higher prices. However it is contended that the costs associated with project delays, poor quality etc. in many cases outweigh the price differences associated with stable supply from reputable suppliers.

5.3.2 *Technical and Operational Capabilities*

Having overcome the product development hurdle, suppliers require further competencies to ensure that parts can be produced defect-free on a sustainable basis. Based on sporadic peaks in inconsistent quality and supply shortages, of parts destined for Toyota SA, this is also a concern area for suppliers. Two key initiatives are required to address this.

Firstly it is recommended that Toyota SA aggressively pursues and supports alliance building between needy local suppliers and international organisations. Additional costs associated with Technical Aid Agreements could perhaps be amortised over part life to minimise the increased financial burden faced by those suppliers.

Secondly considerable progress was made in the past with suppliers, when Toyota SA had a dedicated Supplier Development Team as part of the purchasing function. Due to increased localisation this team was reassigned duties in product development, and supplier development was restricted to periodic assessments. It later emerged that due the lack of monitoring on the part of Toyota, suppliers generally allowed their continuous improvement activities to fall away. Presently, poor quality at suppliers is managed as a *reactive* measure. It is recommended that the Supplier Development Team be reinstated by Toyota SA to *proactively* support the efforts of suppliers to reach world-class capabilities.

5.3.2 *Toyota's Internal Resource and Organisational Capabilities*

It is envisaged that within Toyota's production plants, higher manning needs for the increased volumes of the two base models will be resourced from the rationalising of the other model lines. However, in the case of 'front-end' support departments, e.g.

Product Engineering, Supplier Technical Support and Purchasing, such a strategy cannot be employed. The limited number of engineers and buyers respectively, has to manage the increased workload arising from higher local content.

The senior management of Toyota SA has foreseen this challenge and attempts are currently being made to form a "Localisation group" by combining the Product Engineering and Technical Support departments. The reasoning for this strategy is as follows; with all of Toyota's global design functions now being centrally managed by TMC, the need to have fully-fledged Engineers in each country has diminished. Toyota SA has thus planned to widen the Product Engineers roles to include product development and manufacture.

Two further problems come to the fore; firstly Product Engineers have been historically grouped by vehicle component group such as chassis, trim, exterior and so on. This was done to facilitate communication with the relevant departments in TMC, who are also component group based. Supplier Technical Support Engineers and Buyers, on the other hand are grouped by suppliers. Hence, how exactly the Localisation group will function and be structured has still to be finalised.

Secondly, in order for Product Engineers to support local suppliers in terms of product development and ongoing manufacturing, their development and production skills require to be enhanced. It is considered that this could take a few years. While the structure issue might, with this restructuring, be resolved in the longer term, the immediate needs within Toyota SA and at suppliers remain unresolved.

Finally, as part of its strategy to reduce costs, Toyota SA has very recently announced the offering of voluntary severance packages to its entire qualifying staff. This is mostly targeted to those employees over 55 years old. Although this initiative will result in lower costs in the longer term, it is considered that the loss of vital skills and experience to the organisation will place further strain on its human resources.

5.3.3 2nd and Lower-tier Suppliers

Although of a lower priority, this issue nevertheless remains a concern to both Toyota SA and its suppliers as these suppliers still form a vital link in the supply chain. Presently, 1st tier suppliers are expected to develop their lower tier suppliers, however this activity is not formally managed. The many representative institutions within the automotive sector are well aware of this situation, but for various reasons the status quo has progressed only marginally over the last few years.

It is recommended that to safeguard Toyota's activities, lower-level supplier development also be managed by the Supplier Development Team, as suggested earlier. This could be facilitated by training the first-tier and monitoring their progress with lower-levels.

5.4 Concluding Remarks by the KZN Benchmarking Club

In recommending the way forward, it is considered prudent to conclude with closing remarks by the KZN Benchmarking Club, a local watchdog of the automotive manufacturing and component industry.

“If one considers the demands being placed on the automotive components industry and the relative performance of the industry it would seem apparent that statement ‘top down commitment ensures bottom up support’ does not accurately reflect the situation that the industry as a whole finds itself in.

Whilst it is clearly apparent that the statement is accurate, there is an additional element that needs to be considered if one is to fully understand the “bigger picture”. The OEMs are under enormous pressure from both their new own global operating environment and their parent companies. A question mark hangs permanently over their long-term future and the ability of many of the local suppliers to match the performance levels being demanded by their parent companies.

In light of this, the situation is more accurately represented by a circle, in which a lack of commitment drives a lack of investment, the lack of investment results in a lack of long-term capability, and the outcome of this is once again a lack of commitment.

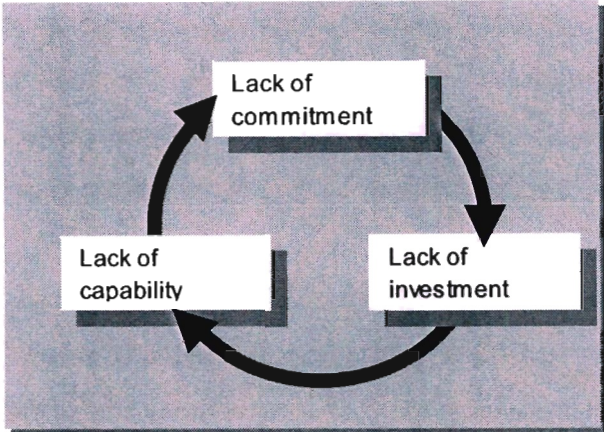


Figure 5.1 Supplier commitment-investment-capability cycle

Source: KZN Benchmarking Club

The difficulties of breaking this cycle seem almost inescapable, and are most certainly unattainable without a degree of risk. What is certain, though, is that in the South African automotive industry *business as usual could mean no business at all*. In essence, then, a quantum shift is required towards an era where commitment drives investment and where investment creates enhanced capabilities. If this virtuous path is followed then the ability of the industry to stand up to the various challenges posed will be greatly enhanced” (Comrie 2002).

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