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Barriers in supplier development encountered by SMEs as suppliers in the South African railway industry

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ABSTRACT

The purpose of the study was to explore barriers to supplier development encountered by SMEs as suppliers in the South African railway industry. The first objective was to identify barriers faced by SMEs to be suppliers of large OEMs in the South African railway industry. The second objective was to establish the challenges that lead to failure in the supplier development process. The third objective was to describe the activities done by SMEs to position themselves in becoming preferred supplier development candidates for OEMs in the South African railway industry. SMEs as suppliers in the railway industry were interviewed through an explorative interview. The interview targeted suppliers who were involved in the railway industry and who are actively seeking contracts with the South African railway operators. The findings are that new suppliers are experiencing barriers to enter the railway industry. The key barriers for new suppliers are industry human capital, industry regulation, capabilities, ineffective government intervention and lack of resources. The main challenges identified during the supplier development process are the long bureaucratic process related to supplier development on-boarding, miscommunication and lack of transparency. Suppliers also faced challenges in the way they position themselves in becoming preferred suppliers development candidates for OEMs in the South African railway industry. Recruiting railway expertise and innovating compliant products were the most effective measures taken by suppliers in becoming a preferred supplier.

Keywords:

Buyer-Supplier

Competitive Supplier Development (CSDP)

Original Equipment Manufacturer (OEM)

Rail Industry

Small and Medium Enterprise (SME)

State Owned Enterprise (SOE)

Supplier Development

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Name:

Signature:

Date: 10 November 2014

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LIST OF ABBREVIATIONS

BEE:	Black Economic Empowerment
CSDP:	Competitive Supplier Development Programme
DTI:	Department of Trade and Industry
OEM:	Original Equipment Manufacturer
PRASA:	Passenger Rail Association of South Africa
SEDA:	Small Enterprise Development Agency
SME:	Small and Medium Enterprise
SOE:	State Owned Enterprise

CHAPTER 1

INTRODUCTION

1.1 Study background

In the current age of globalisation, home country firms particularly in emerging markets such as Asia and Latin America, are increasingly displaced with multinational firms from the developed countries in the North. These multinational firms which are mostly original equipment manufacturers (OEM) buy from SMEs (Small and Medium Enterprises) and seek to improve their financial outcomes through operation effectiveness (Li, Humphreys, Yeung, & Edwin Cheng, 2007). As part of enhancing operation effectiveness, some of the multinational firms commence lean-operations by concentrating on their core competencies. As a result they become more dependent on suppliers which are pre-dominantly SMEs.

To still compete at a global level of quality, firms must ensure that their supplier's performance and capabilities are equal to or greater than the performance and capabilities of the firm's competitors (Krause, 1997). Most of these firms encounter SMEs without competitiveness, product quality, production process, managerial skills and capacity for technical skills (Kalota, 2011). This poses a challenge on buyer firms to derive mechanisms or activities aimed at improving the supplier's performance and/or capabilities to meet the buyer's short-term or long-term supply needs, the process thereof is simply known as supplier development.

Supplier development is a concept which was first championed by Toyota in a form of supplier association linkage for the sake of productivity improvement. Toyota had an embracing history of supplier association, supplier network and a culture of collaboration between its suppliers which in turn enabled quick diffusion of network knowledge to improve weaker suppliers to become competitive (Dyer & Nobeoka, 2002).

Through supplier development, OEMs as buyers and SMEs as suppliers jointly form a buyer-supplier relationship. The supplier will be interested to achieve the approved list status in the supply chain of the buyer as its customer. The buyer as a customer will be looking to achieve the preferred customer status in the operation capability of

the supplier (Schiele, Veldman & Hüttinger, 2010). According to Terpend, Tyler, Krause and Handfield (2008) together the buyer-supplier relationship will have integrated objective of seeking:

- Improved cooperation,
- Reduction of risk/opportunism,
- Coordination of activities, and
- Knowledge acquisition/transfer

In order to achieve the above stated objectives, supplier development requires both firms to commit financial, capital, and personnel resources to the work; to share timely and sensitive information; and to create an effective means of measuring performance (Handfed & Krause, 2000).

Both the OEMs and SMEs see value in supplier development however it still comes with an effort and it has its own challenges. OEMs face challenges in deriving a set of policies and procedures, and to allocate resources towards supplier development (Schiele et al., 2010). Unlike OEMs, SMEs are sensitive to barriers and mostly will encounter barriers to become suppliers (Luk'ianov & Kisliak, 2007). Successful SMEs have to overcome these barriers to make it on the list of OEMs as suppliers and to participate in successful supplier development initiatives.

The most significant barriers encountered by SMEs are funding and competition barriers (Fumo & Jabbour, 2011). Further, Karakaya (2002) identified top five out of 25 barriers to be absolute cost advantages, capital requirements to enter industry, incumbents having a superior production process capital intensity of the industry, proprietary production technology, and loyalty to long established customer relationships. Behavioural barriers were also found to be the most effective instruments of impending entry (Luk'ianov & Kisliak, 2007).

SMEs don’t not only encounter barriers, it is argued that during the process of supplier development, there are major failures that happen (Handfietd et al., 2000). Handfietd et al. (2000) identified four major failures during the process of supplier development:

- during meetings of buyer and supplier management teams,

- when defining key projects,
- when defining agreement terms and determining metrics for success, and
- when monitoring project status and subsequently modifying strategies.

These failures were found to hinder the supplier development process and the development of long term supplier-buyer relationships necessary for a productiveness effectiveness of both parties (Li, Humphreys, Yeung, & Edwin Cheng, 2007).

In order to minimise the barriers and failures during the supply development process, both parties the supplier and the buyer must be willing to invest in the relationship to cultivate a climate of trust to eliminate risk uncertainties due to the sensitive information being shared (Nagati & Rebolledo, 2013). Suppliers must take actions to better position themselves as supplier development candidates by making specific investment in time and resources towards the needs of the customer.

Therefore this study seeks to discover the insights on supplier development, particularly on the notion of SMEs as suppliers, barriers they encounter to be suppliers in the South African railway industry, and causes of failures in supplier development process and the actions they take to become supplier development candidates.

1.2 Research context

This research is focused on the South African context as a boundary condition. In the South African context government has been formulating and implementing policies that will facilitate supplier development. The department of public enterprises initiated a CSDP (Competitive Supplier Development Programme) programme to improve national supplier industry competitiveness. The Department of Public Enterprises through SOEs (State owned enterprises) targets economic growth through infrastructure investment. The CSDP programmes are aimed at leveraging SOEs expenditures to develop competitive national supplier industries, and where possible to build export capabilities (DPE, 2010).

Transnet embraced CSDP programme in 2008 and developed a frame work together with DPE that prioritises supplier development opportunities based on a commodity's industrial and value leverage and strategic importance (Choke & Pita, 2013). Transnet focused the CSDP programmes to three components that of value namely:

- Localisation,
- Sustainability, and
- Skills Transfer.

These components would be informed by individual tender who compel suppliers mostly multinational OEMs to submit their CSDP proposals which is allocated percentage points towards which forms part of the total bid score.

A number of policies were drafted to guide government processes leading to industrialisation which partially resulted to supplier development framework. The first policy is NIPF (National Industrial Policy Framework) drafted with the primary objective of setting out government's approach to the industrial development of the South African economy. Moreover South Africa had a number of successes in development programmes that promoted localisation and industrial development. One of the programmes is the Motor Industry Development Programme (MIDP) which rescued the survival of the South African automotive industry, secured employment in the core automotive industry and generated significant linkages in the supply chain processing sectors like leather and plastics. In the railway industry the Transnet Freight Rail (TFR) build its CSDP foundation by procuring 100 GE (General Electric) locomotives which integrated down-stream supplier development (Van de Walt, 2011). This shows that supplier development is significant in the South African Context.

1.3 Problem statement

Supplier development has gained focus in state institutions, industry and academia consequently making research in this area to be of paramount significance to create and gain knowledge on supplier development practices (Ahmed et al., 2012). As much as there is a growing interest in supplier development, literature shows that there is scant research done in investigating the pitfalls and barriers encountered by

SMEs as suppliers during the supplier development deployment process (Ahmed & Hendry, 2012). Most of research in supplier development focused on the buying firm's perspective, thus creating paucity of research from the supplying firm's perspective (Nagati & Rebolledo, 2013). As such there is a need for research to centre attention on the difference between the supplier's and buyer's supplier development activities while taking into consideration the relationship between the buyer and supplier firm (Ahmed & Hendry, 2012).

Further challenges in supplier development research are centred on the contextual settings. Supplier development is well entrenched in the automotive industry (e.g. Toyota), aerospace (e.g. Airbus), textile (e.g. Nike), electronics (e.g. Motorola) and retail (e.g. Walmart) (Rajput & Bakarb, 2012) leaving other industries like the railway industry under explored. The railway industry portrays a distinct contextual setting as most of the state monopolies in railway hinder a competitive environment from the SMEs (Beck, 2011). In addition, some of the OEMs in the railway industry have inadequate experience in supplier innovation push and clearly defined policies that guide supplier relationships (Röckle, 2013).

Therefore this study aims to investigate the barriers in supplier development encountered by SMEs as suppliers within a context of South African railway industry. Furthermore this study will also determine the cause of failures during the supplier development process and finally establish activities performed by SMEs to better position themselves as suppliers as supplier development candidates.

1.4 Research objectives

RO1. To identify barriers faced by SMEs to be suppliers of large OEMs in the South African railway industry.

RO2. To establish the challenges that lead to failure of the supplier development process.

RO3. To describe the activities done by SMEs to position themselves in becoming preferred supplier development candidates for OEMs in the South African railway industry.

1.5 Research questions

RQ1. What are the barriers associated with the South African railway industry encountered by SMEs in becoming suppliers in the industry?

RQ2. What are challenges encountered during the supplier development process?

RQ3. How do SMEs position themselves to become preferred suppliers in the South African railway industry?

1.7 Document contents

Chapter 1 introduced the study background, research context, problem statement, research objectives and questions. **Chapter 2** presents the critical review of the past and current literature and research relevant to the problem is presented under the following themes: South African railway industry, SMEs involvement, supplier development process, barriers to entry, challenges during supplier development and finally industry positioning as preferred suppliers. **Chapter 3** presents the three research questions of this study. **Chapter 4** is the methodology that was used to collect the data and the results thereof are presented in **Chapter 5**. The presentation of results is followed by the discussions of the results in relation to the relevant literature in **Chapter 6**. The results of the study are concluded in **Chapter 7**, which highlights the contributions of the study and recommendations for future research.

1.8 Chapter summary

The chapter discusses the background to supplier development from studies done in the past by experts in the field and also introduces supplier development in the South African context. The problems statement is stated that barriers in supplier development are not well understood in the railway industry. The research questions are and its objectives are stated.

CHAPTER 2

LITERATURE SURVEY

2.1 Introduction

This section introduces the literature review on supplier development in the South African railway industry. The discussions are commenced with the overview of the South African railway industry followed by a review on SMEs in the South African context. These discussions are then followed by section on supplier development, barriers to entry encountered by SMEs in railway industry and the challenges associated with the supplier development process. The section is concluded with a review on how SMEs position themselves to be preferred suppliers.

2.2 South African railway industry

The South African backstory of railway dates back in 1910 where the inception of the Union of South Africa resulted in combination of the colonial Natal Government, Cape Government, and Central South African railways into the South African Railways known as the Transnet Freight Rail (Cottrell, 2010). The first 90 years of existence the railways had a magnificent antiquity which was followed by lot of crises in the subsequent nine decades. However it is believed that now the railway is once again gaining momentum and well positioned to have an opulent future in the 21st century (Cottrell, 2010).

The promising glorious future of the railway is due to the financial resources dedicated to develop this sector. The National Treasury Republic of South Africa 2012 budget review highlighted that Transnet is committed to invest about R300 billion over the next seven years towards railway development, of which R107.7 billion is included in approved plans over the Medium Term Expenditure Framework (MTEF) period (Department of Trade and Industry, 2010). The core objective of these investments is to develop the freight rail network, large capacity enhancements on the iron ore and coal export lines, acquiring modern rolling stock and refurbishing existing infrastructure. The enhanced capacity will benefit both the general freight and mining exports (National Treasury, 2012). In addition to these

initiatives on railway development, the Passenger Rail Agency of South Africa (PRASA) has commenced with a long-term programme to revitalise its fleet of rolling stock and upgrade stations nationwide. The 20-year investment forecasts on the programme exceeds R80 billion, with a predicted R4 billion to be spent over the MTEF period. These investments will improve reliability and safety for the 2.4 million passengers who travel on the network each work day (National Treasury, 2012).

The focus on railway development is not only limited to financial investments, but they also include the development of suppliers within the railway industry. The South African Department of Public Enterprises established the Competitive Supplier Development Programme (CSDP) as one of the supplier development initiatives focusing on procuring in such a way as to increase the competitiveness, capacity and capability of the local supply base, where there are comparative advantages and potential competitive advantages of local supply (Transnet, 2010).

Transnet (2010) highlights that the emphasis of supplier development is on developments that results in a supplier base that can:

- ensure security of supply to State Owned Enterprises (SOE),
- contribute in the reduction in pertaining costs of the SOE,
- reduce the reliance on imported products,
- enhance the local IP (Intellectual Property) and skills base, and
- And eventually be competitive to market its goods in the international market leading to increased exports.

Furthermore this opportunity is specifically aimed at promoting South African business as offshore suppliers of choice for original equipment manufacturing companies. These types of opportunities generally focus on component manufacture upgrade but require targeted skills training to ensure that capabilities are built in the local industry (Transnet, 2010).

2.3 SMEs involvement

SMEs contribute significantly to growing the economy; hence policy makers, economists, and business experts perceive them as “drivers of economic growth”. The major contribution of SME sector to economic growth is through job creation,

high productivity, increased exports and innovation (Mahembe, 2011). Despite the significance and a high need of SMEs the South African Global Entrepreneurship Monitor 2012 Report showed that South Africa has a low established business prevalence rate which raises concerns of the SMME sector's ability to contribute meaningfully to job creation, economic growth and more equal income distribution (Kelley, Singer, & Herrington, 2012). SMEs are defined according to size, number of fulltime employees, total turnover and total gross asset value. Table 1 below shows the classification of SME according to the Department of Trade and Industry.

Table 1: Schedule of small businesses

Sector or Subsector in accordance with the Standard Industry Classification	Size of class	No of full time equivalent of paid employees	Total Turnover	Total gross asset value (Fixed property excl.)
Agriculture	Medium	100	R 5 million	R 5 million
	Small	50	R 3 million	R 3 million
	Very small	10	R 0.5 million	R 0.5 million
Mining and Quarrying	Medium	200	R 39 million	R 23 million
	Small	50	R 10 million	R 6 million
	Very small	20	R 4 million	R 2 million
Manufacturing	Medium	200	R 51 million	R 19 million
	Small	50	R13 million	R5 million
	Very small	20	R5 million	R2 million
Electricity, Gas and Water	Medium	200	R51 million	R19 million
	Small	50	R13 million	R5 million
	Very small	20	R5.10 million	R1.90 million
Construction	Medium	200	R26 million	R5 million
	Small	50	R6 million	R1 million
	Very small	20	R3 million	R0.50 million
Retail and Motor Trade and Repair Services	Medium	200	R39 million	R6 million
	Small	50	R19 million	R3 million
	Very small	20	R4 million	R0.60 million
Wholesale Trade, Commercial Agents, and Allied Services	Medium	200	R64 million	R10 million
	Small	50	R32 million	R5 million
	Very small	20	R36 million	R0.60 million
Catering, Accommodation and other Trade	Medium	200	R13 million	R3 million
	Small	50	R6 million	R1 million
	Very small	20	R5.10 million	R0.9 million
Transport, Storage and Communications	Medium	200	R13 million	R6 million
	Small	50	R6 million	R3 million
	Very small	20	R1 million	R0.60 million

Source: Department of Trade and Industry (Department of Trade and Industry, 2003)

SMEs operating in the railway industry face a challenge to best participate as suppliers in the South African railway industry as the industry is dominated by mostly by state owned enterprises mainly Transnet and PRASA (Passenger Rail Agency of South Africa), followed by the mining and the big manufacturing sector. However Transnet opted to position itself and contribute in the supplier development with the purpose of improving its commercial terms in the long-run by developing competitive local industries in its supply chain through procurement (Transnet, 2010).

In the same vein, Kelley et al. (2012) also noted that small business development is negatively affected by the South African market dynamics where big firms dominate making smaller firms not able to compete with regard to price, quality and availability of goods and services. A number of experts emphasised the importance of supplier development in contributing to the sustainability and growth of SMEs. This calls for a need to develop SMEs so as to boost the economic growth.

- **Government's initiatives to develop SMEs**

The development of SMEs requires a multiple stakeholder approach, including both the government parastatals and the private sector. The South African Government initiated the Small Enterprise Development Agency (SEDA) which is committed to nature the growth of SMEs. Some objectives are to ensure a continued support to increase the number of SMEs and co-operatives by 2014. These measures would be to ensure an increased contribution of SMEs and cooperatives to the country's GDP from the current 40% to 45% by 2014.

Amongst other government initiatives, the Department of Public Enterprises has been implementing programmes to stimulate growth through infrastructure programmes with the aim of levering SMEs in the railway industry through the implementation of the Competitive supplier Development Programme to leverage Transnet's capital expenditure for the development of local supplier industries (Department of Public Enterprises, 2007).

As part of the governmental initiatives to empower the SMEs, the South African Department of Trade and Industry (DTI) has been committing to enterprise

development sub-programmes aimed at growing SMEs and co-operates by rolling out payments and incentives. Some of the initiatives include establishing entrepreneurship, easy access to finance to ease cost of doing business and support through improving efficiency of organisational and institutional arrangements (Department of Trade and Industry, 2010).

The significance of the initiatives is to facilitate industrial development supported by government procurement to create an enabling environment for competitiveness, growth and job creation (Department of Trade and Industry, 2010).

2.4 Supplier development

Supplier development is defined as any activity that a buyer undertakes to improve a supplier's performance and/or capabilities to meet the buyer's short-term or long-term supply needs (Krause, 1997). As such supplier development is an initiative by a buying firm with a goal of improving the performance or capabilities of its suppliers. The initiative will involve capital investment and resource cooperatives that are supported by effective contracts between the buyer and the supplier (Friedl & Wagner, 2012). The buying firm's supplier development effort will focus on the supplier's outputs which are measurable at the buying firm (Friedl & Wagner, 2012)

The focus of supplier development also acknowledges that there are two types of suppliers; the one who supply critical and strategic input and the other who supply non-critical and non-strategic products. Where a supplier of non-critical and non-strategic product is not performing to the satisfactory of the buyer, switching that supplier becomes an option (Handfield & Krause, 2000). The buying firm has to make this decision taking into account that the supplier development initiatives are idiosyncratic meaning that supplier development initiatives undertaken with one supplier cannot be transferred or recovered from another buyer-supplier relationship (Friedl & Wagner, 2012).

The supplier development initiatives can be categorised into two levels, the long term and short term. One of the classifications is short term which includes

delivery, order cycle times, quality. Some of the initiatives can be less immediate and more long-term goals such as strengthening a supplier's managerial product development, and operations capabilities (Friedl & Wagner, 2012).

Supplier development activities can take place in three forms. The first form could be the compilation of information about the supplier, the evaluation of the supplier's performance, and the unidirectional provision of explicit information about the supplier's evaluation results. The second form could be the provision of specialised and in-depth technical, process, or managerial knowledge. The third form could be the interactive sharing of tacit knowledge through exchange of human assets which are the employees from the buyer and supplier firm (Friedl & Wagner, 2012).

Multinational companies which are mostly original equipment manufacturers buy from SMEs and seek to improve their financial outcomes through operation effectiveness (Li, Humphreys, Yeung, & Edwin Cheng, 2007). Terpend et al. (2008) highlighted that the value sought by buyers is operational performance which is based on the features stated in figure 1.

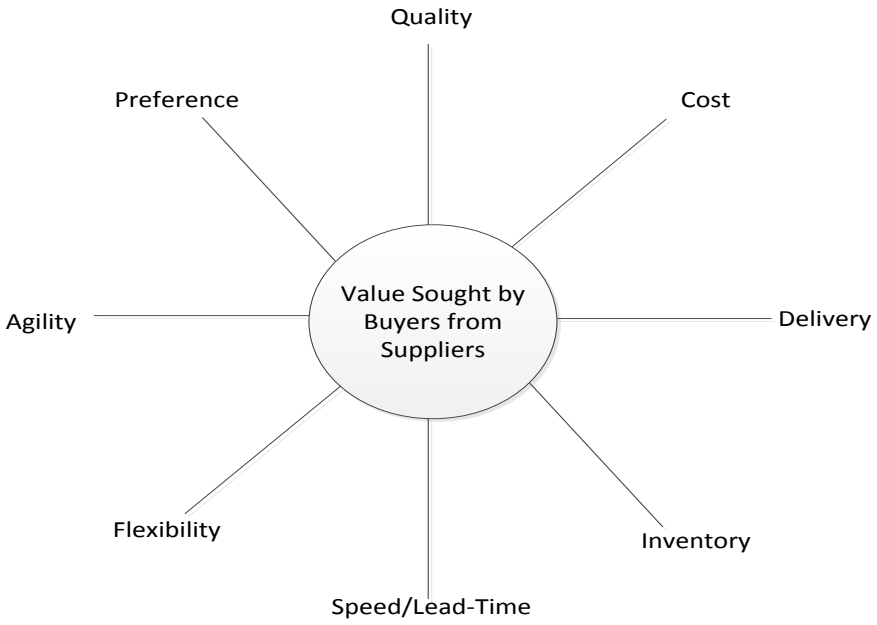

Figure 1: Value sought by buyers from suppliers

Terpend et al. (2008) state that the implementations of supplier development over the last two decades have sought the following values with respect to supplier capability:

- Global Capability,
- Continuous improvement,
- Technology acquisition, and
- Improved NPD (New Product Development).

During supplier development, reliance on strategic suppliers has driven buying firms to be more involved in their supplier's activities. The activities provide suppliers with an opportunity to improve on their capabilities (Friedl & Wagner, 2012). Some of the activities will involve onsite visits, training, staff sharing, and work teams. Nagati and Rebolledo (2013) demonstrated that the activities contribute to supplier's operational performance improvement. According to supplier development plan by Transnet (2010) the potential benefits of local supply versus imports includes:

- Removal of exposure to foreign currency fluctuations in terms of pricing,
- Lower stock level requirements,
- Greater responsiveness,
- Ease of communication, and
- Shorter delivery times.

2.5. Buyer-supplier relationship

Supplier development will be more effective in a mature relationship and in the presence of a competitive environment (Nagati & Rebolledo, 2013). The interest of firms in a buyer-supplier relationship will be to improve performance in cost, quality and delivery performance and benefits from enhanced supplier capabilities. The buyer and the supplier will therefore need to jointly engage in relationship-specific investments to achieve the supplier capabilities in terms of increased managerial, product development, and operations expertise (Friedl &

Wagner, 2012). In such an environment characterised by dynamic markets or changing relationship requirements, SMEs tend to be constrained in terms of capabilities to respond to various relationships requirements or market changes (Ngugi, Johnsen, & Erdélyi, 2010).

Two types of relationship focus include a long term view and a short term view. The long term relationship will be collaborative in nature with a few trusted and preferred suppliers (Samuel, 2014). The objective of the relationship will be to reduce sourcing risk which is the interest of both the buyer–supplier interest. However the long-term relationship will be gradually built (Samuel, 2014). Systematic evaluation program of the buyer-supplier arrangement followed by agreements formalisation will determine the type of relationship that will be undertaken by both parties. The lack of formalised arrangement hinders the development of long-term relationship (Mondini, Del, Netto, Regina, & Scarpin, 2014).

There are clear additional benefits that are intangible benefits that come with long-term relationships. The benefits include inter-personal trust, friendly relation, mutual support, team working and rapport (Samuel, 2014).One of the common challenges with long-term supplier relationship from the buyer's perspectives is supplier complacency where standards can slip due to over-familiarity and abuse of trust. On the other hand short-term or arms-length relationship will be not desired for contracting a specialised service.

Some of the factors affecting a successful buyer-supplier relationship are discussed below:

- **Human interface**

Human interface is the key to building relationship between the buyer-supplier. Wagner and Krause (2009) suggested that the degree of human interaction moderates the willingness of the buyer to transfer knowledge to improve capabilities of the supplier. The buying company will take further steps to exchange employees with the supplier in order to transfer complex knowledge. The employee exchange will intensify the interaction through the activities

between employees and further strengthen the relationship (Wagner & Krause, 2009). Studies done showed that there's a positive relationship between buyer-supplier relationship with the company financial performance (Mondini et al., 2014).

A positive relationship between the buyer-supplier will be driven the co-creation of value through resources that the two firms will combine to develop new combination of capabilities to achieve a higher value that none of the firms could have achieve alone (Ngugi et al., 2010). Ngugi et al. (2010) concluded that when SMEs are in a relationship with larger customer's innovation is also enhanced.

- **Power relations**

In any relationship there's always a question of dominance over the other and equal power relationship will be one serving the interest of both parties. According Porter's five competitive forces that shape strategy, powerful suppliers could capture more value for themselves by charging higher prices, limiting quality or services, or shifting costs to industry players. When suppliers exercise their power they squeeze profitability out of an industry that is unable to pass on cost increase in its own prices. On the other hand powerful buyers force down prices, demanding better quality or more service, and playing industry participants off against one another (Porter, 2008).

- **Trust and social relations**

Trust is also highlighted to be a fundamental element of the way in which buyer –supplier manages their relationships. Trust in the context of a buyer–supplier relationship refers to the expectation that both actors will behave in a mutually acceptable manner, including an expectation that neither party will exploit the other's vulnerabilities (Roden & Lawson, 2014). The buyer-supplier relationship will find itself tested by having to share sensitive information which has strategic importance for suppliers, which could make them vulnerable during commercial negotiations. A successful relationship will be based on trust to engage in high

social interaction exchanges and to cultivate a long-term beneficial relationship for both the buyer and the supplier (Li et al., 2007; Morgan & Hunt, 1994; Nagati & Rebolledo, 2013). Therefore the buyer and the supplier will need make some adaptation to further enrich the relationship (Roden & Lawson, 2014).

When suppliers sense the absence of trust they may refrain from participating in the supplier development initiatives. However, when trust is present the benefits are numerous. Nagati and Rebolledo (2013) mention four of the benefits of trust in buyer-supplier relationship.

- The first benefit is that the presence of trust minimises the perception of risk associated with behaviour by the other partner.
- The second benefit is that it will guarantee loyalty which is essential for a continuity of a long term relationship.
- The third benefit is that trust builds a strong incentive for sustainable commitment in exchanges between partners.
- The fourth benefit is the trust motivates partners to engage in exchanges with high social interaction, and reinforces cooperation (Nagati & Rebolledo, 2013).

Overall trust will ensure the operation effectiveness of a buyer (Li et al., 2007). The literature shows that trust is a central factor encouraging both the supplier and the buyer to participate in supplier development.

2.6 Barriers to entry

Barriers to entry are seen as a set of economic, technological, and institutional conditions that enable incumbent firms to both hold prices above minimum average costs over the long term and to prevent potential entrants from making profits at the same level as the incumbent firms prior to entry (Luk'ianov & Kisliak, 2007). Karakaya (2002) identified the top five out of 25 barriers to enter into industrial markets, the highest barriers to entry are:

- Absolute cost advantages,
- Capital requirements to enter market,
- Incumbents having a superior production process,

- Proprietary production technology, and
- Customer loyalty.

Table 2 presents classification of barriers to entry differentiating between structural-technological and behavioural barriers, and between strategic and non-strategic barriers. Behavioural barriers are the most effective instruments of impending entry of new firms (Luk'ianov & Kisliak, 2007).

Table 2: Classification of barriers to entry

Types of barrier	Non-strategic	Strategic
Structural-technological	economies absolute cost advantage specific character of assets need of capacity technological gap access to distributor network	product differentiation vertical integration trademarks patents
Behavioural	state licensing and state policy control over strategic resources cultural differences density of product space	entry-limiting price formation advertising outlays on R&D incompleteness of information investment risks costs of operation on foreign markets

Source: Adapted (Luk'ianov et al., 2007)

In addition to the above identified challenges, Olievschi (2013) highlighted that some of the significant challenges encountered in railway include low direct investment, poor infrastructure management and inefficient train operations. The low investments result in poor financial performance viability of concessions that could have provided steady stream of investment to the railway industry. This poses a challenge to governments to develop long-term strategies to improve regulatory framework for railway concessions, provide necessary investment in railway infrastructure, and prioritise actions for improving railway performance and acting to create a friendlier business environment (Olievschi, 2013).

2.7 Challenges during supplier development process.

Supplier development process is simply defined as a long-term cooperative effort by a company to upgrade its suppliers' technical capabilities, quality delivery, and costs in view of continuous improvement Terpend et al. (2008). The current review of literature shows that there are many supplier development process models, however there is no unified model which is agreed upon. Most of these models are from the buyer's perspective (Krause, 2000; Lascelles & Dale, 1990). The study compares the two models on supplier development process as outlined below in Table 3.

Table 3: Process steps for supplier development.

Steps	Steps Description by (Krause, 2000)	Description (Lascelles & Dale, 1990)
Step 1	Identify Critical Commodities.	Establish and articulate programme objectives
Step 2	Identify Critical Suppliers	Set priorities for action
Step 3	Form a Cross-Functional Team	Identify key suppliers as potential long-term partners and make plans to reduce the supplier base
Step 4	Meet with Supplier Top Management	Communicate the programme objectives and methodology to key suppliers
Step 5	Identify Key Projects	Assess the capability of suppliers to meet purchase requirements
Step 6	Define Details of Agreement	Engage in advanced quality planning with suppliers
Step 7	Monitor Status and Strategies	Formally recognise suppliers which achieve "preferred" status
Step 8		Develop an on-going quality improvement relationship with suppliers based on a free exchange of information.

Supplier development requires both firms to commit financial, capital, and personnel resources to the work; to share timely and sensitive information; and to create an effective means of measuring performance (Handfield & Krause, 2000). As consequence the strategy is challenging for both parties. Buyer executives and employees must be convinced that investing company resources in a supplier is a worthwhile risk. Lascelles and Dale (1990) findings reveal that certain aspects of the customer supplier relationship that can act as

a barrier to supplier development. Table 4 below shows challenges that can be encountered in supplier development.

Table 4: Pitfalls in supplier development process

Supplier side (Lascelles et al., 1990)	Supplier side (Handfietd et al., 2000)	Supplier - Buyer Interface (Handfietd et al., 2000)
Communication and feedback	Lack of Commitment	Trust
Supplier Complacency	Lack of technical /human resources	Alignment of organisational cultures
Misguided supplier improvement objectives		Ineffective communication
Credibility of the customer		
Misconceptions regarding purchasing power		

Another aspect considered vital is the challenges when starting a supplier development process. Lascelles and Dale (1990) mention three aspects that need to be taken into account seriously. The first is defining supplier development objectives; this is done by defining and documenting the fundamental requirement. The second is prioritising for action; this is done to focus on the 20 percent that make the 80 percent of the difference. The third is reduced supplier base where a number of small suppliers are selected working in close proximity to the customer.

Another consideration mentioned by Lascelles and Dale (1990) is that supplier development needs to be supported by well trained personnel helping suppliers to achieve the objectives laid down. This is facilitated by effective communication and feedback through selected representatives through whom all communications are directed.

Handfield and Krause (2000) identified four major failures times during the process of supplier development steps and these are:

- during meetings of buyer and supplier management teams,
- when defining key projects,

- when defining agreement terms and determining metrics for success, and
- when monitoring project status and subsequently modifying strategies.

Therefore for a successful supplier development process, it is of paramount importance for the buyer and supplier to collaborate and mitigate the challenges encountered in each step of the development process.

2.8 Market positioning by SMEs to be preferred suppliers.

The preferred customer status is gaining momentum in supplier development literature. Suppliers are faced with a challenge to better position themselves or be more attractive to potential customers compared to their competitors. When suppliers hold a preferred status, it can be a source of sustainable competitive advantage due to a preferential treatment and to the buyer it could lead to benefits for example an increased quality and availability of the products as well as cost related benefits (Hanemann, 2014).

When a buyer chooses a preferred supplier in a supplier development program that supplier is insulated from rivalry and competition due to the fact that the supplier is now embedded with the buyer who is the customer. The prominent role of the buyer in selecting which supplier would like to develop for its strategic supply will manage destructive competition towards the supplier by other supplier. Suppliers rivalry is destructive if it gravitates solely to price due to the depletion of sustainable profits as one supplier cut prices the other matching the new price (Porter, 2008).

The buyer-supplier relationship will still need to manage self-interest behaviour where common aims and aspirations, mutual trust and co-operation are not established. Lascelles and Dale (1990) stated that self-preservation can be avoided by a new form of buyer-supplier relationship based on the principle that both parties can gain more benefit through co-operation than by separately pursuing their own self-interest. This strategic approach implies establishing a long term business partnership with each supplier based on common aims and aspirations, mutual trust and co-operation.

Some companies position themselves in the market with superior standing not easy to compete with. Luk'ianov and Kisliak (2007) identified four latent variables influencing superior standing that executives make when entering a market. The variables are:

- firm specific advantage,
- the product differentiation,
- financial requirements or cost of market entry, and
- profit expectations.

As part of positioning in the industry, some companies strive to enter new markets in order to preserve or increase their position, prolong the life cycle of their products or technologies, diversify risks and broaden their access to specific factors of production. Other companies try to impede the entry of newcomers into the sectors in which they have already established themselves (Luk'ianov & Kisliak, 2007).

Table 5 below is the matrix used to assess the relative importance of company purchasing supplies. Suppliers that supply critical strategic supplies commodities are warranted for supplier development due to the high risk and high volume purchases (Handfield & Krause, 2000).

Table 5: Commodity portfolio matrix

High-Opportunity Higher -Risk Commodities	**Bottleneck Supplies** • Substitution difficult • Monopolistic markets • High entry barriers • Critical geographic or political situation	**Critical Strategic Supplies** • Strategically important • Substitution or alternate supplier difficult to find • Of major importance for purchasing overall
Low-Opportunity, Lower-Risk Commodities	**Noncritical Supplies** • Availability adequate • Standard specifications of goods and services • Substitution possible	**Leverage Supplies** • Availability adequate • Alternative suppliers available • Standard product specifications • Substitution possible
	Low-Volume Purchases	**High-Volume Purchases**

Source: **(Handfield et al., 2000)**

A well a positioned supplier is the one a buyer will depend on for a strategic supply (Hanemann, 2014). Therefore suppliers should position themselves in a strategic supply portfolio so that they will be able meet the strategic obligations of a buying company and get an advantage for supplier development. The failure to meet the strategic obligations of a buyer will make the supplier to loose against other competing suppliers and not be regarded as a preferred supplier.

2.9 Chapter summary

Transnet has commited to invest about R300 billion towards developing the railway industry however the focus on railway development has not been limited to financial investment but also include the development of suppliers within the railway industry (National Treasury, 2012). The CSDP is one of development initiatives focusing on majority local procurement with sole purpose of creating employment in SME's supply chain (Transnet, 2010). This chapter on literature review showed barriers faced by SMEs as suppliers and discussed the process of supplier development. Futher literature discussions pointed out that SME's will need to position themselves by building relationship with buyers and overcome cultural differences, skills levels, manage expectations and acquire resources. A well positioned SME will supply critical strategic supplies and still manage to overcome all the barriers which are related to the industry (Handfield & Krause, 2000; Luk'ianov & Kisliak, 2007).

CHAPTER 3

RESEARCH QUESTIONS

3. 1 Introduction

This chapter outlines the three main research questions that the study has explored. The first research question was to understand the barriers to entry into the South African railway industry. The second research question examined challenges during the supplier development process. The third research question interrogated how suppliers position themselves as preferred suppliers.

3.2 Research questions

3.2.1 First research question

What are the barriers associated with the South African railway industry encountered by SMEs in becoming suppliers in the market? The objective of this question is to give insights in as to what are barriers faced by SMEs to be suppliers of large OEMs in the South African railway industry.

3.2.2 Second research question

What are the challenges encountered during the Supplier Development process? The objective of this question is to first establish activities in the supplier development process and then determine challenges that lead to failure of the supplier development process and how they mitigate those challenges.

3.2.3 Third research question

How do SMEs position themselves to become preferred suppliers in the South African railway industry? The objective of this question is to describe the activities done by SMEs to positions themselves in becoming preferred supplier development candidates for OEMs in the South African railway industry.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter outlines the design of the research and the method utilised to explore the given research problems and questions on the barriers encountered by SMEs as suppliers in the South African railway industry. The chapter clearly discusses the research design and approach, the population and the geographic area where the research was conducted, how the sample and sample size were selected and finally how the data was collected and analysed.

4.2 Research philosophy

Research philosophy simply describes the nature of knowledge and how the very same knowledge is developed. This study adopted an interpretivism philosophy which 'advocates the necessity to understand differences between humans in their role as social actors' (Saunders & Lewis, 2012, p.104). In this instance, the researcher's values played a part in the research process. The barriers encountered by SMEs as suppliers in the railway industry were determined subjectively depending on the social actor. Finally the researcher adopted a notion of being a 'feeling researcher' who was concerned with feelings and attitudes of subjects (Creswell, 2012; Saunders et al., 2009).

4.3 Research design

The research project followed a qualitative approach with an exploratory view on the basis that the specific topic in the context of the railway industry and in South Africa is not well researched. An exploratory study sought insight into an occurrence which is useful in discovering general information about a topic that is not clearly understood (Saunders & Lewis, 2012). It was acknowledged that Supplier Development is one of the topics of interest; however there is scarcity of research in the railway industry. Furthermore barriers encountered by SMEs as suppliers have been minimally researched with the railway industry. Therefore a qualitative study provided a depth insight about the phenomenon

being studied (Saunders & Lewis, 2012). The exploratory approach was used to provide the researcher with an opportunity to conduct in-depth interviews, to probe for answers and explanations where clarity was sought. The research questions were designed such that an exploratory qualitative research method was appropriate and relevant in answering the research questions (Saunders & Lewis, 2012).

4.4 The sample size and frame

The sample size consisted of 9 companies. The list of companies was drawn from the Transnet attendance registers published online for suppliers attending railway projects briefing. The register list was used as a sample frame (Saunders & Lewis, 2012). To meet the SMEs categorisation, the companies had a turnover of R0.2m to R51m and 5 to 200 employees (National Small Business Amendment Act, 2003).

4.5 Population sampling

A non-probability purposive sampling was used select the 9 companies. In purposive sampling the researcher used the best judgement to actively select the respondents who were able to answer the research questions and provide the most information about the topic explored (Saunders & Lewis, 2012). The selection criterion for this study was SMEs that are actively involved in the railway industry as suppliers. Therefore the 9 companies were selected based on their participation in the railway industry as suppliers.

4.6 Research instrument

Data was collected using a semi structured interview schedule which had three sections. Section A focused on Barriers to Entry, Section B focused on challenges during supplier development process, and lastly Section C gathered data on the market positioning by SMEs to be preferred suppliers. All of the interview questions were open ended with the aim of motivating the respondents to openly share their knowledge, feelings and experiences on the subject matter. The full discussion guide is attached in the Appendix A**.** The questions were adapted from the literature review.

4.7 Data collection

Data was collected through a face to face interview guided by semi-structured questionnaire. In each company, interviews were conducted with an individual who at least an executive. The interviews were recorded with an electronic recording device after consent of the interviewee. Notes were taken to highlight further follow up points with the interviewee.

4.8 Data analysis

The study used general inductive qualitative data analysis approach for analysing the collected data. The objectives of conducting an inductive data analysis were to reduce the raw data into a brief summary report; to explore the interrelation between the research questions and raw data findings; and lastly develop a framework based on the raw data findings. This method proved to have produced reliable and valid findings (Thomas, 2006). Figure 2 below depicts the steps that were followed to analyse the data.

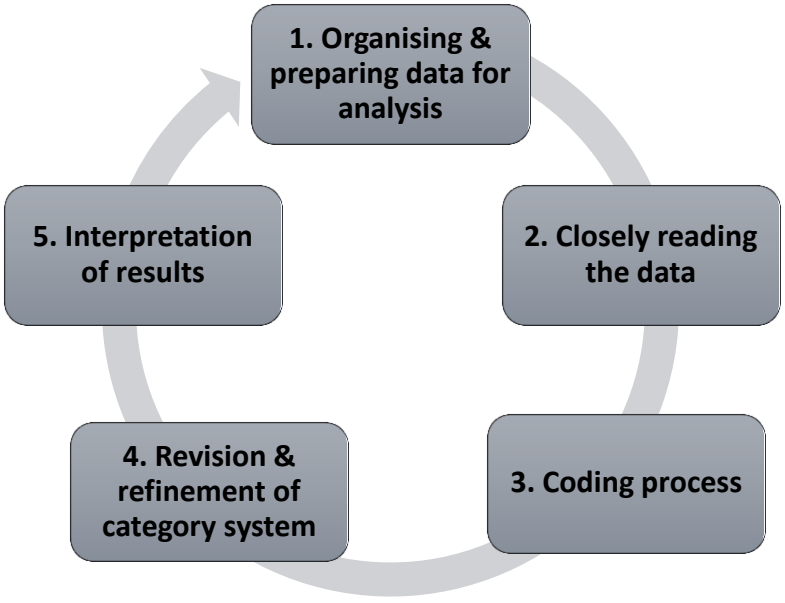

Figure 2: Qualitative data analysis

The data collected was in audio form and the audio files were transcribed and coded into a text document. The following process steps were followed in analysing the data in the research:

- **First step** of analysing the data, the researcher started by organising and preparing data for qualitative analysis. This step included matching the transcripts to the company audio interview with the interview code name.
- **Second step** the researcher closely read the data to be familiar with its contents and gained an understanding of the themes and events covered in the text.
- **Third step** the researcher commenced with the coding process, which was simply the creation of categories. These categories were defined and coded manually using an excel spread sheet.
- **Fourth step** the categories were revised and refined to check for the text that may have been coded in more than one categories and the text that is not assigned to any category. In each category the researcher identified subtopics including the contradictory statements and new knowledge created.
- **Fifth step** the researcher interpreted the results and link them with the research questions and the literature review. New information was contextualised for further analysis and for future study (Thomas, 2006; Leedy & Ormorod, 2010).

4.9 Reliability and validity

To ensure reliability, the transcripts were rechecked to rule out obvious mistakes during the transcription process. The researcher ensured that all codes are properly defined. For validity, the researcher used a peer debriefer to ensure that the findings of the study will resonate with other people than the researcher. In addition the researcher ensured that the 'situations are described in rich, thick detail that will enable readers to draw their own conclusions' (Leedy & Ormrod, 2010: pg. 100).

CHAPTER 5

RESEARCH FINDINGS AND ANALYSIS

5.1 Introduction

This chapter presents the findings from the structured interviews conducted and the analysis of the results. The audio interviews were recorded and transcribed into text for data analysis. Patterns and themes were identified and examined in how they help answer the three main research questions.

5.2 Respondents profile

Nine company executives from SMEs supplying the railway industry were interviewed. The executives were Managing Directors and Chief Executives Officers (CEO) of the companies. The respondents were eight males and one female and the scale maybe attributed to the observation that the South African railway industry is male dominated. The ages of the respondents ranged between 45 and 73. The number of years they have been with their respective companies is between 10 to 32 years. All companies that participated in the study have their head offices in Gauteng with a few having operational branches outside of Gauteng.

5.3 Themes presentation from the findings

The findings were grouped according to the three main research questions and the respondents' data was categorised into themes and subthemes. The respondents' data indicating their attributed views will be presented. The responses from the sub-themes will then be summarised.

5.3.1 Themes from the first research question

The following table presents the themes and subthemes related to the first research question about barriers encountered by SMEs in becoming suppliers in the South African railway industry. Six themes were extracted from the respondents' data as the main barriers encountered by SMEs in the railway industry. The themes of barriers are industry specific human capital, industry

regulation, industry specific capabilities, building buyer-supplier relationship, government interventions and resources.

Table 6 : Barriers to entry themes

Themes	Sub-themes
Industry specific human capital	• Unique skills shortage • Skill development
Industry regulations	• Approved list of suppliers • Accreditation • Product approval process • Supply chain policy
Industry specific capabilities	• Incompetent pricing • Prior experience as a supplier • Intellectual property • Volume scale
Building buyer-supplier relationship	• Trust • Exclusivity agreements • Flow of information
Government interventions	• Labour dynamics • Black Economic Empowerment
Resources	• Compliance cost • Financial support • Specific equipment

a) Theme 1: Industry specific human capital

The industry specific human capital was a central theme that respondents highlighted as one of the major barriers faced by the SMEs in the railway industry. The subthemes relating to the industry specific human capital were unique skills shortage and development of skills. The responses attributed to the respondents are organised according to the sub-themes.

Subtheme 1: Unique skills shortage

The railway industry requires unique skills that are based on safety work ethics. Respondents indicated that SMEs find themselves in a predicament whereby they must have skills that are specific to the railway industry, and without the unique skills required they will not be able to participate as suppliers. In addition respondents also raised the challenge of finding the matching skills in the railway industry.

> **Respondent 1:** *"different skillset that is obviously specific to rail…so the abundance of skill in that industry is not there. And that is in addition to generally the skill level in terms of engineering being a big problem*".
> **Respondent 6:** *"…skills to be able to operate at their required level, they don't exist in the country. The skills are just not there."*

Subtheme 2: Skill development

Skills development was also highlighted as challenge as on job training requires ongoing projects where new skills can be developed. Some of the underlying causes are attributed to the notion that the cyclic investment in the railway infrastructure did not keep the supplies of new expertise coming into the industry. The development of some of the signalling expertise also posed as a challenge as it takes years of practice.

> **Respondent 6:** *"…developing the skills in house and it takes time and it doesn't mean that you get this sudden ramp up in your skills. So I believe skills are a big challenge for us in this country."*
> **Respondent 5:** *"..need to train your people, I send my guys for training so they can learn more about it, I am small but I spend the money because I feel I am uplifting the country.."*

b) Theme 2: Industry regulations

The industry regulations were a central theme of responses that showed that bureaucratic requirements for compliance are barriers faced by SMEs in the

railway industry. The subthemes were approved list of suppliers, accreditation, product approval process, and supply chain policy. The responses attributed to the respondents are organised according to the sub-themes.

Subtheme 1: Approved list of suppliers

Respondents highlighted that there are industry regulations processes where suppliers need to comply through certification or approval process. The approved list of suppliers is recognised by PRASA and Transnet Freight Rail, who then approve those suppliers on the list for a particular type of service. There were various perceptions with regard to the approved list of suppliers. On one hand a respondent who was not on the approved suppliers' list complained about inability to be a supplier due to their company not being on the approved list. On the other hand a respondent who has been in the approved list for more than 30 years complained that new suppliers are coming to the industry without being on the approved list. One other respondent who has been the new player, who started his company five years ago and recently added to the approved list. The respondent attributed the success by recruiting experienced personnel.

> **Respondent 5:** *"they say if you are not approved by PRASA you cannot do installation, there are only 4 companies approved in the country".*
> **Respondent 3:** *"health and safety in SA is actually becoming stupid because as I say in the old days you had to be approved, today I don't know if you have to be approved, you can just quote."*

Subtheme 2: Accreditation

The accreditation process which is used by the customer to gauge the level of competency the supplier was also found to be a barrier. SMEs must be accredited with the accreditation bodies like ISO 9001 and the IRIS (International Railway Industry Standard).

> **Respondent 2:** *"...for the local builders, we are prepared to align ourselves with those accreditations but we don't know what the*

requirements are and we just asked them for their support, to guide us into trying to achieve those accreditations. We have currently just been re-accredited for ISO9001.."

Respondent 1: *"there are specifications that you need to have, maybe like IIRIS and a few other industry-specific – although maybe not industry but you need to have the certifications because you are operating at a much higher level."*

Subtheme 3: Product approval process

The product approval process is also regarded as the gate keeping to purging out suppliers who do not have expertise and facilities. Respondents highlighted that the product approval is the longest process and sometimes ambiguous. One supplier complained that his product was not yet approved for a pilot installation despite knocking the Transnet Freight Rail door for the past three years. SMEs which are direct suppliers to OEMs have to pass through stringent auditing which hold up resources for the entire auditing duration.

Some of the challenges highlighted are that the projects in the railway industry take more than five years due to delays of equipment approval.

Respondent 8: *"after only 5 years we got approval to work on their infrastructure which was a lengthy and costly exercise to get the go head to say – now you are allowed to tender"*

Respondent 3: *"the old signalling section which we were involved in there were a lot of barriers there, the main one was 'you want to bring your equipment in, you manufacture it and you give it to us to prove it. Once it's proved, you're in".*

Subtheme 4: Supply chain policy

Majority of the respondents regarded the supply chain policy used by Transnet and PRASA as very frustrating and there is a lack of understanding of the supply chain. The respondents also raised concerns about supply chain

requirements that make some of the suppliers to be disqualified. SMEs find themselves pressured to conform to the buyer's supply chain.

> **Respondent 1:** *"problem of not only looking at yourself as an individual company but you also have to look at your supply chain because the supply chain has to conform to the requirements of the buyer".*
>
> **Respondent 2:** *"But a lot of the new tenders coming up now don't actually relate to SMEs, they have actually changed the strategy, they now go large enterprises."*

c) Theme 3: Industry specific capabilities

The industry specific capabilities were a central theme of all of responses that showed that inadequate capabilities specific to the railway industry are barriers faced by SMEs. The subthemes were incompetent pricing, prior experience, intellectual property and volume. The responses attributed to the respondents are organised according to the sub-themes discussed below.

Subtheme 1: Incompetent pricing

Challenges identified with pricing are the lack of competitive pricing due to the compromised position of suppliers. The respondents who are new players stated that one need to competent in pricing. The respondents mentioned that fixed prices can be enforced by OEM due to the buying power over subcontractors, negotiating leverage of competitors who are holding product patent and lastly taking into account development cost in the pricing which makes the suppliers not competitive compared to established international suppliers.

> **Response 2:** *"We did find in terms of pricing, when you price a piece of equipment that is going to be built SA local, yes you will achieve your threshold 60/65% target but that does not necessarily mean your price will be cheaper than imported content".*

Respondent 4: *"The challenge is mainly pricing, because you have the OEM, when the OEM secures a contract it is a fixed price, and when you submit or when we submitted our price, there was no opportunity to renegotiate the price with the client or the end customer. You do not know what the market rates are, you might know what X costs and so forth, but in terms of competitively pricing, and you have no idea."*

Subtheme 2: Prior experience

The respondents also highlighted prior experience demanded by Transnet and PRASA as a challenge. The lack of prior experience influences the inexperienced suppliers to be subcontracted to the bigger suppliers. Some established suppliers would like to keep the status quo by questioning the credibility of emerging competitors in the industry based on their previous experience in the railway industry.

Respondent 3: *".you find these okes have no experience! And they are going to do a project like that"!*

Respondent 4: *"..ever met in the railway industry, they had no experience at all and we don't know how they were invited, as I have pointed out we were just invited".*

Respondent 2: "*..people want to know your history of this kind of work. And you don't have a lot of history because it is a totally new product, but you got to have some sort of opportunity to get into the market".*

Subtheme 3: Intellectual property

Intellectual property was regarded by the suppliers as the main concern of technology transfer when OEMs are outsourcing to local suppliers. Some information on the intellectual property is withheld from suppliers when working with OEMs. The feeling is that some of the prohibited information limits the level of collaboration between the buyer-supplier relationships.

Respondent 2: *"you are prohibited from going any further.. I think the feel of that is if they give you that information they are giving you their intellectual property – which is the big thing."*

Respondent 5: *"it is their technology, it's not my technology, I am installing the technology but I cannot test the technology."*

Subtheme 4: Volume scale

The respondents mentioned that the share size of scope given to them is a limitation to get an economy of scale discounts which could make them competent when compared to imported similar products. Therefore the South African scope of work is not big enough for South African suppliers to get good deals from international component suppliers.

Respondent 6: "*They say to me 'go away, we are not interested in your business! We manufacture 10000 compressors a day. If you are coming to us and saying you want to talk to us about 100000 compressors then you get our attention, then we start talking. For 233 compressors, he says if you don't place the order on me I don't see the difference in my turnover, because the number is so small"*

Respondent 2: *"…because you are buying volumes you can get better pricing structures, you can even force the company to employ more people".*

d) Theme 5: Building buyer-supplier relationship

Ability to form buyer-supplier relationship was a central theme of responses related to the activities of human interaction by the SMEs in the railway industry. The subthemes were trust, exclusivity and limited access to information. The responses attributed to the respondents are organised according to the sub-themes.

Subtheme 1: Trust

The respondents regarded nurturing relationship as the most valuable in sustaining business. Most of the respondents mentioned that gaining trust from the customer is significant and it is the main barrier in supplier development. The challenge with building trust is that it takes time, however with persistent excellent service delivery; suppliers can win the customers trust.

> **Respondent 8**: *"if you want to put a product forward as a small business they don't have the trust in say for instance your … to say ok, but your product is ok, we can pilot it, you have to go through lengthy and costly processes to get a product in"*
>
> **Respondent 3:** *"You know in business there is a certain trust and it has got to be a trust from your company and their company and once you overcome that barrier which wasn't too difficult, everything worked."*

Subtheme 2: Exclusivity

The respondents pointed out that exclusive supplier contracts enforced by one OEM are a barrier for them not to expand the scope of supplying to other OEMs customers.

> **Respondent 1:** *"We have been prohibited to go north, because of the sector that we agreed on exclusively – which is another problem.. if you take for instance these challenges in terms of exclusivity, I mean you can't do much"*.
>
> **Respondent 6:** *"The unit I build for X is custom for X, I don't sell it to anyone else, I am not allowed to. I tried to by the way, and X gave me a big rap over the knuckles and said I am not allowed to".*

Subtheme 3: Flow of information

Respondents identified customer access for open dialogue as a challenge. Emerging SMEs are kept at arm's length without clarification on key information that will make them competitive. Emerging SMEs will have to overcome lack of

competitive information only by acquiring it through networking which takes a long time to build and key informative individuals at times avoid to be seen communicating with emerging SMEs. In addition OEMs do not clearly articulate the specifications and technical information needed and allocate the right personnel to provide answers on the spot.

> **Respondent 2:** *"they give you information to a certain extent. If they give you a complete drawing you will probably be able to follow the drawing right throughout but somewhere in the schematics they will put a block that you can't go and … you are prohibited from going any further."*
> **Respondent 5:** *"not write a proper description, he will make a very vague description but he knows he is going to get a sweet from Tom because Tom knows him and he phones and says – is this what you are looking for and he says"*
> **Respondent 3:** *"Access, firstly how do you gain access to the procurement people; it is not like you can call someone and you can discuss these issues."*

e) Theme 5: Government interventions

Some of the barriers encountered in the supplier development process revolve around the activities directly attributed to government interventions. The subthemes identified were the labour dynamics and black economic empowerment. The responses attributed to the respondents are organised according to the sub-themes.

Subtheme 1: Labour dynamics

The respondents highlighted challenges in the South African labour dynamics. Suppliers must adhere to job creation thresholds as a requirement for fulfilling certain contractual requirements. Ability to fulfil labour cost increases will sometimes be affected by foreign exchange rates which are outside the scope of SMEs.

Respondent 6: *"..I have no control over labour increases, I get told what to do. I have no control over exchange rates, it is what it is. So for us to be competitive from a price space it makes it very difficult.."*

Respondent 1: *"..As a small supplier it is very difficult, as well as the local content as well, because there are thresholds in terms of the labour content that we need to adhere to, given the obligations that most of the OEMs have in the industry.."*

Subtheme 2: Black Economic Empowerment (BEE)

The respondents stated that government interventions are significant in forcing OEMs to commit in localisation which will result in growth in small firms. Another challenge mentioned by respondents is the implementation BEE. All respondents supported BEE however they find it difficult to implement it, in small businesses and it takes long to get the credentials.

Respondent 6: *"The third challenge for us is really BEE ... my question is how I implement it in a company my size?"*

Respondent 3: *"It took us all of between 8 to 10 years to get the right credentials to go BEE."*

f) Theme 6: Resources

The required resources were a central theme of responses related to the resources challenges faced by the SMEs in the railway industry. The subthemes are compliance costs, facilities management, financial support and specific equipment. The responses attributed to the respondents are organised according to the sub-themes.

Subtheme 1: Compliance costs

The majority of the respondents stated that they were facing challenges in operating their business during the low order period where the costs of getting business are escalated due to all the compliance required.

Respondent 6: *"Approval processes through Transnet is difficult to follow and costly".*

Respondent 1: *"I mean if you are developing supplier, at least 30 days or better still an advanced payment, you know such interventions would make development smoother"*

Subtheme 2: Financial support

Financial support is required to upgrade properties and setup new facilities. Some respondents have been disappointed by expecting BEE investors to be financed by the banks for empowerment shareholding in their company. Setup cost for starters at the initial face is the most challenging.

Respondent 6: *"I think for any business man that has worked his whole life to build a business up, if you ask him 'give away 25% of your business, just give it to someone' – anyone is going to go 'hm, that really is a challenge for me, to accept that"*.

Respondent 2: *"I think the small SMEs are facing is obviously the initial investment to set up production line, set up costs is quite horrendous,"*

Subtheme 3: Specific equipment

The respondents also mentioned that the required specific equipment is important for them to qualify for certain services and if they are not having equipment specific to the railway industry they cannot be suppliers.

Respondent 1: *"So it is one of the problems, because what that forms is you have to have different equipment or slight additions to equipment, different layouts of the factory"*

Respondent 2: *"you are looking at equipment, tooling and things like that, because in SA predominantly there are not very many companies manufacturing rail type components"*

5.3.2 Themes from the second research question

The following themes and subthemes are related to the second research question about the supplier development process activities, challenges encountered during supplier development process and how SMEs mitigate those challenges. The main themes are a) supplier development activities, b) challenges in supplier development and c) mitigating challenges encountered in supplier development.

a) Supplier Development process activities

Table 7: Supplier Development process activities

Theme	Sub-themes
Supplier development activities	• Search for opportunities • Approach the potential players • Enquire what the buyer wants • Prepare resources • Meet with the buyer • Agree on the product specifications • Make a contract • Produce and deliver the product • Continuous Innovation

Sub themes 1: Search for opportunities

Suppliers start by searching for opportunities and this will include public tender bidding, approaching OEMs and submitting proposals. Other experiences are if it is an international buyer, the buyer normally approaches the local supplier. But for local activities the supplier must look out what is happening in the market so as to find buyers.

Respondent 6: "*But as a rule you have got to go out looking for the suppliers, you have got to lick their backsides to be a supplier… One big challenge we have in this country is that most suppliers – I don't believe we are one of them – most suppliers have an attitude of waiting for work to come to them".*

Respondent 2: *"most rail engineers overseas, they find out, they go to the railway cars and they say 'okay, who suppliers you this, that, that, that' – and they say 'A, B, C and E countries' and then they go and do their homework and they find in the suppliers who they actually want to get involved with."*

Sub themes 2: Approach the potential players

After identifying the opportunities SMEs will approach the key role players or buyer to make a presentation specific to the OEMs. With the public entities opportunities, suppliers will wait for open tenders.

Respondent 6: *"we approached company X and said we know that local content is going to be a requirement, are you interested in talking to us? And they said 'absolutely'. So we flew out, sat with them and that is how the process started".*

Respondent 4: *Like I said, how we got hold of these big companies, we just responded to open tenders, we buy a tender document, we attend the site briefing, then we establish the contacts, we approach them and would you be interested in going into a joint venture with us, we sit and discuss"*

Respondent 4: *"with the private entities, the OEMs for example, you can become a preferred supplier, either by approaching the entity and they look at your company or what, and if they accept you they place you on their database."*

Sub themes 3: Enquire what the buyer wants

The enquiry process is where the supplier and the buyer start engaging. The interaction starts with the communication of information about the project or

product and at the same time the buyer provides product specification to the supplier.

> **Respondent 6:** *"I don't think there is anything different to what we already do. As I said, we got the question; we asked for the questionnaire, we said 'tell us what you want to see so that we can prepare ourselves' ".*
> **Respondent 2:** *"What we did find for us critical is obviously what is the client's expectations. He gives you a specification and what does he expect, does he want us to meet those requirements or something more than that?"*

Sub themes 4: Prepare resources

In order to comply and meet the buyer's expectation suppliers will prepare resources which could be facilities and expertise. Preparing the resources is part of the process where resource projection is made about the type of work expected.

> **Respondent 6:** *"we said 'tell us what you want to see so that we can prepare ourselves' and then we went through a process of analysing that, assigning to people, if you are going to do this I will do that, I will make sure we have prepped ourselves properly so when Company X walks in we can show them we have these things and what we don't have".*
> **Respondent 7:** *"Currently in SA there is about 18 accredited signalling engineers, people that can do testing.. out of the 18 we appointed 8 into our company, and suddenly the three big OEM's Company X, Company Y and Company Z realized that they didn't have one, and here is Company A that have got 8. And it forced the big companies to start to look at us to say 'here* is now an installer of technology."
> **Respondent 1:** "we have to employ *consultants, so that somebody comes to tell you that if you are pitching for this business this is the way you should be operating it. This is what you need to do, and obviously you don't possess those capabilities so you have to buy it out"*

Sub themes 5: Meet with the buyer

Meetings will be arranged between the supplier and the buyer where face to face discussion will be taking place. The meetings are focused on discussion of terms and conditions, auditing of supplier's capabilities by the buyer and back to back contract discussions.

> **Respondent 5:** *"The best thing I have found for myself is by sitting down with the client and the main contractor and trying to understand the real requirements, although it's not detailed on drawings yet, they are not properly defined by expressing but with the experience sometimes you can read between the lines and you can feel you get what they want."*
> **Respondent 3:** *"I mean we go to site meetings and you see all these people there..."*

Sub themes 6: Agree on the product specifications

Agreeing on the specification is one of the major milestones a supplier will reach with the buyer. The process will be iterative until the final product specification is signed.

> **Respondent 2:** *"So the entire process is supposed to be a full blown circle of commitment by all parties involved - engineering, buying, what have you. So for us is to build up a prototype, and work very closely with the client and keep him in the loop all the time, every stage of the profile boat."*
> **Response 5:** *"sitting down with the client and the main contractor and trying to understand the real requirements, although it's not detailed on drawings yet, they are not properly defined by expressing but with the experience sometimes you can read between the lines and you can feel you get what they want, but it might not be the other percept but because they see you are willing and you put yourself out,"*

Sub themes 7: Make a contract

Signing the contract is seen as the suppliers as the breakthrough in securing work from the buyers. The suppliers are expecting the contract agreement to be followed by a purchase order. The purchase order will give contractors the means to start acquiring resources in house.

> **Respondent 1:** "*we would have wished for there to have been a bit more clarity in terms of what it is, like an order or something. We understand there is not going to be a problem but we still don't have something in black and white, enough for us to go and contract for that, the factory size that is required for the level of production that we are pitching for.*"
> **Respondent 7:** *"we obtain the contracts, we are executing the contracts, the DTI came in and said they will assist with more capital because it is expensive, and they will assist us by putting systems into the company to make this company to where we believe it can be."*

Sub themes 8: Produce and deliver the product

Producing the product and delivering the product is seen as a step where reputation and recognition can be enhanced for future sustainability. Other future contracts can be sourced through the reputation gained with the one in hand.

> **Respondent 2:** *"So I am going to go and create the product, build prototypes and what have you and then I am going to take that product and go to the OEMs".*
> **Respondent 8:** *"you must deliver on what you promise, you must not tell the OEM you will give them this and then deliver something else."*

Subtheme 9: Continuous Innovation

Innovation was regarded by the respondents as a way of competing in the product development space. After a successful product delivery the respondents mentioned that continuous innovation and product development is significant.

Respondent 2: "…*will be replaced with a similar product with a little bit more innovation and a little bit more development made on that. Look at your product from time to time, every six months or year, and say 'what I can do, what innovation can I do to my product to make it a little more advanced."*

Respondent 3: *"as you go along the technology develops and you have either got to be ahead or aligned with the development and you can follow the development".*

b) Challenges during supplier development

During the supplier development process there are challenges that the suppliers face. The themes below were extracted from the respondents. The themes of the challenges faced by suppliers during the supplier development process are long supplier development process, ineffective communication, lack of transparency, lack of understanding, incorrect product specification information and infrastructure challenges.

Table 8 : Challenges during supplier development process

Theme	Sub-themes
Long supplier development process	• Long on boarding process • Long decision making process
Miscommunication and feedback	• Ineffective communication and feedback
Lack of transparency	• Lack of transparency
Product specification information	• Buyer's lack of understanding on suppliers specific capabilities • Vague production information • Lack of product knowledge • Lack of details on product requirements • Lack of flexibility on product specifications
Appropriate facilities	• Acquiring new facilities • Facility upgrades

Theme 1: Long supplier development process

The respondents mentioned that the decision making processes and getting back to suppliers as are very long specifically for state owned enterprises and some big multinationals OEMs. Long boarding process is mostly experienced from OEMs.

Sub-theme 1: Long on boarding process

The respondents regarded the on boarding process as long as the buyer needs to ensure that the supplier has the capability in the beginning stage and also the ability to participate fully in the process.

> **Respondent 1:** "*Now just the length of time was the problem. So those are some of the things that we have had to go through, the long on-board process, during which one goes through this and the other". Now just the length of time was the problem, you know, because now there has to be a whole lot of comfort that a buyer needs to have in terms of 1) your capability at founding stage, at base stage, and 2) your ability to absorb the development".*
>
> **Respondent 1:** *"..requirements are typically way beyond anything we have seen before – not so much in the technical requirements for a product, that is normally not a challenge for us, it is in the other stuff – the reliability documentation, and the life cycle costing and the maintainability and all these things are things that Transnet doesn't even ask for.."*

Sub-theme 2: Long decision making process

The respondents pointed out that the decision making process specifically from the two major state owned enterprises Transnet and PRASA takes lone time, may be attributed to the organisational communication line to be followed.

> **Respondent 1:** *"But one of the problems is that decision making takes a long time, I suppose because of the hierarchical structure, you know, because for instance by now we would have wished for there to have been a bit more clarity in terms of what it is, like an order or something".*

Respondent 6: *"the budget has been allocated and it has been pointed out that this is an urgent program, but nothing is taking off the ground! You see because of some internal politics or what!"*

Theme 2: Miscommunication and feedback

Communication between the customer and the supplier was regarded by the suppliers as the most challenging. Respondents are of the view that perhaps face to face engagement or interaction with the customer can mitigate some of the miscommunications and lack of feedback encountered.

Respondent 2: *"He doesn't know that so he has to get the information from engineering - and if engineering doesn't give him that information there is miscommunication. So the entire process is supposed to be a full blown circle of commitment by all parties involved..."*

Respondent 4: *"you actually don't get feedback from the client; they might say 'no, you were unsuccessful in this bid or tender because of price' and that is all, but you don't know your competitors prices. Otherwise you can just continue pricing blindly you see, so that is the biggest challenge."*

Theme 3: Lack of transparency

The respondents complained about lack of transparency in processes where special programmes will be initiated where suppliers will be invited through a known process and other through an unknown process.

Respondent 4: "One of the *major issues is the lack of transparency to say on these supplier development initiatives and the public entities, how are these companies nominated or elected to these programs?"*.

Respondent 8 : *"..and you as a small medium sized company that is under contract as say for instance a sub-contractor to them, you can't open your mouth otherwise they will just kick you out,"*

Theme 4: Product specification information

The respondents highlighted that there are challenges when dealing with customers in product development where specifications are communicated. The challenges are buyer's lack of understanding on the specific capabilities, lack of product knowledge, lack of details on product requirements and lack of flexibility on product specifications.

Subtheme 1: Buyer's lack of understanding on suppliers specific capabilities

Respondents stated that some of the buyers lack an understanding of the local supplier's capabilities in context of what their expertise and capabilities are.

> **Respondent 1:** "*understanding of the OEMs in terms of capabilities here is not in line; but you should be able to do this or have this but on the ground it may not actually be possible and then you find you are negotiating not to the same level and you have to somehow give and take to meet half way – that impairs speed also of your absorption of this development because if an OEM thought this is the level you should be and you find you are there, then we know we have to go one step lower when it comes to development".*
>
> **Respondent 6:** *"And in the first six months of dealing with company X we were just told 'do what the spec says, do what the spec says' – and they were clearly not wanting to hear our opinion…And after six months something shifted in company X and they realized that we are not your typical air conditioning builder, we actually have true design skill."*

Subtheme 2: Buyer's lack of product knowledge

Respondents stated that one of the challenges in dealing with personnel from the customer side is that they are not versed about the product they are trying to source. When quotation is forwarded they will not be having all the information required to provide a solution.

> **Respondent 5:** *"they even send you information which does not even make sense, when we question them they say – that is it, if you don't understand sorry.."*
>
> **Respondent 6:** *"What I did find in my recent years is the people on the other side that you are selling the product to, the knowledge of the product is insufficient. To them they know it is a speed prop, they don't have a clue what it does, what is the purpose of it. If you changed it to something else slightly to them it doesn't register, if you try and give them a product that is slightly more advanced than what the spec requirements are, to them they don't understand the product"*.

Subtheme 3: Lack of details on product requirements

When enquiries are made for a particular product, some respondents complained that customers are not giving full details about products requirements and services required. Respondents further complained about not properly communicated specification when working with customers. The subsequent challenge will be to escalate to the correct person who can provide the answers.

> **Respondent 5:** *"they do not write a proper description, he will make a very vague description…. I don't mind receiving quotes like this but then you must give me detailed specs, so then I can quote as per the detailed specs and we can then see, I need to see the size of the rack and what you need inside the rack."*
>
> **Respondent 5: "***we are prepared to align ourselves with those accreditations but we don't know what the requirements are and we just asked them for their support"*

Subtheme 4: Lack flexibility on product specifications

When working on the product development the supplier will notice a flaw in the current product specification. When the flaws are identified and design modification are proposed to the customer specifically the big OEMs they will insist on specifications that are no-longer relevant for the current environment which constraint and undermines the experience and expertise of the local supplier.

> **Respondent 6:** *"And they told us how it would be built and how it would look and they virtually told us the design. Not quite, but very close. They constrained it so heavily that what we built we had no other option than to build exactly what they told us to build….my engineers found this extremely difficult because we were being very prescribed to how it would be*".
>
> **Respondent 1:** "*these specifications are 'you shall use this wire' 'you shall use X' – even maybe where there could be alternatives that could be good enough. Maybe they could look at equivalents but they take time to be developed maybe to a standard, and some of them have to be tested abroad in terms of integrity. So all of these things are some of the challenges that we have experienced in the process of development".*

Theme 5: Appropriate Facilities

Once the SMEs are put in the supplier development process, they find themselves faced with a challenge to acquire new facilities to match the volumes that are going to be produced and some having to upgrade their facilities.

Subtheme 1: Acquiring new facilities

Some SMEs who have gone through the auditing process by OEMs have been advised to seek new facilities where they will be able to execute the volume of work focused in the next few years. The new infrastructure will enable suppliers

to have the infrastructure that will place them in a strategic position to be able to handle future contracts.

> **Respondent 2:** *"what you are going to have to do, you are going to have to build a little factory or we go and look at it and say for us to have a decent result"*

Subtheme 2: Facility upgrades

Existing infrastructure is upgraded to expand production capacity of new secured contracts and to ensure new product can be introduced.

> **Respondent 2:** *"your pricing structure is separated, where there is a portion of money that is allocated outside the physical build of the product, so that portion of money is maybe to upgrade your facility."*

Subtheme 5: Culture alignment

The South African opportunities in railway have attracted international OEMs from different parts of the world. The respondents recognised cultural intelligence as a catalyst in overcoming misunderstandings at the courtship stage. Challenges encountered are language barriers, corporate culture and expectations in the level of technological development.

> **Respondent 1:** *"..for instance the Chinese, we have a language problem, a huge language problem, so the medium of business language is very difficult, and we battle to translate and their whole way of working is entirely different."*

> **Respondent 8:** *"we will align ourselves to what they want and our strategy where it is, is to make them successful with whatever project, because if the OEM is successful they will come back to us and there will be more work for us."*

c) Mitigating the challenges in supplier development

SMEs have found their way of surviving in the competitive environment where the customer demands are unprecedented. Meeting the customer expectation specifically the OEMs who are used to the European standard of production are

stretching the suppliers to new level of operation. The subthemes of how suppliers mitigate challenges in supplier development are tabled below.

Table 9 : Mitigating challenges in supplier development programme

Theme	Sub - themes
Mitigating the challenges in supplier development	• Openness
	• Get advice from consultants
	• Recruiting and outsourcing the lacking skills
	• Get assistance from governmental programs
	• Joint ventures with OEM

Subtheme 1: Openness

Suppliers are building relationships by opening themselves to the buyer's audits necessary to satisfy their comfort with suppliers standing. The supplier will play open cards with the buyer and having honesty about the challenges they may be having.

> **Respondent 1: "***And again I suppose because we laid out our cards on the table as a very first step, to saying open up our books and we don't have any hidden agendas. In terms of how we interact you know what we do, we don't have any skeletons and then if you know what we are doing then you are better able to help us*".
>
> **Respondent 6:** "*We also believe in honesty so we played very open cards; when they asked for things like LCC (Life Cycle Cost) we would say 'sorry, we don't have that'. What was your expectation because then we can work on it in the future, but currently we don't have that*".
>
> **Respondent 7:** *"we don't hide, we are very transparent and I think that is how we operate in corporate and we are bringing that corporate thing into our company."*

Subtheme 2: Recruiting and outsourcing the lacking skills

Capabilities that are not core will be outsourced and some are being bought out in the market. Capabilities will be assessed based on the strategy of the business on how they plan to handle forth coming contracts. Assessment of the business climate will be done by professional consultants to advise how suppliers should project their portfolios. The professional advice will be from experienced professional firms who had an experience to similar development. Getting the right skill that fills the gaps of the suppliers needs will ensure the supplier is looked favourable. Some of the initiative is to get credible professionals on-board the SMEs

> **Respondent 1:** "*Now we have to employ consultants, so that somebody comes to tell you that if you are pitching for this business this is the way you should be operating it. This is what you need to do, and obviously you don't possess those capabilities so you have to buy it out"*.
>
> **Respondent 1:** *"We are also trying to see from a from a senior management point of view, what are the skills sets you are needing, preferably in production, managers, quality managers, and if you know anybody, please we are looking! There are a couple of adverts we are putting out in terms of the skills gaps we have".*

Subtheme 5: Get assistance from governmental programmes

The DTI is praised by the majority of the respondents as having dedicated resources set aside to help the railway industry specifically the railway SMEs who are striving to manufacture products locally. The suppliers have recently interacted with the DTI and discovered that the government have funds that suit their kind of operation.

> **Respondent 1:** *"We are looking for assistance from the DTI, they have a program, enterprise competitiveness program, to say we need assistance – to say 'this is where we are, this is where we need to go' – and we actually did it already 2 years ago".*
>
> **Respondent 8:** "*to get back to new products then we also applied now for investment from DTI which I must complement the government of the day because I never knew really that there is a fund like that to help small businesses like this*."

> **Respondent 7:** "*we obtain the contracts, we are executing the contracts, the DTI came in and said they will assist with more capital because it is expensive, and they will assist us by putting systems into the company to make this company to where we believe it can be*"

Subtheme 5: Joint ventures with OEMs

OMEs prefer the partnership approach with OEMs where they can have balanced power over the other. The respondents indicated that they partner with OEM in the form of joint ventures where contracts are viewed at equal level and approached with a back to back agreement risk.

> **Respondent 4:** *"we now avoid working with OEMs, as sub-contractors, because we have very little to control. But instead we prefer working with OEMs on a joint venture basis."*
>
> **Respondent 1:** *"And that is really what we have – and a partner approach – we are looking not really to just be a supplier but be a partner."*

5.3.3 Themes from the third research question

The following themes and subthemes are related to the third research question about how SMEs position themselves to become preferred suppliers in the South African railway industry. The main themes in preferred suppliers positioning is the suppliers agility, value for money offered, product development, compliance, offering good customer service, personal relationship and having resources.

Table 10 : Positioning strategy to be a preferred supplier

Themes	Sub-themes
Agility	• Short lead times • Design flexibility
Value for money	• Price stability • Discounted pricing • Fighting downstream price increase
Product development	• Collaborating with buyers to build prototypes • Offer superior and durable quality product • Continuous product innovation
Compliance	• Black economic empowerment (BEE) • Complying to International standard
Offering good customer service	• Support during and after sales • Going an extra mile • Local support
Personal relationship	• Customer visit • Access to decision makers • Trustful Relationship with the customer
Having the resources	• Keeping the railway expertise • Developing in house expertise
Building a good reputation	

Theme 1: Agility

Agility refers to the quickness of the supplier to respond to the buyers needs which is transferred to the buyer in responding to the market dynamics. Two subthemes identified in the responses that are categorised as agility are short lead times and design flexibility.

Subtheme 1: Shot lead times

The respondents indicated that when OEM procure components in a locally environment they will be preferring product to be delivered in time such that customer assets in service can return to service at minimum down time. Respondents indicated dependency on imported critical components could lead to delays responding to locally emergencies.

> **Respondent 2:** "*you have a very close interaction with your OEM. If he needs a product it can be done very quickly so lead times have come down, and so it means your fleet of crates or locomotives or one locomotive can get back into revenue earning quicker than getting from abroad.*

Subtheme 2: Customised Design flexibility

The respondents mentioned that their strength in positioning themselves as preferred suppliers is their ability to do flexible designs customised to the customer's needs. This is an advantage as most of the large international manufacturers in the railway industry produce large volumes for worldwide markets are working on fixed designs proven designs.

> **Respondent 6:** *"…they had someone design for them 20 years ago and they just build them. We can answer those technical questions, when a unit does something funny we can get involved. When you want the unique design to do something very special we can do it."*

> **Respondent 7:** *"So I think what OEMs see in us is a one stop flexible competitive machine that they can use to their good will because we will align ourselves to what they want and our strategy where it is, is to make them successful with whatever project,"*

Theme 2: Value for money

According to the respondents value for money offered to customers is what makes suppliers to be preferred. Decision making are made ultimately on the price of the service exchanged which usually will be wrapped in features indicating value for money,

Subtheme 1: Minimum Costing

The respondents indicated that cost margins evolution is vital to price right. Some of the cost should not be loaded in one activity but to be spread over a period of activities. Spreading cost will ensure that the business does not over price itself in a single activity.

> **Respondent 3:** "*you cannot overload that cost, if you do you are not going to be in business and they are going to lose out on their service and attainability. So they also have to be prepared to say 'that's the bottom line and come to the party"*

Subtheme 2: Discounted pricing

Suppliers in a competitive environment are faced with challenges where finding a niche in the market will be the positioning strategy for preferred supplier status. Large suppliers will capitalise in their production volumes in offering discounted pricing.

> **Respondent 7:** *"I think pricing is an issue where if you compete with big role players they tend to out price you, however if you get the niche in the market you can be the market leader or the game changer"*

Subtheme 3: Fighting downstream price increase

Keeping prices stable over a long period provides stability in the market and builds customer's confidence in the supplier. Suppliers who keep their customer preference upstream by keeping their prices stable will pushback price

increases downstream fighting any price increasing affecting high cost of their products.

> **Respondent 6:** *"it is every time a price increase comes through don't just accept it – fight it, even if you don't get a price decrease you can just curb the impact of a price increase, and then over time you do outstrip or whatever inflation is doing. Now I believe that is how you are going to stay competitive".*

Theme 3: Product development

When suppliers are able to develop products preferred by the customer they have positioned their business in preferred status in the customer's list of suppliers. When products are developed with the customer's needs in consideration the customer is able to recognise such initiatives. Respondent 7 stated that "*you need to have your development team and your designers in place and qualified to become a preferred supplier, but the more products, I am emphasizing products – the more you can put on the table to solve their needs the more successful you will be*." Activities in product development that suppliers do to earn the customers preference status are categorised as subthemes. The subthemes are collaborating with buyers to build prototypes, risk appetite, develop superior and durable products, and being to innovate continuously.

Subtheme 1: Collaborating with buyers to build prototypes

Building prototypes in collaboration with the customer is considered as the most effective in developing products that with fulfil and comply with customer's specifications. When the prototypes are taken to customers and the agreement is reached pilot or test such product under their supervision it is a first step in developing preferred products.

> **Respondent 2 :** *"So I am going to go and create the product, build prototypes and what have you and then I am going to take that product*

and go to the OEMs and say 'you know what, I am building this piece of equipment, would you like to buy this, can you support me in buying this?' So that is stage 1 yes, you are going through the process of creating this equipment and you become a preferred supplier for the whole year".

Subtheme 3: Offer superior and durable product quality

When new suppliers enter the railway industry they must comply with the railway industry standard where safety, durability and quality are considered a culture. Rail products must withstand hostile environmental conditions. When supplier's product is more durable and reliable compared to their competitors the preferred status will be granted to the supplier.

Respondent 2: *"make sure the component you are building is of top quality, it goes into the locomotive or train, it must withstand all working conditions, last for the warranty period, and through that process you then become an accredited supplier".*

Respondent 6: *"And anyone is always willing to pay a little bit more if the product is that good. So if a product is reliable it never gives you problems and it doesn't cause your loco to stand… So I think those are the challenges we need to focus on to outstrip the competition".*

Subtheme 4: Continuous product innovation

When a preferred supplier status is achieved due to the superior product relative to the competitor the achievement will not last longer until the competitor caches up. The competitor will always search for opportunities and take advantage of opportunities where their products will match or surpass the competitor. The preferred supplier will therefore keep their preferred status by relooking their products to continuously innovate and keep up with technological development.

Respondent 2: *"is to look at your product from time to time, every six months or year, and say 'what I can do, what innovation can I do to my product to make it a little more advance"*.

Respondent 5: *"You have got to look at it and see what is required, as you go along the technology develops and you have either got to be ahead or aligned with the development and you can follow the development".*

Theme 4: Compliance

Two major compliances for suppliers are identified. BEE compliance has become the norm in the industry for all firms to comply to. International standards are expected at product and process level. Companies who have achieved a higher compliance than their competitors in the South African environment will be preferred as suppliers.

Subtheme 1: Black economic empowerment (BEE)

Compliance to BEE is compulsory for suppliers who seek to grow their business as major players in the South African railway industry. When a company has favourable BEE score than the competitor they become preferred. Suppliers will therefore voluntarily go through compliance to edge over their competitors. Compliance to BEE has become the source of competitive advantage.

Respondent 6: *"In this country then firstly BEE is a must, it is becoming more and more of a reality that if you don't have it you are not going to get anywhere".*

Respondent 3 : "*We buy our diesel from BEE companies and most of our equipment – if there is a decent BEE company available, we buy from them. … something that counts your BEE scoring of all the companies you support, and it is the suppliers of products that you support."*

Subtheme 2: Complying to International standards

The railway industry requires strict compliance to safety standards due to the risk nature of the railway operation if anything can go wrong. The railway

operator will not allow any product that does critical functions to be installed without approval or certifications from international certification institutions. Evidence of compliance to regulation and certification will position SMEs in favourable position when evaluated.

> **Respondent 2:** *"We have taken initiative to make sure that we go the extra mile in terms of what we picked up as the requirements. We had our initiatives that for instance this IIRIS thing, we just decided to say listen, we have to try and start a qualification process for this IIRIS….. So that initiative I think put us in very good stead in terms of the positioning".*
> **Respondent 8:** *"There is confusion or misunderstanding around SIL level 4 certification in the market. We were forced on our LED light unit to go through a very costly exercise with TUV in Germany to get our LED signal SIL level 4 approved "*

Theme 5: Offering good customer service

Giving customer service is the strategy identified in all the respondents as way of positioning their company closer to the customer to occupy the preferred supplier status. The activities identified as subthemes are offering support during sales and after sales, going an extra mile in addressing the customer's needs, and having a local support team familiar with the customer environment.

Subtheme 1: Offering support during sales and after sales

The respondents acknowledged the importance of providing full resources during sale proposal phase where understanding the customer's needs is at supreme state. The following support provided is after the product has been sold to the customer where onsite service is required. The supplier will be required to work cooperatively with the customer to ensure adaption of the product where arising issues are quickly identified and isolated. Respondents mentioned that a job has to be properly done first time to avoid going back to re-do.

Respondent 2: "*You need to work hand in hand with the OEM and as much as he is going to support you by giving you orders, you also need to support him, it is a two way street, to the point where if you have to you go and physically fit the equipment on the locomotive, do the necessary tests and continuous assessment of your product and if a client picks up a problem after sales is also very important; to follow up with your client 'is my equipment good or any different from the other suppliers"*.

Respondent 3: *"We are a preferred supplier with Transnet. And the reason being is we have after sales service".*

Respondent 5: *"you give them the service, the time, the actual completion date and finish on time, the job is properly done, you don't have to go back and re-do it".*

Subtheme 2: Going an extra mile

The respondents mentioned going an extra mile to meet customer's needs as a way of fortifying dependability by the customer where a preferred supplier status can be earned. The customer will have expectations that are misunderstood by the supplier and during the interaction gaps can be identified and the supplier will need work double harder to absorb extra work in meeting the customer expectations.

Respondent 5: *"We went out of our way to finish it off nice and we made the station look pretty. And they did not expect that, that is why you become preferred; you go the extra mile."*

Respondent 1: *"we had to work double hard to absorb the expectations and make sure we are able to pass as a preferred supplier."*

Subtheme 3: Local support

The respondents mentioned that the customer's preference to localise as part of the expected compliance to government regulation enforced in the railway industry and as part of service agreement the customer will have.

> **Respondent 6:** *"the local support we offer, the conditions in SA are different from anywhere than anywhere else. So it is easy to say for an international company 'oh we will set up here".*

Theme 6: Personal relationship

Building healthy personal relationships with the customer was identified as a key contributor in understanding the customer environment and also being understood by the customer which has a long term benefit where a supplier can be preferred just by networking with the customer. The activities categorised as subthemes are customer visits, access to decision makers and trust.

Subtheme 1: Customer visit

Customer visits to where products are on service to enquire about performance is appreciated by the customer. The customer will work with the supplier to identify performance issues that needs to be addressed by the supplier.

> **Respondent 3:** *"We used to go and visit them, stay for a week, we used to drive from Joburg on a Sunday, start in Richards Bay, no, Suldanha Bay and do Salt River and all the way up and take another week and go down the Natal side. And it is just to go and call on them and if they have a problem you sort it out".*

Subtheme 2: Access to decision makers

The respondent's access to the internal customer key figures gives advantage to advanced planning and efficient resource mobilisation during the blackout phase where the customer specifically the railway operators will not be communicating with suppliers leaving suppliers to take uninformed decision. Another initiative suppliers will make will be to leverage their networking of relationship to make their concerns heard by key decision makers with the hope that unfavourable requirements will be relaxed to accommodate the supplier.

> **Respondent 7:** "you *make friends with one or two, you try to get some information but now they are also scared of telling you too much because*

they are scared of losing their jobs, all you want is to have some direction or some idea. I don't want to call it underneath the table relationships but you use your relationships within those companies to get some information out of it".

Respondent 4: *"have access to relevant decision makers, for instance the executives of these organizations, where we can raise our concerns".*

Subtheme 3: Trustful relationship with the customer

The respondents indicated that relationship with people is major in making a deal successful with people. The respondents mentioned trust as major indicator of a matured relationship with the customer. When a trust relationship is developed the customer will prefer to walk with the supplier over other suppliers without an established relationship.

Respondent 9: *"their (customer) visit to see your process, it made it easy for the relationship for them to help you, where you were battling with process."*

Respondent 3: *"a major thing but it is a personal thing, it is relationships with people, with your customers, and you have to watch those things, and when I say closely I don't mean you are paying anybody, but you know he can phone you and you will go and help him".*

Respondent 5: *"For this specific company, yes, because it's again about trust, they have trusted me with the third job which I did for them".*

Theme 7: Having the resources expertise

The respondents mentioned that when a supplier has the expertise in-house big OEMs will start to look at the supplier favourable due to the scarcity of signalling engineers in the market. Most of the resources have been working for the state railway operators. Suppliers will attract and keep expertise to themselves and others will develop their own in house.

Subtheme 1: Keeping the railway expertise

The respondents highlighted that acquiring expertise that can perform specialised tasks give a competitive edge over competitors in the industry. Having respected expects who are credited in the field improve the image of the company to potential customers.

> **Respondent 7:** *"Currently in SA there is about 18 accredited signalling engineers, people that can do testing of installations, only 18 in the whole country...We went out and out of the 18 we appointed 8 into our company, and suddenly the three big OEM's … realized that they didn't have one, And it forced the big companies to start to look at us to say 'here is now an installer of technology'."*
>
> **Respondent 4:** *"so we do have the railway expertise, we have unique competencies which some of these companies don't have. We have specialist railway expertise and that is where the synergy comes from".*

Subtheme 2: Developing in house expertise

The respondents mentioned transfer of skills to teams they lead as a strategy of building competitive advantage. Developing in-house expertise is a regarded as the best way of building strong teams that can execute customer requirements. In house expertise are familiar with the company products can therefore offer service support to customers.

> **Respondent 5:** *"as for having a proper team, the team has to be properly trained and those who cannot train you will bring them up to speed, you give them facility, you send them to college or you send them to some sort of school or courses to let them come to the speed of what is needed as you go along".*
>
> **Respondent 6:** *"I think technically we are a lot more competent than any of your other suppliers. We can answer those technical questions, when a unit does something funny we can get involved. When you want the unique design to do something very special we can do it".*

Subtheme 8: Building a good reputation

Reputation is highly regarded in the railway industry where everybody knows each other's capabilities and weaknesses. Suppliers who have many years of experience had built their reputation through previous projects and are now recognised. The reputable companies are now competing with emerging firms which are not recognised as established suppliers.

> **Respondent 3:** *"..we have been keeping the rails going now until this new contract, and so we built up a reputation with them and I mean as you very well know… they had been looking at us quite a while and had asked a lot of people questions and got the right answers and that is why they said 'we want to come in with you."*
>
> **Respondent 5:** *"..give credit to some people, for 20 years I have been doing this work."*
>
> **Respondent 7:** We were in corporate, I was 25 years in Transnet environment, executive management, PFMA, King 3 and a lot of those things.. it gives them comfort to say that these people have been in corporate, they know all the financial rules and regulations, they know the issues and now they are running their own company;"

5.4 Chapter summary

This chapter presented the responses from the structured interviews conducted and the analysis of the results outcome. The responses from the three research questions were presented. Themes and subthemes from the main research questions were identified and presented. In the subthemes presented the respondents direct quotations were presented to reflect the exact respondent responses.

CHAPTER 6

RESULTS DISCUSSION

6.1 Introduction

This chapter discusses the results within the context of the literature reviewed. The first section will revisit the main research objective. The results will be discussed in three sections with reference to the main research questions. Summary of the chapter will be presented.

6.2 The context of the finding

The main aim of the research was to investigate the barriers in supplier development encountered by SMEs as suppliers within the context of the South African railway industry. Three objectives of the research were developed to focus the research.

- The first research objective was to identify barriers faced by SMEs (small and medium enterprises) to be suppliers of large OEMs in the South African railway industry. The research question was what are the barriers associated with the South African railway industry encountered by SMEs in becoming suppliers in the industry?

- The second research objective was to establish the challenges that lead to failure of the supplier development process. The research question was what are challenges encountered during the Supplier Development process?

- The third research objective was describe the activities done by SMEs to positions themselves in becoming preferred supplier development candidates for OEMs in the South African railway industry. The research question is how do SMEs position themselves to become preferred suppliers in the South African railway industry?

6.3 Barriers encountered by SMEs as suppliers

The findings from the interview conducted about barriers encountered by suppliers in the railway industry were summarised into themes. The themes indicate the barriers faced by the suppliers in the railway industry as follows:

- Industry specific human capital,
- industry regulation,
- industry specific capabilities,
- building buyer-supplier relationships,
- government interventions, and
- resources.

The findings are similar to Karakaya (2002) findings who identified the top five out of 25 barriers to enter into industrial markets, the highest barriers to entry were absolute cost advantages, capital requirements to enter market, proprietary production technology and customer loyalty. Luk'ianov and Kisliak (2007) findings were that behavioural barriers are the most effective instruments of impending entry of new firms. The behavioural barriers which are non-strategic barriers being state licensing and state policy control over strategic resources, cultural differences, and density of product space. While behavioural barriers which are strategic entry-limiting price formation, advertising, outlays on R&D, incompleteness of information, investment risks and costs of operation on foreign markets.

- **Industry specific capital human capital**

The findings were that skills specific to the railway industry are unique and it is therefore a challenge to find and they require sustained projects to develop. Some of the firms interviewed have recognised that securing the expertise in the railway industry has become a source of their competitive advantage. The shortage of skill and the need to develop new talent has been recognised by Transnet hence the emphasis on supplier development to ensure security of

supply, reduce reliance on imported products and enhance local IP and skill base (Transnet, 2010).

- **Industry regulation**

The findings were that railway industry is heavily regulated and is made worse by the bureaucratic processes imposed by the state owned railway operator in the supply chain. Industry regulations are entrenched in the railway sector due to safety culture and level of risk if something goes wrong. Suppliers will need to be in an approved list which is granted by following a structured process opened at particular period at the operator discretion. During the approval process new products will be evaluated and will get an approval for installation. Equipment will also require a certification from international institution to be certified for level of safety. Suppliers will need to meet a specified requirement which could include prior experience and having local engineers that are registered with the engineering council of South Africa or having the company registered for CIDB (Construction Industry Development Board) level. Olievschi (2013) findings suggest that governments must develop long-term strategies to improve regulatory framework for railway concessions, provide necessary investment in railway infrastructure, and prioritise actions for improving railway performance and acting to create a friendlier business environment.

- **Industry specific capabilities**

The findings are that successful players in the industry will have railway specific capabilities developed over a long period in the industry. Competitive suppliers will require continuous innovation to outcompete rivals who have their products already approved by the operator. Moreover having intellectual property in the form of products approved by the operator will secure orders which the operator can push down on other suppliers to use. Due to the nature of projects in the railway they can take a long time to complete and suppliers will need experience to effectively cost project activities during the bid phase. Respondents who are in manufacturing emphasised a challenge of being

competitive when volumes are lower. Luk'ianov and Kisliak (2007) classified these barriers in his findings as strcutural-technological and strategic which includes patents, product differentiation and vertical intergration.

- **Building buyer-supplier relationship**

The findings indicate that building relationships is very important in the railway industry and industry players who are slow networkers or new players will face difficulties in managing the buyer-supplier relationship. Some respondents credited their success to having close relationship with the customer. Such relationships have been built by after sale support, visits and reputation built over years of operating in the industry. Samuel (2014) indicated that clear additional benefits that are intangible benefits come with long-term relationships. The benefits include inter-personal trust, friendly relation, mutual support, team working and rapport (Samuel, 2014). The findings in this study classified relationship as indicated by the:

- Trust
- Exclusivity agreements
- Flow of information

Literature reviewed explored the benefits of trust in a relationship. (Li et al., 2007) state that trust will ensure the operation effectiveness of a buyer. Nagati and Rebolledo (2013) stated that trust builds strong incentives for sustainable commitment in exchanges between partners and the effect of trust is that it will guarantee loyalty which is essential for a continuity of a long term relationship.

- **Government interventions**

The findings indicated that government interventions play a major role to in the railway industry. These are due to the fact that major operators are state owned. Government policies will therefore direct the type of projects the state enterprises will undertake. Cottrell (2010) narrate the role of government in developing the railway industry in South Africa since 1910 and the new

momentum of the 21st century where government is focusing investment in the railway. The National Treasury Republic of South Africa 2012 budget review highlighted that Transnet is committed to invest about R300 billion over the next seven years towards railway development, of which R107.7 billion is included in approved plans over the Medium Term Expenditure Framework (MTEF) period (Department of Trade and Industry, 2010). Two major challenges accredited to the government interventions are the BEE policies and the labour dynamics in South Africa. Suppliers in the railway industry who are participating in government lead industrialisation programs are required to fulfil a certain labour content. Another labour issue is the labour strikes can affect some manufactures that fall under certain bargaining union councils. Luk'ianov and Kisliak (2007) classified barriers due to government inteventions as behavioral and non-startetigic.

- **Resources**

The respondents indicated that new SMEs in the railway industry will require resources in the form of capital to fund operational cost, financial support to set up facilities and procure specialised equipment. Three of the respondents indicated that they are in a process with the DTI to receive funding for product development. According Transnet CSDP initiative it is recognised that suppliers will need to build capacity and potential competitive advantage (Transnet, 2010). Bigger companies with resources are required to help smaller suppliers with fewer resources. Supplier development requires both firms to commit financial, capital, and personnel resources to the work; to share timely and sensitive information; and to create an effective means of measuring performance (Handfield & Krause, 2000).

6.4 Challenges in the supplier development process

Supplier development is still not well entrenched in the South African railway industry and the supplier development process is not yet formalised. Some of the SMEs were not able to confirm if they were indeed participating in a supplier

development programme or not participating. The activities between the SMEs and the buyer confirmed that they were in a supplier development relationship were the buyer is transferring technological know-how and sharing resources with the supplier. The current review of literature shows that there are many supplier development process models, however there is no unified model which is agreed upon and most of them are focused on the buyer's perspective (Krause, 2000; Lascelles & Dale, 1990). Terpend et al. (2008) stated that the Supplier development process is simply defined as a long-term cooperative effort by a company to upgrade its supplier's technical capabilities, quality delivery, and costs in view of continuous improvement.

- **The supplier development activities**

This study viewed supplier development activities from the supplier's perspective. From the supplier's perspective, they commence the process with a continuous search for opportunities in the market which are in line with their expertise. Potential players or customers who have the capacity to execute or manage the potential opportunities are approached. Meetings with potential customer to discuss supplier opportunities will take place. Requirements are then discussed and a conditional agreement will be reached. The supplier will mobilise resources in the form of equipment, human capital, facilities and capital. Further discussions will take place where details of the product specification or service will be finalised. A contract will be signed for production of the product. Production will start and interaction will continue between the two companies. The supplier will be required to innovate continuously the product to reduce cost, improve quality and efficiency for on time delivery. The table 11 below summarises the findings about activities in supplier development and also compares them with previous research which focused on the buyer's perspective

Table 11: Supplier development process results comparison

Steps	Current study	Steps Description by (Krause, 2000)	Description (Lascelles & Dale, 1990)
	Supplier's perspective	**Buyer's perspective**	**Buyer's perspective**
Step 1	Search for opportunities	Identify Critical Commodities.	Establish and articulate programme objectives
Step 2	Approach the potential players	Identify Critical Suppliers	Set priorities for action
Step 3	Enquire what the buyer wants	Form a Cross-Functional Team	Identify key suppliers as potential long-term partners and make plans to reduce the supplier base
Step 4	Prepare resources	Meet with Supplier Top Management	Communicate the programme objectives and methodology to key suppliers
Step 5	Meet with the buyer	Identify Key Projects	Assess the capability of suppliers to meet purchase requirements
Step 6	Agree on the product specifications	Define Details of Agreement	Engage in advanced quality planning with suppliers
Step 7	Make a contract	Monitor Status and Strategies	Formally recognise suppliers which achieve "preferred" status
Step 8	Produce and deliver the product		Develop an on-going quality improvement relationship with suppliers based on a free exchange of information.
Step 9	Continuous Innovation		

- **Challenges in the supplier development process**

Handfield and Krause (2000) identified major failures during the process of supplier development process as happening when defining key projects, when defining agreement terms and when monitoring project status and subsequently modifying strategies. The finding of the study is similar to Handfield and Krause (2000) in the challenges that occur due to lack of common ground in understanding between both parties. Suppliers complained that OEMs will take longer to make decisions and secondly to do the on-boarding. These are attributed to the long processes to OEMs bureaucracy. The challenges due to miscommunication and feedback provision were also identified which were attributed to lack of direct communication specifically with the state railway operators. The lack of transparency in certain programmes was identified as

one of the challenges which are affecting supplier's certainty. More findings identified that are challenging are lack of clarity during product specification and finding matching facilities to the production.

Challenges Identified during the supplier development process are the following.

- Long supplier development process,
- Miscommunication and feedback,
- Lack of transparency,
- Product specification information, and
- Appropriate facilities.

- **Mitigating challenges in the supplier development process**

Suppliers who are successful will adapt to circumstances around them to find ways of mitigating the difficulties they face. Lascelles and Dale (1990) mentioned that supplier development needs to be supported by well trained personnel helping suppliers to achieve the objectives that are laid down. Moreover it will be necessary to have effective communication and feedback through selected representatives through whom all communications are directed. The finding in the study was that SMEs as suppliers in the South African railway sector will prefer to mitigate buyer-supplier relationship challenges by:

- Openness (about the companies capabilities and significant information required by the buyer),
- Get advice from consultants,
- Recruiting and outsourcing the lacking skills,
- Get assistance from governmental programmes,
- Joint ventures with OEM,

Openness at the early stage of the buyer-supplier relationship is very important to set the tone of trust. During the supplier development companies will be engaged in a relationship that require that trust is build which cannot be established without openness. Openness is regarded as a key factor that matter

in buyer-supplier relationship (Samuel, 2014) and the price of entry is the supplier's willingness to open up operations for inspection (Rajput, Hamid, & Bakar, 2012).

Consultancy type of service can be offered by the customer to the specific supplier if the suppler face difficult problems to solve. The buyer-supplier relationship will consist of joint problem solving where the buyer who is the customer to the supplier will be providing a consultancy type service to suppliers (Lascelles & Dale, 1990).

Suppliers must have the **required skill** which they can recruit or outsource for a particular service where a specialist is required. (Nagati & Rebolledo, 2013) also found that supplier-specific barriers are deficiency of technical skill and dearth of human resource.

Suppliers are getting **assistance from Government** agencies where some of the agencies like the DTI have assistance programmes specific to the railway sector. Three of the respondents had positive feedback from the DTI to assist them with product development for export. The IDC is also mentioned as provided assistance with ISO 9000 quality certification to one of the respondents.

Joint ventures with OEMs is done is preferred by suppliers due the level of engagement and level of power relationship. SMEs that are still new to the industry or have not done major projects find protection from some of the expertise or compliances are falling short at. Joint venture relationship will be recognised as one entity where the OEMs will bring recognition and technologies while the SME will bring to the table local compliance and labour. Sometimes it may be more advisable to team-up with a slightly less competent supplier, provided he honours the buyer with the privileges of preferential customer treatment (Schiele, Veldman, & Hüttinger, 2010).

6.5 SME's strategy as suppliers to align with customers

Handfield and Krause(2000) stated that ssuppliers that supply critical strategic supplies commodities are warranted for supplier development due to the high

risk and high volume purchases. A well-positioned supplier is the one a buyer will be depended on for a strategic supply (Hanemann, 2014). The main strategic supply in South Africa is the expertise and having compliant products that are approved by the railway operator. The finding list below is what makes SMEs to be well positioned to be preferred suppliers in the South African Railway industry.

- Agility,
- Value for money,
- Product development,
- Compliance to requirements,
- Offering good customer service,
- Personal relationship,
- Having the resources, and
- Building a good reputation.

Agility is effective when local suppliers are able to service customer's needs within a short period using local expertise. Suppliers see themselves as better positioned to be preferred suppliers when they are able to respond to customers quick enough in the area of strategic importance than when compared with the competitors. Placed orders will take short lead times to be delivered and design will be customised for the customer. The supplier will reinforce its presence by customer visits and ensuring visibility in the customers view. Nagati and Rebolledo (2013) stated that suppliers must take actions to better position themselves as supplier development candidates by making specific investment in time and resources towards the needs of the customer.

Value for money is seen as continuous improvement of the offered product with more features that have incremental benefits while keeping downstream cost lower. Respondents indicated that some companies required a three percent year on year price decrease which can be only be achieved through product development and through lean manufacturing. Some respondents recommended that OEMs can have more value if they can share their long term plan with the suppliers these will in turn ensure an efficient planning that can

save downstream cost for suppliers and pass savings upstream. Li et al (2007) also found that the value sought by buyers is operational performance which is based on the features stated.

Product development gives suppliers a competitive advantage if their products succeed on being approved by the railway operator and is successful listed as an approved product. Competitors in the market who are developing similar product will have to wait for the gap opening when the operator is engaging the industry. Some have gone through the process of product approval which took up to three years before an approval is granted. The strategies used by supplier are to build prototypes at their own cost for testing, offering of quality and durability products within the existing products and to offer new solutions through innovation to reduce costs. In summary product development is an area where collaboration for long-term goals can be forged. Friedl and Wagner (2012) stated that product development is not an initiative for immidaite results but long-term goals.

Compliance to the mandatory requirements by the customer strategically positions the company by default in favourable position. Some of the standards can be uniquely local and some are international standard. Compliance to local requirements like B-BBEE can disadvantage OEMs who are setting-up in South Africa as it takes a long period to implement. Two of the respondents stated that they are taking initiative to comply with ISO 9001 by getting certification. Another respondent indicated that they are taking initiatives to join IRIS membership which adds credibility to identify their position in the railway sector. Handfield et al (2000) stated that compliance to standards and specification is not a long term strategic. Suppliers are in the long run able to comply with the requirements matching incumbents however those who have approved and compliant products are difficult to match. One respondent emphasised having compliant products as a preferred strategic positioning.

Offering good customer service by SMEs is a strategic positioning by SMEs where reputation is built by offering superior customer service. The services will be offered during sales proposal and after sale. The findings from the respondents indicated that activities that relates to giving services to the

customer will involve going an extra mile in an effort to address customer needs, and having local team support after projects or products have been commissioned. Literature reviewed showed that there's a positive relationship between buyer-supplier relationship with the company financial performance (Mondini et al., 2014).

Personal relationship with the customer is acknowledged as a strategic asset to source market intelligence. The personal relationship is built through customer visits where human interface will take place. Findings from the respondents also indicate that relationship with key decision makers on the customer side is desired by suppliers to informally get key information necessary to develop internal strategies. Suppliers also indicate that building a trustful buyer-supplier relationship indicate recognition by the customer in which future opportunities can be cultivated. Wagner and Krause (2009) suggested that the degree of human interaction moderates the willingness of the buyer to transfer knowledge to improve capabilities of the supplier. At least one respondent became specific that OEMs have not been willing to transfer technological skill set to locals but only the 'screw driver technology'.

Having the **resource expertise** internally was regarded by the respondents as something that brings credibility specifically when the supplier team consist of scarce human resource expertise. The company will look interesting to potential OEMs who will like to do business with the supplier and the railway operator will prefer to contract the supplier. The supplier will keep the expertise internally for consulting purposes and some other resources will develop internally maximising skill transfer within the firm.

One respondent mentioned that when a supplier has the expertise in-house big OEMs will start to look at the supplier favourable due to the scarcity of signalling engineers in the market. Most of the resources have been working for the state railway operator. Suppliers will attract and keep expertise to themselves and others will develop their own in house. Luk'ianov and Kisliak (2007) mentioned that control over startegic resources is a form behavioral-non strategic barrier. It is contrary to the suppliers believe that it is a startegic positioning that prevents others the credibility they may have over expertise.

Good reputation is treasured by suppliers as something that a succesful company will need to protect. To remain a preferred supplier companies recognise the need to develop a good reputation with the customer. Suppliers who have many years of experience had built their reputation hence respondents mentioned their previous successes in executing succesful projects in rail. Companies with many years of experience in the railway industry are recognised as more reputable than companies with few years of experience in the railway industry.

6.6 Proposed successful supplier development model

The concept model depicted in figure 3 shows the regulating variables that lead to successful supplier development. Supplier development is regarded as a critical factor for the buying firm's competitive advantage to be achieved, maintained and improved (Rajput et al., 2012). The antecedents to supplier development are the supplier being in the industry space, having to overcome the barriers to entry and secondly having the potential to become a preferred supplier. Trust and preferred customer status are key antecedents of supplier participation (Nagati & Rebolledo, 2013).

Overcoming barriers in the industry and successfully becoming a preferred supplier are antecedents to participate in a process leading to supplier development. Ahmed and Hendry (2012) presented the barriers in supplier development that need to be avoided for successful supplier development. The barriers were lack of supplier commitment, insufficient supplier resources, lack of trust, poor alignment of organisational cultures and insufficient inducements to the supplier (Ahmed & Hendry, 2012). In this study the findings were that industry specific human capital, industry regulations, and resources and the most prevalent barriers to supplier development. Barriers will have a negative relationship in the process to successful supplier development. The successful supplier development will be indicated by presence of trust and alignment of organisation cultures.

Figure 3 depicts the supplier development model to a successful supplier development. During the supplier development the selected suppliers will face challenges in the process that can derail the programme. According to the respondents in the research conducted, suppliers will be selected after they have overcome the supplier relationship issues related to preferred supplier preference status. New suppliers will also be selected after they have overcome barriers to enter the railway industry.

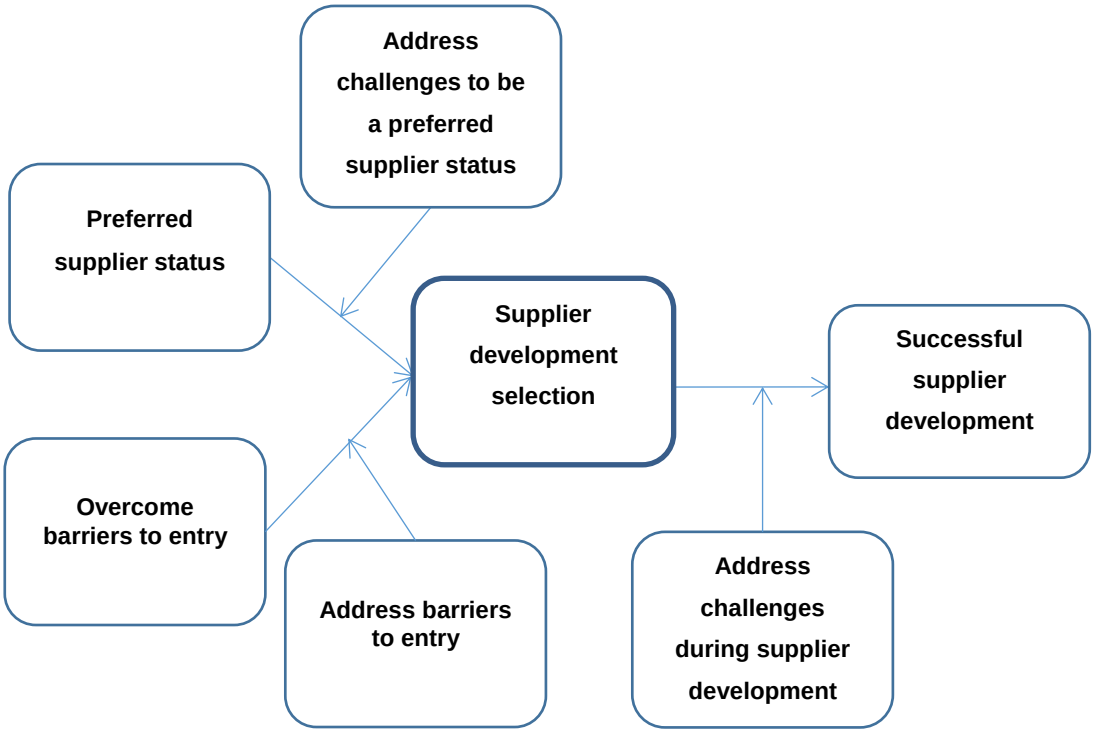

Figure 3: Proposed successful supplier development model

The respondents indicated mitigation factors to address preferred supplier status by being prepared to respond to customer needs. Customer needs will require that the supplier are agile, offering good customer service and having the resources aligned to the industry needs. The respondents indicated that barriers to entry are mitigated by ensuring compliance through factors like BEE, doing product development where products get approved, and ultimately building trust through reputation that sometimes will come through recruiting respected expertise. During the supplier development process suppliers need to have the financial back up to survive the bureaucratic process, lack of transparent communication and face difficulties in during product specification.

6.7 Chapter summary

The findings indicate that there are barriers faced by suppliers in the railway industry which prevents SMEs from entering the industry as suppliers. Suppliers who survive in the industry will seek help or derive possible solution to mitigate the challenges faced by supplier development. Suppliers will engage in certain activities before they become candidates for supplier development process. The activities in supplier development will begin with the supplier looking for opportunities to engaging with the customer to producing that product. Suppliers will also follow particular proven steps of earning the preferred supplier status. According to Nagati and Rebolledo (2013) suppliers will not do investments required for supplier development initiatives unless the customer has a special status compared to other competitive buyers in its customer portfolio.

CHAPTER 7

CONCLUSION

7.1 Introduction

The purpose of this chapter is to draw final conclusions about the research findings and outline the recommendations. Contribution of the study to the body of knowledge will be discussed and future research study in the subject matter will be recommended.

7.2 Conclusion

The study sought to discover the insights on supplier development, particularly on the notion of SMEs as suppliers in the South African railway industry, barriers they encounter to be suppliers, the actions they take to become the supplier development candidates with the buyers, and challenges they face in the supplier development process. The study indicated that there are barriers faced by suppliers in the South African railway industry. There are six major barriers faced by suppliers in the South Africa railway industry. In the study the findings were that industry specific human capital, industry regulations, and resources are the most prevalent barriers to supplier development.

Before suppliers participate in the supplier development process they will be engaged in the process of courtship with customers where single steps will be taken to grow the relationship to supplier development. The supplier will first focus on earning the preferred supplier status with the railway operators and then begin with activities which start by searching opportunities with the OEMs. The supplier development process will be characterised by activities that will step-by-step follow as start by enquiries, resources mobilisation, and meetings covering legal discussions, commercial and technical. Identified challenges during the process activities are the process of courtship taking longer to make contract agreement which tend to drain resources from a small supplier.

Committing designated resources is critical to eliminate miscommunication, clarify specifications, and managers providing transparent information.

Barriers in supplier development are experienced at different stages of the supplier involvement in the industry. Barriers are experienced in the industry entry stage, during supplier development and in becoming a preferred supplier. To achieve a successful supplier development programme both parties, the supplier and the buyer must be willing to invest in the relationship to cultivate a climate of trust to improve the level communication on the information shared, and more over to eliminate bureaucracy to achieve efficiency in making win-win decisions. Suppliers must focus on satisfying the needs of the customer by making specific investment in acquiring required facilities and resources.

7.3 Contribution of the study

The study contributed in three areas: theory, practice and methodology. The predominant amount of research in supplier development has been done from the buying firm perspective (Ahmed & Hendry, 2012). The study focused on supplier development from the supplying firm perspective. Given the few studies focused in the supplier perspective the findings in this study will therefore be predominately new knowledge. Moreover very few articles exist about the railway industry practices in South Africa. This study will provide new knowledge about the railway industry practices from the supplier's perspective.

7.3.1 Contribution to theory

- Barriers are context based, therefore study contribute to the body of knowledge in the South African perspective about barriers faced by suppliers in the railway sector.
- New barriers in supplier development were identified which are from the supplier perspective.
- The study identified supplier development process and activities in the perspective of the supplier.

- The study is significant to the railway industry given the focused investment in the sector by the South African Government and in requiring supplier development plan as a prerequisite in winning contracts.

7.3.2 Contribution to practice

- OEMs who are in the railway sector will gain an understanding of barriers faced by suppliers. The findings will guide OEMs engaged in supplier development to key barriers where effort can be invested in making supplier development a success.

- OEMs will gain an understanding in operation and expectation of the South African suppliers in the railway sector.

- Suppliers who are engaged in supplier development will be advised by the study to avoid the barriers identified and to use the mitigation factors identified.

- Suppliers will use the identified supplier development activities to optimise engagement with perspective customers making the process efficient by avoiding long costly delays

- Government will use the finding in the study to guide policy making in removing barriers due to government policies that are in contrary to supplier development.

- Government is interest in supplier development as a way of industrialising the South African economy; therefore this study will be advice government in the progress made in supplier development initiatives implemented through the state owned railway operator.

- The railway operator has been enforcing supplier development through the OEMs who normally get the state capital projects in contracts, the study will advise the railway operator of the challenges faced by suppliers from the supplier's perspective.

- The railway operator will gain some knowledge in the communication and process challenges faced by suppliers when dealing with the operator's supply chain.

7.3.3 Contribution to methodology

- Most studies conducted in supplier development have been employing a quantitative perspective; in this study a qualitative approach was used.

7.4 Recommendation for future research

- Quantitative testing of the barriers that were derived in this current study and the proposed model.
- Future research should focus on studying suppliers and buyers at the same time.
- Future study should research barriers to supplier development in the railway industry from the buyer's perspective.
- Study of railway operator communication practices to suppliers in fostering supplier development.
- Future study on railway operator supply chain policies in promoting supplier access.
- Government policies aimed at supplier development should be studied to determine their effectiveness to drive supplier development through state enterprises.
- A study is required to focus on addressing the barriers to entry in the market as a new supplier.
- A study is recommended to focus on addressing the challenges during the supplier development process from the supplier's perspective and buyer's perspective.
- A study is required to focus on addressing the challenges pertaining to preferred supplier status as a prerequisite to supplier development.

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APPENDIX A: DISCUSSION GUIDE

SECTION A: BARRIERS TO ENTRY

1. What are the barriers associated with the South African railway industry encountered by SMEs in becoming suppliers in the market?

a) Is it easy to become a supplier in the railway industry?
   - If yes, what make it easy?
   - If no, what makes it difficult?

b) What are the challenges you are facing in becoming a supplier in the rail industry?

c) Are you currently in a partnership with a buyer for any of your products?
   - Yes, was it an easy process?
   - If no, why it is like that?

d) What action do you take to mitigate the challenges that you encounter in the industry as a supplier?

SECTION B: CHALLENGES DURING SUPPLIER DEVELOPMENT PROCESS

2. What are challenges encountered during the Supplier Development process?

a) Are you currently participating in a Supplier Development programme?
   - If yes, how did you get involved and what was the process
   - If no, why?

b) Are you currently working or have you worked with a buyer?
   - If yes, what are the activities and what are the most challenging activities in this process and why?
   - If no, why?

c) What action do you take to mitigate the challenges that you encounter in the supplier development process?

SECTION C: MARKET POSITIONING AS PREFERRED SUPPLIERS

3. How do SMEs position themselves to become preferred suppliers in the South African railway industry?

a) Are you currently a preferred supplier with one of the Rail OEMs?
   - if yes, what steps did your company took to become a preferred supplier?
   - If not, why?

b) What value does the buyer receive by keeping your company as a preferred supplier?

c) What are the actions your company will need to take to ensure the preferred supplier status is kept and also improved?

APPENDIX B: INFORMED CONSENT

Gordon Institute of Business Science
University of Pretoria

Dear Participant,

Barriers in supplier development encountered by SMEs as suppliers in the South African railway industry.

As part of the MBA programme at the University of Pretoria's Gordon Institute of Business Science (GIBS), I am conducting a study in order to gain insights on SMEs in the South African rail industry. The study seeks to discover the insights on Supplier Development, particularly on the notion of SMEs as suppliers, barriers they encounter to be suppliers in the South African rail industry, causes of failures in Supplier Development process and the actions they take to become Supplier Development candidates with OEM (Original Equipment Manufacturers).

The proposed interview would last one hour. ***Your participation is voluntary and you can withdraw at any time without penalty. All data will be kept confidential.*** In addition, all data will be treated as confidential and the results of this study will be presented in the aggregate and individuals will not be associated with findings or views expressed. If you have any concerns, please contact me or my Research Supervisor.

Thank you for considering taking part in this research.

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ACCEPTANCE

	Signature of Participant	**Signature of Researcher**
Date:		