Gordon Institute of Business Science
University of Pretoria

Localisation challenges within industrial policy: the rail industry in Gauteng

Quintin Gruhn
18370862

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Abstract

The scope of the research is defined within the field of development economics relating to industrial policy. The research report studies the challenges of localisation requirements that must be met within the designated rail manufacturing sector situated in the Industrial Policy Action Plan (IPAP). A qualitative research process explored the private sector business leaders' perceptions of localisation pertaining to economic value-add, public procurement and the South African business context. The study identifies possible improvement areas related to the effective implementation of localisation requirements within the rail manufacturing sector of Gauteng, South Africa.

Keywords

Industrial Policy Action Plan (IPAP), rail manufacturing, localisation, economic value-add

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.

Quintin Gruhn

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List of Abbreviations

BBBEE	Broad-Based Black Economic Empowerment
DTI	Department of Trade and Industry
GDP	Gross Domestic Product
IPAP	Industrial Policy Action Plan
OEM	Original Equipment Manufacturer
PPPFA	Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017
SOE	State Owned Enterprise

Chapter 1: Introduction to Research Problem

1.1 Introduction

The need for research and the research objectives are explored in this opening chapter of the research report. The scope of the research is defined within the field of economics relating to industrial policy of a developing market. The context of the research is based on the rail manufacturing sector within Gauteng, South Africa. The challenges of public procurement and the private sector to make positive contributions towards local economic growth through localisation activities within the rail manufacturing sector is under-researched, and therefore it is critical that further knowledge be obtained in this field of study. The research explores the perceptions of private sector business leaders in the Gauteng area, in response to the localisation challenges presented in the Industrial Policy Action Plan (IPAP).

1.2 Research Problem

The research looks at the state of economic performance of manufacturing and industrial policy of South Africa by exploring the perceptions of private sector business leaders in the Gauteng area, relating to the localisation requirements of the rail manufacturing sector in the IPAP. Development economic theory states that interventionist supply-side policies can be used to improve the productivity and growth of the economy. However, in South Africa there has been very little movement for over a decade, particularly since the inception of a 'special' industrial policy, namely the IPAP. The IPAP was created to accelerate industrialisation policy in South Africa by means of increasing the localisation activity within the manufacturing sector. The term 'localisation' entails the process of organising a business so that its main activities occur in local areas rather than importing from international locations (Lamprecht & Grobbelaar, 2017). The rail sector is identified by the Department of Trade and Industry (DTI) as a major source of economy growth through manufacturing and it is vital that the private rail manufacturing sector is included in the process (Department of Trade and Industry, 2018). Thus, the research problem is positioned at the localisation aspects of IPAP which hinder its effective implementation, with a specific focus on the challenges experienced by private sector business leaders.

1.2.1 Economic Performance

The overall South African economy grew slightly during 2018 with gross domestic product (GDP) ending at 0.8 percent for the 2018 fiscal year (Department of Statistics South Africa, 2018). The summary of industry value-add and the GDP based on constant prices since 2010 can be viewed in Table 1. The current state reveals slow economic growth, hence radical intervention is needed. Identifying the elements of high unemployment, business instability and foreign disinvestment emanating from an unpromising economic status, a resolution is required to bring the South African economy to a prosperous and inclusive environment for all (de Ruyter, 2017).

Table 1: 2018 GDP summary.

Industry value added and GDP			
Constant 2010 prices			
% change year-on-year	**2016**	**2017**	**2018**
Agriculture, forestry and fishing	-10.1	21.1	-4.8
Mining and quarrying	-3.9	4.2	-1.7
Manufacturing	0.8	-0.2	1.0
Electricity, gas and water	-2.1	0.6	0.9
Construction	1.2	-0.6	-1.2
Trade, catering and accommodation	1.7	-0.3	0.6
Transport, storage and communication	1.1	1.4	1.6
Finance, real estate and business services	1.9	2.1	1.8
General government services	0.6	0.3	1.3
Personal services	1.8	1.3	1.0
Total value added at basic prices	**0.5**	**1.5**	**0.7**
Taxes less subsidies on products	-0.5	1.0	1.2
GDP at market prices	**0.4**	**1.4**	**0.8**

Source: Adapted from Department of Statistics South Africa (2018).

1.2.2 State of Manufacturing

The past decade shows that the manufacturing sector has not performed in terms of contributing to the GDP growth (Bhorat & Rooney, 2017). The current state of manufacturing (review the manufacturing contribution to GDP in Table 1) in South Africa is at a low level with industrialisation not at an optimal position, and a dismal solution exists to improve the manufacturing industry. The low levels of manufacturing in the South African private sector context highlights the missed opportunity of the multiplier effect on value addition to the economy.

The manufacturing sector provides the economy with a meaningful way to create value through localisation efforts which, when executed effectively, can spread benefits to the private sector and ultimately to society in general (Farole & Sharp, 2017). The available manufacturing industry data indicates a decline of manufacturing activity over the last decade and may suggest an industrial policy problem. Bhorat and Rooney (2017) investigated the data pertaining to the manufacturing industry to be declining with consequences of negative growth rates into the future.

1.2.3 Industrial Policy: Pre-IPAP

The post-Apartheid way of industrial policy of South Africa was to utilise orthodox *laissez-faire* economic reforms during the 1994–2007 period, which did not deliver sustainable investment, growth or employment gains (Salazar-Xirinachs, Nubler & Kozul-Wright, 2014). Then, in 2007, a policy shift began to occur. Since 2007 there has been progress in the development and implementation of industrial policy, but the manufacturing sector still seems to be struggling. The South African manufacturing sector has not improved greatly over the last decade, thus questioning the status of the performance. Rodrik (2016) opined that little structural change has accompanied manufacturing to address this issue. A particular view on structural issues needs to be addressed through industrial policy that incorporates the manufacturing sector of the economy.

1.2.4 Industrial Policy: Introduction of IPAP

The National Treasury, through an instruction note to the DTI, shows commitment to develop and grow the economy through manufacturing initiatives. The Minister of the DTI pointed out that "…government can use its financial muscle strategically to achieve other objectives such as increasing domestic production and further enhancing competitiveness in domestic industry" (Department of Trade and Industry, 2018, p. 57). The provisions of public expenditure are directed to impact the economy through increasing the manufacturing productivity of the country. Thus, the IPAP is set out to grow the economy through manufacturing production initiatives which are implemented through localisation of public procurement and private sector supporting localisation and local supplier development (Department of Trade and Industry, 2018). The IPAP is an initiative to aid the South African economy with the ability to produce higher volumes of more complex and high value-added products with greater efficiency.

The ten years of IPAP's existence and continued low levels of industrialisation may suggest that the policy requires intervention assistance as minimal performance has been achieved compared to what was originally intended. It is necessary to review the IPAP in terms of localisation, as the aggregate domestic demand has not been sufficiently raised and a trade deficit exists for manufacturing overall; due to South Africa importing more goods than what is produced locally. The localisation policy and the implementation needs to be revisited in order to deliver higher levels of manufacturing output and value-add. It is important that the private business leaders' perceptions on localisation are understood, as they can provide valuable information as to why intervention is required and possibly explain the weak localisation performance. Addressing these challenges would, in turn, contribute to the IPAP's goal and overall manufacturing performance.

1.3 Research Objectives

The relationship of the research problem and research objectives are linked as the levels of manufacturing cannot be improved without a proper understanding of the mechanisms that are deployed to influence the productivity of the rail manufacturing sector. Increased levels of localisation for the South African rail manufacturing sector

translates to an increase in the productivity of the South African GDP. Although this might work in theory, the private rail manufacturing sector is needed to put the productivity into action, and this comes with business complexities. The overall objective of this study is to explore the perceptions of private sector business leaders in the Gauteng area, relating to the localisation requirements of the rail manufacturing sector in the IPAP. The business and theoretical need is considered as this links into the research objectives of the study.

1.3.1 Business Need

The business need for this study is for the private sector to get a better understanding of localisation and how the public procurement departments incorporate the mechanism within the IPAP. A business requirement by government stipulates that the public procurement of large government projects needs to adhere to localisation parameters which are provided for within 23 designated sectors of industry. The effect on the businesses which choose to participate in such government projects is that they need to navigate through localisation criteria and not only resort to the importation of products.

A broader view presented by business leaders is that localisation does not allow for business-as-usual. The business leaders in the rail manufacturing sector feel that business confidence is low and that rising administration and operational costs as well as imports give risk to localising activity in the manufacturing industry (Department of Trade and Industry, 2017). The local value chain goes hand-in-hand with economic development and business leaders need to understand the driving force behind this. It is imperative that the business leaders' perceptions of localisation are understood as they make decisions which affect the businesses they lead.

1.3.2 Theoretical Need

The developmental economic decisions from the South African government make use of intervention policy to improve productivity and growth. In its design and the integration with other economic policies, challenges exist to implement localisation efforts effectively within the IPAP. Thus, the theoretical need for this study is to identify improvement areas in the IPAP framework, as the study of localising within

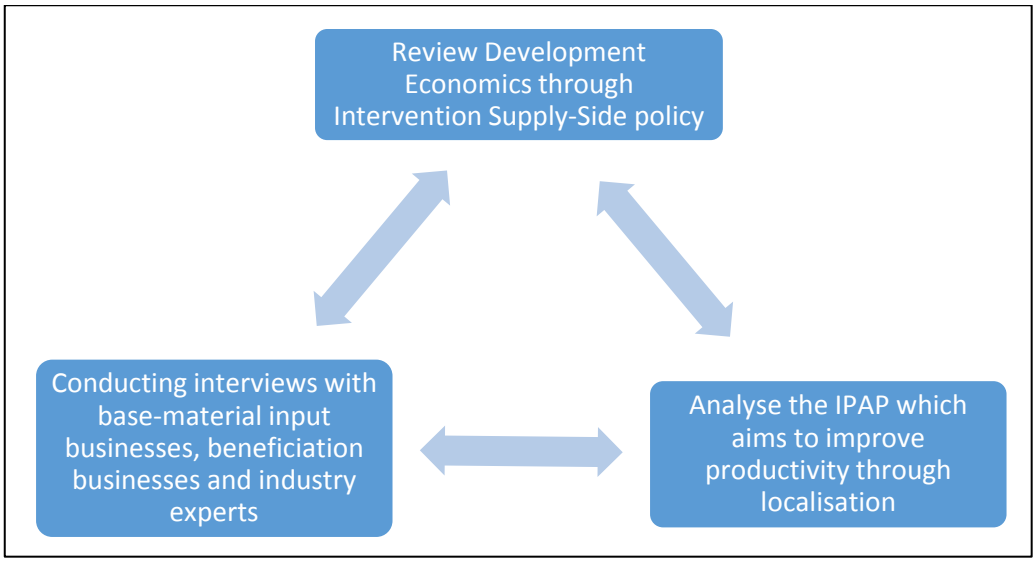
the rail manufacturing sector is under-researched. Robbins and Velia (2019) argued that South African manufacturing firms are placed at the centre of localisation challenges and further literature is required to assist businesses in contributing to the economy as intended by industrial policy.

A key aspect to industrial policy is the role that public procurement plays in ensuring that the goals set out by National Treasury and the DTI are achieved. The academic research on public procurement is scarce, although there is an excess availability of public policies (Edler & Yeow, 2016). Further to the theoretical need for this study to identify improvement areas in the IPAP framework, the theoretical need to study public procurement obligations in intervention policy framework is required. Russell and Meehan (2014) motivated that the performance and impact of public procurement activity is an under-researched area in terms of industry value performance.

1.4 Triangulation of Research

The triangulated research approach provides a richer representation of the research area as it ties the constructs together with a positive contribution to the overall theory of localisation within the rail manufacturing sector. The triangulation of research comprises of: reviewing developmental economics through interventional supply-side policy; analysing the IPAP which aims to improve productivity through localisation; and conducting interviews with base-material input businesses (i.e. foundries), beneficiation businesses and industry experts who deal with localisation requirements. The relationship of the triangulation can be seen in Figure 1. It is important to note that the triangulation of research is not used to check the validity of one side of the triangle against another side.

Figure 1: Triangulation of research.



Source: Author's own compilation.

1.5 Research Study Layout

The remainder of this document explores, through a qualitative approach, the challenges experienced by public procurement with IPAP to implement localisation policy requirements. The perceptions of private sector business leaders who conduct business within the rail manufacturing sector are explored through face-to-face semi-structured interviews. The responses to industrial policy by the business leaders at the other end of the spectrum who need to deal with manufacturing and localisation requirements, according to the designated sectors, provide valuable insight into a better understanding of localisation integration and present possible improvement areas related to the effective implementation of local content requirements in the rail manufacturing sector of South Africa.

Chapter 2: Literature Review

2.1 Introduction

The literature was used to build an argument that is reflective to the research topic (vom Brocke et al., 2015), providing opportunity to assess what other work has been done in this field. While there is ample data and research conducted on poor economic growth (Cloete, 2015), more work is required to expand the over-arching umbrella of knowledge relating to the contribution of manufacturing to the South African economy (Bernhardt & Pollak, 2016). The specific focus on localisation within rail manufacturing sector was required as it is a major source of growing the economy through rail manufacturing activities.

The literature review aimed to direct the research (Figure 2) with a broader theoretical base relating to a development economics with a lens on interventional supply-side policy. The interventionist supply-side policy approach leans towards industrial policy and the importance of localisation is situated within the policy. The approach is then tapered down to consider the South African rail manufacturing environment and the role that the IPAP plays in stimulating the local rail manufacturing industry. The literature review concludes by considering some of the localisation challenges that are mentioned within the IPAP relating to the rail manufacturing sector and provides an avenue for likely solutions to the research objectives further in the report.

Figure 2: Literature review: flow of logic.

Source: Author's own compilation.

2.2 Development Economics

The Developmentalist Tradition is a collection of many intellectual sources as Chang (2014) motivated, and policy-makers wanting to solve real-world problems should make use of a Developmentalist Tradition approach. Since the Developmentalist Tradition shares similarities with a well-known school of economics, namely, Keynesian School of Economics, the two economic schools are compared. The Developmentalist and Keynesian schools of economics are reviewed and compared against each other in Table 2 and shows the similarities of the two schools.

Table 2: Comparing similarities of economic schools.

	Developmentalist	**Keynesian**
The economy is made up of…	no strong view, but more focused on classes.	Classes.
Individuals are…	no strong view.	not very rational (driven by habits and animal spirits); ambiguous on selfishness.
The world is…	uncertain, but no strong view.	Uncertain.
The most important domain of the economy is…	production.	ambiguous, with a minority paying attention to production.
Economies change through …	developments in productive capabilities.	ambiguous, depends on the economist.
Policy recommendations are…	temporary government protection and intervention.	active fiscal policy, income redistribution towards the poor.

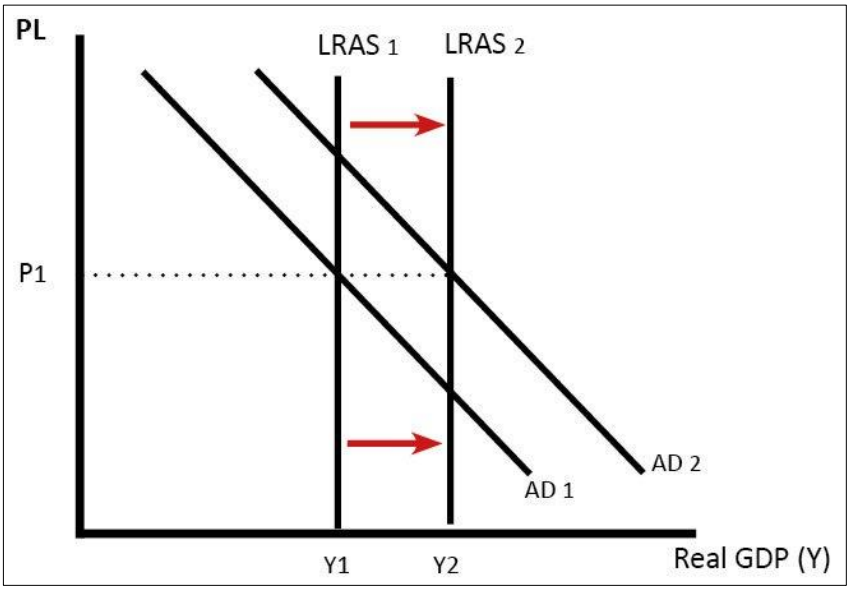
Source: Adapted from Chang (2014, p. 166).

In order to strengthen the policy recommendations under a Developmentalist School of Economics for raising productive capabilities to overcome economic backwardness, Chang (2014, p. 134-135) motivated that "…unless the government intervenes – with tariffs, subsidies and regulations – to promote such activities, free markets will constantly pull it back to what it is already good at – namely low-productivity activities, based on natural resources or cheap labour".

2.3 Interventionist Supply-Side Policies

The role of supply-side policies are created for government to initiate policies with the objective to increase the productive potential by improving the capacity in terms of quantity through-put within a country (Wight, 2018). Similarly to the Developmentalist Tradition, the Keynesian Model was considered whereby the aggregate supply (AS) shifts to the right and the curve of long-run aggregate supply (LRAS) shifts to the right on the graph of price (P) versus GDP. Figure 3 shows this relationship.

Figure 3: Price vs gross domestic product graph.



Source: Adapted from Baye and Prince (2017, p. 53-56).

Supply-side policy attempts to raise total output from moving the GDP from Y1 to Y2 by increasing aggregate spending with a theory of price level determination of P1 as a constant (Walker & Vatter, 2001). By reviewing Figure 3, the benefit of supply-side policies should increase productivity and shift LRAS from LRAS1 to LRAS2 to the

right and bring benefit to the macroeconomic conditions such as lowering inflation and unemployment, and improving economic growth through improved productivity.

There are two types of supply-side policies which relate to intervention and free-market based policies. Interventionist supply-side policies involve government intervention to overcome market failure, an example is higher government spending on transport infrastructure. Free-market supply-side policies involve policies to increase competitiveness, an example, and lower income tax rates. Table 3 shows the various mechanisms used for different types of supply-side policies.

Table 3: The mechanisms of interventionist against market-based supply-side policy.

	Type 1 interventionist supply-side policies	**Type 2 market-based supply-side policies**
Mechanism	Investment in human capital	Policies to encourage competition
	Investment in new technology	Labour market reforms
	Investment in infrastructure	Incentive-related policies
	Industrial policies*	

Source: Author's own compilation.

If the integration of some industries that supply other industries are promoted through government intervention, an economy would grow more than if it is left to the free market (Chang, 2014). The case of China, which was a developing country around the 1980s, made use of interventionist supply side policy to increase local productivity, and over time, was able to increase the level of GDP to about 20 percent within a few decades (Alder, Shao & Zilibotti 2016). This study specifically focused on the industrial policy aspect of interventionist supply-side policy. In particular, the use of industrial policy with a mechanism of localisation is a key strategy to organise the public procurement spend of fixed and human capital in order to improve the effectiveness of public infrastructure investment. Here, a specific focus is on improving transportation capabilities (Camyar, 2014). Transportation contributed to 1.6 percent of value-add to the GDP (see Table 1), which highlights the need to spend capital on transportation as it is the second highest contributor to the economy.

2.4 Industrial Policy and the Importance of Localisation

2.4.1 Industrial Policy

Industrial policy should be a dynamic process which is implemented over time and addresses structural change in industry by looking at advancing existing industries and developing new ones (Bianchi & Labory, 2017). An adequate industrial policy therefore begins from an investigation of the structural changes taking place in the manufacturing industry. The main purpose of an industrial policy, as argued by Audretsch and Lehmann (2016), is for national government to support and protect domestic interests and industries within a country.

Bianchi and Labory (2017) considered industrial policy to be structured in four components. Firstly, industrial policy should be clear on strengths and weaknesses of the country's industrial system. Second, the policy needs to make use of different tools to include a variety of industrial aspects such as innovation, investment in infrastructure and competition, to name a few. These industrial aspects should be combined coherently and situated in a specific direction to enable industrial development. Third, industrial policy should be executed as a process, and the tools used to monitor the different aspects, should be adjusted as effects are evaluated. Fourth, the control of industrial policy is important and a constant channel of communication is required by all stakeholders.

2.4.2 Localisation within Industrial Policy

Local content is a policy tool developed by governments to create economic benefits for the local economy, which go beyond fiscal benefits and should result in the value addition brought to an economy (Asiago, 2016). The benefit of localisation offers the possibility of increased levels of productivity capacity (Audretsch & Lehmann, 2016). These factors contribute to economic prosperity as a country shifts towards an improved value base as seen in Section 2.3 where the GDP is increased from Y1 to Y2 in Figure 3. An effective industrial policy approach through localisation will provide the opportunity to use knowledge and entrepreneurship, and therefore enable the leveraging of global opportunities.

The concept of localisation entails the use of local jobs, local content, local black ownership and local community ownership (Leigland & Eberhard, 2018). Although there are some successful localisation initiatives in South Africa, it has been met with debate and criticism as to when and how to use such initiatives within industrialisation policy. In other countries, lessons learnt around sustainable economic development seem to not have been fully incorporated into industrial policy effectively (Audretsch & Lehmann, 2016).

2.5 Industrial Policy Action Plan (IPAP) of South Africa: The Rail Manufacturing Sector

The Industrial Policy Action Plan (IPAP) was introduced in 2009 by the South African government as an overall policy to address the key challenges of economic and industrial growth relating to race-based poverty, inequality and unemployment (Department of Trade and Industry, 2018). As a product of the Economic Sectors, Employment and Infrastructure Development (ESEID) cluster, IPAP has the responsibility to implement industrial policy in a wide range of entities, including state-owned enterprises (SOEs). IPAP follows ten key themes which inform the work of the DTI and acts as a roadmap for industrial effort. The key themes are presented by IPAP as set out in the Table 4.

Table 4: The ten key themes of the IPAP.

1.	Grow the economy.
2.	Strengthen efforts to raise aggregate domestic demand – mainly through localisation of public procurement and intensified efforts to persuade the private sector to support localisation and local supplier development.
3.	Step up South Africa's export effort.
4.	Create and reinforce policy certainty and programme alignment.
5.	Strengthen ongoing efforts to build a less concentrated, more competitive economic and manufacturing environment in which barriers to entry for new entrants are lowered.
6.	Build a stronger system of industrial finance and incentives to support and secure higher levels of private sector investment in the productive sectors of the economy and grow exports.
7.	Press ahead with technology-intensive, value-adding beneficiation projects which fully leverage SA's comparative resource endowment advantage into a global competitive advantage.
8.	Optimise technology transfer and diffusion and, working closely with the Department of Science and Technology, further ramp up the effort to commercialise 'home-grown' R&D in key sectors.
9.	Support the further strengthening of energy-efficient production and carbon mitigation efforts and measures in a manner that allows for sustainable adaptation by all the energy-intensive sectors of the economy.
10.	Understand, grasp and prepare for the foreseeable effects of the Digital Industrial Revolution and emergent disruptive technologies, collaboratively adapting SA's productive and services sectors to meet the challenges, including those relating to employment displacement.

Source: Adapted from The Department of Trade and Industry (2018).

The key focus area within the rail manufacturing sector of South Africa is the necessity of healthy economic activity which will lead to economic growth (Robbins & Velia, 2019). Although South Africa has a strong focus on industrialisation, the results of economic growth would suggest otherwise. In particular, it may be that the rail manufacturing sector is not functioning properly, or alternative factors are influencing the ability for it to contribute to growth of the manufacturing sector and therefore the growth of the country. The main objective of the IPAP is for South African manufacturing sectors to shift from a commodity-dependent system and move towards a higher value-added, diversified, and export-intensive economy (Farole & Sharp, 2017). As mentioned in Chapter 1, the IPAP was created to accelerate industrialisation policy in South Africa by means of increasing the localisation activity within the manufacturing sector. Government, through the IPAP, intends to develop and support lagging industries within South Africa's manufacturing sector. These are identified as the 23 designated manufacturing sectors, of which the rail manufacturing sector forms one. In terms of localisation, it has localisation percentage requirements reaching up to a minimum local content threshold of 80 percent (Department of Trade and Industry, 2018).

2.6 Challenges with Localisation within IPAP in the Rail Manufacturing Sector

The Industrial Policy Action Plan has been in existence for ten years and the policy makers are doubtful that the 'special action plan' has delivered the localisation results that were originally expected (Department of Trade and Industry, 2018). An insight into the low gratification level could be attributed to the design of policies and the number of inter-connecting policies. South Africa has many planed instruments involved in formulating and implementing industrial policies across various governmental departments. Hausmann, Rodrik and Sabel, (2008) argued that current policies do not deliver adequate outcomes:

> *"There is too much disconnect between the private sector and the government, information does not flow adequately, needs are not well identified, policy instruments are not appropriately targeted, and self-correction mechanisms are not in place." (p. 12)*

The argument made by Hausmann et al. (2008) is intensified a decade later with more policies being added on top of existing policies. A review of the challenges observed from the IPAP (2018, p. 51-60) narrowed the focus of the research towards these challenges in order to gain a deeper understanding as to why these challenges are perennial. The six main problems mentioned by the DTI in the IPAP (2018) report pertaining to poor localisation outcomes, are:

1. The overall government commitment to bring value through localisation activities.
2. Effective communication of policies to all stakeholders.
3. The level of fair business practice.
4. Adequacy of post tendering reporting.
5. Complexity of the administration process to implement localisation
6. The availability of skills and expertise within public procurement and the private rail sector.

Under each main challenge effecting localisation, as identified in the IPAP by the DTI, a combination of a few other issues persists throughout the IPAP document which could strengthen or weaken the challenges which are claimed within the IPAP. The perceptions of private business leaders were used to evaluate the challenges from a private sector perspective.

2.6.1 Commitment by Government

The overall government commitment to bring value to an economy through localisation activities is positioned as a huge challenge (Department of Trade and Industry, 2018). The commitment of the public procurement function is reviewed as government engages the industrial policy into action. This section discusses various aspects that illustrate the commitment by government to action industrial policy. These include the ease of doing business for the rail manufacturing sector, localising economies of scale in the rail manufacturing sector, and implementing localisation targets set in the IPAP.

2.6.1.1 Ease of doing business in the rail manufacturing sector

South African manufacturing plays a major role in driving growth and economic development and it is important that business operations are easy to conduct within a challenging macroeconomic environment (Zalk, 2017). The indirect and direct channels for various rail manufacturing growth areas have to be made more accessible to private sector businesses and managed in such a way that businesses succeed. The ease of doing business should allow for higher value-adding practices to take place within the rail manufacturing sector.

2.6.1.2 Localising economies of scale in the rail manufacturing sector

The concept of economies of scale become an important subject when discussing the sustainable competitive advantage in relation to an industry's productivity. Lazzarini (2015) argued that a support-adjusted sustainable competitive advantage and industrial policy should be closely linked when local resources and capabilities are used in production activity. The means of governmental intervention is required to maintain a competitive production advantage through the economies of scale whereby the cost per unit of output decreases with increasing the scale. The large government rail manufacturing projects require large amounts of steel and fabrication work to be undertaken. The relationship of global production linkages, geographical locations and governmental capabilities are not taken to full advantage by the scale of economies concept, due to localisation challenges.

2.6.1.3 Implementation of localisation targets set in the IPAP

South Africa's industrialisation progress in the post-apartheid era is a resultant of the development and implementation of industrial policy. Although reasonably good industrial policy initiatives are present, policy alignment and execution has been very slow (Salazar-Xirinachs et al., 2014). A lesson that can be learnt from successful industrialisation effort goes beyond the mechanisms which are deployed to achieve targets (Table 3), but the integration of all necessary policies that influence the economy and the alignment to specific industry needs.

The implementation of industrial policy is challenging due to macroeconomic variability acting on the economy in different cycles, thus making it difficult for public

procurement to apply the correct policy to a developing state which ensures value-adding productive activity in the manufacturing sector (Salazar-Xirinachs et al. 2014). Furthermore, public procurement is responsible for using the applicable industrial policy to achieve economic goals that advance local development and support the manufacturing private sector (McCrudden, 2004).

2.6.2 Communication of Policies

The effective communication of industrial policies to all stakeholders is vital for achieving localisation within rail manufacturing. The structure of how localisation within IPAP is communicated between public procurement and the private sector is reviewed as government engages the industrial policy into action. This section discusses various aspects that illustrate the communication by government to action industrial policy. These include the available information channels, rail industry knowledge and fragmented procurement content requirements.

2.6.2.1 Information channels

Economic development occurs at different levels within government through the policy frameworks that are available to government departments (Ndaguba & Hanyane, 2019). The cascaded effect is not necessarily filtered down properly from national government to provincial government and then to local government, opening up various interpretations of the operational aspects to execute localisation. The limited information sharing causes problems with public procurement functions when identifying priorities that are required to be actioned in developing economies. Weiss (2018) explained the two simple channels of information: horizontal interventions, which are available to all; and vertical interventions, which are applied selectively. Public procurement seems to be unsure of when and how to use the appropriate intervention in practice and thus with limited resources and set priorities, the communication of the correct information to be filtered downstream to all areas in rail manufacturing is blurred.

2.6.2.2 Rail industry knowledge

The required minimum localisation threshold requirements are communicated within the IPAP but little information is provided on how this may be achieved successfully.

The public procurement departments are required to guide the private sector on technical and operational requirements in order to reach localisation targets set out by the instruction notes created from National Treasury (Department of Trade and Industry, 2018). The sharing of information is critical to industrial development and economic development will be hindered if public procurement is reliant on the private sector to guide them on technical and operational specifications.

The application and interaction of industry related knowledge is crucial within industrial development and promotes innovation for the economy (Lin & Hu, 2017). The technological inputs and collaborative networking effects of the private rail manufacturing sector and the public procurement departments do not take place to assist in developing rail manufacturing capabilities. The public procurement departments mainly rely on private sector to assist in providing technical requirements for large rail projects. This creates challenges for IPAP as the misrepresentation of specifications are provided to public procurement and not necessarily what is actually required for rail manufacturing projects. The output of the productive capacities will not increase if rail industry knowledge is not transferred, thus localisation will move very slowly.

2.6.2.3 Fragmented procurement content

The IPAP is a relatively new industrial policy and Felipe (2015) mentioned that 'modern industrial policy' is "governments working with the private sector in a limited number of areas to create internationally competitive activities new to an economy" (p. 48). A challenge for localisation within the IPAP is that different information relating to localisation requirements is received by private rail manufacturers. Public procurement provides information and procurement content relating to localisation at various levels. The selectivity and the inability of public procurement departments to support all localisation activities at the same level communicates a fragmented procurement content description into the rail manufacturing industry.

2.6.3 Fair Business Practice: Public Procurement

The level of fair business practice is questioned when pertaining to public procurement processes (Department of Trade and Industry, 2018). The level of fair

business practice is reviewed as government engages the industrial policy into action. This section discusses various aspects that illustrate the level of fair business practice by government to action industrial policy. These include the influence of preferential procurement policies, the role of business transparency and unethical business practices.

2.6.3.1 Preferential Procurement Policy

The South African government has prioritised the procurement of locally manufactured products to support industrial development. The implementation of the current procurement legislation is the Preferential Procurement Policy Framework Act (PPPFA) and its regulations (Department of Trade and Industry, 2018). The regulations make allowance for the DTI to designate products and sectors with a minimum local content threshold for local procurement. The local content threshold for designated products and sectors are determined by market research and consultation with various industry experts.

The Preferential Procurement Regulation 2017, the pertinent section of the PPPFA relating to local content and production, is summarised in Table 5.

Table 5: Section 8 of the regulations: Local content and production.

The Preferential Procurement Regulation 2017: Section 8
Regulation 8(1): empowers the DTI, in consultation with National Treasury, to designate specific sectors, where only locally manufactured products that meet the stipulated minimum threshold for local content will be considered.
Regulation 8(2): organs of state are obliged to include local content in invitations to bid for products that are designated.
Regulation 8(3): National Treasury will timeously inform organs of state of new designations through circulars.
Regulation 8(4): allows organs of state to “self-designate” provided they consult with the DTI and National Treasury
Regulation 8(5): Any bid that fails to meet the required local content threshold is unacceptable and should be disqualified.

Source: Adapted from The Department of Trade and Industry (2018).

The PPPFA with the Regulations 8(1) to 8(5) is multi-layered with various governmental departments involved which are responsible for procurement methods and procedures (de la Harpe, 2015). The influence of the Preferential Procurement Policy on public procurement makes the procurement processes complex and slows down economic integration.

2.6.3.2 Business transparency

In addition to the PPPFA with Regulations 8(1) to 8(5), the act makes mention of the requirements to partake in tendering for government rail manufacturing projects. The Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003) gives procurement preference of government projects to designated groups that comply with the requirements within the BBBEE Act. Since the inception of BBBEE, South African policy makers have been aware of the practice dubbed “fronting”, which facilitates benefits diversion, creates opportunistic beneficiaries and limits the trickle-down effects to the intended designated groups (Warikandwa & Osode, 2017). The weakness in the current regulatory framework allows for misrepresentation as a BBBEE status level contributor, which permits the preference point system, in order to acquire goods or services through a government tender.

2.6.3.3 Unethical business practice

There is a connection between corruption and the well-being of a country. The more corrupt a country is, the more underdeveloped and less successful it is according to Budhram and Geldenhuys (2018). A few examples of government corruption in South Africa include falsely obtained government contracts such as the Tshwane Prepaid Meters contract and the improper extending of contracts by the Passenger Rail Agency of South Africa (PRASA). The effects that corruption and unethical business practices have on industrial growth is extremely damaging and slows down industrial policy integration with public procurement and the private sector (Osei-Tutu, Badu & Owusu-Manu, 2010). If contracts can only be obtained on condition of paying a bribe, the procurement environment becomes unattractive to ethical businesses, and the development and sustainability of localisation initiatives are reduced with real value-add being forfeited (Budhram & Geldenhuys, 2018).

2.6.4 Post Tender Reporting

The IPAP identifies that the quality of localisation reporting is inadequate when it comes to post tender reporting (Department of Trade and Industry, 2018). The quality of localisation reporting is reviewed as government engages the industrial policy into action. This section discusses various aspects that illustrate the quality of localisation reporting required by the private sector to give to the government to action industrial

policy. These include the accuracy of localisation information being shared with public procurement and the propensity to report localisation percentages.

2.6.4.1 Accuracy of localisation information

The businesses that have been awarded tenders for localised manufacturing in designated sectors are required to supply accurate localisation declarations to the respective organs of state (Department of Trade and Industry, 2018). The post tender reporting requested by public procurement essentially deems an assessment of wider public benefit and requires a longer-term measurement of impact between suppliers, service providers, public bodies, and communities. The accuracy of localisation declaration levels become unclear as complicated transactions take place in the procurement process (Edler & Yeow, 2016).

2.6.4.2 Propensity to report localisation

The post tender reporting, as seen previously in Section 2.6.4.1, highlights that the process of declaring localisation levels is complicated. The time taken for businesses to compile and monitor localisation while daily business continues creates uncertainty towards reporting and may cause businesses to hesitate when reporting declarations to public procurement. De la Harpe (2015) noted that it is important to harmonise public procurement systems for economic growth to take place. An ineffective public procurement policy does not allow for cost effectiveness and value-for-money advantages for public procurement for rail manufacturing projects.

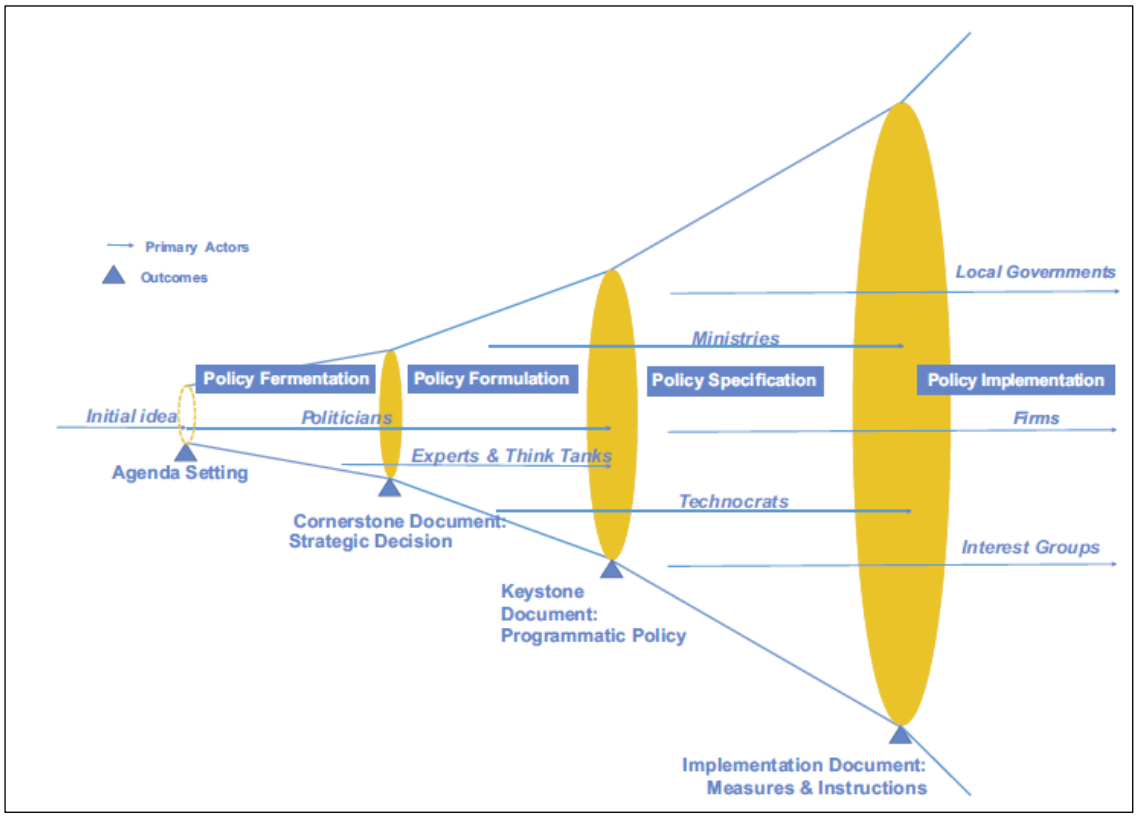
2.6.5 Implementing Localisation

The implementation of localisation activity with public procurement and the private rail manufacturing sector involves complex administrative processes (Department of Trade and Industry, 2018). The administrative process of localisation is reviewed as government engages the industrial policy into action. This section discusses various aspects that illustrate the administrative processes required by the government to action industrial policy. These include the complex administration processes that have to be followed to support the implementation of localisation, the challenge of localisation non-compliance, and the effective monitoring of localisation activities.

2.6.5.1 Complex administration processes

The instruction note from National Treasury to further rail manufacturing productivity through the designated sector of the Department of Trade and Industry came with immense administration processes. Ling and Naughton (2016) gave light of a four-phase model of the general industry policy-making and implementation processes which explain the complexity involved. The four phases which are reviewed in Figure 4 are policy fermentation, formulation, specification and implementation.

Figure 4: The four-phase model of the institutionalised policy-making mechanism



Source: Adapted from Ling and Naughton (2016).

As seen in Figure 4, the initial action which starts with an idea and the desired outcome of agenda setting becomes more complex as components are added to form part of the overall mechanism of industrialisation. Furthermore, localisation production activity has to be aligned to the institutionalised policy mechanism. The four-phase model of industry policy-making and implementation processes provide a structured process view from developmental economics through to interventionist policy reviewed in Section 2.3.

2.6.5.2 Localisation non-compliance

The current means to deal with failure to implement localisation requirements within the industrial policies of South Africa is to impose administrative penalties and not to prosecute parties for corruption. This way of dealing with administrative fines has had very little impact in discouraging corrupt localisation practices (Budhram & Geldenhuys, 2018). Although administrative fines directed to businesses for non-compliance of localisation requirements may be extensive, the fines themselves are not enough to deter corrupt practices.

2.6.5.3 Monitoring of localisation activities

The monitoring required for adequate localisation targets to be achieved are cumbersome and information transferred between public procurement and private sector is lost in the cracks of the administration of industrial policy (Department of Trade and Industry, 2018). This is confirmed by Chang (2014), who argued that the weaknesses of the developmental policy is the possible governmental failure to implement a wide range of policies as it demands much from an administrative capabilities point of view (Chang, 2014).

2.6.6 Skills and Expertise: Rail Manufacturing Sector

The availability of skills and expertise within the rail manufacturing sector relating to public procurement remains a challenge for localisation in the IPAP (Department of Trade and Industry, 2018). The skills and expertise of public procurement are reviewed as government engages the industrial policy into action. This section discusses various aspects that illustrate the skills and expertise required by the government to action industrial policy. These include the skills and expertise of public procurement officials, the procurement knowledge of rail industry, and the understanding of the value-add process that localisation brings to the rail manufacturing sector.

2.6.6.1 Skills and expertise: Public procurement officials

Public procurement officials who deal with localisation activities should be properly trained to understand the obligation that they have towards ensuring that industrial

policy is successful. The skills and expertise of the public procurement officials should be able to deliver value to the economy, manage spending provided by national treasury, and ensure contracted goods and services are delivered within specification (Russell & Meehan, 2014).

Given the informed localisation of the IPAP to increase productivity growth, a generic decision support system (DSS) to guide localisation decision-making is critical in ensuring the success of the industrial policy mechanism (Lamprecht & Grobbelaar, 2017). Public procurement is challenged with organising the rail manufacturing industry so that its main activities occur in local areas rather than importing them from international locations. The slow progress made by public procurement over the past decade to develop local content and suppliers indicates that a more effective structured approach to localisation decision-making is required.

2.6.6.2 Procurement knowledge of rail industry

The public procurement skill-sets in South Africa are not always specifically geared towards the rail manufacturing skills and knowledge required to accommodate international manufacturer's standards. The technology of original equipment manufacturers (OEM) that are requested by organs of state for rail projects create voids in the available knowledge pool for the sector. Okolo (2018) motivated that engineering skills and technology education have a massive impact on the sustainable development of a country.

The collaboration of industry and educational institutions craft an exchange of knowledge that can be recycled back into both areas in the economy, which over a period of time leads to high quality, skilled individuals that contribute to innovative research, and produce co-publications and co-patents. The current standards of vocational and technical schools in South Africa need to be strengthened as they are the source to facilitate the sustainable development for improved productive capacity (Department of Higher Education and Training, 2013). The challenges presented by inadequate rail manufacturing knowledge creates uncertainty about what products to source from abroad and what products to source locally (Lamprecht & Grobbelaar, 2017).

2.6.6.3 Understanding the value-add process

A much broader measured added value should be accounted for when public procurement conducts a value analysis for localisation decisions. A value-added analysis should be done to recognise the value-adding activities of a project that contribute to the actual value-add. The value chain process of industrial policy promulgates across many areas of the economy. The structural transformation component is found to be greatly related to the GDP growth rate (Cantore, Clara, Lavopa & Soare, 2017).

A challenge of the IPAP by incorporating localisation is that the value addition through the value chain process is not properly aligned and the full effect not materialised. The public procurement practices do not include business acumen characteristics that retain the value of localisation activity within the economy. The activities that result from investment decisions can create or destroy value-add. Investment decisions, such as base input material supplied versus beneficiation activity supplied, needs to translate social and economic objectives through to identifiable financial and non-financial measures (Lamprecht & Grobbelaar, 2017).

2.7 Conclusion

Asiago (2016) motivated that localisation is not a silver bullet which can be used as a universal application to enhance sustainable industrial growth and rather refers to the implementation process of localisation being more prolific. The implementation of localisation has become controversial amongst industry stakeholders, due to how it is framed within the industrial policy with a lack of alignment between industrial policy mechanisms and public procurement practice (Rolfstam, 2015).

The focus of where the value addition is actually placed within the rail manufacturing industry is not always known because implementing localisation does not always result in business-as-usual, as special planning is required to achieve certain percentages of localisation. The function of public procurement is often thought of as a singular process, masking the real institutional complexity that is required from their roles throughout the policy landscape of productivity (Grandia & Meehan, 2017).

The following chapters in this qualitative research report aim to provide more information to broaden the knowledge of localisation challenges that the private sector business leaders are faced with pertaining to the rail manufacturing sector in Gauteng. The need for the research is to explore and obtain a greater understanding of the challenges related to localisation activity within the IPAP, thus it was important to study the perceptions of private business leaders in response to these challenges in the public procurement policy.

Chapter 3: Research Questions

The purpose of the research was to explore and obtain a greater understanding of the challenges related to localisation activity within the IPAP within the rail manufacturing sector. The study of the perceptions of private business leaders in response to these challenges of public procurement will be undertaken.

3.1 Introduction

A reminder of the literature reviewed for the dismal localisation outcomes in Section 2.6; relate to the overall government commitment to bring value through localisation activities, effective communication of policies to all stakeholders, the level of fair business practice, adequacy of post tendering reporting, complexity of the administration to implement localisation and the availability of skills and expertise within public procurement. The objective of this study was to explore the perceptions of private sector business leaders in the Gauteng area, relating to the localisation requirements of the rail manufacturing sector in the Industrial Policy Action Plan by addressing three broad research questions discussed below.

3.2 Research Questions

The research questions (RQ) highlighted an economic, industrial policy and business context view. Sub-research questions (SRQ) were identified by the literature reviewed and were compiled and integrated into the RQs to explore the challenges of localisation in the rail manufacturing sector. The SRQs were used for areas that were under-researched and where the literature does not provide a likely solution to the research objectives. Table 6 shows the RQs and SRQs that were used to gather data for the study.

Table 6: Layout of the research questions and sub-research questions.

RQ 1: *Do business leaders perceive localisation presenting a workable catalyst to improve levels of manufacturing output leading to economic value-add within the foreseeable future?*
SRQ 1: How do you view the **commitment** of public procurement within government to follow through with localisation initiatives related to large government projects?
SRQ 2: How do you view the **communication** of the public procurement process in dealing with localisation requirements related to large government projects?
RQ 2: *Do business leaders perceive localisation to have a positive effect on the public procurement aspect of large government projects?*
SRQ 3: How do you view the level of **fair business practice** in dealing with large government projects?
SRQ 4: How do you view the **post tender reporting** required by private sector on localisation levels of large projects?
RQ 3: *Do business leaders perceive the designated rail sector within the IPAP structure to incorporate localisation in a way which is relevant to the South African business context?*
SRQ 5: How do you view the bureaucracy of **administration** that supports the structure of implementing localisation within large government projects?
SRQ 6: How do you view the available **competence level** within the public procurement process when dealing with localisation aspects related to large government projects?

Source: Author's own compilation.

Chapter 4: Research Methodology

4.1 Choice of Methodology

Interpretivist philosophy, which advocates the necessity to understand differences between humans in their role as social actors (Saunders & Lewis, 2012), was used to understand various business leader's perceptions in the rail manufacturing sector. The process of social adaption and behaviour, and how it is interpreted by the interaction of the researcher, is important.

The inductive approach, which is shaped from an interpretivist paradigm, features an evolving creative imagination and systematic rigor to produce qualitative theory building (Gioia, Corley & Hamilton, 2013). In alignment with observation to theory, an appropriate framework analysis and further building to support and achieve a better understanding of localisation targets for economic growth, was undertaken.

The methodological process was based on data collected from interviews through mono method qualitative research and not a mixed method containing quantitative processes. Flick (2010) mentioned that qualitative research was developed to critique quantitative research methods and is independent as a practice which speaks for itself.

Exploratory research design is used to explore the research context and concepts in more detail (Mare, 2015) and allows for discovery of key factors of the environment. An explorative design was assumed with private sector rail business leaders on how they perceive the public procurement aspect of government relating to manufacturing within a localisation context when dealing with large rail projects.

The research strategy was a narrative inquiry whereby questions were used to elicit an account of experiences which are significant to the narrator, thus enabling the researcher to form meaning to the research (Saunders & Lewis, 2012). Suitable questions were posed to private sector rail business leaders to get a true reflection of their perspectives.

A cross-sectional research study where a ‘snapshot’ of a particular research setting at a particular time was chosen. This was due to the time schedule to deliver the research report. The exploratory research design takes time to acquire participants, collect data and to analyse it (Owens, 2015). Careful planning was required when interacting with various participants within the rail manufacturing sector, as there was a short period of time to conduct interviews which formed the sole primary data collection method.

One of the most common ways of conducting exploratory research is to use semi-structured interviews (Saunders & Lewis, 2012). The observation of nonverbal responses for supplementary or contradictory information is interesting to note when participants are interviewed. In-depth interviews were used to gain a deeper understanding of the stakeholders in the rail manufacturing sector with clear and specific topics covered.

4.2 Population

In relation to the research questions being answered, Saunders and Lewis (2012) explained why it is crucial to select the correct sub-group of the complete set or population. Due to time constraints, it was difficult to interview every company which operates in all rail manufacturing activities. In order to complete the research, three distinct sample types were chosen, namely: industry experts, base-material input business leaders, and beneficiation business leaders. The sample population included individuals from management functions in companies who are located in the Gauteng province, and that incorporate localisation into their rail manufacturing business activities.

4.3 Unit of Analysis

Owens (2015) made use of perceptions and opinions as the final units of analysis in research studies. This was determined through the data analysis phase of the research relating to senior managers and accountability in the workplace. In a similar manner, attitudes and insights of management individuals of companies in the rail manufacturing sector were analysed according to the research questions discussed in the previous chapter.

4.4 Sampling Method and Size

The advances in knowledge that are too strongly rooted in what is already known delimit what can be learnt (Gioia et al., 2013). A parallel is drawn to the work done in measuring economic growth with a view point that some researches would argue that the study of economic growth is more prevalent to the field of quantitative research through the relationship between data points. Thus, interviews with non-probability sampling were used to select a sample size of 12 companies in the private sector which conduct business associated to large government rail projects and represent the rail industry most fairly.

Due to a small sample and the researcher using his judgement to actively choose who would best be able to answer the research questions and meet the objectives, Saunders and Lewis (2012) argue that purposive sampling techniques be selected. The clear criteria of selecting, the reasons for selecting and the underlying premise on which these are based, enabled an understanding of various companies in the rail manufacturing sector and their activity to localisation, thus allowing the researcher to make logical generalisations. In this case, the purposive sampling variety was homogeneous.

4.5 Measurement Instrument

The measurement instrument for this research report was aligned with the ‘golden thread’ concept. The concept, applied in terms of inductive research, looks at questioning the logical flow from observations to the building of theory relating to industrial policy by the DTI. The relationship of industrial policy and observations require alignment and it needs to be convincing in the sense that a reader is persuaded that the relationship substantiates the theory proposed, resulting in the success of large government rail projects in Gauteng with manufacturing outcomes which incorporate localisation.

Mare (2015) suggested that collecting data from as many different sources helps to get realistic views of opinions and perceptions. In such, the measurement was collected data from various rail manufacturing companies who incorporate

localisation into their business activities. This in turn allows for plausibility of research when claims are made on the data collected based on a relatively small number of interviews (Saunders & Lewis, 2012). To avoid presentational incoherence, the methodology and structure alignment were evaluated on a continuous basis to measure the credibility of the research findings.

4.6 Data Gathering Process

A pre-test of the interview schedule was sent to the companies outlining the intent and type of questions to be used in the interview. This was done to ensure that the questions were clear and understandable by the participants, not misleading, and were aligned to collect the data required for the study (Sinclair, 2017). It was found that the pre-test responses did not digress from the initial constructs and processes of the study, thus no further concept mapping of the research methodology was required. There must be no ambiguity from the research problem and research objectives that the success of the IPAP can be achieved through a better understanding and implementation of localisation within the rail manufacturing sector.

Prior to commencing the interview, adequate information on the individual and the organisation was gathered and understood to enhance the interview experience for both interviewer and participant. Each participant was asked to complete and sign a consent form to ensure them that the data gathered would be used in an ethical way (see Appendix 1). The interviews were recorded with permission from the interviewee using a voice-recording device (Saunders & Lewis, 2012). Although primary data was collected from the interview data, additional background information of the companies was analysed. This additional data was collected through available information from the DTI, the participants' company websites and information available in the public domain. This was done to ensure that the company's approach for interviews fit the population description and to aid the researcher in understanding the company in their manufacturing environment.

Data was collected through semi-structured, open-ended, in-depth, face-to-face interviews of 12 business leaders representing companies in the rail manufacturing sector. Participants were asked to share opinions and experiences of conducting

business in relation to localisation requirements and the researcher took note of the reactions and feelings that emanated from the interaction. It is critical to have safe and relaxed interviewing environments which allow for realistic, true and contextual data to be recorded. The interviews were conducted at the offices of the participants. Notes were taken during the interviews and used to keep track of any additional questions that the researcher had during the interview. The semi-structured interview guide can be seen in Appendix 2.

4.7 Analysis Approach

Saldana (2013) advocated pragmatic eclecticism where there is a necessity and payoff of coding for qualitative studies, hence remaining open-minded when determining which coding method is most appropriate and most likely to yield a substantive analysis. Since exploratory methods with open-ended investigation was chosen, an inductive coding method was selected for the data analysis of this research study. Coding was used since it is the most well-known for creating a unit of meaning from a short phrase from the actual language found in the qualitative data recording (Saldana, 2013). Coding is appropriate for qualitative studies, but particularly for studies that prioritise the participant's response.

Coding with the participants' actual words enhanced and deepened understanding of their opinions on localisation requirements and the implementation thereof. The researcher needed to be attuned with words and phrases that seem to call for underlying factors which may be identified by evocative word choices, clever or ironic phrases. If the same words or phrases were used often by the participant, it was applied as a code entry.

The audio recordings from the 12 interviews were transcribed by a professional transcriber and the transcripts loaded into ATLAS.ti 8 software for data analysis. Data can be recorded in various ways when undertaking qualitative research. The researcher analysed the interviews shortly after each interview was conducted to ensure authenticity of the encounter, which is seen as an effective strategy for guiding a qualitative research study. The data was analysed by applying one idea per short phrase or full sentence answered. Data was then selected into coding groups. Sinclair (2017) suggested that the researcher should become absorbed in

the data, identify major themes related to the research questions and the literature review, and then creating relationships from codes to code groups.

To ensure consistency, descriptors were created for these code groups when grouped together under each relevant sub-research question by sub-code groups. The sub-code groups presented themes which underlined the concept of the ‘golden thread’ mentioned in Section 4.5. This process starting from data to codes, codes to code groups and code groups to themes all contribute to theory building of an argument. The argument led to supportive theory, which when applied, contributed to an improved understanding of localisation challenges and effective localisation implementation in the rail manufacturing sector.

4.8 Research Validity

Validity and reliability were ensured in the study by the data collection methods accurately measuring what they were intended to measure and ensuring that the research findings are really about what they profess to be about (Saunders & Lewis, 2012). The characteristics of replicability and precision of scientific methods such as the Code-Document Table Analysis function in the ATLAS.ti 8 software were used. The study has the ability to be repeated and obtain similar results, while concepts were defined precisely so that replicability was achievable. It was also important that data collection methods and analysis procedures were consistent.

Qualitative research can be considered subjective by nature and can be affected by a number of different biases. Interviewer bias and response bias might take effect when conducting the interviews and analysing the data (Owens, 2015). In order to reduce biases, semi-structured interview questions can be standardised for each individual interviewed and can be used as a guide throughout the process. Hence, if a business leader from a rail manufacturing company had a subject bias pertaining to a particular question, the interview structure limited the bias and did not carry it through to the results. The respondents was provided with ample time to explore the topics and concepts that were developed by the research questions during the interview process. Recognising and being aware of the potential biases helps to control the interview process and keep focus on the perceptions and opinions brought forward by the participants (Owens, 2015).

4.9 Limitations

The limitations of this research identify the potential weaknesses that existed. Firstly, the sample was homogenous, representative of the population based on selection criteria and therefore not reflective of all rail manufacturing companies in every region within South Africa. Secondly, qualitative research is subjective and is at risk of being affected by a number of biases. Thus, in relation to participants providing answers according to judgement and previous experiences, and although measures were put in place to reduce unrealistic inclusion of data, the limiting human act of being realistic is not always present. Thirdly, the interviewer was not expertly trained in interviewing and this could have impacted on the results when collecting data (Owens, 2015).

Chapter 5: Results

5.1 Introduction

The research questions introduced in Chapter 3 explore the perceptions of private sector business leaders in the Gauteng area, relating to the localisation requirements of the rail manufacturing sector in the Industrial Policy Action Plan. A review of the research questions firstly looks at the business leaders' perceptions of localisation, presenting a workable catalyst to improve levels of manufacturing output leading to economic value-add within the foreseeable future. Secondly, the business leaders' perceptions of localisation to have a positive effect on the public procurement aspect of large government projects is addressed. Lastly, the business leaders' perceptions of the designated rail sector within the IPAP structure to incorporate localisation in a way which is relevant to the South African business context are presented.

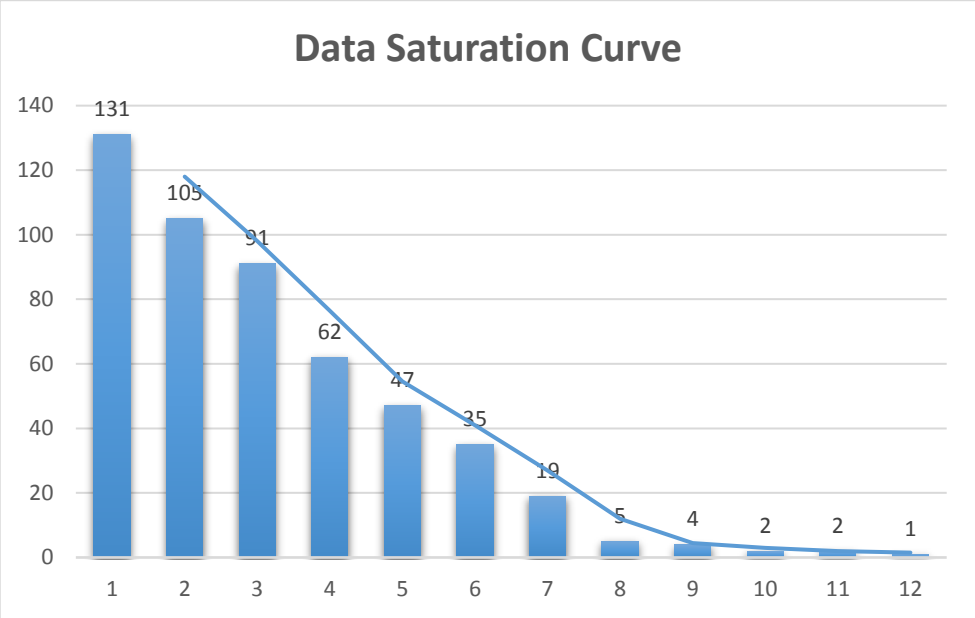
Further to the research questions that were formulated, sub-research questions were articulated to assist in exploring the challenges highlighted within the IPAP, and gain a richer understanding of the slow movement that localisation has had on the South African manufacturing sector (Department of Trade and Industry, 2018). A brief summary of the challenges that are compiled in Section 3.2 to support the sub-research questions (SRQ) include: the overall government commitment to bringing value through localisation activities; effective communication of policies to all stakeholders; the level of fair business practice; adequacy of post tender reporting; complexity of the administration to implement localisation; and the availability of skills and expertise within public procurement and the private rail sector.

5.2 Data Saturation

The saturation of data provides confirmation that sufficient data has been collected for the research to be replicated, when further coding is no longer feasible, and that the analysis of the data should bear and substantiate fruitful findings (Fusch & Ness, 2015). The number of codes generated for each interview is presented on the vertical axis and the number of interviews presented on the horizontal axis (Figure 5). The number of new codes generated from the interviews conducted diminish over time

and reach a point of saturation by interview 11. An additional interview was conducted to ensure that no new data was introduced to the research.

Figure 5: Research data saturation curve.



Source: Author's own compilation.

5.3 Data Triangulation

The data triangulation introduced in Section 4.2 makes use of selecting different types of samples and provides validity to the research. The use of data triangulation has successfully yielded results in showing the different viewpoints from various rail industry contextual elements. The three sample types that were selected for interviewing – base-material input businesses, beneficiation businesses and industry experts. The base-material input business represents the input material segment of the rail industry relating to foundries and casting firms, while beneficiation businesses represent the increased value-added portion to rail products after receiving base input material. Finally, industry experts represent the details of localisation policy and broad rail industry knowledge. The valuable insight of the interviewee's skills and knowledge from the three related rail manufacturing sample types are provided in Table 7. This table particularly highlights the interviewees' context in terms of their position of experience and expertise.

Table 7: Sample types and related significance.

Interview 1	Industry expert	Participated in setting up the local content, the verification division in an SOE being SABS, close to the IPAP but more specific to the instruction notes that came out of the Department of Trade and Industry which are approved by the Department of Finance.
Interview 2	Industry expert	Business leader of a leading manufacturing company that has been within the rail manufacturing sector for over 50 years. Currently been employed for 24 years at the company. Under old codes, the BBBEE level 4, however due to economic issues in the country with downturns as well as retrenchments, the company has dropped down to a level 6. Reduced headcount in the past three years from approximately 350 to 198 at present.
Interview 3	Base-material input business	Business leader of an investment casting foundry. Specialise in Ferris and non-Ferris investment casting components. In operation since 2001 and currently on a BBBEE level 2 with 65 staff in total. Mainly a Tier 3 supplier to the rail manufacturing sector.
Interview 4	Industry expert	Non-executive director for several companies that are involved in the supply of goods and services to the rail manufacturing sector. Most of the companies operate as BBBEE level 4. Participates in the Rail Road Association which is a non-profit organisation.
Interview 5	Base-material input business	Business leader of an iron and steel foundry that manufactures a wide range of cast irons and cast steels for various industries including rail. In operation since 1925 and employs about 100 people. Previously, the company operated with about 250 people, but the company had to be restructured due to the decline in the market. Non-compliant to BBBEE. Mainly a Tier 3 supplier to the rail manufacturing sector.
Interview 6	Beneficiation business	Business leader of a manufacturing business which designs and manufactures electronic control systems, train doors, and some pneumatic products for the rail manufacturing sector. Employ around 45 employees and been in business since 2003. Currently BBBEE level 2. Mainly a Tier 2 supplier to the rail manufacturing sector.
Interview 7	Beneficiation business	Business leader of a cable harnessing company started in 2008. Currently BBBEE level 1 with staff complement of 20 employees. Mainly a Tier 2 supplier to the rail manufacturing sector.
Interview 8	Base-material input business	Business leader of an open die forging operation that services a wide range of industries: power generation, gear manufacture, petrochemical industry and rail manufacturing industry. Supply predominantly to machine shops. In operation since 1997 and employ about 200 people. Currently BBBEE level 6.
Interview 9	Base-material input business	Business leader of an investment foundry manufacturing all grades of steel, stainless steel and non-ferrous materials. In operation since 1952 and employs 153 people. Presently running on about 50% of the plant's capacity. Currently BBBEE level 6. Mainly a Tier 3 supplier to the rail manufacturing sector.
Interview 10	Industry expert	Industry expert working for a large auditing business of about 500 people. Specialises in validation work focusing mainly on the localisation plans that the government has within the designated sectors from the national treasury.
Interview 11	Beneficiation business	Business leader from an international OEM located within the South African rail manufacturing sector. Assembly of components which are mostly imported due to high technical sophistication. The organisation is 152 years old with about 20 000 employees worldwide. South African operation has about 25 employees dedicated to the rail operation. Currently BBBEE level 4. Mainly a Tier 1 supplier to the rail manufacturing sector.
Interview 12	Beneficiation business	Business leader for a manufacturing company specialising in precision manufacturing of CNC components through CNC turning, milling and robotic welding for the rail manufacturing industry. In operation since 1981 and employ about 20 people. Currently BBBEE level 6. Mainly a Tier 2 supplier to the rail manufacturing sector.

Source: Author's own compilation.

5.4 Codes

The process starting from data (responses provided from the interviewees) to codes (units of meaning supporting literature and theory), codes to code groups (synthesis of common units of meaning) and code groups to themes (main findings for discussion) all contribute to theory building of an argument. The themes are discussed in Chapter Six. A total number of 131 units of meaning; namely codes, were generated from the 12 interviews conducted. This can be seen in Appendix 3 as a Code List which explains the responses provided by the interviewees and the data used for interpretation by the researcher. The combination of pertinent responses from the interviewees and the interpretations are clustered around the SRQs.

5.5 Code Groups

The 131 codes were synthesised by merging common responses to the SRQs. This synthesis led to the formation of 18 code groups. The SRQs and code groups are formulated in Table 8. The numbering of the SRQ and code-groups are arranged according to the semi-structured interview guide (reference to Section 4.6).

Table 8: Sub-research questions linking to code-groups.

	Sub-Research Question	Code Groups
1.1	How do you view the **commitment** of public procurement within government to follow through with localisation initiatives related to large government projects?	1.1 Artificial industry creation through imports 1.1 Ease of business driving economic growth 1.1 Intended commitment present but implementation poor 1.1 Economies of scale
1.2	How do you view the **communication** of the public procurement process in dealing with localisation requirements related to large government projects?	1.2 Channels of information filtering downstream 1.2 Dependant on rail industry knowledge 1.2 Fragmented content within procurement requirements
2.1	How do you view the level of **fair business practice** in dealing with large government projects?	2.1 Unethical business practice 2.1 The influence of PPPFA 2.1 Transparency of business alignment
2.2	How do you view the post tender **reporting** required by private sector on localisation levels of large projects?	2.2 Accuracy of localisation information provided 2.2 Propensity to report due to uncertainty
3.1	How do you view the bureaucracy of **administration** that supports the structure of implementing localisation within large government projects?	3.1 Complexity of administration processes 3.1 Enforcement of non-compliance 3.1 Monitoring of localisation activities
3.2	How do you view the available **competence level** within the public procurement process when dealing with localisation aspects related to large government projects?	3.2 Business acumen of procurement officers 3.2 Procurement knowledge of rail industry 3.2 Understanding the value chain process

Source: Author's own compilation.

The next section presents the results of the SRQs. For each code group explored which relates to each IPAP challenge, a table is provided showing the codes and the frequency of the codes grounded in relation to the code-groups which are summarised in Table 8. This methodical gathering and analysis of data provides an accurate means for an inductive approach (Gioia et al., 2013). A selection of responses from the data relating to each code-group will be sparsely commented on to highlight the business leaders' perceptions of IPAP localisation challenges.

5.5.1 Sub-Research Question 1 (SRQ 1)

How do business leaders view the commitment of public procurement within government to follow through with localisation initiatives related to large government projects?

Table 9: Summary of the code-group responses to SRQ 1.

IPAP challenge	Business leaders' perceptions
Commitment	5.5.1.1 Artificial industry creation through imports
	5.5.1.2 Ease of business driving economic growth
	5.5.1.3 Economies of scale
	5.5.1.4 Intended commitment present but implementation poor

Source: Author's own compilation.

5.5.1.1 Artificial industry creation through imports

The below table shows the codes that were generated from the interviewees under the commitment of public procurement and are grouped together to form one code-group; *Artificial industry creation through imports.*

Table 10: Code group: Artificial industry creation through imports.

Code	Grounded	Code Groups
1.1 declining manufacturing due to imports	14	1.1 Artificial industry creation through imports
1.1 false industry creation	7	1.1 Artificial industry creation through imports
1.1 high tech product volumes low	4	1.1 Artificial industry creation through imports
1.1 international license manufacturing	1	1.1 Artificial industry creation through imports
1.1 investment unjustifiable due to market volumes	4	1.1 Artificial industry creation through imports
1.1 localisation misalignment	4	1.1 Artificial industry creation through imports

1.1 poor competition	2	1.1 Artificial industry creation through imports
1.1 prescriptive and compliance	2	1.1 Artificial industry creation through imports

Source: Author's own compilation.

Respondent 1 views the government as not being able to provide the correct opportunity for businesses to produce products and thus a general decline in manufacturing productivity.

> *"Everyone knows where the raw material is coming from within certain industries. They know that this can never be produced here it is definitely an import and for good reason."*

Respondent 3 confirms that there is a decline in the manufacturing rail sector due to imports:

> *"I think if it gets run well it should be an initiative to keep work local and not have the importers take the bulk of all the work."*

Respondent 3 perceives the importation of products as affecting the local rail manufacturing efforts and the relating fiscal benefits to the manufacturing economy. The view of a falsified rail manufacturing sector is created by Respondent 8:

> *"It is pretty easy when a big China North or China South comes along and says, 'Don't worry we'll take care of it all. This is the price, there is the work and done. One-stop-shop."*

Respondent 8 makes mention of false industry creation where large international firms create the perception to public procurement and the private rail sector that local rail manufacturing activity is increasing but in reality, the firms import a lot of their own products which are produced from abroad. The technology of high-tech products and the related volumes from original equipment manufacturers makes localisation problematic for Respondent 9:

> *"It's a limited market. The size of the castings that we can make means that we can't sell direct to the end user, we have to sell to OEMs."*

Respondent 9 feels that their business is at a disadvantage due to a small rail market size and monopolistic characteristics. Respondent 11 feels that the local rail manufacturing sector is uncompetitive in dealing with international manufacturing:

"In other words, if you could have imported something from India cheaper, then how can you localise it here?"

Respondent 11 raises an important argument for rail market competition of low barriers to entry for the importation of products. The IPAP and the need for better localisation alignment from industrial policy is required by Respondent 7:

"Those materials we can actually manufacture here had we been given opportunities to do that – and support, obviously, from the government."

Respondent 7 believes that if government supported innovation more adequately, low volumes of high technological products would be produced. The capital investments that need to be made by the private sector are unjustified due to low rail manufacturing volumes, explains Respondent 2:

"Now to invest hypothetically five-billion rand into a rail rolling mill in SA to produce volumes on an 'as and when required' basis, is completely non-economical and doesn't make sense."

Respondent 2 feels that firms are not willing to invest in large capital projects if there is no certainty of rail manufacturing volumes.

5.5.1.2 Ease of doing business driving economic growth

The below table shows the codes that were generated from the interviewees under the commitment of public procurement and are grouped together to form one code-group; *Ease of doing business driving economic growth.*

Table 11: Ease of doing business driving economic growth.

Code	Grounded	Code Groups
1.1 address declining manufacturing	2	1.1 Ease of business driving economic growth
1.1 ease of doing business	18	1.1 Ease of business driving economic growth
1.1 industry willingness to manufacture locally	8	1.1 Ease of business driving economic growth
1.1 intentional public private partnership	3	1.1 Ease of business driving economic growth
1.1 manufacturing dependent economy	3	1.1 Ease of business driving economic growth
1.1 poor commitment to address declining rail manufacturing sector	2	1.1 Ease of business driving economic growth

1.1 poor manufacturing growth	10	1.1 Ease of business driving economic growth
1.1 process blocking points	4	1.1 Ease of business driving economic growth
1.1 reluctance to use local products	1	1.1 Ease of business driving economic growth

Source: Author's own compilation.

The feeling of Respondent 6 with respect to the ease of conducting business is relatively low for businesses in the rail manufacturing sector:

> *"What we've found, especially with these projects that is coming into South Africa, a lot of the risks are being transferred 100 percent right down to the single manufacturer. Risks cost a lot of money to mitigate that, to carry those risks on."*

Respondent 6 mentions that conducting business is difficult due to the cost of risk and the responsibility of businesses to absorb all the risk without spreading it within the rail industry. Another concern from Respondent 9 is infrastructure costs which make business operation difficult:

> *"The power is a huge part of our bill, 28 percent of our total bill and it went up 26 percent. I mean are they really committed to improving local manufacture with the sort of state of the power infrastructure? So that's a real big concern."*

Respondent 9 is concerned about high input costs to produce base input materials to support the rail manufacturing industry. Respondent 11 feels that the challenges of localisation relating to importation of products are linked to local input costs:

> *"You cannot localise if your input costs are higher than the imported content."*

Respondent 11 agrees to the difficulties of high input costs encountered when businesses try to localise. The poor manufacturing performance and growth of the rail manufacturing sector is a concern for Respondent 12:

> *"Have to start putting up on higher import duties, on anything that is entering our harbours. To me that would promote ArcelorMittal to produce."*

Respondent 12 motivates that government should increase the barriers to entry for imported products to assist large local steel manufacturers to improve their performance. Respondent 1 views that the DTI understands that the economy requires more manufacturing dependency:

> *"There is a Government need and with that need an instruction note gets created so they can start to look at what can be manufactured in the country."*

Respondent 1 explains that government has created a strategy with an intended localisation catalyst to stimulation the rail manufacturing industry. Intentional public-private partnerships are present, according to Respondent 10:

> *"Look at the DTI for example, the DTI has funding for industrialist, black industrialists, but it is not just 100 percent funding, it's co-shared where you put in half, I put in half".*

Respondent 10 mentions the initiative from the DTI that assists industrialisation of the rail manufacturing industry.

5.5.1.3 Economies of scale

Table 12 shows the codes that were generated from the interviewees under the commitment of public procurement and are grouped together to form one code-group; *Economies of scale.*

Table 12: Economies of scale.

Code	Grounded	Code Groups
1.1 economies of scale driven	23	1.1 Economies of scale
1.1 manufacturing emerging markets	1	1.1 Economies of scale
1.1 small rail industry	7	1.1 Economies of scale
1.1 strategic spending	1	1.1 Economies of scale
1.1 successful automotive industry	1	1.1 Economies of scale

Source: Author's own compilation.

The concept of economies of scale is mentioned by Respondent 1:

> *"I think the more it happens, the better it gets because then for the one product that is imported there could be enough economies of scale for*

an organisation to start-up and probably produce a product like this in this country."

Respondent 1 highlights the importance of the rail manufacturing industry to engage on products that could collectively justify a secondary market for local production. Respondent 8 confirms that higher production volumes with economies of scale:

"If they order more, we have more volume and everything starts to run smoothly, but at the moment it doesn't work like that with these institutions."

Respondent 8 explains that SOEs should focus procurement efforts on buying local products in order for businesses to operate more efficiently. A small rail market is the reason for a low production volume and the reason for localisation challenges argued by Respondent 11:

"If your offtake or your demand from a client is not as much as it should be, it becomes very difficult to attain and achieve those criteria, and not to get penalised by government."

Respondent 11 mentions that penalties imposed by government when not meeting localisation targets are challenging to manage when government is the cause of reduced demand. Respondent 12 gives insight into the lack of economies of scale causing importation, which links to Section 5.5.1.1 with artificial industry created through imported products:

"They are not busy. Yet, if you go to any steel merchant in this country, half of their stock comes from China. So why is it coming from China? Why hasn't it been filled up with local material?"

Respondent 12 questions the local steel merchant's products which are not manufactured locally, yet the local steel mills are underutilised. Strategic planning by public procurement, as viewed by Respondent 10, requires assistance when it comes to localisation:

"There are very few people who understand the value of localisation and the intent of what it really entails – I think there is still lots of work that needs to be done there."

Respondent 10 argues that the economic value-add of localisation activities and the integrative role of economies of scale are complex and the insufficient understanding of various elements of localisation exist in the rail manufacturing sector.

5.5.1.4 Intended commitment present but implementation poor

The below table shows the codes that were generated from the interviewees under the commitment of public procurement and are grouped together to form one code-group; *Intended commitment present but implementation poor.*

Table 13: Intended commitment present but implementation poor.

Code	Grounded	Code Groups
1.1 commitment present but implementation poor	10	1.1 Intended commitment present but implementation poor
1.1 different levels of commitment	6	1.1 Intended commitment present but implementation poor
1.1 DTI assumed understanding	4	1.1 Intended commitment present but implementation poor
1.1 good initiative but poor resulting action	17	1.1 Intended commitment present but implementation poor
1.1 government spending on declining sectors	7	1.1 Intended commitment present but implementation poor
1.1 instruction notes provided	11	1.1 Intended commitment present but implementation poor
1.1 IPAP conflicting legislation integration	11	1.1 Intended commitment present but implementation poor
1.1 lacking dedication at lower levels	4	1.1 Intended commitment present but implementation poor
1.1 poor government planning effecting commitment	8	1.1 Intended commitment present but implementation poor
1.1 R&D provides advantages	3	1.1 Intended commitment present but implementation poor
1.1 transversal government contracts	3	1.1 Intended commitment present but implementation poor
1.1 very poor commitment	7	1.1 Intended commitment present but implementation poor

Source: Author's own compilation.

The commitment at national government level is clear to Respondent 6, but with little visible implementation:

> *"At a higher level I think PRASA has done a wonderful job with the DTI to come with designated minimum local content, but the implementation is just not there for some reason."*

Respondent 6 feels that the work performed by the SOEs responsible for rail passenger transport development has been excellent, although the actual progress is not visible to the rail industry. Respondent 7 feels that public procurement should be more active to assist in localisation implementation:

> *"I would suggest perhaps that when the government is actually planning to enhance this localisation, they should actually have some personnel making sure that on the down level, on the level of where the actual action is applicable, they are actually following it up."*

Respondent 7 feels that government should have dedicated procurement employees ensuring that localisation activities are carried out throughout all levels of the rail manufacturing industry. The commitment by National Treasury to fund infrastructure development is present in Respondent 1's view:

> *"If Government never had the commitment, we would not be seeing IPAP; we would not be seeing instruction notes."*

Respondent 1 argues that government has definitely shown commitment through the planning of localisation by means of industrial policy. The assistance by municipal government levels to assist new businesses is limited in the view of Respondent 2:

> *"At the moment it is very much hero or zero; you either have localisation or you don't have localisation. The way the localisation policy has been drafted, it doesn't allow for newcomers to get into the market, and when you are looking at the tenders you have to comply with local content."*

Respondent 2 mentions the challenges of IPAP and the rail manufacturing sector in integrating the legislation in order to have clarity on localisation processes. Respondent 10 feels that the effective planning and strategy execution by public procurement is required:

> *"However, to stay up to date with those markets and say has this plan really worked, has this designation really worked, what has it done?"*

Respondent 10 views the industrial policy is outdated and not current with rail market requirements which localisation needs in order to be effective.

5.5.2 Sub-Research Question 2 (SRQ 2)

How do business leaders view the **communication** of the public procurement process in dealing with localisation requirements related to large government projects?

Table 14: Summary of the code-group responses to SRQ 2.

IPAP challenge	Business leaders' perceptions
Communication	5.5.2.1 Channels of information filtering downstream
	5.5.2.2 Dependant on rail industry knowledge
	5.5.2.3 Fragmented content within procurement requirements

Source: Author's own compilation.

5.5.2.1 Channels of information filtering downstream

The below table shows the codes that were generated from the interviewees under the communication of the public procurement process and are grouped together to form one code-group; *Channels of information filtering downstream.*

Table 15: Channels of information filtering downstream.

Code	Grounded	Code Groups
1.2 channels of communication	9	1.2 Channels of information filtering downstream
1.2 dependence on tier levels for information	10	1.2 Channels of information filtering downstream
1.2 general public limited localisation communication	7	1.2 Channels of information filtering downstream
1.2 low exposure to IPAP	3	1.2 Channels of information filtering downstream
1.2 poor communication of future market demands	3	1.2 Channels of information filtering downstream
1.2 varying info sharing levels	3	1.2 Channels of information filtering downstream

Source: Author's own compilation.

The low exposure of the IPAP through public procurement officers into the rail manufacturing sector is experienced by Respondent 2:

> *"DTI have engaged with us to discuss our industry at the time when the directives were decided on, and unfortunately it does not appear that any of the input from industry was taken into account."*

Respondent 2 explains the poor communication from the DTI to follow up on engagement sessions and rail industry directives. The channels of communication which is used to share information is not working for Respondent 7:

> *"Usually we would hear from the media and the newspapers and so on and so forth, but to get to the real action is problematic."*

Respondent 7 feels that the general information that is communicated via mainstream media communication channels are insufficient to direct private sector towards detailed information. The dependence on information regarding localisation activity by upper-tier level suppliers supplying goods and services to large rail projects are experienced by Respondent 3:

> *"Yes, we are reliant on the guys that we supply to give us the proper information on what is needed and what needs to get done."*

Respondent 3 explains that they rely on other upstream businesses within the rail industry for guidance on localisation matters. Respondent 12 also supports the reliance of other suppliers to provide information on localisation requirements and not the public procurement of SOEs:

> *"Absolutely, the higher tier suppliers I would think it's quite well understood, I think they are forced to abide by the rules that have been set forward by government."*

Respondent 12 perceives the interaction of Tier 1 suppliers to large rail government projects to be the reason for them to have the understanding of localisation activities. The limited flow of localisation information filtering downstream to all levels of government is the opinion of Respondent 1:

> *"I must say there are different levels. So, from a national level it is definitely there because of the instruction notes. At a provincial level you'll find that it tends to get diluted. At a municipal level it is pretty poor."*

Respondent 1 argues that the various levels of information filtering down from national to provincial to municipal levels becomes fragmented. The low exposure of IPAP in the public domain fails to highlight how to overcome localisation challenges for Respondent 4:

"So, although there was communication at rail-based events and rail-based talk shows, the general public in SA received very little indication of what the government's intention of localisation was all about."

Respondent 4 explains that awareness was created at public events but failed to gain real traction due to the lack of localisation understanding.

5.5.2.2 Dependant on rail industry knowledge

The below table shows the codes that were generated from the interviewees under the communication of the public procurement process and are grouped together to form one code-group; *Dependant on rail industry knowledge.*

Table 16: Dependant on rail industry knowledge.

Code	Grounded	Code Groups
1.2 framework contradictions	1	1.2 Dependant on rail industry knowledge
1.2 guided assistance to fulfil localisation requirements	5	1.2 Dependant on rail industry knowledge
1.2 industry awareness	2	1.2 Dependant on rail industry knowledge
1.2 interpretation differs	3	1.2 Dependant on rail industry knowledge
1.2 reliance on other companies	6	1.2 Dependant on rail industry knowledge

Source: Author's own compilation.

Respondent 2 feels that the guided assistance to fulfil localisation targets is needed through collaboration of public and private engagements:

"I think if there was more meaningful debate at the time when those percentages were decided on, and there was a buy-in from all sides, I think you would have ended up with more realistic targets, which would have probably led to a much more successful buy-in."

Respondent 2 motivates that the rail manufacturing sector's expertise is required to provide insight for reachable localisation targets. The reliance on international companies to assist in fulfilling a localisation specification set out by public procurement is challenging for Respondent 6:

"One of the difficulties is because it is a European standard, you'll get a technical spec written in either Chinese or even French as we've seen it. So that is a communication problem and if you don't translate the actual component or the requirement properly you can build the wrong component."

Respondent 6 explains that international standards can be conveyed incorrectly and may place the rail industry at risk, especially when the product relates to safety components. The communication of the correct operational localisation activities should not be left for interpretation by some businesses. The appropriate awareness to guide the localisation process effectively is viewed by Respondent 5:

"I think the system is flawed, but I think there is room for an organisation like that, on the rail industry to be formed, and get all the relevant role players in the same room to find out who can do what, and what their capabilities are."

Respondent 5 proposes that the rail manufacturing industry collaborates in order to identify communication channels for localisation assistance.

5.5.2.3 Fragmented content within procurement requirements

The below table shows the codes that were generated from the interviewees under the communication of the public procurement process and are grouped together to form one code-group; *Fragmented content within procurement requirements.*

Table 17: Fragmented content within procurement requirements.

Code	Grounded	Code Groups
1.2 authentic localisation project information	4	1.2 Fragmented content within procurement requirements
1.2 government department collaboration	4	1.2 Fragmented content within procurement requirements
1.2 government responsibility of guiding value chain	5	1.2 Fragmented content within procurement requirements
1.2 high level understanding	2	1.2 Fragmented content within procurement requirements
1.2 lack of communicating technical specifications	4	1.2 Fragmented content within procurement requirements
1.2 localisation contradiction	6	1.2 Fragmented content within procurement requirements
1.2 long term targeted gains	5	1.2 Fragmented content within procurement requirements

1.2 multiple views on localisation	2	1.2 Fragmented content within procurement requirements
1.2 policy priority preference	4	1.2 Fragmented content within procurement requirements
1.2 SOE poor information channels	3	1.2 Fragmented content within procurement requirements

Source: Author's own compilation.

The need for authentic localisation project information is required by Respondent 10:

> *"If it could be done in such a way that all these departments could work together, or at budget presentations to whichever parliamentary committee."*

Respondent 10 suggests that government departments should collaborate to find industry synergies when procurement is carried out on large rail projects. Respondent 1 motivates that the collaboration of the public procurement and private sector, when it comes to technical and operational rail project requirements, is very critical to the project's success:

> *"Private sector definitely has the knowledge and the synergy between the two is not always there when the instruction note gets created or when there are big projects that are out there."*

Respondent 1 feels that the planning on large rail projects is poor, as government fails to incorporate the rail industry knowledge to optimise the intension of national government spending. The lack of communicating detailed technical localisation specifications slows down the rail manufacturing productivity for Respondent 5:

> *"So, what we normally find is that on the technical aspects, there is not sufficient information, and a lot of information regarding your commitment as a company to meet the criteria required by that enquiry."*

Respondent 5 explains the lack of technical detail which is critical to the specifications of products to be supplied as well as the level of localisation attributed to the product. The contradiction of localisation specifications creates a fragmented content affect which is unproductive for Respondent 6:

> *"Within the engineering there is a lack of communication, within the engineering or the sub-contractors to the manufacturers."*

Respondent 6 feels that the rail manufacturing industry has multiple views on localisation and fails to proceed uniformly. The priority of localised products is unclear, with multiple views on localisation targets experienced by Respondent 12:

> *"It's not as if there is one source of information where you can go and obtain all of this information automatically; it is not easy; we don't know who has won these tenders automatically."*

Respondent 12 mentions that information sharing and public procurement decisions of large rail projects are not communicated clearly and transparently.

5.5.3 Sub-Research Question 3 (SRQ 3)

How do business leaders view the level of **fair business practice** in dealing with large government projects?

Table 18: Summary of the code-group responses to SRQ 3.

IPAP challenge	Business leaders' perceptions
Fair business practice	5.5.3.1 The influence of PPPFA
	5.5.3.2 Transparency of business alignment
	5.5.3.3 Unethical business practice

Source: Author's own compilation.

5.5.3.1 The influence of PPPFA

The below table shows the codes that were generated from the interviewees under the level of fair business practice and are grouped together to form one code-group; *The influence of PPPFA.*

Table 19: The influence of PPPFA.

Code	Grounded	Code Groups
2.1 BBBEE presents loopholes	8	2.1 The influence of PPPFA
2.1 opportunistic BBBEE practice	7	2.1 The influence of PPPFA
2.1 PPPFA presenting inefficiencies for economic value	6	2.1 The influence of PPPFA
2.1 downside to PPPFA in localisation	6	2.1 The influence of PPPFA

Source: Author's own compilation.

The BBBEE certifications can be by-passed and presents loopholes within industrial policy for Respondent 1*:*

> *"Examples where companies are a certain BBBEE level, but they're not actually at that level because the majority shareholders which should be black are not really participating as shareholders in the organisation."*

Respondent 1 argues that PPPFA can present the usage of BBBEE certification to allow for misrepresentation of the procurement process. Respondent 4 feels that the PPPFA presents inefficiencies for economic value within localisation:

> *"Certainly in the general scope of services and products to the rail industry, outside of these large OEM recapitalisation projects, the preferential procurement system detracts 100 percent away from effective localisation."*

Respondent 4 is of the perspective that the effectiveness of preferential procurement is undesirable in enabling value-add to the rail manufacturing sector. A confirmation of the challenges presented by BBBEE certifications is perceived by Respondent 3:

> *"Obviously fair business practice is a difficult situation looking at who gets the work, is it the guy that has got the Level 1 BBBEE that actually doesn't manufacture it and he just procures it, or is it the Level 4 or Level 6 guy that actually makes it and actually makes the least money out of it."*

Respondent 3 raises an argument revolving around the real value-add that is brought into the rail manufacturing sector by businesses and their associated level of input. The downside in incorporating BBBEE with localisation policy, argued by Respondent 9, is that policy changes frequently and leaves the rail sector questioning the requirements:

> *"You also have to look at the fact that government policies change, especially the BBBEE and the infrastructure, on a daily basis. You know the BBBEE has moved down and up, and left and right."*

Respondent 9 mentions that government changes Preferential Procurement Policy requirements on a regular basis and may cause business problems. Respondent 8

views the inclusion of PPPFA into IPAP as unfair for businesses and the real value-add brought to the localisation activity:

> *"It is ridiculous, you are a local company, but you're not considered local enough because of your BBBEE compliance level. That is another issue that needs to be considered that localisation must be broken out from the BBBEE levels."*

Respondent 8 argues that their business provides benefit through economic value-add but is limited to obtain more business due to the PPPFA.

5.5.3.2 Transparency of business alignment

The below table shows the codes that were generated from the interviewees under the level of fair business practice and are grouped together to form one code-group; *Transparency of business alignment*

Table 20: Transparency of business alignment.

Code	Grounded	Code Groups
2.1 circumventing localisation is easy	4	2.1 Transparency of business alignment
2.1 complex business process	7	2.1 Transparency of business alignment
2.1 designated DTI sector verification	2	2.1 Transparency of business alignment
2.1 different guiding principles used by OEMs on implementing localisation	2	2.1 Transparency of business alignment
2.1 difficult to comply	3	2.1 Transparency of business alignment
2.1 international OEM unwillingness to localise	3	2.1 Transparency of business alignment
2.1 localisation bias	3	2.1 Transparency of business alignment
2.1 negative trust perception	2	2.1 Transparency of business alignment
2.1 poor rail quality standards	2	2.1 Transparency of business alignment
2.1 unfair government engagement on tenders	12	2.1 Transparency of business alignment

Source: Author's own compilation.

The business challenge for localisation is complex as special provision has to be made for it, as experienced by Respondent 9:

> *"I won't employ anybody specifically for localisation, but we will employ a generic work force and increase the work force if we get further commitments and contracts for local supply."*

Respondent 9 mentions that special localisation business requirements create business process complexities. Respondent 4 views localisation as a guiding principle in the early stages when drafted into the IPAP and not properly situated in industrial policy:

> *"During the award of those contracts, there was no exemption given to any parties around their implementation of localisation. So with the four contracts being awarded, the localisation on the whole, was still a guiding principle between the different OEMs. What was found though, is that each OEM was implementing their localisation project on a completely different mechanism."*

Respondent 4 explains that OEMs working on the same large rail project made use of different localisation measures which created inconsistencies. The complexity of localisation incorporated into their business is too much for Respondent 11:

> *"It is just too difficult to comply, there are too many different pieces of legislation."*

Respondent 11 views the localisation initiative as too complex to deal with as a business. Respondent 6 motivates that OEMs need to be transparent on their localisation activities which benefits the rail manufacturing sector, and should not advocate for their own localisation biases:

> *"If that product is going to work in South Africa for an overseas OEM then that product should be able to work in the same OEM country as well. So they should give us that opportunity to export our product if they're building a similar product for a European market. It will add to our product being well explored into the world."*

Respondent 6 motivates for OEM transparency in handling localisation activity and the opportunity of reciprocity for economic value-add. The unfair engagement of public procurement officials relating to the adjudication of tenders is a challenge for Respondent 2:

"Unfortunately, we still believe to a large degree politics does play a large factor in it, where government decisions are not based necessarily on localisation initiatives, they are based on largely political interference."

Respondent 2 feels that politics influences decisions made within the rail manufacturing sector and the focus of localisation is diluted.

5.5.3.3 Unethical business practice

The below table shows the codes that were generated from the interviewees under the level of fair business practice and are grouped together to form one code-group; *Unethical business practice.*

Table 21: Unethical business practice.

Code	Grounded	Code Groups
2.1 corruption involved in non-compliance	5	2.1 Unethical business practice
2.1 unethical government business practice	13	2.1 Unethical business practice
2.1 loopholes in system	3	2.1 Unethical business practice

Source: Author's own compilation.

Respondent 5 has experienced unethical public procurement business practice:

"She managed to land a fairly valuable order without being registered. So, you know, that speaks to the fact that there was some underhanded dealings taking place."

Respondent 5 has experienced a situation where unethical business practice affects the intended effects of localisation. The unethical business practice viewed by Respondent 4 related to tenders awarded for large rail manufacturing projects:

"Certainly, there seems to have been a fair amount of manipulation of the tender board of Transnet in terms of who would be awarded and on what basis."

Respondent 4 mentions the corrupt activities at management level of a SOE and the influence it has on fair business practice on the economy. The loopholes in PPPFA create unethical business practice for Respondent 9:

"Because obviously everybody is concerned how much of the money actually goes to the project and how much of the money goes into the people who have the authority to place the orders."

Respondent 9 questions the authentic project value relating to actual input and the officials managing the procurement functions. Respondent 11 feels corruption plays a large role within large government rail projects*:*

"You try to deal with the big parastatal and then you end up with five briefcase entrepreneurs that is actually 'tenderpreneurs' and they promise you everything as long as you do business with them."

Respondent 11 views large government rail projects as problematic business transactions due to the tendency of unethical business practices.

5.5.4 Sub-Research Question 4 (SRQ 4)

How do business leaders view the **post tender reporting** required by private sector on localisation levels of large projects?

Table 22: Summary of the code-group responses to SRQ 4.

IPAP challenge	Business leaders' perceptions
Post tender reporting	5.5.4.1 Accuracy of localisation information provided
	5.5.4.2 Propensity to report due to uncertainty

Source: Author's own compilation.

5.5.4.1 Accuracy of localisation information provided

The below table shows the codes that were generated from the interviewees under the required post tender reporting and are grouped together to form one code-group; *Accuracy of localisation information provided.*

Table 23: Accuracy of localisation information provided.

Code	Grounded	Code Groups
2.2 localisation fronting by OEM's	2	2.2 Accuracy of localisation information provided
2.2 localisation validation problems	2	2.2 Accuracy of localisation information provided
2.2 material misrepresentation	11	2.2 Accuracy of localisation information provided

2.2 SABS poor performance	8	2.2 Accuracy of localisation information provided
2.2 SOE lack localisation knowledge	5	2.2 Accuracy of localisation information provided
2.2 changing of standards causes challenges	3	2.2 Accuracy of localisation information provided
2.2 localisation calculation inconsistent	2	2.2 Accuracy of localisation information provided

Source: Author's own compilation.

Respondent 1 views the declaration of localisation activity as consolidated information without much detail offered to public procurement:

> *"You may get a one-liner saying I meet the 80 percent threshold but how that is done, another question will come up and say well it is confidential information because I am not able to give you my supply chain information."*

Respondent 1 explains the vague content within reporting which is received from suppliers to large government rail projects. The misrepresentation of material and operational activity that goes into achieving localisation is declared incorrectly in Respondent 12's opinion:

> *"I don't think that when people claim localisation that it is strictly localisation."*

Respondent 12 feels that businesses in the rail manufacturing industry do not report accurate information to validate their localisation level. The validation of localisation activity is too complex for businesses, in Respondent 9's understanding:

> *"Very tedious, very slow, as I mentioned before, SMME's haven't got specific people to do those sorts of rolls, and I believe they need to make the process more stream-lined and more South African centric for the questionnaires."*

Respondent 9 argues that the reporting process does not integrate easily into the small business context and is seen as a complicated system. The poor performance by the South African Bureau of Standards, according to Respondent 10, is a challenge for verifying localisation targets:

> *"The office that we're talking about there is maybe six people, and look at the projects we are talking about and the sector that is designated. You understand, there is no capacity."*

Respondent 10 motivates the problem of insufficient government verification resources to facilitate the localisation reporting that accompanies large rail projects. Respondent 8 feels that the accuracy of measuring and calculating localisation is inconsistent and feels that the rail manufacturing sector does not have a uniform means to determine localisation levels:

> *"We don't really know how to calculate localisation?"*

5.5.4.2 Propensity to report due to uncertainty

The below table shows the codes that were generated from the interviewees under the required post tender reporting and are grouped together to form one code-group; *Propensity to report due to uncertainty.*

Table 24: Propensity to report due to uncertainty.

Code	Grounded	Code Groups
2.2 long reporting requirements	7	2.2 Propensity to report due to uncertainty
2.2 reluctant information sharing	11	2.2 Propensity to report due to uncertainty
2.2 self-declaration levels	3	2.2 Propensity to report due to uncertainty
2.2 SOE commitment to BBBEE level	3	2.2 Propensity to report due to uncertainty
2.2 frequent information changes	3	2.2 Propensity to report due to uncertainty
2.2 no procurement engagement	1	2.2 Propensity to report due to uncertainty

Source: Author's own compilation.

The additional reporting requirements takes up valuable business resources and leaves business leaders reluctant to share information, as experienced by Respondent 5:

> *"Another layer of expense that is needed by government, so somebody has to come out and audit your results – and that would normally be done by a consulting firm that works for SARS, and as I say, that just adds another layer of expense that you haven't accounted for in your costing."*

Respondent 5 explains that the cost implication of validating localisation activity contributes to added business profitability pressure. Respondent 11 confirms that the lengthy reporting requires too much information from their business:

> *"I really think that it goes a bit far. The audit is fine, but it really goes a long way to make you a bit uncomfortable in terms of what you show and where that information will go."*

Respondent 11 mentions the reluctance that business leaders have when it comes to sharing business information with the government and trusting that the information will be kept safe. The sharing of confidential information slows down the report process as viewed by Respondent 12:

> *"It's not a very user-friendly system, there is no system in place for that. Everything seems to be hushed up and swept under the rug and kept quiet."*

Respondent 12 has the perception that public procurement departments do not have adequate channels for businesses to submit reporting and information is lost in the system. Respondent 2 believes that private sector rail manufacturers are reluctant to localise activities due to unrealistic targets set by public procurement:

> *"I think it is understood, but I personally perceive it as there is some reluctance to even try in some cases to comply because of unrealistic targets."*

Respondent 2 explains the reluctance to report on localisation activity points to the associated demotivation when pursuing targets. The reasons of changes to IPAP and related policies are not transparent to all public, as viewed by Respondent 4:

> *"Certainly from the point of view of the general public and even members and business leaders in the rail industry, what the DTI presented to the portfolio committee and the outcomes of those meetings, was not transparent, and we did not know what the so-called localisation success was all about."*

Respondent 4 perceives the public procurement department to hinder information sharing and introduce an element of limited transparency.

5.5.5 Sub-Research Question 5 (SRQ 5)

How do business leaders view the bureaucracy of **administration** that supports the structure of implementing localisation within large government projects?

Table 25: Summary of the code-group responses to SRQ 5.

IPAP challenge	Business leaders' perceptions
Administration	5.5.5.1 Complexity of administration processes
	5.5.5.2 Enforcement of non-compliance
	5.5.5.3 Monitoring of localisation activities

Source: Author's own compilation.

5.5.5.1 Complexity of administration processes

The below table shows the codes that were generated from the interviewees under the bureaucracy of administration and are grouped together to form one code-group; *Complexity of administration processes.*

Table 26: Complexity of administration processes.

Code	Grounded	Code Groups
3.1 clear administration requirements need	6	3.1 Complexity of administration processes
3.1 complexity of adequate information transfer	15	3.1 Complexity of administration processes
3.1 difficult business operations	7	3.1 Complexity of administration processes
3.1 local monopoly supply	4	3.1 Complexity of administration processes
3.1 complex procurement requirements	4	3.1 Complexity of administration processes
3.1 exhaustive procurement process	1	3.1 Complexity of administration processes

Source: Author's own compilation.

The transfer of adequate information, in terms of the IPAP, is complex when dealing with multiple departments in the government, according to Respondent 1. Respondent 1 explains that their business experiences conflicting information from different governmental departments regarding administration requirements in dealing with localisation.

> *"I'm getting three different kind of answers, one answer from DTI saying A; the answer from the state-owned company saying B; then I find that there is bureaucracy in the system."*

The difficult business operations and planning that goes hand-in-hand with localisation is complex to manage and the IPAP does not cater for changes, according to Respondent 5:

> *"To date manufactured something like six trains, which they have delivered to PRASA, but at this point in time PRASA hasn't upgraded the rail network to accommodate those trains. So, the planning from government has been poor."*

Respondent 5 feels that insufficient information transfer has taken place, which hampers the success of large rail projects and suggests that this might have decreased the manufacturing output. The administration needs of various public procurement departments are not all aligned and localisation becomes complex, as mentioned by Respondent 8:

> *"Well which government department actually runs it? The DTI claim to be pushing a big localisation plan and then the IDC say we need to pump more money into companies so that they can localise their products more. Who is actually driving the bus?"*

Respondent 8 mentions that the directives from various government development departments creates complexity within the administration processes and localisation becomes confusing for the private rail manufacturing sector. Respondent 3 feels that the integration of localisation with different business types is difficult to manage uniformly:

> *"Sixty-five percent should show a lot better in all the industries that supply not just the bottom tier manufacturing. So, I definitely think that we are not seeing what we should be seeing and it's not filtered through to all the chains that it needs to be."*

Respondent 3 motivates that the administration processes do not support all levels of value creation within the rail manufacturing sector. The administration process is exhaustive and ties up business resources with little immediate return, as described by Respondent 9:

> *"It's very cumbersome and all their portals and everything, you are having to increase your cost, your fixed cost for something that's giving you very little back in return."*

Respondent 9 motivates that the level of administrative input required for localisation within the South African business context is challenging for business operations.

5.5.5.2 Enforcement of non-compliance

The below table shows the codes that were generated from the interviewees under the bureaucracy of administration and are grouped together to form one code-group; *Enforcement of non-compliance.*

Table 27: Enforcement of non-compliance.

Code	Grounded	Code Groups
3.1 localisation misrepresentation	3	3.1 Enforcement of non-compliance
3.1 penalties for non-compliance	13	3.1 Enforcement of non-compliance
3.1 rail specific knowledge	4	3.1 Enforcement of non-compliance
3.1 introduce accountability in localisation	1	3.1 Enforcement of non-compliance
3.1 remedial action for overstating	2	3.1 Enforcement of non-compliance

Source: Author's own compilation.

The misrepresentation of localisation percentages can be attributed to exemption provided by the same institution that developed the IPAP, which Respondent 4 found irregular:

> *"The exemption process was fraught with lack of competence and the DTI virtually approved any product where the exemption was asked, to the point where exemption was given to cable ties and like all types of nuts and bolts and everything."*

Respondent 4 motivates that the misrepresentation of localisation has been present in the rail manufacturing sector. The penalties for non-compliance of localisation targets are hefty and causes additional business risk for businesses wanting to venture into the rail manufacturing sector, a challenge for Respondent 5 if intervention policy is to work effectively:

> *"In some of these contracts, the penalty clauses are very onerous. There are consequential costs involved, and those consequential costs can lead to the closure of a small enterprise."*

Respondent 5 feels that the penalties imposed on businesses for possible non-compliance translate to large liabilities which could cause business failure. Similarly,

Respondent 7 feels that if businesses are caught for localisation non-compliance, other businesses in the rail manufacturing sector may not be able to conduct business with the perpetrator:

> *"You will be barred from actually participating in the government projects, because you will be seen as a risk."*

Respondent 7 mentions the possibility of being disqualified for future opportunities in rail manufacturing projects if found guilty of non-compliance to localisation declarations. Respondent 9 views that public procurement uses non-compliance as a strong accountability measure instead of a motivator:

> *"Yes, I think one of the other things is all the contracts we have had is penalties, penalties, penalties, penalties, and it's a perception that they want to beat you with a stick instead of working with you."*

Respondent 9 mentions that the procurement officials of large government rail projects do not create an engaging business working relationship, but one which is one-sided with threats of penalties. Respondent 1 feels that remedial action is a challenge within the IPAP:

> *"The remedial action for organisations that have not met the requirements after verification needs to be stringent enough that private sector starts to see the ramifications of declaring high local content when knowingly it is much lower than what you declared."*

Respondent 1 motivates that the remedial action for over-declaring localisation percentages of products supplied to large rail projects should assist with the relevant business accountability which is not present within the rail manufacturing sector.

5.5.5.3 Monitoring of localisation activities

The Table 28 shows the codes that were generated from the interviewees under the bureaucracy of administration and are grouped together to form one code-group; *Monitoring of localisation activities.*

Table 28: Monitoring of localisation activities.

Code	Grounded	Code Groups
3.1 detailed auditing	3	3.1 Monitoring of localisation activities
3.1 difficulties in monitoring localisation	6	3.1 Monitoring of localisation activities
3.1 easier verification system	8	3.1 Monitoring of localisation activities
3.1 exemption providing a loophole for importing	4	3.1 Monitoring of localisation activities
3.1 failure of SABS to conduct auditing	4	3.1 Monitoring of localisation activities
3.1 SABS to audit localisation standards	7	3.1 Monitoring of localisation activities
3.2 localisation co-ordination lacking	2	3.1 Monitoring of localisation activities
3.2 proper monitoring required	3	3.1 Monitoring of localisation activities

Source: Author's own compilation.

The required audits to prevent import leakage which compromises localisation is necessary, but according Respondent 5, it is very time consuming:

> *"But it does come with a lot of red tape that is all I can say, that it is difficult to administrate. I mean illegal imports would just undermine your whole localisation program, so it has to be monitored."*

Respondent 5 argues that detailed auditing is necessary to control unwanted imports within a localisation system. The frequency of localisation monitoring is a challenge as time elapses between verifications from auditors to measure targets, as explained by Respondent 10:

> *"You have assessed me ten years ago when you issued these documents and you have not updated it since, and it has been sitting there. In the past six years I have come up with a new product and it is cheaper for me, it's easy for me to make but I can't do it locally."*

Respondent 10 reasons that their business was assessed for localisation levels in the past but there has not been consistent monitoring of the products their business can produce. Similarly, respondent 4 mentions that the authorities who need to be in the forefront of monitoring localisation activity are not conducting the necessary checks:

"Until now, there has been very little movement from the SABS in terms of monitoring the localisation programs happening at both Transnet and PRASA recapitalisation process."

Respondent 4 mentions that the largest rail entities in South Africa have not undergone proper monitoring for rail manufacturing localisation. The verification of localisation is a challenge as unclear business transactions slow down the localisation process Respondent 6:

"Who should pay for that audit? Should it be the local manufacturer? Should it be the overseas OEM who is manufacturing the locomotives or should it be Government? You know because in audits you need independents."

Respondent 6 raises a discussion around independent audits that are required to measure the local economic value-add passing through various supplier tier levels. Respondent 4 feels that the SABS does not monitor localisation properly and this poses a great challenge for effective IPAP outcomes:

"The SABS falls under the DTI as an entity and that was the process, supposed to be the process, of administering the implementation of localisation. At the beginning of 2018 the SABS was on the point of being completely bankrupt through lack of funding, and was not able to perform any of the localisation administration and reporting."

Respondent 4 explains that the government lacks the capabilities to successfully monitor the localisation activities that were compiled within the industrial policies.

5.5.6 Sub-Research Question 6 (SRQ 6)

How do business leaders view the available **competence level** within the public procurement process when dealing with localisation aspects related to large government projects?

Table 29: Summary of the code-group responses to SRQ 6.

IPAP challenge	Business leaders' perceptions
Competence level	5.5.6.1 Business acumen of procurement officers
	5.5.6.2 Procurement knowledge of rail industry
	5.5.6.3 Understanding the value-add process

Source: Author's own compilation.

5.5.6.1 Business acumen of procurement officers

The below table shows the codes that were generated from the interviewees under the available competence level and are grouped together to form one code-group; *Business acumen of procurement officers.*

Table 30: Business acumen of procurement officers.

Code	Grounded	Code Groups
3.2 capital investment utilisation	2	3.2 Business acumen of procurement officers
3.2 lack business acumen	5	3.2 Business acumen of procurement officers
3.2 uneconomical business viability	4	3.2 Business acumen of procurement officers

Source: Author's own compilation.

The lack of business acumen in public procurement is a challenge for IPAP according Respondent 7, who suggests that procurement officials should have business skills to perform their duties more effectively:

> *"I am not sure if maybe we should put in the procurement sector business-minded people, not just you know, normal employees."*

Respondent 11 perceives the capital investment utilisation and decision-making a challenge for IPAP because public procurement manages it without business knowledge:

> "But they always unsure about real business, and they don't understand the real business environment."

Respondent 11 feels that procurement officials are uncertain about their decisions in dealing with large rail projects and the impact that the decisions have on businesses within the rail manufacturing sector. Respondent 4 mentions that if the SOE for monitoring localisation lacks business acumen, the linking public procurement departments will struggle to align localisation verification with them:

> *"The SABS found itself in a situation where due to lack of funding they could not get involved in the implementation of monitoring the localisation process, and obviously didn't have the competent people or resources to do this."*

Respondent 4 mentions that competent personnel in public procurement processes are required for monitoring localisation properly. The potential of uneconomical business viability is a challenge as products could be supplied incorrectly, mentioned by Respondent 10:

> *"You as a procurement officer would have to understand, would have to check the market of ideally who would be our potential suppliers to say can this be procured locally."*

Respondent 10 argues that the public procurement process requires competent employees who are able to assess the market for localisation opportunity to manufacture products in alignment with the designated sections of IPAP.

5.5.6.2 Procurement knowledge of rail industry

The below table shows the codes that were generated from the interviewees under the available competence level and are grouped together to form one code-group; *Procurement knowledge of rail industry.*

Table 31: Procurement knowledge of rail industry.

Code	Grounded	Code Groups
3.2 incorrectly purchased products	4	3.2 Procurement knowledge of rail industry
3.2 insufficient knowledgeable officials	7	3.2 Procurement knowledge of rail industry
3.2 poorly trained procurement officers	4	3.2 Procurement knowledge of rail industry
3.2 practical experience required	3	3.2 Procurement knowledge of rail industry
3.2 unqualified procurement officers	8	3.2 Procurement knowledge of rail industry
3.2 unskilled procurement officers causing inefficiencies	11	3.2 Procurement knowledge of rail industry

Source: Author's own compilation.

The challenge of incorrectly purchased products take place due to insufficient rail manufacturing knowledge, mentioned by Respondent 5:

> *"A typical example is the one where a locomotive was ordered, and it was not suitable for the heights of our bridges and our rails."*

Respondent 5 raises a well-known case within the rail industry where the incorrect product was procured for a large rail project. Respondent 8 feels that the incorrect

grouping of products is requested from public procurement, causing localisation problems:

> *"The guys who are putting out the tenders, they're looking at things from a project perspective, which is all well and fine, but you can't go and put round bar and forgings together."*

Respondent 8 mentions that the material requirements for large rail projects cannot be lumped together to form one tender request, as the material manufacturing processes differ. The practical experience required to manage localisation activity in public procurement departments is a concern for Respondent 2:

> *"Unfortunately, from my side, what we have noticed over the years is a lot of competencies have left the industry, and also left the country."*

Respondent 2 feels that expertise that are required for localisation aspects have become limited for market development in the rail manufacturing industry. The level of skill that public procurement officials require for localisation is not available, thus a challenge to the success of IPAP, argued by Respondent 6:

> *"From my experience being in the rail industry for 25 odd years, to get competent people that understand the rail industry is a major problem, especially a buyer."*

Respondent 6 motivates that experienced procurement officials with rail manufacturing knowledge are very scarce within the rail sector. Respondent 7 feels that unskilled procurement officers will be faced with difficulties when asked to supply specific technical detail:

> *"You know the procurement department or procurement needs to be spot on at all times; they must know exactly what is required and what is it that needs to be bought."*

Respondent 7 explains that the purchasing process and the product requirements need to be precise in terms of the detail that is required for large rail projects. The inefficiencies caused by procurement officers, due to low technical skills, slows down localisation activity, as Respondent 6 mentions:

"The level of people that we have at the moment, they just know a product by the name and when you start questioning for additional information it is a major problem to get."

Respondent 6 mentions the difficulty of retrieving detailed information that is required in order to supply products for rail projects.

5.5.6.3 Understanding the value-add process

The below table shows the codes that were generated from the interviewees under the available competence level and are grouped together to form one code-group; *Understanding the value-add process.*

Table 32: Understanding the value-add process.

Code	Grounded	Code Groups
3.2 broader perspective on purchasing	4	3.2 Understanding the value chain process
3.2 collaboration within industry	7	3.2 Understanding the value chain process
3.2 higher private sector knowledge	3	3.2 Understanding the value chain process
3.2 inflated procurement costs	4	3.2 Understanding the value chain process
3.2 lack of designation knowledge	3	3.2 Understanding the value chain process
3.2 real economic value add	13	3.2 Understanding the value chain process

Source: Author's own compilation.

The overall localisation outlook needs to be better understood by the public procurement departments according to Respondent 1:

"The big thing in the rail sector is again the understanding of what we require from a local content perspective and the percentages that are required."

Respondent 1 feels that a broader perspective on purchasing products for localisation initiatives are required for the public procurement process. The integration of the rail manufacturing sector's collaborative efforts do not materialise to gain ground on value-add, feels Respondent 4:

"The forums have competence and there is numerous non-profit organisations in the rail sector that have competence through their

membership. A cohesive mechanism to pull these forums together still needs to be found."

Respondent 4 argues that the rail manufacturing private sector has got competent individuals within the associations, but the collaboration with these individuals and public procurement needs to be solidified. The private rail manufacturing sector is challenged with partnering skills and expertise with awarded tenderers, as mentioned by Respondent 5*:*

"For it to be done effectively, there would need to be a system whereby manufacturers can be monitored, as to their capabilities, and companies that are receiving the tenders need to partner with their manufacturer."

Respondent 5 motivates that rail industry cohesion is necessary between the businesses who are awarded the tenders from public procurement and the other businesses downstream who form part of the value chain. The inflated procurement costs create competitive local production problems, argued by Respondent 8:

"That makes things extremely expensive for those companies or for those SOEs. It inflates everything because they're not able to breakdown, okay these products should be together, and these products should be tendered together."

Respondent 8 mentions that public procurement processes request products in a way which is not cost effective to the rail manufacturing value chain. The real economic value-add for all levels involved in localisation is not always known, as mentioned by Respondent 12:

"If they don't understand what is going on further down the supply chain? I can't see how they can possibly know. They are procuring a single item from their supplier, but what about the next level down?"

Respondent 12 views the supply chain as the key aspect in dealing with localisation activities. Respondent 8 argues that the real value-add transferred by localisation activity in the rail manufacturing sector is not understood properly by public procurement:

"You might be local but you're not BBBEE compliant. You might be a level 8 but you need to be a level 4. So here you have a company that

employs 200 people, 160 of them are previously disadvantaged who are paying for their families, they're going to schools and everything is covered, but now you're not considered local enough essentially."

Respondent 8 argues that the PPPFA marginalises their business from being awarded with tenders from public procurement relating to large rail projects, yet their business plays a large role in the bigger picture of the macroeconomics of the country. The designated rail sector alignment with IPAP is challenged with measuring the real economic value-add, according to Respondent 10:

"Also determine whether they have a job tomorrow or not. If all the money that the government is pumping into the economy is still going out of the country."

Respondent 10 feels that there will be consequential job losses if the real value of the economy is not retained.

5.6 Conclusion

The code groups generated from the sub-research questions were collated from all interviews conducted, and using qualitative analysing software in ATLASti 8, a code-document table was created. The code-document provides a summary of the data collected in exploring the challenges that relate to localisation within the rail manufacturing sector, seen in Table 33. It allows for the code-groups relating to the sample type i.e. Industry Expert, to be presented in percentages. Every code-group totals to 100 percent, therefore code-groups that have a higher impact, have a higher percentage (as illustrated with the dark orange code-groups). These higher impact code-groups (highlighted in dark orange) form the basis of the themes which are used to discuss the research results in Chapter 6.

Table 33: Results for code-groups generated from the interviews.

	Interview 1 Gr=91	Interview 2 Gr=36	Interview 3 Gr=22	Interview 4 Gr=37	Interview 5 Gr=20	Interview 6 Gr=34	Interview 7 Gr=40	Interview 8 Gr=57	Interview 9 Gr=55	Interview 10 Gr=94	Interview 11 Gr=83	Interview 12 Gr=74	
	Industry Expert	Industry Expert	Base Input Business	Industry Expert	Base Input Business	Beneficiation Business	Beneficiation Business	Base Input Business	Base Input Business	Industry Expert	Beneficiation Business	Beneficiation Business	**Totals**
1.1 Artificial industry creation through imports	0.16%	0.63%	0.16%	0.00%	0.16%	0.32%	0.32%	0.63%	0.63%	0.79%	0.95%	1.27%	**6.01%**
1.1 Ease of business driving economic growth	0.95%	0.32%	0.32%	0.16%	0.00%	0.63%	0.16%	0.32%	1.27%	1.42%	1.58%	0.95%	**8.07%**
1.1 Economies of scale	0.16%	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.63%	0.95%	0.47%	1.58%	1.27%	**5.22%**
1.1 Intended commitment present but implementation poor	1.90%	0.47%	0.47%	0.95%	0.32%	0.79%	0.63%	1.58%	0.79%	2.53%	2.37%	1.58%	**14.40%**
1.2 Channels of information filtering downstream	1.11%	0.47%	0.32%	0.63%	0.00%	0.16%	0.47%	0.32%	0.32%	0.32%	0.32%	1.11%	**5.54%**
1.2 Dependant on rail industry knowledge	0.32%	0.16%	0.00%	0.16%	0.16%	0.32%	0.32%	0.47%	0.00%	0.63%	0.16%	0.00%	**2.69%**
1.2 Fragmented content within procurement requirements	0.79%	0.47%	0.00%	0.16%	0.32%	0.32%	0.63%	0.32%	0.00%	1.42%	1.27%	0.47%	**6.17%**
2.1 The influence of PPPFA	1.27%	0.16%	0.63%	0.16%	0.00%	0.00%	0.47%	0.16%	0.63%	0.16%	0.47%	0.16%	**4.27%**
2.1 Transparency of business alignment	0.47%	0.47%	0.16%	0.32%	0.00%	0.47%	0.79%	0.63%	0.32%	1.11%	0.79%	0.79%	**6.33%**
2.1 Unethical business practice	0.16%	0.16%	0.00%	0.32%	0.32%	0.00%	0.47%	0.63%	0.16%	0.32%	0.16%	0.63%	**3.32%**
2.2 Accuracy of localisation information provided	1.27%	0.47%	0.16%	0.47%	0.16%	0.00%	0.16%	0.16%	0.32%	1.11%	0.16%	0.79%	**5.22%**
2.2 Propensity to report due to uncertainty	0.95%	0.32%	0.00%	0.63%	0.32%	0.16%	0.32%	0.47%	0.16%	0.16%	0.47%	0.47%	**4.43%**
3.1 Complexity of administration processes	1.27%	0.16%	0.32%	0.16%	0.16%	0.63%	0.00%	0.79%	0.63%	0.16%	0.47%	1.11%	**5.85%**
3.1 Enforcement of non-compliance	0.16%	0.16%	0.00%	0.32%	0.32%	0.32%	0.47%	0.32%	0.63%	0.32%	0.47%	0.16%	**3.64%**
3.1 Monitoring of localisation activities	0.63%	0.47%	0.16%	0.79%	0.32%	0.32%	0.00%	0.32%	0.79%	1.11%	0.79%	0.16%	**5.85%**
3.2 Business acumen of procurement officers	0.00%	0.00%	0.00%	0.16%	0.00%	0.32%	0.16%	0.16%	0.63%	0.16%	0.16%	0.00%	**1.74%**
3.2 Procurement knowledge of rail industry	1.58%	0.32%	0.47%	0.16%	0.32%	0.32%	0.32%	0.16%	0.00%	1.27%	0.47%	0.47%	**5.85%**
3.2 Understanding the value chain process	1.11%	0.16%	0.16%	0.16%	0.16%	0.16%	0.47%	0.79%	0.32%	1.27%	0.32%	0.32%	**5.38%**
Totals	**14.24%**	**5.54%**	**3.32%**	**5.70%**	**3.01%**	**5.22%**	**6.17%**	**8.86%**	**8.54%**	**14.71%**	**12.97%**	**11.71%**	**100.00%**
Abbreviations	**Gr** Groundedness of Interview (quotations created for an Interview)												

Source: Author's own compilation using ATLASti 8.

Chapter 6: Discussion of results

6.1 Introduction

The results presented in Chapter Five are discussed in this chapter, which also links the previous five chapters together in order to solidify the research. The context of the study was to explore and obtain a greater understanding of the challenges related to localisation activity within the IPAP with a broader perspective of private sector business leaders. The sub-research questions are used to structure the discussion by using the themes generated from the results (Table 34) in order to address the three main research questions relating to development economics, industrial policy and business within the South African context.

Table 34: Themes one to six generated from research flow logic.

Development Economics							**Industrial Policy**					**South African business context**					
RQ1: Do business leaders perceive localisation presenting a workable catalyst to improve levels of manufacturing output leading to economic value-add within the foreseeable future?							**RQ2:** Do business leaders perceive localisation to have a positive effect on the public procurement aspect of large government projects?					**RQ3:** Do business leaders perceive the designated rail sector within the IPAP structure to incorporate localisation in a way which is relevant to the South African business context?					
SRQ1: How do you view the **commitment** of public procurement within government to follow through with localisation initiatives related to large government projects?				**SRQ2:** How do you view the **communication** of the public procurement process in dealing with localisation requirements related to large government projects?			**SRQ3:** How do you view the level of **fair business practice** in dealing with large government projects?			**SRQ4:** How do you view the **post tender reporting** required by private sector on localisation levels of large projects?		**SRQ5:** How do you view the bureaucracy of **administration** that supports the structure of implementing localisation within large government projects?			**SRQ6:** How do you view the available **competence level** within the public procurement process when dealing with localisation aspects related to large government projects?		
Code-group 5.5.1.1	Code-group 5.5.1.2	Code-group 5.5.1.3	Code-group 5.5.1.4	Code-group 5.5.2.1	Code-group 5.5.2.2	Code-group 5.5.2.3	Code-group 5.5.3.1	Code-group 5.5.3.2	Code-group 5.5.3.3	Code-group 5.5.4.1	Code-group 5.5.4.2	Code-group 5.5.5.1	Code-group 5.5.5.2	Code-group 5.5.5.3	Code-group 5.5.6.1	Code-group 5.5.6.2	Code-group 5.5.6.3
Theme 1				**Theme 2**			**Theme 3**			**Theme 4**		**Theme 5**			**Theme 6**		
Implementing the IPAP as a manufacturing catalyst				Channels of available downstream information			Transparency of PPPFA within the procurement process			The quality of localisation reporting		Monitoring complex administrative processes			Public procurement value-add knowledge		

Source: Author's own compilation.

The themes are summarised (Table 35) in order to discuss the results with a higher impact relating to localisation challenges perceived by private sector business leaders.

Table 35: A summary of the themes addressing the sub-research questions.

Themes	Descriptions
Theme 1	Implementing the IPAP as a manufacturing catalyst
Theme 2	Channels of available downstream information
Theme 3	Transparency of PPPFA within the procurement process
Theme 4	The quality of localisation reporting
Theme 5	Monitoring complex administrative processes
Theme 6	Public procurement value-add knowledge

Source: Author's own compilation.

6.2 Sub-Research Question 1 Discussion

*How do you view the **commitment** of public procurement within government to follow through with localisation initiatives related to large government projects?*

6.2.1 Theme 1: Implementing the IPAP as a manufacturing catalyst

6.2.1.1 High-level summary

The National Treasury and Department of Trade and Industry (DTI) has the intentional commitment through instruction notes and industrial policy action plan, however it is difficult to implement rail manufacturing localisation activities due to a combination of economies of scale, artificial industry creation through imports, and the ease of business.

6.2.1.2 Results discussion

The majority of respondents feel that the DTI should support innovation and the production of low volumes of high technological products. Lazzarini (2015) argued that a support-adjusted sustainable competitive advantage and industrial policy should be closely linked when local resources and capabilities are used in production activity. The private sector businesses are at a disadvantage due to a small rail market size. Additionally, the role of economies of scale are complex for localisation activities in the rail manufacturing sector and remain a challenge in implementing the IPAP.

The importation of products, according to half of the respondents, affects the local rail manufacturing efforts and the related fiscal benefits to the manufacturing economy. A false industry is created where international firms create the perception to the local rail sector that rail manufacturing is increasing but in reality the international firms import a lot of their own products produced abroad, thus the rail manufacturing sector has low barriers to entry for the importation of products. McCrudden (2004) motivated that public procurement is responsible for using the applicable industrial policy to achieve economic goals that advance local development and support the manufacturing private sector.

A quarter of the respondents feel that indirect and direct channels for various rail manufacturing growth areas are not made easily accessible nor managed in way that enables businesses to succeed. Although reasonably good industrial policy initiatives are present, policy alignment and execution has been very slow (Salazar-Xirinachs et al., 2014). South African manufacturing plays a major role in driving growth and economic development, although it is dominated by resource-processing sectors that are energy-intensive and require a lot from businesses to operate successfully (Zalk, 2017). Conducting business is difficult due to the cost of risk and the responsibility of businesses to absorb all the risk without spreading it within the rail industry.

The majority of respondents feel that public procurement should have dedicated procurement employees ensuring that localisation activities are carried out throughout all levels of the rail manufacturing industry. The DTI and National Treasury have definitely shown commitment through planning localisation by means of industrial policy. However, the implementation of industrial policy is challenging due to macroeconomic variability acting on the economy in different cycles, thus making it difficult for public procurement to apply the correct policy to a developing state which ensures value-adding productive activity in the manufacturing sector (Salazar-Xirinachs et al., 2014). The industrial policy is not up-to-date with rail market requirements, which hinders the success of localisation. Conducting business is difficult due to the cost of risk and the responsibility of businesses to absorb all the risk without spreading it within the rail industry.

6.2.1.3 Conclusion

The results found from the data suggest that business leaders perceive localisation to be a good initiative from an industrial policy perspective to address the decline in the rail manufacturing sector. However, the inclusion of the PPPFA and regulations of 2017 make implementing localisation targets prescribed by the IPAP very difficult to do for every company in the rail manufacturing sector. The literature reviewed and the research results are supported: since the introduction of IPAP in 2008, no massive impact towards economic growth has been produced, more than a decade later (Department of Trade and Industry, 2018).

6.3 Sub-Research Question 2 Discussion

*How do you view the **communication** of the public procurement process in dealing with localisation requirements related to large government projects?*

6.3.1 Theme 2: Channels of available downstream information

6.3.1.1 High-level summary

The content of localisation information becomes fragmented as it moves from national government through to all downstream channels to the areas where manufacturing output actually materialises, resulting in real economic value-add.

6.3.1.2 Results discussion

Most of the respondents feel that the general information that is communicated via mainstream media communication channels is insufficient for the private rail sector. There is reliance on another upstream business within the rail industry for guidance on localisation matters. Weiss (2018) explained the two simple channels of information: horizontal interventions, which are available to all; and vertical interventions, which are applied selectively. The various levels of information that is filtered down from national to provincial to municipal levels becomes fragmented. The economic development occurs at different levels within government through the policy frameworks that are available to government departments (Ndaguba &

Hanyane, 2019). Awareness was created at public events but failed to gain real traction due to the lack of localisation understanding.

The majority of the respondents feel that the rail manufacturing industry has multiple views on localisation. The communication from public procurement to follow up on engagement sessions and rail industry directives is dismal. The public procurement departments are required to guide the private sector on technical and operational requirements in order to reach localisation targets set out by the instruction note created from National Treasury (Department of Trade and Industry, 2018). Information sharing and procurement decisions of large rail projects are not communicated clearly and transparently. The rail manufacturing industry collaborates in order to identify communication channels for localisation assistance. The different organs of state do not collaborate to find industry synergies when public procurement is carried out on large rail projects.

A common response from the respondents is that the rail industry expertise, which is required to provide insight for reachable localisation targets, lacks the technical detail which is critical to the manufacturing specifications of products and the associated product localisation level. The application and interaction of knowledge is crucial within industrial development and promotes innovation (Lin & Hu, 2017). The planning of large rail projects is weak as government fails to incorporate the rail industry knowledge to optimise the intention of government funds.

6.3.1.3 Conclusion

The study shows that the communication of localisation requirements within the public procurement process is not carried out in a way that is transparent and inclusive for all within the rail manufacturing sector to benefit from economic value-add. The communication mediums used, such as media and conferences, only reach some businesses and forums directly related to the rail manufacturing industry. A widespread reach is required, as mentioned by the respondents, to capture all potential business input directed towards strengthening the industry. An informed information cascading effect from national government to provincial government and municipal level is not available. The study supports the presented challenges by the

IPAP on weak engagement levels between government departments to work coherently on industrial policy initiatives.

6.4 Sub-Research Question 3 Discussion

*How do you view the level of **fair business practice** in dealing with large government projects?*

6.4.1 Theme 3: Transparency of PPPFA within the procurement process

6.4.1.1 High-level summary

The lack of transparency of the PPPFA in dealing with localisation activities may lead to unethical BBBEE business practices (fronting) and misaligned intention of positive impacts of local production and content for the rail manufacturing industry.

6.4.1.2 Results discussion

The majority of respondents feel that the PPPFA can present the usage of BBBEE certification to allow for misrepresentation of the procurement process. The practice of BBBEE “fronting” facilitates diversion, creates opportunistic beneficiaries and limits the trickle-down effects to the intended designated groups (Warikandwa & Osode, 2017). A negative perspective on the effectiveness of preferential procurement enabling value-add to the rail manufacturing sector exists with business leaders. The government changes the Preferential Procurement Policy requirements on a regular basis and this may cause business problems. Private sector businesses, who are non-BBBEE compliant, provide benefit through economic value-add but are limited from obtaining more business due to the PPPFA restrictions. The implementation of the current procurement legislation, the PPPFA and its regulations (Department of Trade and Industry, 2018), poses a challenge to the localisation within the IPAP due to the restrictions that accompany them.

The respondents feel that politics influence decisions made within the rail manufacturing sector and the focus of localisation is diluted. Unethical business practice affects the positive effects of localisation. The more corrupt a country is, the

more underdeveloped and less successful it is according to Budhram and Geldenhuys (2018). The real project value relating to actual input, and the officials managing the procurement functions, leaves large government rail projects as problematic business transactions due to the tendency of unethical business practices. If contracts can only be obtained on condition of paying a bribe, the procurement environment becomes unattractive to ethical businesses and the development and sustainability of localisation initiatives are reduced with real value-add being forfeited (Budhram & Geldenhuys, 2018).

6.4.1.3 Conclusion

The results indicate that the PPPFA is not perceived to have a positive effect on public procurement processes due to the lack of transparency of BBBEE, to both public and private sectors, and because of how the mechanisms of the regulation is carried out within the rail manufacturing sector. An awarded tender within the designated rail manufacturing sector has to make use of approved registered suppliers on the databases approved by National Treasury according to Section 9 (3) of the PPPFA of 2017 (Department of Trade and Industry, 2018). The data provided by private business leader's shows that approved suppliers are not used for large rail projects and that any local supplier of products and services and imported products are used in the rail manufacturing sector. Political interference and corruption is found to play a large role in SOEs that make up the rail industry of South Africa. The organisational challenges of these SOEs and their unethical business practices are linked to the findings from the Judicial Commission of Inquiry to Inquire into Allegations of State Capture, Corruption and Fraud in the Public Sector including Organs of State (Zondo Commission, 2019). The commission provides testament to the poor transparency that the public procurement has when it comes to dealing with localisation aspects in large government rail projects.

6.5 Sub-Research Question 4 Discussion

*How do you view the **post tender reporting** required by private sector on localisation levels of large projects?*

6.5.1 Theme 4: The quality of localisation reporting

6.5.1.1 High-level summary

The standard of reporting is affected by the accuracy of information shared with public procurement and the vagueness that surrounds localisation causes reluctance in reporting from the private sector.

6.5.1.2 Results discussion

A third of respondents feel that ambiguous content exists within post tender reporting which is received from suppliers to large government rail projects. The businesses that have been awarded tenders for localised manufacturing in designated sectors are required to supply accurate localisation declarations to the respective organs of state (Department of Trade and Industry, 2018). The businesses in the rail manufacturing industry do not report accurate information to validate their localisation level. The reporting process does not integrate easily into the small business context and is seen as a complicated system. There is problem of insufficient public procurement resources to facilitate the localisation reporting that goes together with large rail projects. The accuracy of localisation declaration levels becomes unclear as complicated transactions take place in the procurement process (Edler & Yeow, 2016). The rail manufacturing sector does not have a constant means to determine localisation uniformly. The cost implication of validating localisation activity contributes is added to business profitability pressures.

As business leaders, half of the respondents are reluctant to share business information with the public procurement as they do not trust the safe keeping of their business information. The perception is that public procurement departments do not have adequate channels for businesses to submit reporting properly and that information is lost in the ‘system’. The reluctance to report on localisation activity points to the associated demotivation of pursuing localisation targets.

6.5.1.3 Conclusion

The study shows that it supports the challenges presented by IPAP as the quality of localisation reporting for post tender requirements is not to standard, as mentioned

by the respondents. The rail manufacturing private sector is reluctant to share business information when asked to declare localisation levels, as it is seen by the business leaders that information may possibly be misrepresented and incorrectly assessed by public procurement. The upstream and downstream safe keeping of information causes uncertainty to share business information with various government departments, such as the DTI and SOEs such as Transnet and PRASA. The inconsistency of localisation reporting opens up ambiguity of localisation measures within the private rail manufacturing sector to provide the public procurement with the correct information to understand the real value generated from rail projects.

6.6 Sub-Research Question 5 Discussion

*How do you view the bureaucracy of **administration** that supports the structure of implementing localisation within large government projects?*

6.6.1 Theme 5: Monitoring complex administrative processes

6.6.1.1 High-level summary

The administrative process that is required for effective localisation monitoring is complex and it is difficult to enforce penalties on non-compliant localisation practices.

6.6.1.2 Results discussion

The majority of respondents feel that they experience conflicting information requested from different public procurement departments regarding administration requirements in dealing with localisation. Insufficient information transfer has taken place, which hampers the success of large rail projects and suggests that this might have decreased the manufacturing output. The directives from various organs of state (namely SOEs) create complexity within the administration processes and localisation becomes confusing to suppliers to rail projects. Ling and Naughton (2016) mentioned that the general industry policy-making and implementation processes include complexity. The administration processes do not support all levels of value creation within the rail manufacturing sector and the level of administrative

input required for localisation within the South African business context is challenging for business operations.

The majority of respondents feel that the misrepresentation of localisation has been present due to lack of rail manufacturing knowledge in public procurement departments. The penalties imposed on businesses for possible non-compliance translate to large liabilities which hinder business decisions with the possibility of being disqualified for future opportunities in rail manufacturing projects if declarations are found to be non-compliant to localisation targets. The procurement officials of large government rail projects do not create an engaging business working relationship, but one which is one-sided with threats of penalties. This way of dealing with administrative fines has had very little impact in discouraging corrupt localisation practices (Budhram & Geldenhuys, 2018). The remedial action for over-declaring localisation percentages of products supplied to large rail projects is not in place to assist with the relevant business accountability required within the rail manufacturing sector.

Most respondents feel that localisation monitoring is not a priority for public procurement as it takes a lot of work to consistently monitor private manufacturing firm's localisation levels. The SOEs in South Africa have not undergone proper monitoring of rail manufacturing localisation by independent audits that are required to measure the local economic value-add passing through various supplier tier levels. The public procurement lacks the capabilities to successfully monitor the localisation activities that were compiled within the industrial policies. This is confirmed by Chang (2014) who argued that the weaknesses of the developmental policy is the possible governmental failure to a wide range of policies as it demands much from an administrative capability point of view.

6.6.1.3 Conclusion

The administrative process of monitoring localisation activities within the rail manufacturing sector is difficult for businesses to follow and to apply the correct obligations to avoid penalties. The information that is received from various organs of state is conflicting in the sense of how the requirements integrate at different levels of private sector into public procurement. The lack of timeous feedback on

localisation activities from public procurement leave the private business leaders at a crossroad when decisions need to be made for their businesses. The study confirms that the capacity of the public procurement to monitor the complexity of localisation activity remains an administration process challenge for the IPAP.

6.7 Sub-Research Question 6 Discussion

*How do you view the available **competence level** within the public procurement process when dealing with localisation aspects related to large government projects?*

6.7.1 Theme 6: Public procurement value-add knowledge

6.7.1.1 High-level summary

The available rail industry knowledge as well as business acumen of public procurement officials is not integrated into localisation aspects. Officials need to understand the value chain and be able to transfer the economic advantage to all participants within the rail manufacturing industry.

6.7.1.2 Results discussion

The majority of respondents feel that the public procurement officials lack business skills to perform their duties more effectively. The skills and expertise of the public procurement officials should be able to deliver value to the economy, manage spending provided by National Treasury and ensure contracted goods and services are delivered within specification (Russell & Meehan, 2014). Procurement officials are uncertain about the decisions made by public procurement in dealing with large rail projects and the impact that the decisions have on private businesses within the rail manufacturing sector. Given the informed localisation of the IPAP to increase productivity growth, a generic decision support system (DSS) to guide localisation decision-making is critical in ensuring the success of the industrial policy mechanism (Lamprecht & Grobbelaar, 2017). Competent personnel in public procurement processes are not present when required to make informed decisions which relate to localisation business practices. The public procurement process requires more competent employees who are able to assess the rail sector for localisation

opportunity to manufacture products in alignment with the designated sections of IPAP.

A quarter of respondents feel that the material requirements for large rail projects cannot be lumped together to form one tender request, as the material manufacturing processes differ. Expertise required for localisation aspects has become limited for rail sector development in the rail manufacturing industry. Okolo (2018) motivates that engineering skills and technology education have a massive impact on the sustainable development of a country. Experienced procurement officials with rail manufacturing knowledge are very scarce within the rail sector. The purchasing process and the specific product requirements need to be precise in terms of the detail that is required for large rail projects. A broader perspective on purchasing products for localisation initiatives is required for the public procurement process as it is difficult to retrieve detailed information that is required in order to supply products for rail projects.

Half of the respondents feel that the rail manufacturing private sector has got competent individuals within the rail associations, but the collaboration with these associations and public procurement needs to be brought together. The cohesion of the rail industry is necessary between the businesses who are awarded the tenders from public procurement and the businesses downstream who form part of the value chain. The value chain process of industrial policy promulgates across many areas of the economy. The structural transformation component is found to be greatly related to the GDP growth rate (Cantore et al., 2017). Public procurement processes request products in a way which is not cost effective to the rail manufacturing value-add. The PPPFA marginalises some businesses from being awarded tenders from public procurement relating to large rail projects, yet their business plays a large role to the bigger picture of the macroeconomic narrative of the country. The activities that result from investment decisions can create or destroy value-add. Investment decisions, such as base input material supplied versus beneficiation activity supplied, needs to translate social and economic objectives through to identifiable financial and non-financial measures (Lamprecht & Grobbelaar, 2017).

6.7.1.3 Conclusion

The themes generated from the results of the private business leaders' perception's in response to localisation challenges within the IPAP, relating to development economics, industrial policy and business within the South African context, are:

- Implementing the IPAP as a manufacturing catalyst.
- Channels of available downstream information.
- Transparency of PPPFA within the procurement process.
- The quality of localisation reporting.
- Monitoring complex administrative processes.
- Public procurement value-add knowledge.

The sample researched shows that the overall available competence levels within the public procurement process is seen to be disappointing to the private sector. The procurement process is slowed down by poor decision-making abilities of public procurement officials due to their poor skill levels and lack of expertise to guide the process, as believed by the majority of respondents. The procurement process is further impeded by the reliance on the private sector to provide necessary technical knowledge in order to support the correct localisation manufacturing decisions. The private sector, in some cases, has to interpret what technical requirements are needed for tenders due to missing or contradicting tender information.

Chapter 7: Conclusion

7.1 Introduction

The final chapter highlights the main findings of the research as it pulls the results together into a cohesive set of findings. This study provides more information to broaden the knowledge of understanding the challenges related to localisation activity within the IPAP. The perceptions of private sector business leaders who operate within the rail manufacturing sector in Gauteng were explored. Through the use of face-to-face semi-structured interviews, the researcher was able to gain a better understanding of the challenges to the lack of effective rail manufacturing localisation implementation.

7.2 Principal findings

The main findings of the research are generated from the themes (Table 32) that propose the most impact from the data provided from the respondents. The code-document presented in Section 5.6 assisted in identifying and arranging the themes in relation to the impact on the challenges of localisation within the IPAP.

7.2.1 Research Question 1

Do business leaders perceive localisation presenting a workable catalyst to improve levels of manufacturing output leading to economic value-add within the foreseeable future?

The National Treasury and DTI have the intentional commitment through an instruction note and industrial policy action plan, however it is difficult to implement rail manufacturing localisation activities due to a combination of economies of scale, artificial industry creation through imports, and the ease of doing business. The content of localisation information becomes fragmented as it moves from national government through to all downstream channels to the areas where manufacturing output actually materialises, where the real economic value-add should be added. With these findings, *business leaders do not perceive localisation presenting a*

workable catalyst to improve levels of manufacturing output leading to economic value-add within the foreseeable future.

7.2.2 Research Question 2

Do business leaders perceive localisation to have a positive effect on the public procurement aspect of large government projects?

The lack of transparency of the PPPFA in dealing with localisation activities may lead to unethical BBBEE business practices such as “fronting” and the misaligned intention of positive impacts of local production and content for the rail manufacturing industry. The standard of reporting is affected by the accuracy of information shared between the private rail sector and public procurement, and the ambiguity that surrounds localisation causes reluctance in reporting localisation levels. With these findings, *business leaders do not perceive localisation to have a positive effect on the public procurement aspect of large government projects.*

7.2.3 Research Question 3

Do business leaders perceive the designated rail sector within the IPAP structure to incorporate localisation in a way which is relevant to the South African business context?

The administrative process that is required for effective localisation monitoring is complex and it is difficult to enforce penalties on non-compliant localisation practices. The available rail industry knowledge as well as business acumen of public procurement officials is not integrated into localisation aspects; in order to understand the value-add and be able to transfer the economic advantage to all participants within the rail manufacturing industry. With these findings, *business leaders do not perceive the designated rail sector within the IPAP structure to incorporate localisation in a way which is relevant to the South African business context.*

7.3 Implications for Public Procurement and Private Business Sector

7.3.1 Information Sharing

The implications for relevant stakeholders within the rail manufacturing sector is to identify that information sharing of localisation activities needs to improve in order for interventionist supply-side policies to be effective. The correct rail manufacturing information needs to be shared through public-private engagement forums to ensure adequate localisation activity is implemented by public procurement and private sector together. This means all levels within government relating to National Treasury and the DTI as well as the respective regional and municipal authorities are aligned with the required localisation parameters. This will allow for better industry cohesion within the private sector and monitoring by the respective authorities to validate the localisation activities. The industrial policy decisions that relate to localisation are made on a daily basis all around the world by participants in corporate companies, start-ups, and governments. The DTI along with organs of state should leverage international connections to support better information flow of local content and supplier development best practice, in supporting the long-term economic growth of the manufacturing sector (Lamprecht & Grobbelaar, 2017).

7.3.2 Skills and Knowledge in Rail Manufacturing Sector

The implications for relevant stakeholders within the rail manufacturing sector relating to improved skills and knowledge is a programme, driven by the DTI to bridge the skills gap of skills. Improved educational and training capabilities are required for the rail manufacturing sector to be more productive. An example of a successful bridge program is the India-Japan Education Program (IJEP), which incorporates industry-academia-government education programme, linking efforts. The programme educates engineers who will be at the forefront of rail manufacturing entrepreneurship, innovation, globalisation, and technical advancement in collaboration with educational institutions, industries, and governments both in India and Japan (Haruna, 2017). Such a collaborative program between African countries would build up capacity not only in the rail manufacturing sector but all inter-related manufacturing sectors with more value-added capacity contributing to the economic growth of a country (Okolo, 2018). The focus should be to subsidise labour and

training instead of deploying large amounts of expenditure on electricity and infrastructure for capital intensive firms (Black, Craig, Dunne & Town, 2018).

7.3.3 Effective Localising Practice

A suggestion for relevant stakeholders of the rail manufacturing sector is implementation of a varying degree on the level of localisation requirements within South African projects, which could be determined by the size and duration of the project. The localisation results should consider the size of the South African market and investment uncertainties (Leigland & Eberhard, 2018), and that a compromise between costs incurred by implementing localisation and factors of localisation might exist. The researcher's viewpoint is that there is downside to the current state of South African public procurement, in that localisation initiatives are not followed through properly. This is disappointing due to the fact that ample planning went into formulating the IPAP. The another key finding from the research of Kader, Hoque and Rampersad (2014) indicate that OEMs are sourcing their major components from multinational owned component manufacturers, who import more than 50 percent of components from abroad, which acts negatively on localisation productivity. Although large international OEMs conducting business in South Africa contribute to the economy in many value-add ways, more collaboration is needed by public-private partnerships to create additional manufacturing industry synergies.

7.3.4 Enforcement of Industrial Policy Objectives

Robbins and Velia (2019) motivated that the industrialisation processes within the South African rail manufacturing industry does not provide sufficient information on the advantages and disadvantages of operational factors of manufacturing firms. Furthermore, there is a lack of integrative local and national industrial policy framework to drive industrial policy strongly. The challenges highlighted within the study show that the IPAP becomes watered-down at a municipal level. The implementation of industrial policy is challenging due to macroeconomic variability acting on the economy, thus making it difficult for public procurement to apply the correct policy to a developing state which ensures value-adding productive activity in the manufacturing sector (Salazar-Xirinachs et al., 2014).

7.4 Limitations of the Research

The limitations of the study take into account the limitations presented in Section 4.9 as well as the limitations of development economics, intervention supply-side policies and industrial policy within a developing market context. The productivity growth of the rail manufacturing sector depends largely on private sector and the trends in technological innovation. There seems to be a limit to what the DTI and public procurement departments can do to accelerate the growth of technological change and the improvements needed to address the IPAP in practice.

The limitation of the study is that it did not incorporate the full spectrum of supply and demand economic theory which has many more elements influencing macroeconomics. In a recession industry environment, which some respondents feel South Africa was in at the time of the study, supply-side policies cannot challenge the fundamental problem which is the lack of aggregate demand. Although the region of Gauteng provides the best possibility of researching rail manufacturing localisation activity in South Africa, the larger macroeconomic and political forces bearing down on the sector might not have provided accurate responses from the interviewees. Another limitation of the study is that it only took into account a brief snap-shot in time of localisation activity. All supply-side policies take a long time to have an effect on a manufacturing sector and an economy, therefore, rail manufacturing localisation activity could have been expanded over a 20 year period.

7.5 Suggestions for Future Research

The research project has broadened the qualitative perspective of localisation within the IPAP framework and identified aspects that influence the industrialisation process. Future research can be conducted with the lens of market-based supply-side policy with the mechanism of policies to encourage competition. A quantitative research approach can compare the relationships pertaining to the degree of localisation manufacturing output of private sector companies in locations where market competition is introduced into a rail manufacturing sector without the inclusion of preferential procurement policies.

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Appendices

Appendix 1: Informed consent letter

I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfilment of an MBA.

I am conducting research on the perceptions of private sector business leaders within the rail manufacturing sector in the Gauteng area, and aiming to find out more about the localisation requirements within the rail manufacturing sector of the Industrial Policy Action Plan (IPAP). Our interview is expected to last about an hour, and will help us understand the Industrial Policy Action Plan (IPAP) in terms of the *understanding of localisation* and perhaps present possible improvement areas related to the *effective implementation* of localisation requirements in large government projects involved within the rail manufacturing sector of Gauteng. **Your participation is voluntary and you can withdraw at any time without penalty**. **The interview and data resulting from the interview will remain confidential.** All data will be reported without identifiers. If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher name	Research Supervisor Signature
Quintin Gruhn	**Marianne Matthee**
Email: 18370862@mygibs.co.za	Email: Mattheem@gibs.co.za
Phone: 0824969755	Phone: 0824591313

Signature of participant: _____

Date: _____

Signature of researcher: _____

Date: _____

Appendix 2: Semi-structured interview guide

The research project aims to explore through a qualitative process, the perceptions of private sector business leaders in the Gauteng area, relating to the localisation requirements that are required to be met within the rail manufacturing sector in the Industrial Policy Action Plan (IPAP). The below research questions will assist in exploring the Industrial Policy Action Plan (IPAP) in terms of the *understanding of localisation* and perhaps present possible improvement areas related to the *effective implementation* of localisation requirements in large government projects involved within the rail manufacturing sector of South Africa.

Research questions:

1. Do business leaders perceive localisation presenting a workable catalyst to improve levels of manufacturing output leading to economic value add within the foreseeable future?
    1.1. How do you view the **commitment** of public procurement within government to follow through with localisation initiatives related to large government projects?
    1.2. How do you view the **communication** of the public procurement process in dealing with localisation requirements related to large government projects?
2. Do business leaders perceive localisation to have a positive effect on the public procurement aspect of large government projects?
    2.1. How do you view the level of **fair business practice** in dealing with large government projects?
    2.2. How do you view the post tender **reporting** required by private sector on localisation levels of large projects?
3. Do business leaders perceive the designated rail sector within the IPAP structure to incorporate localisation in a way which is relevant to the South African business context?
    3.1. How do you view the bureaucracy of **administration** that supports the structure of implementing localisation within large government projects?
    3.2. How do you view the available **competence level** within the public procurement process when dealing with localisation aspects related to large government projects?

QUESTIONS	**General comments on specific company interviewed**	**Answer from interviewee**	**Comment by researcher**
	(location, size, accessibility, structure, type)	(Focus on key themes and words used in describing these themes)	(Included is the interpretation of possible underlying issues due to facial and body language reaction) Probing words for coding
1. How do you view the **commitment** of public procurement within government to follow through with localisation initiatives related to large government projects?			Enthusiasm Dedication Call for action Tick Box exercise
2. How do you view the **communication** of the public procurement process in dealing with localisation requirements related to large government projects?			Transparency Medium Style Inclusivity
3. How do you view the level of fair **business practice** in dealing with large government projects?			Corruption Delay tactics Misrepresentation Risk management Ethics
4. How do you view the post tender **reporting** required by private sector on localisation levels of large projects?			Degree of difficulty Time taken Ambiguity
5. How do you view the bureaucracy of **administration** that supports the structure of implementing localisation within large government projects?			Efficiency Effectiveness
6. How do you view the available **competence level** within the public procurement process when dealing with localisation aspects related to large government projects?			Skills Knowledge Know-how Experience

Appendix 3: Code List

	Code
1	1.1 address declining manufacturing
2	1.1 commitment present but implementation poor
3	1.1 declining manufacturing due to imports
4	1.1 different levels of commitment
5	1.1 DTI assumed understanding
6	1.1 ease of business
7	1.1 false industry creation
8	1.1 good initiative but poor resulting action
9	1.1 government spending on declining sectors
10	1.1 high tech product volumes low
11	1.1 industry willingness to manufacture locally
12	1.1 instruction notes provided
13	1.1 intentional public private partnership
14	1.1 international license manufacturing
15	1.1 investment unjustifiable due to market volumes
16	1.1 IPAP conflicting legislation integration
17	1.1 lacking dedication at lower levels
18	1.1 localisation misalignment
19	1.1 manufacturing dependent economy
20	1.1 poor commitment to address declining rail manufacturing sector
21	1.1 Poor competition
22	1.1 poor government planning effecting commitment
23	1.1 poor manufacturing growth
24	1.1 prescriptive and compliance
25	1.1 process blocking points
26	1.1 R&D provides advantages
27	1.1 reluctance to use local products
28	1.1 scale of economy driven
29	1.1 transversal government contracts
30	1.1 very poor commitment
31	1.2 authentic localisation project information
32	1.2 channels of communication
33	1.2 dependence on tier levels for information
34	1.2 framework contradictions
35	1.2 general public limited localisation communication
36	1.2 government department collaboration
37	1.2 government responsibility of guiding value chain
38	1.2 guided assistance to fulfil localisation requirements
39	1.2 high level understanding
40	1.2 industry awareness
41	1.2 interpretation differs
42	1.2 lack of communicating technical specifications
43	1.2 localisation contradiction

44	1.2 long term targeted gains
45	1.2 low exposure to IPAP
46	1.2 multiple views on localisation
47	1.2 policy priority preference
48	1.2 poor communication of future market demands
49	1.2 reliance on other companies
50	1.2 SOE poor information channels
51	1.2 varying info sharing levels
52	2.1 BBBEE presents loopholes
53	2.1 circumventing localisation is easy
54	2.1 complex business process
55	2.1 corruption involved in non-compliance
56	2.1 designated DTI sector verification
57	2.1 different guiding principles used by OEMs on implementing localisation
58	2.1 difficult to comply
59	2.1 international OEM unwillingness to localise
60	2.1 localisation bias
61	2.1 negative trust perception
62	2.1 opportunistic BBBEE practice
63	2.1 poor rail quality standards
64	2.1 PPPFA presenting inefficiencies for economic value
65	2.1 unethical government business practice
66	2.1 unfair government engagement on tenders
67	2.2 localisation fronting by OEM's
68	2.2 localisation validation problems
69	2.2 long reporting requirements
70	2.2 material misrepresentation
71	2.2 reluctant information sharing
72	2.2 SABS poor performance
73	2.2 self-declaration levels
74	2.2 SOE commitment to BBBEE level
75	2.2 SOE lack localisation knowledge
76	3.1 clear administration requirements need
77	3.1 complexity of adequate information transfer
78	3.1 detailed auditing
79	3.1 difficult business operations
80	3.1 difficulties in monitoring localisation
81	3.1 easier verification system
82	3.1 exemption providing a loop hole for importing
83	3.1 failure of SABS to conduct auditing
84	3.1 local monopoly supply
85	3.1 localisation misrepresentation
86	3.1 penalties for non-compliance
87	3.1 rail specific knowledge
88	3.1 SABS to audit localisation standards
89	3.2 broader perspective on purchasing
90	3.2 capital investment utilisation

91	3.2 changing of standards causes challenges
92	3.2 collaboration within industry
93	3.2 complex procurement requirements
94	3.2 downside to PPPFA in localisation
95	3.2 exhaustive procurement process
96	3.2 frequent information changes
97	3.2 higher private sector knowledge
98	3.2 incorrectly purchased products
99	3.2 inflated procurement costs
100	3.2 insufficient knowledgeable officials
101	3.2 introduce accountability in localisation
102	3.2 lack business acumen
103	3.2 lack of designation knowledge
104	3.2 localisation calculation inconsistent
105	3.2 localisation co-ordination lacking
106	3.2 loopholes in system
107	3.2 manufacturing emerging markets
108	3.2 no procurement engagement
109	3.2 poorly trained procurement officers
110	3.2 practical experience required
111	3.2 proper monitoring required
112	3.2 real economic value add
113	3.2 remedial action for overstating
114	3.2 small rail industry
115	3.2 strategic spending
116	3.2 successful automotive industry
117	3.2 uneconomical business viability
118	3.2 unqualified procurement officers
119	3.2 unskilled procurement officers causing inefficiencies
120	Base-material input business
121	Base-material input business 1
122	Base-material input business 2
123	Base-material input business 3
124	Beneficiation business
125	Beneficiation business 1
126	Beneficiation business 2
127	Beneficiation business 3
128	Industry expert
129	Industry expert 1
130	Industry expert 2
131	Industry expert 3