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The Role of Localisation of the Supply Chain in the South African Automotive Industry

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DECLARATION

I, Masingita Onica Mohlala, affirm that the research study titled "The Role of Localisation of the Supply Chain in the South African Automotive Industry is solely authored by me and submitted to fulfil the requirements for the degree of Master of Business Administration at the University of the Witwatersrand. I confirm that none of the content presented in this research has been previously submitted unless appropriate acknowledgement has been made.



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ABSTRACT

Purpose/Introduction- The South African automotive industry plays a pivotal role in the country's economic landscape, and the increasing emphasis on supply chain localisation has prompted a need for comprehensive research. This study addresses three primary research objectives: understanding the influence of institutional dynamics on localisation adoption, identifying effective strategies for supply chain enhancement, and analysing specific impacts on the industry's supply chain networks. As globalization continues to impact industries worldwide, the role of localisation in the automotive sector becomes a critical area for exploration.

Design/methodology/approach- To achieve the research objectives, a mixed-methods approach was employed. Quantitative data was gathered through surveys using a Likert scale distributed across various organisational sizes within the South African automotive industry. The surveys focused on opinions and perceptions related to localisation policies, government regulations, and the impact of such measures on supply chain performance. Additionally, qualitative insights were gathered through questionnaires using open-ended questions, providing a more nuanced understanding of the industry's localisation dynamics.

Findings/Results- The quantitative analysis revealed a significant correlation between the implementation of localisation policies and organisational structure and size. Larger organisations exhibited higher agreement on the effective implementation of localisation policies. Government regulations were identified as significantly associated with the organisational structure during the implementation of supply chain localisation. Findings also underscored variations in perceptions based on organisational size, emphasizing the need for tailored strategies. Furthermore, the study explored the impact of government regulations on localisation measures and their adoption within organisations.

Research limitations/implications - While the study provides valuable insights, certain limitations should be considered. The sample size, though representative, might not capture the entire diversity of the South African automotive industry. Additionally, self-reported data from surveys may introduce biases, and the study's cross-sectional nature limits its ability to capture dynamic changes over time. Despite these limitations, the research lays a foundation for understanding the complexities of supply chain localisation in the South African automotive context and offers avenues for future, more in-depth investigations.

Practical implications- The study's practical implications include the need for targeted policy interventions, size-specific organisational strategies, active engagement in enterprise and supplier development, informed decisions on import taxation, promotion of local content for enhanced competitiveness, and continued collaboration between the government and industry stakeholders. Adhering to these implications is crucial for fostering sustainable development in the South African automotive supply chain.

Keywords: Automotive Industry, Government regulations, Import taxation, Institutional theory, Localisation, Supply chain.

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DEFINITION OF KEY TERMS AND CONCEPTS

The following are the explanations of the words utilised in this study to enhance comprehension of the research and its extent.

Supply chain: The interconnected system of organisations, activities, information, and resources that facilitate the movement of products or services from suppliers to customers, involving the transformation of inputs into finished goods and involving a network of organisations engaged in value creation and delivery to the end consumer (Mukhamedjanova, 2020).

Localisation: In the context of the supply chain, localisation refers to the practice of bringing decision-making responsibilities in-house and partially insourcing processes that were previously outsourced from the global supply chain for various reasons (Reza-Gharehbagh et al., 2020)

Original Equipment Manufacturers (OEMs): design, assemble and market the vehicle with the components purchased from suppliers (for example, BMW, Nissan, Ford, Toyota, Volkswagen and Mercedes Benz) (Koren et al., 2015).

1 INTRODUCTION TO THE RESEARCH

This research investigates the role of supply chain localisation in the South African Automotive industry. Chapter 1 provides an overview of the study, starting with the context and background of the automotive industry and localisation in South Africa (section 1.1). It then explores the research conceptualisation, including the problem statement and research questions (section 1.2). The delimitation of the research study is explained in section 1.3. Furthermore, the significance of the study is discussed in section 1.4, and the chapter concludes with an outline of the research preface in section 1.5.

1.1 Context of and background to the study

The study aims to explore the role of supply chain localisation in the South African Automotive Industry emphasized by the government's strategic initiatives. The South African government identified an opportunity to implement a series of local content programs, including measures on Completely Knocked Down (CKD) components, to decrease imported goods (Barnes, 2013; Lamprecht et al., 2022). These efforts signify a commitment to shaping a self-sufficient automotive industry with an emphasis on locally sourced components, influencing the overall dynamics of the supply chain. From 1995-2012, Motor Industry Development (MIDP) was initiated to create an internationally competitive environment and encourage export (Lamprecht et al., 2022; Barnes and Black, 2014). From 2013, it was subjected to the Automotive Production and Development Programme (APDP) as a successor to achieve high local production through investments (Lamprecht et al., 2022). In 2018, the South African automotive cabinet extended the APDP to 2035 to align with the South Africa Automotive Masterplan (SAAM) 2035 policy (Department of Trade, Industry and Competition (DTIC), 2018; Barnes et al., 2018).

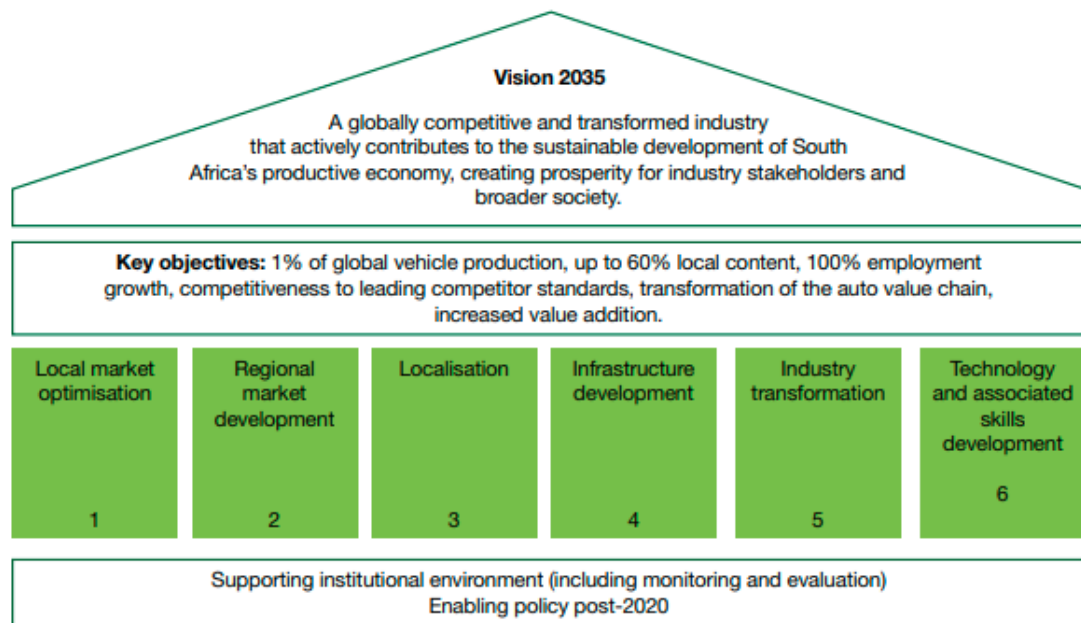


Figure 1: SAAM's 2035 vision, objectives and strategic implementation pillars (Barnes et al., 2018)

Figure 1 outlined the SAAMs vision for 2035 and the strategic implementation pillars to achieve the objectives. The realisation of the SAAMs vision for 2035 in the South African automotive industry involves the achievement of a specific set of six objectives, as outlined in Figure 1. One of these objectives is to significantly enhance the level of local content in vehicles assembled in South Africa, aiming to reach up to 60%. South African local content presents low local content compared to competitor economies such as Thailand and Turkey and securing high levels of local content remains a challenge (Barnes et al., 2018). South Africa suffers significant underdevelopment compared to leading international competitors. The key factor to this challenge is the growth and development of local components manufactured through the tiers of the value chain (Barnes et al., 2018). The aim is to improve factor cost profile (overheads, material and labour costs), productivity, and disruptive innovation and technology through sourcing the components used to manufacture a final vehicle in the same area where the vehicle is produced (Barnes et al. 2018). In the case where the requirement for local content is not fulfilled, the importer will pay the tax stated by the government (Barnes et al. 2018). Despite the benefits of transitioning from imported goods to local content through well-designed automotive incentives, the process can be challenging. Small suppliers, in particular, may encounter additional hurdles such as unreliable electricity supply, inadequate transportation infrastructure, and low levels of business confidence (Deloitte, 2019). However, the challenges can be overcome through key localisation enablers identified in

interviews (Deloitte, 2019) and three key themes: the determination to drive efficiency gains in both the public and private sectors, increasing volumes, and upskilling. Increasing volumes can be achieved by emphasizing cross-industry value chains that span multiple industries.

The South African automotive industry is one of the largest manufacturing sectors within the country, making substantial contributions on multiple fronts (Lamprecht, 2022). In terms of economic impact, it played a pivotal role by contributing 4.9% to South Africa's Gross Domestic Product (GDP) in the year 2022, underscoring its significance as a driver of economic growth. Furthermore, it contributed significantly to generating employment opportunities, providing livelihoods for approximately 110 000 individuals in the field of direct manufacturing in the year 2022. This significant contribution was in response to the pressing concerns regarding job creation within the country, as reported by The Automotive Industry Export Council (AIEC) in 2023. The automotive components sector accounted for the majority of these employment opportunities, with 83 362 jobs, while vehicle manufacturers (Original Equipment Manufacturers (OEMs)) contributed an additional 33 321 jobs (AIEC, 2023).

The automotive industry demonstrated its competitiveness with a notable increase of 12.4 % in export earnings from the previous year (2021), solidifying its position as a significant player on the international stage (AIEC, 2023). Remarkably, the South African Automotive industry occupies the prestigious rank of being the 5th largest exporting sector out of a total of 104 sectors in the country, contributing a substantial 13.9% to the nation's total exports (AIEC, 2023). This impressive market presence is further substantiated by the industry's role in shaping the country's manufacturing landscape, accounting for a substantial 21.7% of the nation's manufacturing output (AIEC, 2023). However, the percentage of local content in vehicles manufactured in South Africa was 39% in 2020 (National Association of Automobile Manufacturers of South Africa (NAAMSA), 2021), and that causes the South African automotive industry not to be competitive (Naude and Badenhorst-Weiss, 2011). The AIEC recorded an increase of 9.5% in imported original components by the major seven OEMs from 2021.

Table 1: Imported equipment components ranking from 10 countries.

Country	2018	2019	2020	2021	2022
Total (R billion)	97,8	106,8	82,3	110,1	119,6
Germany	38%	34%	34%	30%	34%
Thailand	17%	16%	19%	20%	20%
Japan	11%	10%	10%	11%	9%
USA	5%	5%	6%	6%	6%
China	4%	4%	4%	4%	4%
Sweden	3%	4%	3%	3%	4%
Brazil	4%	3%	2%	3%	3%
Czech Republic	4%	4%	3%	3%	3%
Spain	2%	3%	3%	3%	2%
Austria	1%	2%	1%	1%	2%
Other	11%	15%	15%	16%	13%

Source: AIEC 2023

Table 1 highlights the import values for the top 10 countries of origin equipment components imported by the South African automotive industry. Germany stands out as a consistent and major source of imported components over the years followed by Thailand and Japan. Recent data indicates an upward trend in the import values from both Germany and Thailand compared to the years 2021 and 2019. Importation of parts emerged as a preferred cost-effective solution compared to sourcing from local manufacturers, which evolved from high unit cost due to a shortage of skilled labourers, including work ethics and attitude in the workplace. This shortage ultimately leads to decreased productivity (Naude and Badenhorst-Weiss, 2012; Monaco and Wuttke, 2023). However, importation can have detrimental effects on developing countries involved in automotive manufacturing. This may bring about negative consequences such as reduced local ownership, transfer of technology research and development overseas, and vulnerability of domestic markets to the impacts of international trade (Bowden, 2022). Furthermore, it can result in congestion of South African ports, increased competition with local manufacturers and eventually cause a high unemployment rate (Naude and Badenhorst-Weiss, 2012). There have been instances where importation has made certain national automotive industries uncompetitive, as evidenced by the cases of Pakistan, Colombia, and Australia (Black et al., 2020).

Table 2: Local content and assembled vehicles 2012-2017

Year	Local content (Rbn)	Imported content (Rbn)	Local content (%)
2012	35.2	40.1	46.6
2013	37.9	54.6	40.9
2014	47.1	66.4	41.5
2015	52.9	83.8	38.7
2016	58.1	97.1	37.4
2017	61.2	94.9	39.2

Source: Barnes et al., 2021

Table 3: Local content (%) and financial expenditure (R millions) from 2019-2022

Year	2019	2020	2021	2022
Local Content Calculation	Total	Total	Total	Total
Imported components OEM	R88 868	R68 051	R78 023	R101 351
Imported components Suppliers	R23 654	R16 889	R21 905	R31 542
Imported Raw materials Suppliers	R5 448	R3 125	R4 576	R8 643
Total Imported value	R117 970	R88 065	R104 504	R141 537
Value for VA(L)A purposes	R204 361	R145 291	R180 015	R234 049
Local Content	R86 391	R57 226	R75 511	R92 512
%	42,27%	39,39%	41,95%	39,53%

Source: NAAMSA SAAM 35 Internal Review 2023

The importation of original components has led to a decline in the level of local content, as indicated by the decreasing trends shown in Table 2 from 2012 to 2016. A slight increase was shown in 2017 from 37.4 to 39.2%. According to the NAAMSA-Biannual Report (2021), the implementation of SAAM 2035 has been impacted by the decline of the South African economy and the COVID-19 pandemic, as shown in Table 3. Although there was an increase in 2021, this was followed by a subsequent decrease to 39.53% in 2022, as indicated in the NAAMSA-SAAM 35 review (2023).

Table 4: Pre-SAAM 2035 development KPIs and projections

SAAM 2035 INITIAL DEVELOPMENT PROJECTIONS [CONSTANT 2015 RAND VALUES]									
KPIs	Passenger vehicles [units]	LCV	M&HCV	Total Vehicles	Avg. Value SA vehicles [nominal value]	Value of Production [Rm]	Local Content %	Local content value [Rm]	Employment [61% productivity deflator]
2015 [base]	341,025	242,974	24,303	608,302	225,804	137,357	38.7	53,157	112,000
2020	449,619	286,049	27,353	763,022	225,804	172,293	43.2	74,403	129,570
2025	560,308	339,737	31,710	931,754	225,804	210,394	48.2	101,382	151,882
2030	698,245	403,501	36,760	1,138,596	225,804	257,079	53.8	138,231	182,355
2035	870,141	479,232	42,615	1,391,988	225,804	314,317	60	188,589	224,000

Source: NAAMSA, 2021

Table 5: Comparison between the SAAM 2035 initial Key Performance Indicators (KPIs) plan in 2018 and the new base in 2020.

Objectives	Base	Target	Actual [New Base]	Targets Plan vs. New [Revised]					
	2015	2020	2020	2025	New 2025	2030	New 2030	2035	New 2035
Domestic market growth [units]	617,749	640,299	380,206	784,509	660,000	961,732	720,000	1,179,815	900,000
SA Production for domestic market [units]	277,179	340,001	176,636	428,999	225,000	535,797	280,000	695,994	350,000
Regional market [units]	50,000	100,000	16,988	200,000	25,000	400,000	35,000	700,000	50,000
SA Production for export markets [units]	289,677	304,161	254,430	319,369	350,000	335,337	400,000	347,997	500,000
Local content - up to%	38.7	43.2	39	48.2	43	53.8	46	60.0	50

Source: NAAMSA, 2021

Table 4 reflects the pre-SAAM projections and prior Key Performance Indicators (KPIs) projected in 2017, while Table 5 depicts the actual measures of KPIs for 2020 and the projections after the implementation of SAAM 2035. The local content for 2020 was projected to increase by 4.5% from the 2015 base figure, but the actual increase was approximately 0.3% due to the results achieved in 2020, the local target of 2025 was adjusted from 48.2 to 43%. Some of the problems that resulted from the interview of stakeholders are stakeholder involvement, SAAM being reduced to policy and lost sight of pillars, no detailed plan and timelines for actions for strategic direction, the focus shifted from the policy to the Automotive Industry Transformation Funds (AITF) (NAAMSA-Biannual, 2021). According to Monaco and Wuttke (2023), the policies in the South African automotive industry developed by the government have not sufficiently

encouraged OEMs to localise more original components, which puts more pressure on the lower tiers of component manufacturers.

1.2 Research conceptualisation

1.2.1 The research problem statement

The local content in the South African automotive industry has fluctuated over the past decade, decreasing from 2012 to 2016 and rebounding at the start of 2017. Despite efforts to increase local content through the South African Automotive Masterplan (SAAM) strategy to reach 60% by 2035, these interventions have not significantly increased local content as projected (Black et al., 2019; NAAMSA, 2021). The National Association of Automobile Manufacturers of South Africa (NAAMSA) suggested adjusting the target to 50% localisation as a more achievable goal for 2035 (Black et al., 2019). The SAAM strategic policy projected local content of 43.2% in 2020 but achieved only 39%, setting this as the new baseline for changes implemented in 2021. Compared to the importation of original components, South Africa saw a 33.8% increase from 2020, highlighting the industry's dependence on imported components from the global value chain (Barnes & Black, 2018; SAAM, 2020). Moshikaro-Amani (2023) emphasized the ongoing challenges in meeting localisation targets due to global supply chain dependencies and competitive pressures, concluding that South Africa will face difficulties in achieving local content targets unless there is an increase in both sales and production scale (Moshikaro-Amani, 2023).

While the SAAM strategy aims to boost local content, certain suppliers consider proximity to the manufacturing plant crucial for products like interiors, body and structural parts, transmissions, drive shafts, and HVAC (Heating, Ventilation and Air conditioning) systems (Spindelndreier et al., 2015). Conversely, components like electronic components, engine control systems, and audio and telematics systems can be transported at a lower cost (Spindelndreier et al., 2015). Recent studies have highlighted the complexity and challenges of localisation. Bowden (2022) found an 18% decline in purchases from domestic suppliers and a 21% decline from international suppliers between 2010 and 2019, with inconclusive results regarding the increase in manufacturing sales and its impact on localisation (Bowden, 2023).

Monanco and Wuttke (2023) revealed that local manufacturers faced obstacles in expanding production capacity due to insufficient volumes, complex specifications,

expensive testing processes, lack of infrastructure, and inadequate training and specialised skills (Monanco & Wuttke, 2023). Principles from traditional management could streamline operations and address production volumes and capacity constraints (Cousins et al., 2008). Insights into human behaviour, motivation, and group dynamics are crucial for addressing skill shortages, enhancing productivity and production capacities (Krijnen, 2007). Additionally, a modern approach emphasizes a holistic and adaptable approach to managing the complex and dynamic nature of the automotive supply chain (Womack et al., 1990).

Given the significant growth of the South African automotive industry and the importance of localisation for competitiveness, there remains limited academic research on localisation in supply chains and the associated benefits and challenges in an emerging economy (Naudé & Badenhorst-Weiss, 2011; Ambe & Badenhorst-Weiss, 2012). South Africa has made considerable progress in the automotive industry with policy programs, but the SAAM states that the vision for 2035 can only be realised with well-thought-out industrial policies (Black et al., 2018). This study addresses this knowledge gap by offering a comprehensive analysis of the effects of localisation regulations on the South African automotive supply chain, aiming to guide decision-making for manufacturers and policymakers by providing insights into the benefits and challenges of localising supply chains in emerging economies (Ambe & Badenhorst-Weiss, 2012).

1.2.2 The research purpose statement

The impact of localisation in the automotive supply chain remains a critical concern especially since the South African automotive sector announced the target of a 60% increase in local content by 2035. However, the year-to-year actual projections as a build-up to meeting the set target have shown to be below the target. Black et al. (2018) claim that the transformation of localisation and supply chain development requires more pressure to improve the coordination between the two, as it is the key priority for the future of the South African automotive industry. Localisation of the supply chain has been considered as the strategy to reduce cost, improve supply chain efficiency, and promote sustainable practices to minimise global supply chain threats in the South African automotive industry. However, the impact of localisation on the automotive supply chain is still a relatively underexplored area. Through this research, the aim is to analyse the role of localisation in the automotive supply chain by examining various factors such as

internal and external factors of supply chains. Specifically, the research intends to investigate the extent to which localisation can positively impact the automotive supply chain and any potential challenges and risks associated with this strategy.

The purpose is to conduct a comprehensive literature review of the existing research on localisation and the automotive supply chain and use quantitative research methods to gather empirical evidence on the role of localisation on the supply chain. The result of the research will contribute to the development of effective strategies for automotive companies seeking to leverage localisation as a means of improving their supply chain operations to meet the set target of local content.

Research objectives:

- To determine how institutional dynamics affect the adoption of localisation in the automotive supply chain.
- To identify suitable localisation strategies that can be applied to enhance the efficiency and effectiveness of the supply chain within the automotive industry.
- To analyse the impact of localisation practices on the supply chain networks focusing on relationship dynamics, challenges, and optimization strategies.

1.2.3 The research questions

1.2.3.1 RQ1: How do institutional dynamics affect the adoption of localisation in the automotive supply chain?

1.2.3.2 RQ2: What localisation strategies are appropriate for the automotive industry supply chain?

1.2.3.3 RQ3: How does localisation affect supply chain networks in the South African Automotive industry?

1.3 Delimitations and Assumptions of the Research Study

The research study took place in South Africa but was limited to the vehicle assembly and components industries. The supply chain network of the OEMs and components

companies can be easily separated from after-sales and retail sales and driven by manufacturing and lead time. The sample of the study was taken from those companies, inclusive of managers and staff in supply chain management. Supply chain management plays a critical role in the success of localisation efforts. Therefore, studying the perspectives, experiences, and challenges of managers and staff involved in supply chain management can provide valuable insights into the localisation process and its impact on the industry. As the key objectives of SAAM for 2035 have attracted significant attention from the public, the study aims to ensure that the research findings are aligned with the automotive sector's requirements for solutions. To achieve this objective, the study integrated both practical industry consultation and academic research. A questionnaire survey was used in this study, incomplete or eligible forms were discarded.

The following assumptions are made in this study:

Assumptions in research serve as foundational beliefs that shape the study's design and interpretation of findings (Ormston et al. (2014)). In the exploration of the role of supply chain localisation in the South African Automotive Industry, several underlying assumptions guide the research framework.

Firstly, there is an assumption regarding the industry's recognition and significance of supply chain localisation. This presupposes that localising the supply chain is not only relevant but also impactful within the South African Automotive industry, forming a meaningful consideration for industry dynamics and stakeholders. Building upon this, the assumption of the influential role of the government suggests that active advocacy and execution of localisation initiatives by the government play a crucial part in shaping supply chain practices. The interconnectedness of government policies and industry dynamics is thereby acknowledged.

The assumption regarding the economic impact of localised supply chain practices further contributes to the framework. It posits that these practices are expected to influence production costs, job creation, and overall economic growth. This assumption recognizes the intricate relationship between supply chain strategies and broader economic outcomes. In considering stakeholder engagement, another assumption assumes active involvement and interest from manufacturers, suppliers, and policymakers in the localisation of the supply chain. This recognizes that decisions related to the supply chain are collaborative and have implications for multiple stakeholders within the industry.

1.4 Significance of the research study

The research contributes to the body of knowledge on the automotive supply chain during localisation implementation and beyond 2035, aiding in understanding potential benefits and challenges. Amid global uncertainties and disruptions, the research on localisation in the South African automotive sector not only contributes to the industry's resilience but also aligns with global trends urging a re-evaluation of extended supply chains. This is particularly critical in light of recent global supply chain vulnerabilities exposed by various crises. Events such as the 2008 financial crisis, the volcanic eruption in Iceland in 2010, the tsunami in Japan in 2011, the US-China trade tensions in 2018, the COVID-19 pandemic in 2020, and the Russia-Ukraine war in 2022 have consistently highlighted the fragility of extended global supply chains (Panwar et al., 2022). These disruptions have prompted manufacturers globally to rethink their supply chain strategies, favouring localisation and reassessing sourcing options to mitigate potential risks. The call to shorten supply chains, echoing through research insights, has not only influenced manufacturers but has also shaped government policies (Panwar et al., 2022).

In this landscape, the South African automotive industry's focus on localisation becomes even more critical. The industry, with its seven main vehicle manufacturers and extensive supplier network, plays a pivotal role in the economy of the country (NAAMSA, 2022). The historical development of localisation efforts, such as the Local Content Programmes (LCP), the Motor Industry Development Programme (MIDP), and the Automotive Production and Development Programme (APDP), demonstrates significant changes over time (Barnes, 2013). Despite successful efforts such as the MIDP enhancing export competitiveness, evidence indicates a decline in local content and manufacturing value addition (Barnes et al., 2018). The subsequent APDP witnessed further declines, raising concerns, particularly in the lower tiers of the supply chain ((Mashilo and Moothilal, 2022). The introduction of the South African Automotive Masterplan (SAAM) in 2021 underscores the urgency to address these challenges, aiming for a 60% localisation target by 2035. However, the industry's past decade reveals a concerning trend of unstable local content despite interventions, emphasizing the need for comprehensive exploration through the research study.

The insights of the study will not only inform local practices but will also have broader implications for global stakeholders grappling with the challenges of securing and optimizing supply chains. Therefore, the research serves as a timely and essential

exploration, offering valuable contributions to understanding and navigating the complexities of localised supply chains in an ever-evolving global landscape.

1.5 Preface to the research report

The preface of this report aims to provide a concise overview of its content and significance. Chapter 1 presents the introduction, offering a brief background and problem statement that emphasises the importance of studying the role of localisation in the South African automotive industry. The research objectives are then outlined, focusing on the investigation of motivations, analysis of impact, assessment of challenges, and evaluation of policies. Chapter 2 provides a literature review that identifies the research gap. In Chapter 3, the research strategy, design, and strengths and weaknesses are explained, highlighting the plan to conduct a survey for primary data collection supplemented by secondary data from industry reports, literature, and government publications. Chapter 4 delves into the data analysis techniques, including the utilisation of statistical analysis to extract meaningful insights. Chapter 5 presents the expected outcomes, encompassing a comprehensive understanding of localisation's role and impact, insights into stakeholder motivations and challenges, an evaluation of existing policies, and actionable recommendations for policymakers and industry stakeholders. Lastly, the conclusion, limitations, and recommendations are emphasised.

1.6 Summary of the Chapter

In conclusion, Chapter 1 lays a robust foundation for the exploration of supply chain localisation within the South African automotive industry. Through an in-depth examination of the industry's historical context, governmental initiatives, and challenges faced, the chapter sets the stage for understanding the complexities and significance of the research topic. By articulating clear research questions and delineating the scope and significance of the study, the chapter provides a roadmap for the subsequent chapters. It underscores the importance of investigating the role of supply chain localisation in enhancing the competitiveness and sustainability of the automotive sector, while also highlighting the gaps in existing knowledge and the potential implications for policy-making and industry practice. As the study progresses, it aims to offer valuable insights into the motivations, impact, challenges, and policy implications of supply chain

localisation within the South African automotive industry, contributing to both academic literature and practical decision-making processes.

2 LITERATURE REVIEW

This section presents a comprehensive problem analysis and identifies the gaps in existing knowledge. To achieve this, the study examines previous research. Additionally, the study establishes a conceptual framework was established to facilitate the analysis and interpretation of the research findings.

2.1 Literature and Concepts

2.1.1 Enhances competitiveness

In the dynamic landscape of the automotive industry, achieving and sustaining competitiveness is paramount for long-term success (Rotjanakorn et al., 2020; Wellbrock et al., 2020). One strategic approach that has gained significant attention and acknowledgement is the implementation of a localised supply chain (Bohnenkamp et al., 2020) as considered the lowest and least sourcing strategy compared to global sourcing (Trent and Monczka, 2003).

According to Rampersad (2014), optimizing local content in the SA automotive component industry will positively impact on economic growth and sustainability of the automotive component manufacturers and ultimately grow the global competitiveness status. Local content defined by scholars like Hansen (2017) and Warner (2011), refers to the overall economic value generated within a host country through the local acquisition of goods and services. Warner's definition includes wages, materials, equipment, subcontracts, and taxes, considering both direct and indirect impacts on the national workforce and the broader domestic economy. Black (2009) emphasizes the complexity of the automotive industry, presenting various metrics like local component purchases and the percentage of local purchases relative to total sales, underscoring challenges in defining and measuring local content. According to Andersson and Segerdahl (2012), activities in localisation, including production, supply, and research and development, hold considerable significance for companies striving to enhance their competitiveness

The Thai auto industry stands out as a compelling example of the positive impact of localised supply chains. Since the initiation of its first phase, the country has emerged as a magnet for numerous automotive manufacturers, with a notable focus on those from Japan (Kuroiwa and Techakanont, 2017). The initial phases were dedicated to building

dynamic capacities, evidenced by the remarkable surge in production volume from 0.4 million vehicles to 2.4 million in 2012. As a result of these efforts, the value of imported parts per locally assembled vehicle produced in Thailand has exhibited a steady decline since the early 1990s. In previous research, numerous benefits and drawbacks of localisation in developing countries have been identified. Avenyo et al. (2023), discussed the benefits as primarily to increase economic growth with side linkage to the creation of jobs and increase tax revenue, promote the infant industries to become internationally competitive, technology transfer, and assist in developing a manufacturing base for local demand. However, localisation has its own drawbacks items as costs and outcomes (Mott et al., 2021). Localisation can reduce international competition by reducing input availability, the beneficiaries of localisation might not survive without sustainable government assistance. Lastly, localisation can be able to increase employment in its initial phase but can decrease returns which eventually leads to the decline of job opportunities.

2.1.2 Institutional Influences: Government Regulations and Localisation in the Automotive Industry

The evolution of the South African automotive industry is marked by key initiatives such as the Local Content Programmes, the Motor Industry Development Programme (MIDP), and the Automotive Production and Development Programme (APDP), which underscores the profound impact of government interventions on its trajectory (Barnes, 2013). The MIDP, introduced in 1995, played a pivotal role in restructuring the industry, aligning with the General Agreement on Tariffs and Trade (GATT) obligations, and introducing an import-export complementation scheme. Despite its successes, the MIDP witnessed a decline in local content levels, revealing complex dynamics within the supply chain (Barnes and Black, 2013). This historical context sets the stage for understanding how government regulations have shaped the approach of the industry to localisation.

In 2021, the introduction of the South African Automotive Masterplan (SAAM) reinforced the commitment of the industry to localisation, envisioning a future where local content levels would reach 60% by 2035 (Black et al., 2018). This strategic vision aligns with global benchmarks and reflects the industry's recognition of the pivotal role of local content in enhancing competitiveness, reducing reliance on imports, and fostering sustainable economic development (Barnes et al., 2018). An example of a country that

implemented the same initiative is Brazil. Brazil's success can be attributed to the government assuming a developmental actor role, providing protection to small companies, and facilitating access to affordable loans for these companies. South Korea initially implemented Import substitution industrialization (ISI) as a localisation approach and later moved to an export-oriented approach to achieve international competitiveness and economic growth (Avenyo et al., 2023). A similar initiative of adopting government policies such as local content requirements were used by the Thai automotive industry to improve the vehicle production volume (Natsuda and Thoburn, 2013). The implementation of local content requirements using government policies led to the Thai automotive industry structure changing to a pyramid with OEMs on top and component manufacturers on the lower layers (Kuroiwa and Techakanont, 2017).

2.1.3 Localisation Practices on Automotive Supply Chain Networks

Lyer et al. (2005) and Naude and Badenhorst-Weiss (2011) explain the physical flows of the automotive supply chain described from suppliers producing parts to Original Equipment Manufacturers (OEMs) assembling complete vehicles. This complexity amplifies when considering Automotive Component Manufacturers (ACMs) receiving components from second-tier suppliers, supplying OEMs and distributing products to Automotive Retail and Aftermarket Sales. The challenges faced by the automotive sector significantly contribute to the heightened complexity of the supply chain network.

Barloworld Supply Chain Foresight (2007) identifies a spectrum of challenges that necessitate careful consideration when sourcing automotive parts globally. These challenges encompass trade barriers, cultural and social issues, political stability, loss of intellectual capital, currency fluctuations, corruption, and terrorism. The interconnected nature of these challenges underscores the intricacies involved in the global supply chain landscape, demanding strategic approaches for effective navigation.

Vehicle exports are greatly impacted by the Motor Industry Development Programme (MIDP), unlike the export process. Black (2009) notes that without the MIDP, South Africa is not perceived as an export platform by firms in other countries. However, foreign firms benefit from low labour and management costs, as well as affordable land and electricity in South Africa.

Black (2009) categorizes automotive production in South Africa into three distinct stages, each marked by specific characteristics and challenges. The first stage is CKD (Completely

Knocked Down) assembly, characterized by low volume, high production costs, and a notable reliance on high levels of localisation to meet specific requirements. The target market for CKD assembly is primarily domestic, with a limited level of integration with the parent company. Moving into the transition stage, the second phase of automotive production involves transactions with medium production costs. However, logistics costs become a significant factor due to a moderate level of localisation driven by cost considerations. Many Original Equipment Manufacturers (OEMs) in South Africa find themselves in this transition stage, influenced by both high logistics costs and government regulations promoting moderate localisation. The ultimate goal for the automotive sector is to progress from the transition phase to the third and final stage – full manufacturing. This stage is characterized by a high level of parent-company integration, resulting in low production costs and a substantial increase in local content, transitioning from low to high levels. The transition to full manufacturing in South Africa has been delayed, primarily attributed to suppliers lacking advanced or necessary technology to supply components for advanced vehicles intended for export (Black, 2009). Kaggwa et al. (2009) delve into the mental model behind the MIDP, portraying it as a static uni-directional model. This perspective places South African operations at a cost disadvantage in crucial areas like logistics, transport costs, and imported content.

In essence, the journey through the automotive supply chain is a complex dance, with challenges and influences at each step shaping the industry's localisation practices. The stages of production, global sourcing considerations, and the role of MIDP collectively define the intricate dynamics faced by the South African automotive sector.

2.2 Theoretical framework

The localisation of supply chains has gained significant attention as a strategy to enhance economic growth, promote domestic industries, and ensure sustainability. In the context of the South African automotive industry, achieving a localised supply chain is crucial for long-term development and competitiveness. In this study, three theoretical frameworks are explained. This study proposes a theoretical framework based on various theories to explore and analyse the factors influencing the localisation of the supply chain of the South African automotive industry focusing on achieving localisation by 2035. The objective of this study is to determine the role of localisation of the supply chain. As the

term role can have different interpretations and it is essential to elucidate the specific aspects that can be expected from this study.

2.2.1 Institutional theory

North (2018) and Meyer (2021) state that institutional theory explores how organisations are influenced by institutional norms, formal or informal rules, and regulations in shaping organisational behaviour and decision-making. This influential framework in organisational studies, as argued by Sarkis et al. (2011) and Bhakoo and Choi (2013), examines the impact of external institutions on organisational behaviour and structure. Scott (2008) and DiMaggio and Powell (1983) contend that institutions constrain the behaviour of the organisations by establishing boundaries in terms of morality, legality and culture. These constraints can be regulative (enforced through rules, laws and sanctions), normative (through codes of conduct, accreditation and certification) and cultural-cognitive constraints (influenced by shared beliefs and decision-making processes). Furthermore, DiMaggio and Powell (1983), suggest that institutional pressures believe that organisations operating in the same fields tend to adopt similar organisational forms and practices due to shared social pressures and expectations from stakeholders. Based on the literature mentioned above, government regulation exerts pressure in the form of regulative constraints, as governments and regulatory bodies enforce specific requirements and regulations related to the localisation of the automotive supply chain. Building on this foundation, the study identifies normative constraints emanating from customers who express expectations for companies to engage in supply chain localisation as a responsible and ethical practice. Additionally, cultural-cognitive constraints come into play, where companies navigate isomorphic pressures, making decisions considering both efficiency and institutional influences (Rogers et al., 2007).

Companies within the automotive industry may encounter pressures from competitors, industry peers, and local communities to conform to prevailing practices associated with supply chain localisation. Adherence to these expectations yields benefits such as enhanced credibility, stability, decreased uncertainty and strengthened survival capacities (Hwang et al., 2016).

Previous research endorsed by Wu and Jia (2018) and Craighead et al., (2020) supports the application of institutional theory to comprehend the factors influencing the adoption of supply chain localisation. It highlights that external pressures conceptualised by

institutional theory play a crucial role in determining the adoption of supply chain practices as shown by Wu et al. (2013), Wu and Jia (2018), Kauppi and Luzzini (2021) and Calzolari et al. (2023). Thus, institutional theory helps explain the mechanisms and dynamics behind institutional change and adaptation, providing insights into how institutions evolve and how organisations respond to and shape institutional pressures. As supply chain practices involve a systems approach that oversees the entire flow of goods within an organisation (Mentzer et al. (2001), hence, it is essential to explore how internal mechanisms managed by the organisation address the external pressures caused by the adoption of supply chain localisation. It is hypothesized as follows:

H1 and H2: There is a significant correlation between the implementation of localisation policies and the organisation structure and size when adopting supply chain localisation.

H3: Government regulations are significantly associated with the organisation structure when implementing supply chain localisation.

H4: There is a significant influence between the enterprise and supplier development with the size of the organisation.

H5 and H6: There is a significant relationship between import taxation and the structure and size of the organisation when adopting supply chain localisation.

H7: The adoption of supply chain localisation is positively influenced by the relationship between the localisation measures and the structure or type of the organisation.

With all these hypotheses mentioned above, a conceptual framework model was developed.

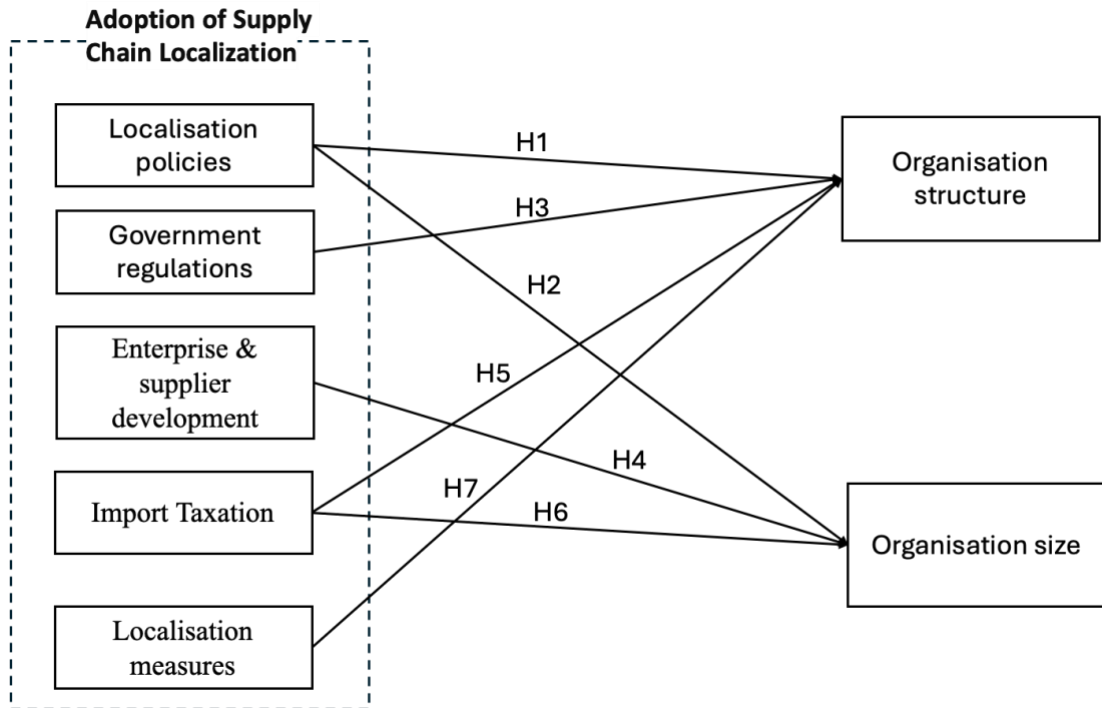


Figure 2: Conceptual framework

2.3 Chapter Summary

In conclusion, the information above strongly supports the notion that localising the supply chain is essential for the long-term development and competitiveness of the South African automotive industry. Recognising the dynamic nature of the automotive sector, the implementation of a localised supply chain is deemed a strategic imperative, as evidenced by its success in the Thai auto industry. Government regulations, such as the Motor Industry Development Programme (MIDP) and the South African Automotive Masterplan (SAAM), underscore the profound impact of regulatory frameworks on shaping the commitment of the industry commitment to localisation. The theoretical framework, based on institutional theory, provides valuable insights into the external pressures influencing the adoption of supply chain localisation, emphasizing the role of government regulations as regulative constraints. The intricate dynamics within the automotive supply chain, including the stages of production, global sourcing considerations, and the influence of MIDP, further highlight the complexity of the journey. In summary, achieving a localised supply chain is not only a response to regulatory expectations but also a strategic move to enhance competitiveness, foster sustainable economic development, and navigate the multifaceted challenges inherent in the automotive industry.

3 RESEARCH METHODOLOGY

In Chapter 3, the research philosophy (section 3.1), research strategy (section 3.2) and research approach (section 3.3) are presented as a response to the research questions and the literature review. Additionally, the chapter addresses research data collection (section 3.4), highlights research data analysis (section 3.5), and identifies research weaknesses (section 3.9).

3.1 Research Philosophy

Research philosophy is defined as the underlying beliefs and assumptions about the nature of reality, knowledge and how the researcher can gain valid and reliable knowledge (Saunders et al., 2023). The researcher interprets the perspective on the worldview to outline essential assumptions, which plays a crucial role in identifying the research strategy, methodology, data collection techniques and analysis procedures to be used (Saunders et al., 2023). Those philosophical assumptions include the nature of social reality (ontology), methods of acquiring human knowledge (epistemology), ethical and value systems (axiology), how the paradigm outlines the procedures linked to conducting science (methodology) and rigour (how the quality of research in the paradigm) (Artino et al., 2020, Chilisa and Kawulich, 2012). There are five major philosophies in business and management: positivism, critical realism, interpretivism, postmodernism and pragmatism (Saunders et al., 2023). This study is based on pragmatism, due to the philosophy refraining from endorsing a singular standard for effective research, recognizing the diversity of interpretations and the existence of multiple realities. The researchers emphasize that the choice between investigating objective, observable phenomena and subjective meanings depends on the specific problem under study, allowing for a nuanced and adaptable understanding in research endeavours (Bougie and Sekaran, 2019). Leni (2023) used pragmatism philosophy to study the skills shortage in the South African economy, particularly in the context of e-logistics, emphasizing the evolution of the supply chain management sector due to information systems technology advancements. Findings from a case study with 12 e-logistics professionals in the Western Cape suggest a need for qualifications in e-logistics and a collaborative effort between higher education institutions and industry to produce highly skilled professionals.

Overall, the choice of pragmatism as the research philosophy is justified by its inherent flexibility, practical focus, and capacity to integrate multiple methods. This approach aligns well with the study's objectives of exploring both quantitative and qualitative aspects of supply chain localisation, thereby ensuring a comprehensive analysis.

3.2 Research Strategy

The research design establishes a structure for data collection and analysis, encompassing five distinct categories: experimental design, survey design (or cross-sectional design), longitudinal design, case study, and comparative design (Bryman, 2016). In this study, through the application of survey design, a specific group of participants was surveyed to gather quantitative data, facilitating the analysis of trends, patterns, and perceptions related to supply chain localisation in the specified context. Survey research involves gathering data from a selected group of individuals by soliciting their responses to a series of questions to obtain information (Check and Schutt, 2012). Thekkootte (2022) deployed a survey design to investigate whether agility, localisation, and digitalisation positively impact supply chain resilience. The author selected the survey design due to its suitability for assessing the hypothesis within the study. The survey design presents numerous advantages for researchers to investigate supply chain localisation. These include the capacity to gather quantitative data from a large number of respondents, standardised data collection, streamlined information acquisition, and heightened accuracy, reliability, and generalizability of research findings.

3.3 Research Approach

A research approach functions as an all-encompassing framework that aids in the execution of a research study, providing guidance throughout the process of designing, implementing, and monitoring the research (Tajvidi et al., 2015). Research approaches can be broadly categorized into qualitative, quantitative, and mixed-method research approaches.

Quantitative research entails the gathering and examination of numerical data to detect patterns and trends, whereas qualitative research involves the collection and analysis of non-numerical data, encompassing words, images, and observations (Sukamolson, 2007). Quantitative research underscores the significance of a singular objective reality and

empirical measurement, aligning with the principles of the positivism paradigm and the assumption that the research aims to discover the truth (Alele and Malau-Aduli, 2023, Ahmad et al., 2019). The qualitative approach focuses on understanding different views and personal experiences and researchers think that reality is shaped by society, and the goal is to discover new insights and understandings through research (Alele and Malau-Aduli, 2023). Qualitative research aims to enhance self-awareness and provide deeper insights into the human experience. Unlike quantitative research, which focuses on gathering facts for verifying and extending theories about human behaviour, qualitative research prioritizes a better understanding of human behaviour and experience.

Mixed methods research encompasses the collection of both quantitative and qualitative data, blending these two types of data, and employing distinctive designs that encompass philosophical assumptions and theoretical frameworks (Rogers et al., 2020).

Mixed research integrates the pragmatic method and system of philosophy into its logic of inquiry (Gobo, 2023) and aids in bridging the gap between quantitative and qualitative research (Onwuegbuzie, 2004). Creswell and Clark (2017) mentioned that a mixed study that incorporates quantitative and qualitative data types but lacks integration is merely a compilation of methods, whereas robust mixed methods studies address the crucial aspects of data integration, as well as the considerations of timing and priority.

Belhadi et al. (2021), used mixed-method research to investigate supply chain resilience (SCRes) in manufacturing and service operations during emerging situations. The rationale for selecting a mixed-method study was that it provides a valuable opportunity to advance the literature by gaining a comprehensive understanding of complex phenomena, addressing both exploratory and confirmatory issues within the same study, and facilitating methodological triangulation.

The mixed method research approach was used in this study to provide valuable insights into various factors related to supply chain localisation and its impact on achieving the target goals. The mixed method research allows a comprehensive understanding by combining quantitative data to measure the extent of localisation, such as financial expenditure on local suppliers, and qualitative data to explore the underlying government policies and transportation systems, thus enabling the research question to be studied from different perspectives.

3.4 Research data collection

This section outlines the procedures and methods used in the research, covering data collection instruments (section 3.4.1), target population and sampling, ethical considerations, data collection and storage, processing and analysis, and a background description of respondents who contributed to the study.

3.4.1 Data collection instrument

Research data collection tools encompass various methodologies employed to collect factual information, serving as tools for data collection, including questionnaires, interviews, observations, and reading (Ponto, 2015). To achieve the objectives of the study, the questionnaire survey was utilised to get the gist of the role of localisation of the supply chain in the automotive industry. A questionnaire survey is defined as “A technique for gathering statistical information about the attributes, attitudes or actions of a population by administering standardized questions to some or all of its members” (Buckingham and Saunders, 2004). Survey questionnaires enable the collection of accurate and relevant data through thoughtful design, testing, and detailed administration, offering a cost-effective and reliable method for obtaining both qualitative and quantitative feedback (Tajvidi et al., 2015; Taherdoost, 2016). Questionnaire design can be either structured, unstructured disguised or undisguised. This study utilised structured questions with predefined response options, limiting respondents' ability to provide open-ended answers and instead requiring them to select from the provided choices (Sreejesh et al., 2014). Therefore, the questionnaire design was based on the concepts of the theoretical framework theory as explained in the literature review section. Litabe (2018) conducted a study to evaluate the extent of knowledge about contemporary strategies implemented worldwide and to propose actions that can enhance the competitive edge of businesses in South Africa using a quantitative research method. The researcher opted for a structured questionnaire as a tool because it consists of consistent questions that allow participants to continuously analyse and respond to the inquiries, making it an effective method for gathering information. Furthermore, its suitability for larger sample sizes enables wider circulation and data collection.

The questionnaire survey questions utilised the Likert scale, allowing respondents to choose their level of agreement or disagreement by selecting a numerical score for each statement. Responses are rated on a 4-point scale: 4 for strongly agree, 3 for agree, 2 for

disagree, and 1 for strongly disagree. The questionnaire survey was conducted online using the Microsoft survey platform, with all participants receiving the survey link via email and social networks to facilitate participation. The Microsoft platform offers advanced options for structuring survey questions. It is entirely block-based, and supported by logical branching options, which facilitates easier navigation. This allows for seamless navigation and enhances the overall user experience.

3.4.2 Sampling Strategy

3.4.2.1 Target population

The target population consists of individuals who meet the specified criteria for inclusion in a research investigation (Alvi, 2016). Casteel and Bridiers (2021), defined the target population as a specific and conceptually defined group of potential participants, carefully delineated to be both inclusive enough to provide sufficient data and exclusive enough to ensure alignment with the needs of the study, ultimately forming a complete subset of the broader population of interest. To increase the response rate and ensure a broader representation, the survey included participants from various regions across the country. The research target population for the study would include key stakeholders involved in the automotive sector. This may consist of automotive manufacturers, suppliers, policymakers, industry experts, regulatory bodies, and government agencies. It is important to note that due to the unique circumstances of this study, the target population remains unknown in numerical figures. However, efforts were made to ensure a diverse representation by including participants from various regions across the country and engaging key stakeholders directly involved in or impacted by the localisation of the supply chain in the South African automotive industry.

3.4.2.2 Sampling selection

The sampling serves as a process of selecting a practical representation of the target population, comprising a specific set of units, often individuals, from which the sample is selected and invited to participate in the study (Casteel and Bridiers, 2021). According to Bless and Higson-smith (1995), the Sampling approach is categorised into probability and non-probability sampling. Probability sampling is known as the probability of selecting each respondent, while in non-probability sampling, the likelihood of selection remains uncertain. Onwuegbuzie and Collins (2007) mentioned that mixed-method research must be able to accommodate qualitative and quantitative components of the

study. The sampling method utilised in this study is convenience sampling which involves selecting participants from a readily available subset of the population, based on accessibility and convenience, rather than aiming for a truly representative sample (Baxter et al., 2015). Convenience sampling presents several advantages for the study, such as accessibility, cost-effectiveness, convenience for both researchers and participants, feasibility, and the opportunity to conduct pilot testing.

The sample size was calculated using the Calculator.net formula for unlimited (unknown) population size formula for the study with 95% confidence, 5% margin of error and 50 % response distribution.

$$n = \frac{z^2 \times \hat{p}(1 - \hat{p})}{\varepsilon^2}$$

Where:

z is the z score

ε is the margin of error

$\hat{p}$ is the population proportion

Therefore sample size calculation:

$$\begin{aligned} n &= \frac{z^2 \times \hat{p}(1 - \hat{p})}{\varepsilon^2} \\ &= \frac{(1,96)^2 \times 0.50(1 - 0.50)}{(0,05)^2} \\ &= 385 \end{aligned}$$

3.5 Data analysis

3.5.1 Research information and data collection

The data collected for the research on the role of localisation of the supply chain in the South African automotive industry underwent a rigorous data processing phase. The data processing steps involved organizing, cleaning, and analysing the collected data to derive meaningful insights and draw conclusions. The first step in data processing was to

organise the collected data by creating a structured database or spreadsheet. This ensures the data is properly categorised and easy to access for further analysis. Next, the data underwent a thorough cleaning process to identify and rectify any errors, inconsistencies, or missing values. Data cleaning techniques such as data validation, outlier detection, and imputation are applied to ensure the accuracy and reliability of the data.

After the data was cleaned, it underwent various statistical analyses to explore the relationships between supply chain localisation and automotive performance. Descriptive statistics, such as mean, median, and standard deviation, were calculated to summarise the data. Furthermore, data visualisation techniques such as charts, graphs, and tables are used to present the findings clearly and concisely. This aids in the interpretation and communication of the research results. The data processing phase adhered to ethical guidelines, ensuring the confidentiality and privacy of the participants' information. All data was securely stored and accessed only by authorised researchers involved in the study. Overall, the data processing phase played a crucial role in transforming the raw data into meaningful and actionable insights, contributing to a comprehensive understanding of the role of supply chain localisation in the South African automotive industry.

3.5.2 Research data and information processing

The data collected for the research on the role of localisation of the supply chain in the South African automotive industry underwent a comprehensive data analysis process to uncover meaningful insights and draw conclusions. The data analysis phase involves several steps and techniques to explore the relationship between supply chain localisation and the achievement of the 2035 target. Quantitative information collected on the measures of localisation was validated by a qualitative study using a questionnaire survey. Firstly, the collected data was organized and prepared for analysis. This included tasks such as data cleaning, data transformation, and data coding to ensure consistency and uniformity across the dataset. Any missing or incomplete data was addressed through appropriate methods such as imputation.

Next, descriptive statistical analysis was conducted to summarise and describe the key variables in the dataset. Graphs, charts, and tables are used to visually represent the data and facilitate understanding.

To examine the relationship between supply chain localisation and the performance of the automotive industry, techniques such as correlation analysis, regression analysis, and hypothesis testing are employed to assess the strength and significance of the relationship.

This analysis helped to identify any patterns, associations, or dependencies between the variables of interest.

Throughout the data analysis process, statistical software packages such as Statistical Package for the Social Sciences (SPSS) and Microsoft Excel were utilised in this study to perform the calculations and generate the necessary statistical outputs. The analysis results were interpreted, discussed, and related to the research objectives and research questions. It is important to note that the data analysis phase was conducted with utmost rigour and adherence to ethical considerations. The confidentiality of the participants and data privacy was maintained in this study, and the research findings were reported accurately and objectively.

Overall, the data analysis process enables the researcher to uncover insights, draw conclusions, and contribute to the understanding of the role of supply chain localisation in the South African automotive industry's goal for 2035.

3.6 Ethical considerations

Resnik (2015) defined ethics in research as “norms for conduct that distinguish between acceptable and unacceptable behaviour in research.” In this research, ethical considerations involve protecting participant privacy, maintaining data confidentiality, ensuring participant anonymity, obtaining informed consent, and providing detailed research objectives upon request from the participant. The questionnaire explicitly assures participants that the information collected is used solely for academic purposes and is treated with confidentiality.

3.7 Description of the research respondents

The research respondents for the study on the role of localisation of the supply chain in the South African automotive industry include key stakeholders and professionals involved in the industry. This included automotive manufacturers, suppliers, industry experts, policymakers, and relevant personnel with knowledge and experience in supply chain management and localisation efforts. The respondents were selected based on their expertise and involvement in the automotive sector to ensure the research captures valuable insights and perspectives from those directly involved in the topic. Most

participants in this study possess professional experience in the automotive industry as well as academic qualifications.

Participants are asked to provide insights into their experiences and perspectives on the challenges and benefits associated with supply chain localisation. The survey responses were subjected to statistical analyses using SPSS software to derive quantitative findings that form the basis of the results. To validate the survey design and written content, a pre-test of the questionnaire survey is conducted among a panel of specialists.

3.8 Reliability and Validity

The reliability of the research refers to the consistency of results obtained from using a research instrument in the same situation on multiple occasions and determines the extent of its reliability (Cormack, 2015). In addition to the findings of the study, it is important to consider the level of rigour in the research. Rigour pertains to the extent to which the researchers have made efforts to enhance the quality and reliability of the studies. The research enhanced reliability by using carefully designed survey questionnaires with clear and consistent items, employing a test-retest approach to assess response consistency over time, conducting pilot testing to refine the survey instrument, and evaluating internal consistency using measures of Cronbach's alpha. Cronbach's alpha has been explained as "one of the most important and pervasive statistics in research involving test construction and use" (Cortina, 1993).

The formula for calculating Cronbach's alpha is:

$$\alpha = \frac{n}{n-1} \left[1 - \frac{\sum s^2(x_i)}{s^2(Y)} \right]$$

Where;

n refers to the number of scale items

$s^2(x_1)$ refers to the variance associated with items

$s^2(Y)$ refers to the variance

α is Cronbach's alpha which should range from 0 to 1

Validity in a quantitative study is characterized as the degree to which a concept is accurately and appropriately measured (Blumberg et al., 2005). The research establishes validity by ensuring content validity through expert input and literature review, examining construct validity, and conducting expert reviews of the research design, survey questionnaires, and data collection procedures to ensure their relevance and alignment with the research objectives. The research design, survey questionnaire, and data collection procedures undergo thorough review by subject-matter experts to ensure their relevance, clarity, and alignment with the research objectives using the Lawshe's Content Validity Ratio (CVR). CVR refers to a Linear transformation of a proportional consensus among experts within a panel regarding the importance of an item. (Ayre and Scally (2014).

The CVR is calculated in the following way:

$$CVR = \frac{n_e - (N/2)}{N/2}$$

Where;

CVR	is the content validity ratio.
n_e	is the number of panel members
N	is the number of panel members.

3.9 Research limitations

One potential limitation of the research on the role of localisation of the supply chain in the South African automotive industry is the reliance on self-reported data from the survey participants. This introduces the possibility of response bias or inaccurate information due to recall errors or social desirability bias. Additionally, the use of convenience sampling may limit the generalizability of the findings to the wider population. Moreover, the assumption of population size and certain parameters in the sample size calculation could impact the representativeness of the sample. Finally, external factors such as economic or political changes that may influence supply chain localisation efforts could introduce confounding variables that are beyond the control of the research.

3.10 Summary of the chapter

In this chapter, the empirical research methodology employed for this study is detailed, offering a comprehensive understanding of the research processes and procedures. The outlined methodology not only guided the study's execution but also provided information on the research aim, participant details, approach, and selected sampling method. Furthermore, an exploration of the various data collection methods and the statistical tools applied to present and interpret the gathered information is presented.

The research instrument utilised in this study demonstrated both reliability and validity, delivering meaningful insights aligned with the study's objectives. Chapter 4 showcases the obtained data results and endeavours to derive insightful conclusions based on the collected information.

4 RESULTS AND DISCUSSIONS

This chapter is organized into sections corresponding to each research hypothesis. The results obtained from the questionnaire survey are presented, followed by in-depth discussions that contextualize the findings within the existing literature and industry practices. The insights gained from the mixed-method research approach provide a holistic understanding of the role of supply chain localisation in the South African automotive industry.

4.1 Results of Qualitative and Quantitative Research

This section outlines the results of the study with reference to the main aim of the study, which investigate the role of localisation of the supply chain in the South African automotive industry. The aim was broken down into sub-objectives which are to determine how institutional dynamics affect the implementation of localisation, identify suitable localisation strategies and analyse the impact of localisation practices.

Employing a mixed-method research design, the study integrates quantitative data from a structured questionnaire survey with qualitative insights derived from open-ended questions and document analysis. However, the qualitative study delved into the nuances of supply chain localisation in the South African automotive industry, offering invaluable insights that complemented the quantitative findings. Through in-depth open-ended inquiries, the qualitative analysis provided a richer understanding of the contextual factors influencing the adoption of localisation strategies. One prominent qualitative insight revealed the intricate challenges faced by organisations in maintaining strong supplier relationships, including issues related to globalisation, government policies, and quality concerns. This qualitative dimension brought forth the human and contextual aspects that quantitative data alone may not capture, shedding light on the complex dynamics and intricacies of the industry's supply chain localisation efforts.

The survey was distributed among key stakeholders in the South African automotive industry, including automotive component manufacturers, suppliers, and other relevant entities. The mixed-method approach allows us to capture a comprehensive understanding of the complexities and nuances surrounding supply chain localisation.

4.1.1 Section A: Demographic and organisation data

The questionnaire survey encompasses a range of variables related to localisation practices, government regulations, organisational structures, and enterprise development. In total 286 individuals participated in the survey, yielding a response rate of 81.7%.

Figure 3(a) illustrates the organisational structures of the participants, indicating that 83% are from Original Equipment Manufacturers (OEMs), while 13% represent automotive components manufacturers. In Figure 3(b), the distribution of participants' working experience is detailed, with 40% having more than 15 years in the automotive industry, followed by 23% with 1-5 years of experience and 20% with 6-10 years. Figure 3(c) highlights that 61% of participants are affiliated with enterprise organisations boasting more than 1000 employees, while large organisations constitute 16%. Finally, Figure 3(d) delineates the participants' positions within their respective organisations, with 38% in operations and manufacturing, followed by 29% in planning, and 26% in procurement, logistics, and distribution.

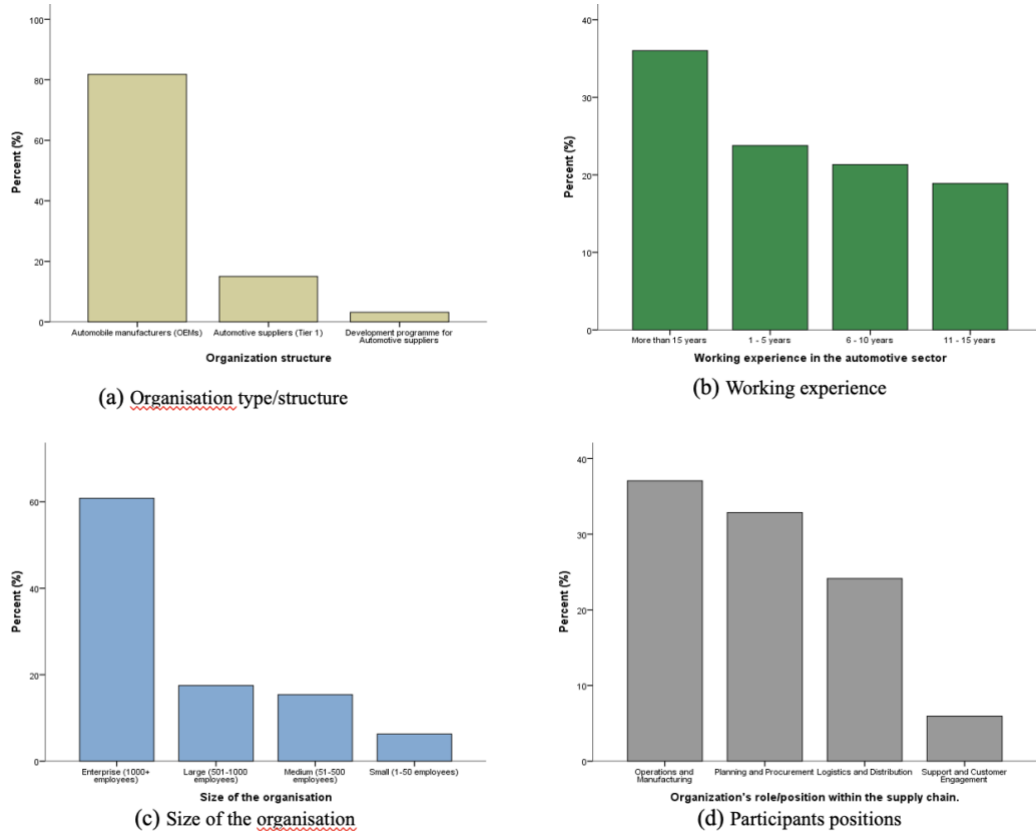


Figure 3: Demographic and organisation analysis

4.1.2 Section B: Quantitative Analysis

4.1.2.1 Localisation policies

Figure 4 (a) shows the analysis that examines the view of the respondents on well-defined policies related to localisation efforts in their companies, categorized by organisational size. The Chi-Square tests reveal a statistically significant association (65.985, $df = 9$, $p = 0.000$). Notably, in larger enterprises (1000+ employees), opinions are varied, with 49.4% agreeing and 35.6% strongly agreeing ($N=286$). In contrast, medium-sized (51-500 employees) and small organisations (1-50 employees) demonstrate a more unified positive stance, with 61.4% and 50.0% agreement, respectively. Large organisations (501-1000 employees) display a divided perspective, with 34.0% agreement, 48.0% disagreement, and 18.0% strongly disagree. These findings underscore the need for nuanced approaches to communication and implementation of localisation policies based on organisational size, recognizing variations in perceptions among different-sized entities.

The Chi-Square test was conducted to examine the relationship between organisational size and employees' perceptions of the effective implementation of localisation policies within the supply chain. The results, with highly significant p-values of 0.000 for Pearson Chi-Square (90.973, $df=9$), indicate a robust association. Breaking down responses by organisational size reveals nuanced patterns. Larger enterprises (1000+ employees) exhibit a majority (74.1%) agreement, while large organisations (501-1000 employees) are more divided, with 48% disagreement (as shown in figure 4(b)). Medium-sized companies (51-500 employees) overwhelmingly agree (81.8%), and smaller organisations (1-50 employees) show an even split. Overall, 66.8% agree across all sizes, emphasizing a notable correlation between organisation size and perceptions of successful localisation policy implementation within the supply chain.

The Chi-Square test results with Pearson Chi-Square (105.483, $df = 6$) values, with highly significant p-values of 0.000, reveal a significant association between the perceived positive impact of localisation policies on supply chain performance and organisational size. Analysing the breakdown by size categories, larger enterprises (1000+ employees) showcase a substantial agreement, with 46.0% agreeing and 44.8% strongly agreeing. In contrast, large organisations (501-1000 employees) exclusively report strong agreement at

100.0% (see Figure 4(c)). Medium-sized companies (51-500 employees) also exhibit a majority (61.4%) agreement. Small organisations (1-50 employees) display an equal split between agree and disagree. Overall, 50.7% of respondents agree that localisation policies positively impact supply chain performance, emphasizing a noteworthy connection between organisation size and perceptions of the beneficial effects of localisation policies.

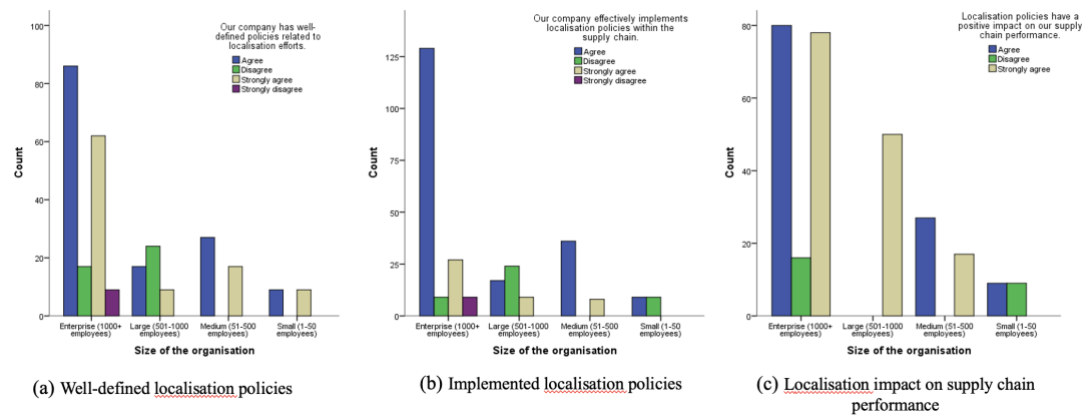


Figure 4: Localisation policies and the size of the organisation

Figure 5(a) explores the respondents' perceptions of well-defined localisation policies within the automotive sector, focusing on distinct organisational segments. The Chi-Square tests reveal a statistically significant association between the nature of the organisation within the automotive sector and opinions on well-defined localisation policies (32.304, $df = 6$, $p = 0.001$). Specifically, automobile manufacturers (OEMs) express a combined positive sentiment of 78.6%, whereas automotive suppliers (Tier 1) demonstrate a more unanimous positive stance at 100.0%, with 60.5% agreeing and 39.5% strongly agreeing.

Figure 5(b) shows the results of the respondents' perceptions of the effective implementation of localisation policies within the supply chain, categorized by the nature of their organisations within the automotive sector. The Chi-Square test results indicate no statistically significant association between the organisational nature and opinions on the implementation of localisation policies (7.937, $df = 6$, $p = 0.243$) tests yield p-values above the conventional significance level of 0.05. Examining the table, the majority of respondents across all segments express agreement with the effective implementation of localisation policies, with notable percentages in the range of 60.5% to 66.7%. These findings suggest that, based on the current data, the nature of the organisation within the

automotive sector does not significantly influence opinions on the successful implementation of localisation policies within the supply chain.

Figure 5(c) shows the results of the respondents' perspectives on the positive impact of localisation policies on supply chain performance, categorized by the nature of their organisations within the automotive sector. The Chi-Square test results indicate a highly significant association between the organisational nature and opinions on the positive impact of localisation policies (24.303, df=4 p = 0.000). The majority of respondents from all segments express agreement with the positive impact of localisation policies on supply chain performance, with particularly high percentages among development programs for automotive suppliers (100.0%) and automobile manufacturers (OEMs) (55.1%). These findings underscore a robust association between the nature of the organisation within the automotive sector and perceptions of the positive impact of localisation policies on supply chain performance.

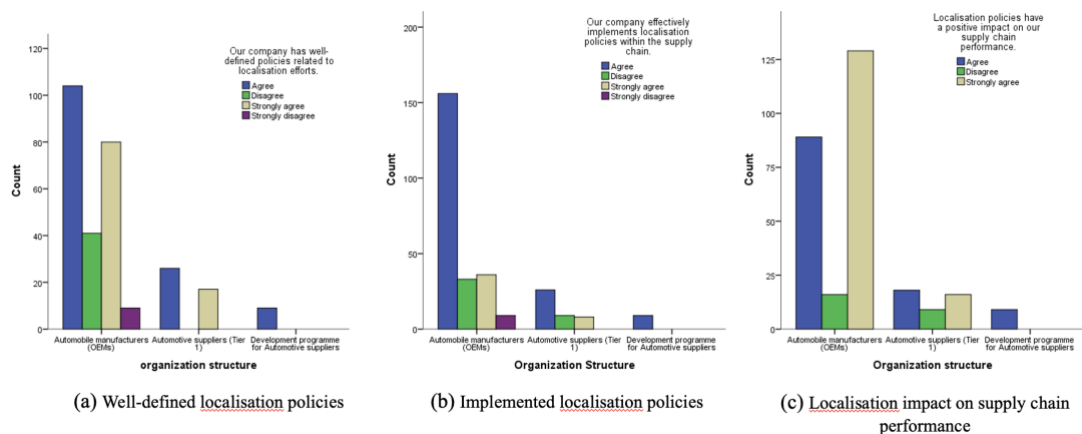


Figure 5: Localisation policies and the organisation structure

4.1.2.2 Government regulations

The survey on government regulations to understand the perception of the employees on the impact of government regulations and the strategies of the company in response to the regulations. Figure 6(a) explores the perceptions of the respondents on government support for localisation initiatives within the automotive sector, categorized by the nature of their organisations. Notably, among automobile manufacturers (OEMs), 50.9% agree and 26.5% strongly agree, constituting a combined positive sentiment of 77.4%. In contrast, automotive suppliers (Tier 1) display a more divided perspective, with 20.9% agreeing, 58.1% disagreeing, and 20.9% strongly disagreeing. The associated Chi-Square

tests confirm a highly significant association between the nature of the organisation within the automotive sector and opinions on government support (67.690, $df=6$, $p=0.000$).

Figure 6(b) shows the results of the respondents' opinions regarding the impact of government regulations on achieving localisation goals within the automotive sector, categorized by the nature of their organisations. Among automobile manufacturers (OEMs), 37.2% agree, and 47.4% strongly agree, constituting a significant combined percentage of 84.6% expressing positive views on the substantial impact of government regulations. In contrast, automotive suppliers (Tier 1) display a more diverse perspective, with 58.1% agreeing, 20.9% disagreeing, and 20.9% strongly disagreeing. The associated Chi-Square Tests confirm a highly significant association between the nature of the organisation within the automotive sector and opinions on the impact of government regulations (31.200, $df=6$, $p=0.000$).

Figure 6(c) shows the results of the prioritization of compliance with government regulations in localisation strategies within the automotive sector, categorized by the nature of respondents' organisations. Among automobile manufacturers (OEMs), 26.1% agree, and a substantial 70.1% strongly agree, forming a dominant combined percentage of 96.2% expressing a commitment to regulatory compliance. In contrast, automotive suppliers (Tier 1) overwhelmingly prioritize compliance, with 79.1% agreeing and 20.9% strongly agreeing. The associated Chi-Square Tests confirm a highly significant association between the nature of the organisation within the automotive sector and opinions on the prioritization of compliance with government regulations in localisation strategies (51.530, $df=4$, $p=0.000$). These findings underscore the pervasive commitment to regulatory compliance in localisation strategies within the automotive sector, with variations across different organisational segments.

Figure 6(d) explores the impact of government regulations on the adoption of localisation measures within organisations in the automotive sector, categorized by the nature of the organisations. Among automobile manufacturers (OEMs), 51.3% agree, and 33.3% strongly agree, forming a combined positive sentiment of 84.6% expressing the view that government regulations influence the adoption of localisation measures. In contrast, automotive suppliers (Tier 1) overwhelmingly agree, with 79.1% and 20.9% strongly agree. The associated Chi-Square Tests confirm a highly significant association between the nature of the organisation within the automotive sector and opinions on the impact of government regulations on the adoption of localisation measures (20.601, $df=6$, $p=0.002$). The findings support Juman et al. (2023), who reveal the importance of

government regulations imposing a significant regulatory burden on business. According to Sturgeon et al. (2009:11), governments globally have recognized the positive outcomes generated by investments in the automotive sector and the ripple effect it creates in terms of economic growth, development, and technology transfer. As a result, governments are actively prioritizing efforts to position their countries as attractive destinations for automotive investments. These findings underscore substantial variations in perceptions of government support for localisation initiatives based on the organisational nature within the automotive sector.

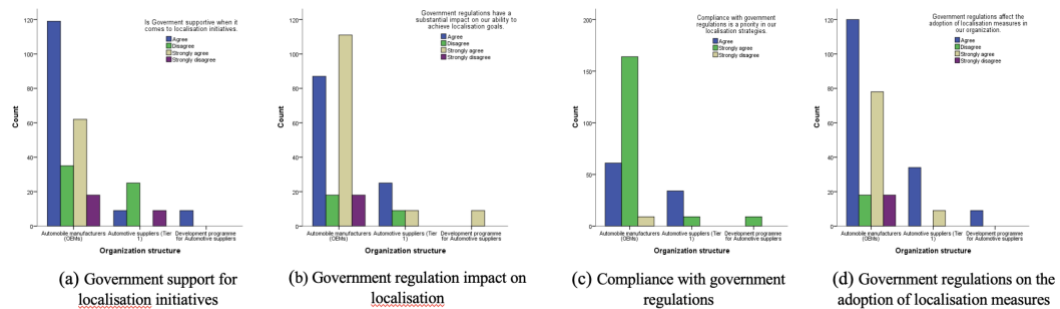


Figure 6: Government Regulations and the structure of the organisation

4.1.2.3 Enterprise and supplier development

The response from participants on enterprise and supplier development shows that companies monitor the ESD as the requirement influences the selection of suppliers and the companies are consistent in meeting the scorecard target. Figure 7(a) reveals the results obtained when examining the relationship between the size of organisations, as defined by the number of employees, and their active monitoring and improvement of the enterprise support and Supplier Development scorecard. The results reveal varying levels of engagement across different organisation sizes. In enterprises (1000+ employees), 60 agree, and 43 strongly agree, forming a substantial combined percentage of 68.4% actively monitoring and improving their scorecard. Large organisations (501-1000 employees) also exhibit active engagement, with 66% agreeing and 34% strongly agreeing. The associated Chi-Square tests confirm a highly significant association between the size of organisations and their active monitoring and improvement of the scorecard (77.851, df=9, p=0.000). Figure 7(b) shows the results of the investigation of the relationship between the size of organisations, as classified by the number of employees, and the influence of compliance with scorecard requirements on the supplier selection process. The data reveals varied patterns of influence across different organisation sizes. In enterprises (1000+

employees), a substantial 49.4% agree, and 35.6% strongly agree, forming a combined percentage of 85% indicating that compliance with scorecard requirements significantly influences their supplier selection process. Large organisations (501-1000 employees) also demonstrate a strong impact, with 84% agreeing and 16% strongly agreeing. The associated Chi-Square tests confirm a highly significant association between the size of organisations and the influence of scorecard compliance on the supplier selection process (100.853, df=9, p=0.000).

Figure 7(c) depicts the analysis examining the relationship between the size of organisations, based on the number of employees, and their perceptions regarding the impact of meeting scorecard targets on reputation and business opportunities. The data reveals diverse patterns across organisation sizes. In enterprises (1000+ employees), a significant 40.2% agree, and 44.8% strongly agree, forming a combined percentage of 85% expressing the belief that meeting scorecard targets enhances their reputation and business opportunities. Large organisations (501-1000 employees) also exhibit positive perceptions, with 66% agreeing and 34% strongly agreeing. The associated Chi-Square tests confirm a highly significant association between organisational size and the perception that meeting scorecard targets enhances reputation and business opportunities (79.171, df=9, p=0.000), emphasizing the role of organisational size in shaping these perceptions.

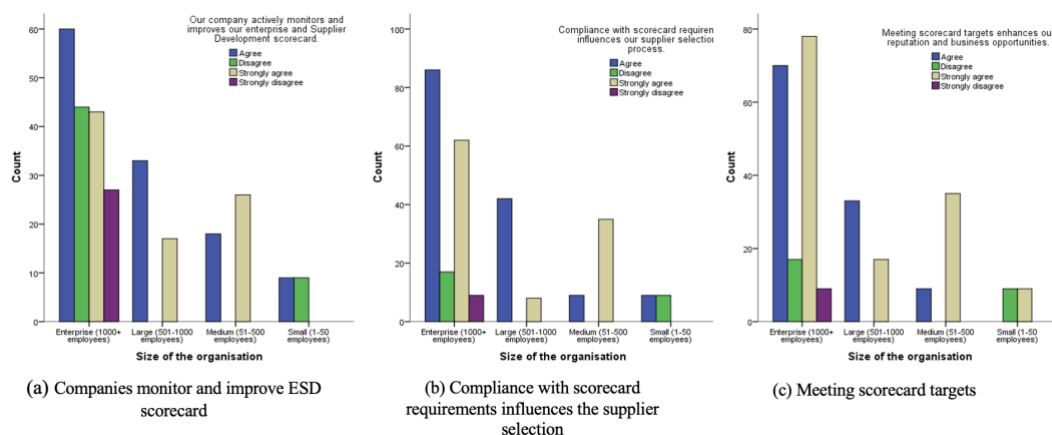


Figure 7: Enterprise and supplier development and the size of the organisation

4.1.2.4 Import Taxation

The responses from the participants show that import taxation strongly influences the supplier sourcing processes and the financial spending on local suppliers. However, 29%

of the participants feel the companies are not forced by the higher import taxation to localise the supply chain. Analysis in Figure 8(a) examines the relationship between the organisation's classification within the automotive sector and the influence of import taxation policies on the decision to source from local suppliers. Among automobile manufacturers (OEMs), a substantial 79.9% express agreement or strong agreement that import taxation policies affect their decision to source locally. However, automotive suppliers (Tier 1) and participants in the Development Programme for Automotive Suppliers exhibit more diverse responses, with no statistically significant association between the organisation's classification and the impact of import taxation policies, as indicated by both Pearson Chi-Square (2.629, $df=4$, $p=0.622$).

Figure 8(b) presents the analysis examining the correlation between the organisation's classification within the automotive sector and the inclination to prioritize local suppliers in response to higher import taxation. Among automobile manufacturers (OEMs), 72.3% express agreement or strong agreement, while automotive suppliers (Tier 1) and participants in the Development Programme for Automotive Suppliers display varied sentiments. However, the associated Chi-Square tests reveal no statistically significant association between the organisation's classification and the impact of higher import taxation on prioritizing local suppliers (1.217, $df=4$, $p=0.875$). These results suggest that the response to higher import taxation may not be significantly influenced by the organisation's classification within the automotive sector.

The results in Figure 8(c) explore the relationship between the organisation's classification within the automotive sector and the perceived impact of import taxation on the financial expenditure on local suppliers. Among automobile manufacturers (OEMs), a significant portion, 69.2%, agrees or strongly agrees, while 25.0% of automotive suppliers (Tier 1) and 33.3% of participants in the Development Programme for Automotive Suppliers express agreement or strong agreement. The associated Chi-Square tests indicate no statistically significant association between the organisation's classification and the perceived impact of import taxation on financial spending on local suppliers (2.183, $df=4$, $p=0.702$). These results suggest that the financial impact of import taxation on local supplier spending may not vary significantly based on the organisation's classification within the automotive sector.

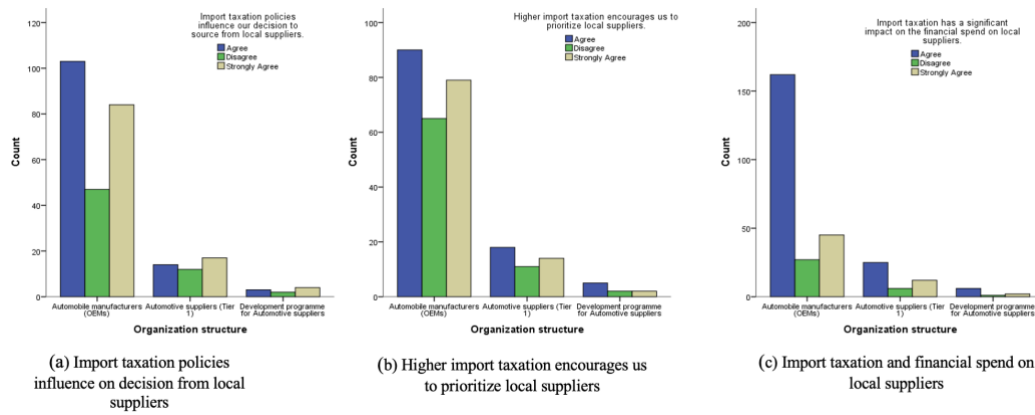


Figure 8: Import Taxation and the structure of the organisation

Figure 9(a) presents a relationship between the size of the organisation, as determined by the number of employees, and the influence of import taxation policies on the decision to source from local suppliers. Notably, among enterprises with 1000 or more employees, 44.8% strongly agree and 26.4% agree, indicating a substantial impact of import taxation policies on sourcing decisions. The Chi-Square tests reveal a statistically significant association between the size of the organisation and the influence of import taxation policies on sourcing decisions (34.011, $df=6$, $p=0.000$). These results suggest that the impact of import taxation policies on sourcing decisions varies significantly based on the size of the organisation.

In Figure 9(b), the graph illustrates the relationship between the size of the organisation, categorized by the number of employees, and the impact of higher import taxation on prioritizing local suppliers. Notably, among enterprises with 1000 or more employees, 34.5% strongly agree and 34.5% agree, indicating a considerable inclination to prioritize local suppliers in response to higher import taxation. The Chi-Square tests indicate a statistically significant association between the size of the organisation and the influence of higher import taxation on the prioritisation of local suppliers (38.513, $df=6$, $p=0.000$). These findings emphasize the need for organisations, particularly larger ones, to consider the impact of import taxation policies when determining supplier prioritisation strategies.

In Figure 9(c), the graph illustrates the relationship between the size of the organisation, based on the number of employees, and the impact of import taxation on the financial spend on local suppliers. Notably, among enterprises with 1000 or more employees, 29.3% strongly agree and 29.3% agree, indicating a substantial impact on financial spending in favour of local suppliers. The Chi-Square tests reveal a statistically significant association between the size of the organisation and the impact of import taxation on financial spending for local suppliers (39.692, $df=6$, $p=0.000$).

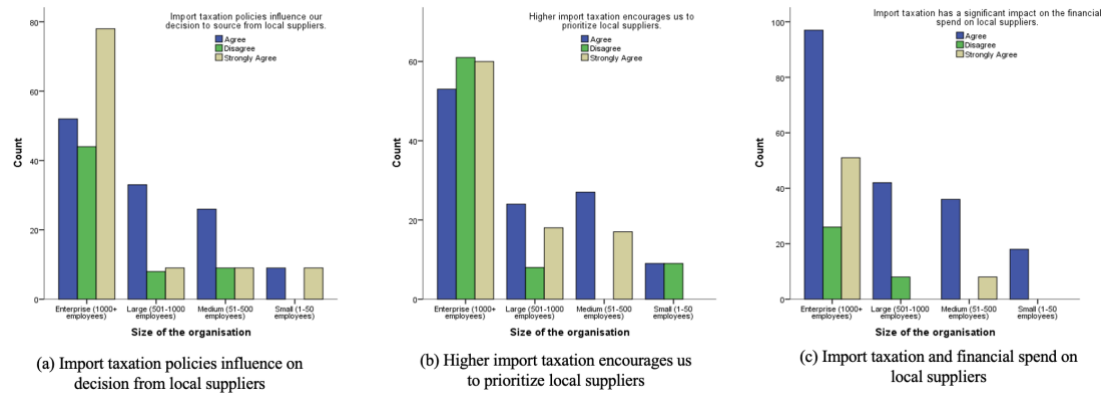


Figure 9: Import Taxation and the size of the organisation

4.1.2.5 Localisation measures

The response on localisation measures shows that companies measure the percentage of local content and strongly believe that it contributes positively to the competitiveness of the companies in the market. In Figure 10(a), the graph explores the association between the organisation's type within the automotive sector and the active measurement of the percentage of local content in products. Among automobile manufacturers (OEMs), 48.7% strongly agree and 40.6% agree that they actively measure local content, reflecting a significant emphasis on tracking the proportion of local materials in their products. Automotive suppliers (Tier 1) also exhibit a substantial proportion, with 58.1% agreeing and 20.9% strongly agreeing. The Chi-Square tests indicate a statistically significant relationship between the organisation's type and the active measurement of local content (29.543, df=6, p=0.000).

Figure 10(b) examines the relationship between the type of organisation within the automotive sector and the allocation of budget to local suppliers. Among automobile manufacturers (OEMs), 52.6% agree and 11.1% strongly agree that they allocate a significant portion of their budget to local suppliers, highlighting a substantial commitment to supporting local businesses. In comparison, automotive suppliers (Tier 1) demonstrate a similarly strong inclination, with 79.1% agreeing and 20.9% strongly agreeing. The Chi-Square tests indicate a statistically significant association between the organisation's type and the allocation of budget to local suppliers (70.565, df=6, p=0.000). This underscores the prevalent trend within both OEMs and Tier 1 suppliers in the automotive sector to prioritise and allocate resources to local suppliers.

The graph in Figure 10(c) illustrates the perceptions of organisations within the automotive sector regarding the positive contribution of localisation measures to market

competitiveness. Among Automobile manufacturers (OEMs), a substantial majority agrees or strongly agrees (92.8%) with this statement, while only a small percentage disagrees (3.4%). The Chi-Square tests indicate a statistically significant association between the type of organisation and their perception of localisation measures positively contributing to market competitiveness (36.888, df=6, p=0.000).

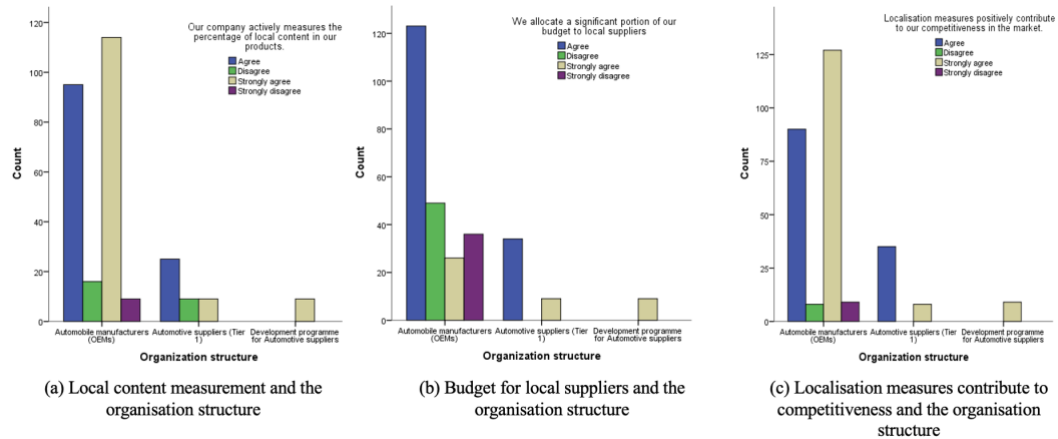


Figure 10: Localisation Measures and the structure of the organisation

4.1.3 Section C: Qualitative Analysis

Data coding

Examining raw data might seem interesting, but it does not help to understand the social world or what participants think unless we analyse the data systematically. One crucial part of this analysis is coding or categorizing the data, which means breaking it down and putting it into different groups (Dev, 1993; Basit, 2003). Codes or categories act like tags or labels that we use to make sense of the information gathered during a study. Usually, these codes are attached to chunks of text, like words, phrases, sentences, or paragraphs, whether they're related or not in a particular context.

4.1.3.1 Challenges encountered by organisations in maintaining strong supplier relationships

The bar graph in Figure 11 illustrates the key challenges in maintaining a strong supplier relationship with local suppliers in the automotive industry, focusing on areas such as reliability and consistency, cost management and financial challenges, quality control and assurance, skills and technical capacity, supplier relationship management, government and policy impact, and supplier capacity and infrastructure. Reliability and consistency are the most significant challenges, identified by around 23% of respondents, followed by

cost management and financial challenges at 19%, and quality control and assurance at 19%. Skills and technical capacity also pose a notable challenge for about 16% of respondents, highlighting the importance of suppliers' technical expertise.

Challenges such as supplier relationship management and government and policy impact are less significant but still notable, each affecting around 10% of respondents. Supplier capacity and infrastructure are the least cited challenges, with less than 5% of respondents identifying them as major issues. Overall, the feedback emphasizes the critical need for reliable, cost-effective, and high-quality supplier performance, along with strong technical capabilities and effective relationship management to maintain robust supplier partnerships.

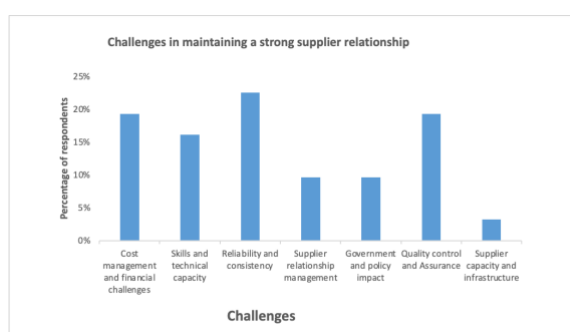


Figure 11: Challenges in maintaining a strong supplier relationship

4.1.3.2 Impact of supply chain localisation on innovation within the organisation

The graph in Figure 12 highlights the primary challenges associated with implementing innovation in localised supply chains. The most significant challenge identified is empowerment and innovation, with around 35% of respondents indicating it as a major issue. This suggests that fostering a culture of innovation and empowering stakeholders within the supply chain is critical but challenging. Efficiency and supply chain management is the next significant challenge, noted by approximately 26% of respondents, emphasizing the need for effective management practices to enhance the efficiency of localised supply chains. Knowledge transfer and skills development is also a notable challenge, affecting about 23% of respondents, highlighting the necessity for effective dissemination of knowledge and skills to support innovative practices.

Economic and employment impact is identified by around 13% of respondents as a concern, reflecting the broader implications of supply chain innovation on local economies and job markets. Meanwhile, Financial Constraints and R&D investment are the least significant challenges, with 3% of respondents considering it a major issue. This

indicates that while financial aspects and investment in research and development are important, they are not the primary barriers to innovation in supply chain localisation. Overall, the feedback underscores the need to focus on empowerment, efficiency, and skill development to successfully implement innovation in localised supply chains, while also considering the broader economic impacts.

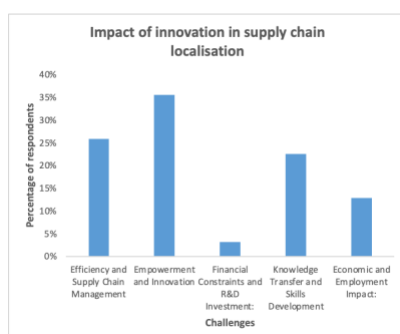


Figure 12: The flow of innovation and localisation

4.1.3.3 Measures to address local supply chain disruptions.

The graph in Figure 13 summarizes various strategies employed to mitigate potential disruptions in the local supply chain. The most significant measures identified by respondents are inventory management and supplier relationship management, each highlighted by approximately 21% of respondents. This indicates that maintaining optimal inventory levels and fostering strong relationships with suppliers are crucial for ensuring a stable and reliable supply chain. Additionally, Risk Assessment and Contingency Planning, and Supplier Diversification are also considered vital measures, each noted by roughly 19% of respondents. These strategies emphasize the importance of assessing potential risks, having contingency plans in place, and diversifying suppliers to reduce dependency and enhance resilience.

Other measures identified include supply chain visibility and communication, which is considered important by about 14% of respondents, underscoring the need for clear communication and visibility throughout the supply chain to address issues proactively. Resilient infrastructure is noted by about 5% of respondents, indicating the need for robust infrastructure to support supply chain operations. Continuous improvement is the least emphasized measure, with only about 2% of respondents highlighting it. This suggests that while continuous improvement is recognised as beneficial, it is considered less critical compared to other measures in preventing local supply chain disruptions. Overall, the graph underscores the importance of proactive and strategic approaches such

as effective inventory management, strong supplier relationships, thorough risk assessment, and supplier diversification in maintaining a resilient supply chain.

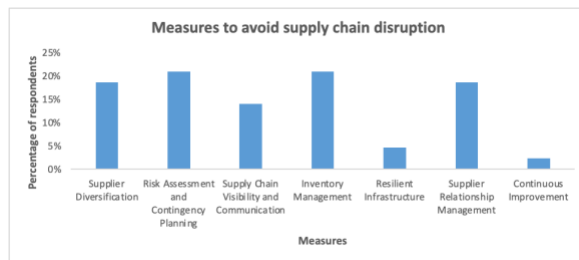


Figure 13: Measures in place to avoid local supply chain disruptions

4.1.3.4 Challenges encountered in transportation logistics when working with local suppliers.

The bar chart in Figure 14 presents summarizes responses from participants in the South African automotive industry regarding transportation logistics challenges when working with local suppliers and the corresponding strategies to address them. The challenges are categorized into five areas: cost management and efficiency, infrastructure and reliability, supplier relationships and risk management, operational strategies and technology integration, and community and environmental considerations. Among these, supplier relationships and risk management are the most significant challenges, with around 32% of respondents identifying it as a major concern. This underscores the critical importance of maintaining robust supplier relationships and effectively managing associated risks in the logistics sector.

Following this, Infrastructure and Reliability is highlighted by about 26% of respondents, indicating significant concerns regarding the reliability and adequacy of infrastructure necessary for effective logistics operations. Operational strategies and technology integration are the next most significant challenge, cited by approximately 19% of respondents. This reflects the need for innovative strategies and advanced technological solutions to improve operational efficiency. Cost Management and Efficiency is also a notable challenge, recognized by around 19% of respondents, emphasizing the ongoing need to manage costs effectively while maintaining efficient operations. Finally, community and environmental considerations is the least cited challenge, with about 3% of respondents indicating it, suggesting that while it is a concern, it is less pressing compared to the other issues identified.

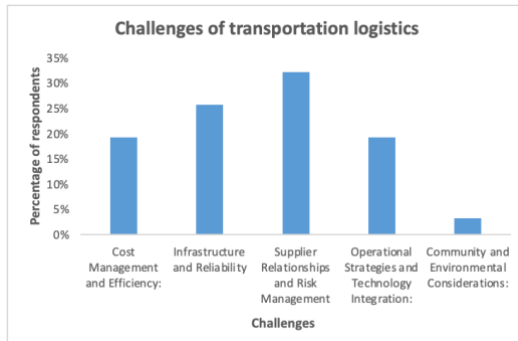


Figure 14: Transportation logistics challenges when working with local suppliers

4.1.3.5 Changes in customer satisfaction as a result of supply chain localisation.

The graph in Figure 15 illustrates the perceptions of the respondents of whether there have been noticeable changes in customer satisfaction as a result of localised supply chain practices. A significant majority, approximately 68%, indicated that they have observed changes in customer satisfaction. This suggests that most respondents have noticed either improvements or declines in how satisfied customers are with the services or products provided.

On the other hand, around 30% of respondents did not observe any changes in customer satisfaction, indicating a smaller portion of respondents perceive the customer satisfaction levels as stable. The discrepancy between these two groups highlights that changes in customer satisfaction are a notable issue for the majority but not universally acknowledged. This variation could be due to differences in industries, regions, or specific business practices that impact customer satisfaction differently. Overall, the data points to a trend where a substantial number of respondents are attuned to shifts in customer satisfaction, potentially influencing their strategies and operations to address these changes.

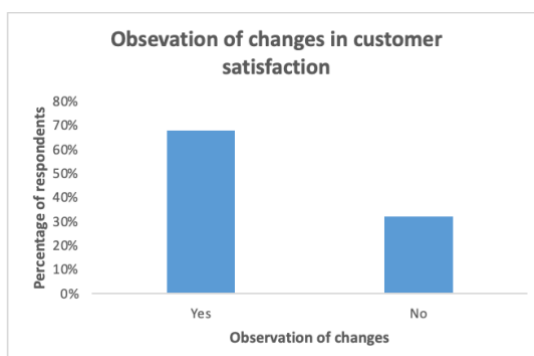


Figure 15: Customer satisfaction due to localisation

4.2 Discussion

The primary focus of this research was to investigate the role of supply chain localisation in the South African automotive industry. The study was guided by several research objectives aimed at understanding the impact of institutional dynamics, identifying suitable localisation strategies, and analysing the specific effects on various elements of the industry's supply chain networks. The research questions and hypotheses provided a structured framework for investigating these objectives. The results show a significant difference between the variables that affect the adoption of supply chain localisation and the structure and size of the organisation.

The investigation into the adoption of localisation in the automotive supply chain yielded insightful findings, shedding light on the intricate interplay between institutional dynamics, strategies, and the broader implications for supply chain networks. This discussion aims to delve into the key outcomes, drawing connections to existing literature and contextualizing the implications for the South African automotive industry.

4.2.1 Adoption of localisation policies and organisational dynamics

The first research question (RQ1) delved into understanding how institutional dynamics affect the adoption of localisation in the automotive supply chain. The results indicate a significant correlation between the implementation of localisation policies and the organisational structure and size. Larger enterprises, particularly those categorized as "Enterprise" and "Large," demonstrated a higher level of agreement with the effective implementation of localisation policies. This aligns with the existing body of literature highlighting the influence of organisational size on strategic decisions (Elbanna et al., 2020). The insights suggest that as organisations grow in size, there is a heightened commitment and positive perception of localisation policies, potentially driven by increased resources and capabilities.

4.2.2 Strategies for enhanced efficiency

Addressing RQ2, which focuses on identifying suitable localisation strategies, the study highlights the need for nuanced approaches based on organisational characteristics. The analysis of responses reveals variations in perceptions among different-sized entities, emphasizing the importance of tailored strategies. Larger organisations, particularly those

with 1000 or more employees, exhibit diverse opinions on well-defined policies related to localisation efforts, suggesting the necessity for customized communication and implementation strategies. This resonates with the findings of Gattorna (2017), who emphasized the necessity of aligning strategies with organisational size for effective supply chain management.

4.2.3 Impact on supply chain networks

RQ3 explores the impact of localisation practices on various elements of the industry's supply chain networks. The results underscore a robust association between the nature of the organisation within the automotive sector and perceptions of the positive impact of localisation policies on supply chain performance. Automobile manufacturers (OEMs) and Tier 1 suppliers exhibit varying perspectives, indicating the need for context-specific approaches to localisation measures. Respondents express a positive view of the impact of government regulations on achieving localisation goals, with OEMs particularly acknowledging the substantial influence of regulations. These findings align with earlier research by Sakuramoto et al. (2019), emphasizing the importance of considering industry-specific factors in supply chain decisions.

4.2.4 Government regulations and Enterprise development

Hypotheses H3 and H4, which posit a significant association between government regulations, organisational structure, and enterprise and supplier development, were partly supported. Government regulations displayed a notable impact on the perceptions of organisations within the automotive sector. This finding aligns with Sturgeon et al. (2008) assertion that governments globally recognize the positive outcomes generated by investments in the automotive sector, emphasizing the need for organisations to navigate regulatory landscapes. Humphrey and Oeter (2000) emphasized that robust government backing in developing nations has played a crucial role in promoting industrial growth. Hence, a well-designed and efficient policy is imperative to ensure the competitiveness of the domestic automotive industry, making it appealing for foreign direct investment. The attractiveness of the industry relies on the active intervention and support of the government to create a competitive and conducive environment. This finding is consistent with Flatters (2005), who asserted that government intervention, support, and appealing incentives are recognized as the most crucial factors influencing the expansion of the automotive component industry.

4.2.5 Import taxation and organisational characteristics

H5 and H6, suggesting a significant relationship between import taxation, organisational structure, and size when adopting supply chain localisation, found partial support. The study identified variations in responses based on organisational size, emphasizing the need for organisations, particularly larger ones, to consider the impact of import taxation policies when determining supplier prioritization strategies. Respondents acknowledge the influence of import taxation policies on the decision to source from local suppliers and the financial spending on local suppliers. This aligns with research by Li et al. (2023), who emphasized the impact of taxation policies on strategic decision-making in the automotive sector. The outcomes of these findings align with Barnes (2010), who articulated that the South African automotive component manufacturing industry faces substantial competitiveness challenges due to low import tariffs. Therefore, the imposition of tariffs is essential to alleviate the trade deficit experienced by the South African automotive industry in recent years.

4.2.6 Localisation measures and competitive edge

H7, proposing a positive influence of the relationship between localisation measures and organisational structure or type, received support from the findings. Organisations within the automotive sector, particularly OEMs, expressed a belief in the positive contribution of localisation measures to market competitiveness. Respondents actively measure the percentage of local content and allocate budgets to local suppliers, emphasizing a commitment to supporting local businesses. This resonates with the broader literature on the strategic advantages gained through effective localisation measures (Singh, 2011).

4.2.7 Impact of localisation practices on the supply chain networks

The results indicate that the localisation of supply chains in the South African automotive industry faces significant challenges across various areas. Key issues include maintaining strong supplier relationships, with reliability, consistency, cost management, and quality control being major concerns. Fostering innovation is critical yet challenging, requiring empowerment, efficient management, and effective knowledge transfer. Measures to address disruptions emphasize the importance of inventory management, supplier relationships, risk assessment, and diversification. Transportation logistics challenges involve managing supplier relationships and risk, infrastructure reliability, and operational

strategies. Moreover, 68% of respondents observed changes in customer satisfaction due to localisation practices, highlighting the direct impact on customer perceptions.

This analysis supports the theory that effective supply chain localisation necessitates addressing both technical and relational aspects. Reliable supplier performance, continuous skill development, and strategic relationship management are crucial for overcoming localisation challenges (Bohnenkamp et al., 2020; Linati, 2021). Additionally, fostering a culture of innovation and implementing comprehensive risk management and operational strategies are essential for mitigating disruptions and enhancing supply chain resilience. The emphasis on infrastructure and technology integration further underscores the need for robust systems to support localised supply chains.

The data suggest that localised supply chain practices significantly impact the dynamics and optimisation of supply networks in the South African automotive industry. Addressing challenges in supplier relationships and transportation logistics requires strategic coordination and investment in supplier capabilities. Observed changes in customer satisfaction due to localisation efforts indicate that aligning supply chain practices with customer expectations is vital for maintaining competitiveness. Continuous improvement in innovation, efficiency, and skill development is crucial for achieving long-term success in the automotive industry.

4.2.8 Summary

In conclusion, this study provides valuable insights into the complex dynamics of localisation adoption in the South African Automotive industry. The findings underscore the significance of organisational characteristics, government support, and tailored strategies for effective supply chain localisation. The interplay between institutional dynamics, localisation strategies, and their impact on supply chain networks necessitates a nuanced and comprehensive approach to foster sustainable practices within the automotive industry. These insights contribute to the existing body of knowledge and provide a foundation for future research and industry initiatives.

5 RESEARCH CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In conclusion, this research has provided valuable insights into the dynamics of supply chain localisation within the South African automotive industry. The study successfully addressed its primary objectives, investigating the role of institutional dynamics, identifying localisation strategies, and analysing the specific effects on various elements of the industry's supply chain networks. The findings highlight the nuanced relationship between organisational characteristics, government regulations, and localisation practices. Larger enterprises exhibit a higher commitment to localisation policies, emphasizing the influence of organisational size on strategic decisions. Moreover, the study underscores the importance of tailored strategies for different-sized entities, recognizing the diverse perceptions and needs within the automotive sector. The impact of government regulations, especially in supporting enterprise development, is evident, emphasizing the crucial role of government backing in promoting industrial growth. Importantly, the study reveals the need for organisations, particularly larger ones, to consider the implications of import taxation policies when adopting supply chain localisation. Furthermore, the positive influence of localisation measures on market competitiveness, actively measured through local content and budget allocation, reinforces the strategic advantages of effective localisation practices.

5.2 Recommendations

Based on the findings of this study, several recommendations can be proposed for stakeholders in the South African automotive industry. Firstly, organisations operating in this sector are advised to adopt tailored localisation strategies that align with their respective sizes and structures. Recognizing the varied perceptions and needs of entities within the industry, customization of strategies will contribute to more effective implementation and acceptance across different organisational profiles.

Secondly, there is a strong recommendation for fostering collaboration between automotive organisations and government bodies. Governments play a pivotal role in shaping the regulatory environment, and a strengthened partnership with industry players

can enhance the development and implementation of supportive policies and incentives. This collaborative approach is essential for creating an environment conducive to successfully executing localisation practices within the automotive sector.

Furthermore, stakeholders must prioritize awareness and communication strategies when implementing localisation policies. The study highlights the need for nuanced communication, especially considering the organisational size. Larger enterprises, characterized by diverse opinions, may require more detailed and specific communication approaches to ensure a comprehensive understanding of and alignment with localisation policies. Effective communication is vital for fostering a shared understanding of the benefits and implications of localisation practices across the entire industry spectrum. These recommendations are justified by the study's findings, which revealed that a one-size-fits-all approach is ineffective due to the varied perceptions and needs of entities within the industry.

5.3 Limitations to the study

While this study offers valuable insights into supply chain localisation within the South African automotive industry, it is essential to recognize its limitations. Firstly, the sample size employed in this research raises concerns about the generalizability of the findings to a broader context. A larger and more diverse sample in future research endeavours could contribute to the robustness and applicability of the conclusions. Additionally, the industry-specific focus on the automotive sector in South Africa warrants caution in extrapolating the results to other industries or regions. Future research initiatives should aim to investigate the transferability of these findings, considering variations in industry dynamics and geographic contexts. Addressing these limitations would further enrich our understanding of supply chain localisation across diverse sectors and global landscapes. Moreover, the study employs a mixed methodology, implying that the conclusions drawn are based on subjective viewpoints expressed by the participants.

5.4 Future research

A qualitative exploration, through in-depth studies, holds the potential to further unravel the nuanced aspects of organisational perceptions and experiences in the implementation of supply chain localisation. While the current study provides valuable quantitative

insights, qualitative methodologies, such as interviews, focus groups, or case studies, could delve deeper into the intricacies of decision-making processes, challenges faced, and the contextual factors influencing the adoption of localisation strategies. By capturing the qualitative dimensions, researchers can gain a richer understanding of the human and contextual aspects that quantitative data alone may not fully elucidate. This approach would contribute to a more comprehensive and holistic comprehension of the dynamics surrounding supply chain localisation within the organisational fabric of the South African automotive industry.

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APPENDICES

Appendix 1.1: Questionnaire Survey

The following questionnaire seeks to investigate the role localisation of the supply chain in the South African automotive industry. Kindly provide your responses to the best of your understanding. It is important to note that the information collected will be used exclusively for educational purposes and will remain strictly confidential without any sharing.					
I acknowledge that I understand the research , and that the research has been fully explained to me. I also understand that the information which I give to the researcher will be used in the research report. I acknowledge that the researcher have communicated that my participation is voluntary and that my participation will remain anonymous throughout the research study. The researcher have also promised that I can refuse to answer any questions and that I may contact the researcher/supervisor should I have any concerns.					
☐ I agree/Yes					
☐ I disagree/No					
I hereby consent to completing the questionnaire provided for the research study , " The role of localisation of the supply chain in the South African automotive industry"					
☐ I agree/Yes					
☐ I disagree/No					
Questionnaire					
Section A	General information (demographics and organisation summary)				
	Please select the option that most accurately describes your organization within the automotive sector.	(a) Automobile manufacturers (OEMs)	(b) Auto motive suppliers (Tiers)	(c) Dealerships	(d) Industry associations (e) Others
1.		☐	☐	☐	☐
	Please select the option that accurately represents your organization's role or position within the supply chain.	(a) Planning and Procurement	(b) Operations and Manufacturing	(c) Logistics and Distribution	(d) Support and Customer Engagement (e) Others
2.		☐	☐	☐	☐
3.	Please select the option that best describe your working experience in the automotive sector	(a) Less than 1 year	(b) 1 - 5 years	(c) 6 - 10 years	(d) 11 - 15 years (e) more than 15 years
		☐	☐	☐	☐
4	Please select the option that best describe the size of the organisation (Number of employees)	(a) Small (1-50 employees)	(b) Medium (51-500 employees)	(c) Large (501-1000 employees)	(d) Enterprise (1000+ employees) (e) Others
		☐	☐	☐	☐
Section B: Quantitative Measures					
Kindly indicate your degree of agreement with the following statements.					
		Strongly agree 4	Agree 3	Disagree 2	Strongly disagree 1
	Company Policies:				
1	Our company has well-defined policies related to localisation efforts.				
2	Our company effectively implements localisation policies within the supply chain.				
3	Localisation policies have a positive impact on our supply chain performance.				
	Import Taxation:				
4	Import taxation policies influence our decision to source from local suppliers.				
5	Higher import taxation encourages us to prioritize local suppliers.				
6	Import taxation has a significant impact on the financial spend on local suppliers.				
	Localisation Measures:				
7	Our company actively measures the percentage of local content in our products.				
8	We allocate a significant portion of our budget to local suppliers				
9	Localisation measures positively contribute to our competitiveness in the market.				
	Enterprise and Supplier Development (ESD) Scorecard:				
10	Our company actively monitors and improves our enterprise and preferential scorecard.				
11	Compliance with scorecard requirements influences our supplier selection process.				
12	Meeting scorecard targets enhances our reputation and business opportunities.				
RQ1	Government Regulation:				
13	Government regulations affect the adoption of localisation measures in our organization.				
14	Compliance with government regulations is a priority in our localisation strategies.				
15	Government regulations have a substantial impact on our ability to achieve localisation goals.				
16	Is Government supportive when it comes to localisation initiatives				
Section C: Qualitative Measures					
Please provide detailed responses to the following open-ended questions:					
17	What challenges and opportunities do you encounter in maintaining a strong supplier relationship with local suppliers				
18	How does the localization of the supply chain impact the flow of innovation within your organization in the South African automotive industry and What strategies do you employ to foster innovation and knowledge exchange in the context of a localized supply chain?				
19	What measures do you have in place to address potential disruptions in the local supply chain and ensure business continuity?				
20	What challenges do you face in terms of transportation logistics when working with local suppliers, and how do you address them?				
21	Have you observed any changes in customer satisfaction levels as a result of localized supply chain practices, and if so, how?				
Thank you for your participation! Your responses will contribute to the understanding of the impact of localisation measures on the automotive industry in South Africa, including the influence of government regulations.					

Figure 16: Questionnaire

Appendix 1.2: Consent Form

The Role of Localization of the Supply Chain in the South African Automotive Industry.

Name of the Researcher: Masingita Mohlala

Survey Consent Form- Questionnaire

Purpose

The purpose of the Consent Form is to ensure that participants receive comprehensive information regarding the research and their involvement in it. It serves as confirmation that both the researcher and participant have taken necessary measures to protect their rights and welfare. Please read the following statements fully and carefully. By proceeding to take the questionnaire, you are giving your consent.

Summary

I volunteer to take part in this MBA research questionnaire. I understand that the research aims to collect data on the localisation of the supply chain in the context of the South African Automotive industry. The data collected in this questionnaire will be used in an MBA research project and help expand the knowledge base of localisation of the supply chain in the automotive sector.

1. I..... voluntarily agree to participate in this research study.
2. I confirm that I have been given a copy, and read, the Participant Information Sheet and fully understood the information it contained. I have had the opportunity to ask any questions and they have been answered to my satisfaction.
3. I confirm that I have obtained the necessary authorization from my company/organization to participate in this research study and provide the information as required in this questionnaire.
4. I understand that my participation in this project is voluntary. I will not be paid for my involvement. I am free to withdraw from the project at any time, without reason.
5. I have read and understood that all data provided will be treated in strict confidence, and that my name and organisation will be anonymised. I understand that my data will be kept, securely, for a period of 2 years after the survey.
6. I understand that in any report on the results of this research, my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of the people I speak about.
7. I understand that disguised extracts from my survey answers may be quoted in: dissertations, conference presentations, published papers etc.

By proceeding to take this questionnaire, I agree to take part in this research project and to the above 7 statements. Any statements I have concerns with I will discuss with the principal researcher prior to commencing via email at 0405101P@students.wits.ac.za.

By signing this form, I agree and affirm that:

1. I have read and understood the purpose of the information stated above.
2. I am submitting this form and participating in this research project voluntarily and that I was not coerced, forced, threatened or intimidated.

Signature of research participant

Signature of participant

Date

Figure 17: Consent form

APPENDIX 1:3: PARTICIPANT INFORMATION SHEET

Participant Information Sheet

Dear Sir / Madam

You are invited to participate in a research study titled "The Role of Localisation of the Supply Chain in the South African Automotive Industry," conducted by Masingita Onica Mohlala who is pursuing a Master of Business Administration (MBA) degree at the University of the Witwatersrand, Johannesburg. This study is supervised by Dr. Bongani Munkuli. The aim of this research study is to assess the impact of localisation on economic growth, competitiveness, and various localisation programmes in the South African automotive industry's supply chain. Before deciding to participate, it is important for you to understand the purpose of the research, the procedures involved, and your rights as a participant.

If you agree to participate, you will be requested to complete an online questionnaire. The questionnaire will be accessible through a secure online platform, and you can complete it at your convenience. The questionnaire will contain questions related to your experiences, perspectives, and decision-making processes regarding localisation strategies in the automotive industry supply chain. The estimated time to complete the questionnaire is approximately 10-15 minutes.

Your participation in this research study will be kept strictly confidential. Any information or data collected during the study will be anonymized and stored securely. Your identity will be protected, and your responses will only be used for research purposes. The research findings may be presented in aggregate form or in anonymized case studies, ensuring that individual participants cannot be identified.

Participation in this research study is entirely voluntary. Your decision to participate or withdraw will not have any negative consequences or affect your relationship with the researcher or any relevant institution. You have the right to withdraw from the study at any time without providing a reason or explanation.

While there are no direct benefits for participating in this study, your involvement will contribute to expanding knowledge and understanding of localisation strategies in the South African automotive industry supply chain. The risks associated with participating in this study are minimal. However, if you feel uncomfortable answering any questions or discussing specific topics in the questionnaire, you may choose to skip or decline those questions.

If you have any questions or require further information about this research study, please feel free to contact the researcher, Masingita Mohlala, at 0405101P@students.wits.ac.za. If you have any concerns about the ethical conduct of the research or wish to discuss your rights as a participant, please contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za.

By agreeing to participate in this research study, you acknowledge that you have read and understood the information provided in this Participant Information Sheet. You voluntarily agree to participate and provide your informed consent for completing the online questionnaire and the use of anonymized data for research purposes.

Thank you for considering participating in this research study. Your contribution is valuable and greatly appreciated.

Yours sincerely,
Masingita Mohlala

Researcher:
Masingita Onica Mohlala, 0405101P@students.wits.ac.za, +27 84 046 1179

Supervisor:
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Figure 18: Participant information sheet

Appendix 2.2: Ethic Approval

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg



Wits Business School Ethics Committee

Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/BA0405101P/906

This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title Localisation of the supply chain in the South African automotive industry

Investigator / Researcher Mrs Masingita Onica Mohlala

Nature of Project MBA (Research Article)

Decision of the Committee Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.

Issue Date of Certificate 2023-08-10

Expiry date Date of submission of the project / research report

Chairperson Dr Pius Oba
☎ +27 11 717 3976
☎ +27 82 733 6587
✉ pius.oba@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature

01/09/2023

Date:

Figure 19: Ethic approval

Appendix 3.1: Dully filled Questionnaire

1. I acknowledge that I understand the research , and that the research has been fully explained to me. I also understand that the information which I give to the researcher will be used in the research report. I acknowledge that the researcher have communicated that my participation is voluntary and that my participation will remain anonymous throughout the research study. The researcher have also promised that I can refuse to answer any questions and that I may contact the researcher/supervisor should I have may concerns.

☒ I agree/Yes

☐ I disagree/No

2. I hereby consent to completing the questionnaire provided for the research study , " The role of localisation of the supply chain in the South African automotive industry".

☒ I agree/Yes

☐ I disagree/No

Section A

General Information

3. Please select the option that most accurately describes your organization within the automotive sector.

☒ Automobile manufacturers (OEMs)

☐ Automotive suppliers (Tier 1)

☐ Automotive suppliers (Tier 2)

☐ Automotive suppliers (Tier 3)

☐ Other

4. Please select the option that accurately represents your organization's role or position within the supply chain.

☐ Planning and Procurement

☐ Operations and Manufacturing

Section B

Kindly indicate your degree of agreement with the following statements.

7. Localisation policies:

	Strongly agree	Agree	Disagree	Strongly disagree
Our company has well-defined policies related to localisation efforts.	☐	☒	☐	☐
Our company effectively implements localisation policies within the supply chain.	☐	☒	☐	☐
Localisation policies have a positive impact on our supply chain performance.	☒	☐	☐	☐

8. Government Regulation:

	Strongly agree	Agree	Disagree	Strongly disagree
Government regulations affect the adoption of localisation measures in our organization.	☒	☐	☐	☐
Compliance with government regulations is a priority in our localisation strategies.	☒	☐	☐	☐
Government regulations have a substantial impact on our ability to achieve localisation goals.	☒	☐	☐	☐
Is Government supportive when it comes to localisation initiatives.	☐	☐	☐	☐

9. Import Taxation:

	Strongly Agree	Agree	Disagree	Strongly disagree
Import taxation policies influence our decision to source from local suppliers.	☒	☐	☐	☐
Higher import taxation encourages us to prioritize local suppliers.	☐	☒	☐	☐
Import taxation has a significant impact on the financial spend on local suppliers.	☒	☐	☐	☐

10. Enterprise and Supplier Development (ESD) Scorecard:

	Strongly agree	Agree	Disagree	Strongly disagree
Our company actively monitors and improves our enterprise and Supplier Development scorecard.	☐	☐	☒	☐
Compliance with scorecard requirements influences our supplier selection process.	☒	☐	☐	☐
Meeting scorecard targets enhances our reputation and business opportunities.	☒	☐	☐	☐

11. Localisation Measures:

	Strongly agree	Agree	Disagree	Strongly disagree
Our company actively measures the percentage of local content in our products.	☒	☐	☐	☐
We allocate a significant portion of our budget to local suppliers	☐	☒	☐	☐
Localisation measures positively contribute to our competitiveness in the market.	☒	☐	☐	☐

Section C

Please provide detailed responses to the following open-ended questions:

12. What challenges and opportunities do you encounter in maintaining a strong supplier relationship with local suppliers? *

Supplier over commitment on the capacity with other OEMs. One of the major challenges is not meeting the volumes indicated in the RFQ, it affects the relationship with suppliers since they have to put in investments for tools and amortize.

13. How does the localisation of the supply chain impact the flow of innovation within your organisation in the South African automotive industry and What strategies do you employ to foster innovation and knowledge exchange in the context of a localised supply chain? *

Localisation opens good opportunities for the local engineers to be innovative when it comes to supply of parts.. local parts falls under the scope of local operation and thus gives local organisation power to make changes and innovate.. unlike parts from KD which needs Global approval and etc

14. What measures do you have in place to address potential disruptions in the local supply chain and ensure business continuity? *

1. We have buffer stock of specific days within the plant to make sure that when there is disruption in the supply chain the plant still continues for several days.
2. We usually work together with our supplier to support in resolving what every challenges or issues they are facing .
3. Depending on the type of disruption a mode of transportation might have to be changed

15. What challenges do you face in terms of transportation logistics when working with local suppliers, and how do you address them? *

Not having enough parts to fill up the truck, the 3rd party service provider makes a loss. Beeing overcharged by service provider due to LTL. Coordinating the loading days and dates to cater for the milk run of all suppliers around .

16. Have you observed any changes in customer satisfaction levels as a result of localised supply chain practices, and if so, how? *

Not yet - I have not observed that.

Figure 20: Dully filled Questionnaire