

# Assimilating Bush Mechanics into the Small-Scale Motor Industry in Africa: A Personal and Academic Exploration



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## ABSTRACT

Bush mechanics play a crucial role in the automotive repair sector across Africa, particularly in underserved rural and semi-urban areas where formal auto repair services are scarce. These mechanics offer affordable services and provide employment opportunities, yet they operate in an informal sector that faces numerous challenges. This has led to inefficiencies and limited their potential for growth and contribution to national economies. This article, therefore, explored the significance of bush mechanics within Africa's motor industry, particularly in South Africa, and the challenges they face in formalizing their operations. It also sought to identify strategies to integrate them into the formal economy, thereby improving their efficiency, safety, and economic impact. The study used a literature review approach, drawing on recent scholarly sources, government reports, and case studies from various African countries. The analysis focused on the regulatory and financial barriers that bush mechanics face, as well as the potential benefits of formalising this informal sector. The findings revealed that bush mechanics are hindered by the absence of regulatory frameworks, financial constraints, and outdated tools, which reduce their productivity. However, formalization efforts, such as providing access to modern equipment, funding, and certifications, could significantly enhance their contribution to local and national economies. In conclusion, formalization of bush mechanics is essential to improve their operations and expanding their economic contributions. By addressing the regulatory and financial barriers they face, African governments can help bush mechanics scale their businesses, enhance their efficiency, and contribute more effectively to economic development, particularly in underserved communities.

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## Publication History

Received:

5<sup>th</sup> February, 2025

Accepted:

16<sup>th</sup> June, 2025

Published:

26<sup>th</sup> September, 2025

## To Cite this Article:

Madiba, Simiso Lewis. "Assimilating Bush Mechanics into the Small-Scale Motor Industry in Africa: A Personal and Academic Exploration," *E-Journal of Humanities, Arts and Social Sciences* 6, no. 10 (2025): 2529 - 2543, <https://doi.org/10.38159/ehass.202561021>

**Keywords:** *Bush Mechanics, Informal Economy, Automotive Repair, Formalisation, Economic Development*

## INTRODUCTION

The informal sector is an important part of the socioeconomic landscape in many developing nations, frequently providing a key source of employment, commodities, and services where the formal sector is undeveloped or nonexistent.<sup>1</sup> This sector comprises a diverse array of economic activities that are frequently unregulated, untaxed, and not officially registered with government agencies. Consequently, it serves as a vital safety net for millions of individuals who have limited access to traditional employment opportunities. In South Africa, the automobile repair industry is significantly supported by

<sup>1</sup> Martha Chen and Françoise Carré, *The Informal Economy Revisited: Examining the Past, Envisioning the Future* (Routledge, 2020).

informal service providers known as "township mechanics" or "kasi mechanics," who fulfil an essential role in assisting low-income and rural communities.<sup>2</sup> These mechanics offer economical and accessible auto repair options to people who cannot afford mainstream garage services. Their knowledge is often based on practical experience rather than formal instruction, allowing them to devise novel, low-cost solutions to mechanical difficulties that could otherwise leave cars unworkable. Informal mechanics are essential for the mobility of users like e-hailing drivers, who rely on their cost-effective maintenance services. These mechanics provide quick repairs that minimise vehicle downtime, allowing drivers to maintain their earnings while supporting the broader transportation ecosystem.<sup>3</sup> Despite the essential nature of their services, issues such as safety standards, quality assurance, and access to modern diagnostic tools remain.<sup>4</sup> Discussions are emerging about how to incorporate informal operations into formal automotive industry frameworks to improve service delivery and protect consumers. As a young Black guy living in the Mthatha District, the junction of economic need has formed my personal experiences with these informal mechanics and the constraints of the local car industry. Given the high expenses and limited availability of professional repair services, many people in the area, have relied on small, informal roadside technicians to keep their old cars in good working order. These mechanics, who are mostly young Black Africans, learn their trade informally, typically due to a lack of education or financial constraints that prohibit them from pursuing regular vocational training.

Recent research has clearly demonstrated the role of informal mechanics in supporting local mobility and economic activity. For example, studies show that informal service providers fill essential gaps left by the formal sector, particularly in rural and peri-urban areas where official firms are scarce or excessively expensive. However, these mechanics confront considerable problems, including a lack of current tools, technology, and financial assistance, which limits their operating efficiency and raises the danger of human harm and vehicle damage.<sup>5</sup>

Despite their creativity and contribution to the informal sector, bush mechanics are nonetheless marginalised, working in risky conditions with little to no regulatory backing. This disparity is exacerbated by a lack of official acknowledgement of their abilities and the absence of focused programs aimed at integrating them into the larger automotive sector. Studies emphasise the importance of government intervention in addressing these challenges, arguing that improving access to training, modern equipment, and financial resources could increase the earnings and safety of informal mechanics, ultimately boosting local economic growth and employment.

This research aims to close a gap in the literature by critically assessing the function of bush mechanics in the Mthatha District's informal economy. It seeks to investigate the socioeconomic problems they encounter and recommend policy actions to aid their incorporation into the formal economy. The study proposes that resolving these concerns will considerably enhance the lives of bush mechanics, increasing their financial stability and mobility in neglected regions.

This paper thus explores the role of bush mechanics in Africa, with a particular focus on the Mthatha District of the Eastern Cape in South Africa. It seeks to examine the critical role of bush mechanics in Africa's automotive repair sector, with a specific focus on South Africa. It further seeks to bridge the divide between personal experience and academic insight, offering a comprehensive perspective on the operations of bush mechanics within the informal sector of the small-scale motor industry. Bush mechanics, characterised by their minimal formal training and limited tools, are known for their ability to effectively resolve a variety of automotive issues. They play an essential role in facilitating mobility in rural and underserved regions. This study aims to fill a critical gap by integrating the perspectives of respondents with academic research, emphasizing the significance of bush mechanics for rural vehicle owners navigating the complexities of their environment. The paper is organized into

<sup>2</sup> William Brederode, "Tinker Townships: Informal Mechanics the Big Winners in SA's e-Hailing Boom," News24, July 15, 2023, <https://www.news24.com/news24/tech-and-trends/news/tinker-townships-informal-mechanics-the-big-winners-in-sas-e-hailing-boom-20230715>.

<sup>3</sup> Wayne E., Macpherson and Amanda Werner, "Continuum of Job Loss and Job Creation: Insights from Automotive Organisations in South Africa," *SA Journal of Human Resource Management* 23 (2025): 2895.

<sup>4</sup> C. J. Schenck et al., "Informal Tyre Dealers in South Africa: An Assessment of Their Contributions to a Circular Economy," *Urban Forum* 35, no. 1 (March 27, 2024): 65–81, <https://doi.org/10.1007/s12132-023-09502-1>.

<sup>5</sup> Friedrich Schneider and Dominik H. Enste, *The Shadow Economy* (Cambridge University Press, 2003), <https://doi.org/10.1017/CBO9780511493591>.

four main sections. First, it presents an autobiographical narrative in which the researcher recounts his experiences with bush mechanics, offering a first-hand perspective on the informal motor repair environment. The second section incorporates pertinent academic resources to contextualize this phenomenon within the broader framework of informal labour and petty entrepreneurship. The third section reconstructs the theoretical framework that underpins the investigation, combining economic and sociocultural ideas to highlight the benefits and breadth of bush mechanics. Finally, the study seeks to answer concerns about potential solutions in mechanics and the formal motor industry, focussing on prospects for collaboration and skills transfer, as well as applicable policy actions that could improve the competitiveness of this critical sector.

## LITERATURE REVIEW

The study of bush mechanics explores the informal and highly adaptable vehicle repair techniques that have developed in response to economic constraints, limited access to official mechanical services, and the need for practical solutions in remote and resource-limited areas. This literature review examines existing research on the role of bush mechanics in small-scale firms within the automobile industry, focusing on their skill development, economic impact, and potential integration into formal institutions. While typical automobile repair relies on structured training and standardized tools, bush mechanics operate outside of formal systems. They use inventive, experience-based methods to keep vehicles running.

Furthermore, this study critically examines literature on the origins and practices of bush mechanics, their contributions to economic growth, the obstacles they face, and the possibilities for incorporating their knowledge into official automotive training and business models. It also includes viewpoints from both international and South African contexts to offer a thorough grasp of the subject. By identifying significant themes and gaps in the literature, this study intends to lay the groundwork for future research into how bush mechanics could be integrated into small-scale motor industry operations.

### Introduction to the Informal Economy

The informal economy is crucial in developing countries, providing essential services when formal sectors are inaccessible or underdeveloped. Over 2 billion people globally (about 61 % of employed persons) work in informal employment, many lacking formal social protection or legal registration.<sup>6</sup> Economic units such as small enterprises, freelancers, and service providers often operate outside conventional legal structures, with little regulatory oversight or formal registration.<sup>7</sup> In countries like South Africa, the informal sector accounts for a considerable share of employment, about 30 % of total employment, and is especially prominent in rural regions, where formal job opportunities are sparse.<sup>8</sup> Informal mechanics (or small informal vehicle repair operators) are among those service providers helping to fill gaps in car repair services, offering low-cost options that support mobility and local economic activity. By offering self-employment options, they contribute to local livelihoods and help alleviate poverty, particularly in underserved areas.

In areas like Mthatha, where access to official services is restricted, informal workers such as bush mechanics play an important role in supporting everyday life by delivering basic services at reduced rates. Informal service providers' flexibility allows them to satisfy local needs while sometimes avoiding bureaucratic barriers faced by formal sectors and providing more economical options.<sup>9</sup> As such, the informal sector acts as an important survival mechanism, especially in marginalised regions, by ensuring that necessary services remain available to low-income populations.

<sup>6</sup> International Labour Organization (ILO), "Women and Men in the Informal Economy: A Statistical Picture," Geneva: ILO, 2018, [https://www.ilo.org/global/publications/books/WCMS\\_626831/lang--en/index.html](https://www.ilo.org/global/publications/books/WCMS_626831/lang--en/index.html).

<sup>7</sup> International Labour Organization, "Informal Economy and Atypical Forms of Employment," Geneva: International Labour Organization, 2018, <https://www.ilo.org/global/topics/employment-promotion/informal-economy/lang--en/index.html>.

<sup>8</sup> Mike Rogan, "Informal Workers in Urban South Africa: A Statistical Snapshot," *WIEGO Statistical Brief 19*, 2019, 1–4.

<sup>9</sup> Quendler, Erika, and Friedrich Schneider. "The Shadow Economy, an Enigma, in the Agriculture of 15 EU Member States over the Period 1996–2019." *Annual Review of Resource Economics* 16.1 (2024): 63–81.

## The Role of Bush Mechanics in South Africa's Informal Economy

The informal automotive repair business is an important part of South Africa's larger informal economy. It makes a major contribution to employment, particularly in locations with few formal work prospects.<sup>10</sup> In many remote and economically challenged parts of South Africa, informal self-employment such as micro-enterprises (including informal repair or service providers) often represent one of the few viable income sources for local people, because formal work is scarce and formal services expensive.<sup>11</sup> Despite their significance, bush mechanics have considerable problems, such as inadequate access to contemporary tools and technology, limiting their capacity to grow and improve their services.<sup>12</sup> The absence of regulatory assistance and financial resources further restricts their operational capability, decreasing efficiency and exposing them to increased risks of personal harm and vehicle damage. Bush mechanics are critical to local communities because they ensure mobility, which is necessary for everyday survival and economic activity.<sup>13</sup> The affordability of their services also adds to the economic resilience of local residents, who may otherwise face considerable mobility issues owing to the high price of formal car repairs.

Although bush mechanics have various problems, including a lack of formal recognition, limited access to training, and out-of-date equipment, there is growing awareness of their value to the local economy. According to studies, boosting access to resources such as modern equipment and formal training might increase bush mechanics' productivity and safety, allowing them to contribute more significantly to economic growth in developing countries.<sup>14</sup>

## Socio-Economic Challenges Faced by Bush Mechanics

Bush mechanics in South Africa, especially in rural and peri-urban regions, face considerable socioeconomic obstacles that limit their capacity to function successfully and develop. These obstacles include restricted access to cutting-edge equipment and technology, budgetary limits, and safety concerns. Many bush mechanics use outmoded or makeshift equipment, which reduces their efficacy and increases the probability of mistakes. According to Chen and Carré, the absence of contemporary tools and formal training inhibits the efficiency of informal workers, particularly bush mechanics, and decreases their competitiveness in an increasingly technology-driven market.<sup>15</sup>

Furthermore, budgetary constraints compound the problem. Schneider and Enste emphasise that the difficulty in acquiring money is a typical concern for informal sector workers, especially bush mechanics, preventing them from expanding their businesses or purchasing better tools.<sup>16</sup> Safety considerations constitute a substantial danger since inadequate safety equipment and out-of-date tools increase the possibility of accidents. Informal sector workers in automobile repair and related trades are frequently exposed to serious health and safety hazards such as chemical fumes, burns, poor ventilation, and ergonomic strain—due to lack of formal training, inadequate infrastructure, and weak enforcement of occupational health standards.<sup>17</sup> Furthermore, the lack of governmental control ensures that safety regulations are rarely followed. These combined issues add to inefficiencies, stifling expansion and lowering service quality. According to Etim and Daramola, informal workers play a key part in local

<sup>10</sup> Quendler, Erika, and Friedrich Schneider. "The Shadow Economy, an Enigma, in the Agriculture of 15 EU Member States over the Period 1996–2019." *Annual Review of Resource Economics* 16.1 (2024): 63–81.

<sup>11</sup> Siboniso N. Kumalo and Irrshad Kaseeram, "The Determinants of Self-Employment of Black Entrepreneurs in Ladysmith, KwaZulu-Natal," *Acta Commercii* 19, no. 1 (June 5, 2019), <https://doi.org/10.4102/ac.v19i1.616>.

<sup>12</sup> Ernest Etim and Olawande Daramola, "Investigating the E-Readiness of Informal Sector Operators to Utilize Web Technology Portal," *Sustainability* 15, no. 4 (2023): 3449.

<sup>13</sup> Quendler, Erika, and Friedrich Schneider. "The Shadow Economy, an Enigma, in the Agriculture of 15 EU Member States over the Period 1996–2019." *Annual Review of Resource Economics* 16.1 (2024): 63–81.

<sup>14</sup> Schneider and Enste, *The Quendler, Erika, and Friedrich Schneider. "The Shadow Economy, an Enigma, in the Agriculture of 15 EU Member States over the Period 1996–2019." Annual Review of Resource Economics* 16.1 (2024): 63–81. Daramola, "Investigating the E-Readiness of Informal Sector Operators to Utilize Web Technology Portal."

<sup>15</sup> Chen and Carré, *The Informal Economy Revisited: Examining the Past, Envisioning the Future*.

<sup>16</sup> Erika Quendler and Friedrich Schneider, "The Shadow Economy, an Enigma, in the Agriculture of 15 EU Member States over the Period 1996–2019," *Annual Review of Resource Economics* 16, no. 1 (2024): 63–81.

<sup>17</sup> Mohammed-Aminu Sanda and Juliet Nugble, "Situational Assessment of Noise and Ergonomic Factors in Welding Activities: Implications on the Well-Being of Ghanaian Informal Auto-Mechanics," in *International Conference on Applied Human Factors and Ergonomics* (Cham: Springer International Publishing, 2020), 142–48.

economies, but the absence of institutional recognition and assistance hinders their potential to expand and integrate into the formal sector.<sup>18</sup>

### **The Importance of Integrating Bush Mechanics into the Formal Economy**

Integrating bush mechanics into South Africa's formal industry has the potential to significantly improve both their working conditions and the local economy. Formalisation provides advantages, including access to new instruments, financial assistance, social protection, and safer working circumstances. According to the ILO, integrating informal workers into the formal sector may increase productivity, minimise risks, and encourage entrepreneurship. Furthermore, legal registration provides access to broader markets and government initiatives, enhancing the viability of firms managed by bush mechanics.<sup>19</sup> However, this transfer is hampered by issues such as financial constraints, lack of training, and regulatory obstacles, which impede bush mechanics from entering the formal sector.

To enhance the formalisation of bush mechanics, officials must streamline registration procedures and provide targeted assistance through financial services, skill development initiatives, and social security. The ILO emphasises that reducing these obstacles may foster an inclusive corporate climate and economic progress. In South Africa, the government has made some progress in assisting micro and small businesses, but further policy changes are required to accommodate the unique requirements of informal workers in the automobile repair industry.<sup>20</sup> Supporting the integration of bush mechanics into the formal sector provides them with the tools they need to build their companies and contribute more effectively to the local and national economies.

### **Government and Policy Interventions**

Government assistance is critical to supporting the informal sector, particularly in helping informal mechanics overcome considerable hurdles such as limited access to training, modern equipment, and funding.<sup>21</sup> Studies emphasise the need for legislative and policy initiatives that remove these impediments, as they have the potential to greatly improve informal mechanics' productivity, safety, and sustainability. For example, in South Africa, the Department of Employment and Labour's "provision of skills and lifelong learning for workers in the informal economy" initiative emphasises recognition of prior learning, informal skills development, and policy alignment to help informal workers move toward formality. The government has also established a National Labour Inspection Task Team in 2023 to extend enforcement and protection into the informal economy, consistent with ILO Recommendation 204. In addition, programs like the Township and Rural Entrepreneurship Programme (TREP) and recent MSME funding policies aim to improve access to funding, business development services, and infrastructure support for small, informal enterprises—including mechanics.<sup>22</sup> Combined, these interventions indicate a policy landscape moving toward greater inclusion of informal sector actors, albeit with gaps still to be addressed.

### **THEORETICAL FRAMEWORK**

The Dual Economy Theory was utilised in the research. The Dual Economy Theory, proposed by W. Arthur Lewis in 1954, states that a developing economy comprises both a formal and an informal component. It holds that the informal sector serves as a reservoir for surplus labour that the formal economy is unable to absorb. This is especially important for bush mechanics in South Africa because they provide employment and very basic services in rural and peri-urban regions such as Mthatha, where there are no appropriate official options. According to the theory, bush mechanics are considered the "traditional" sector, and as economic development improves, labour shifts to the "modern" sector,

<sup>18</sup> Etim and Daramola, "Investigating the E-Readiness of Informal Sector Operators to Utilise Web Technology Portal."

<sup>19</sup> Quendler, Erika, and Friedrich Schneider. "The Shadow Economy, an Enigma, in the Agriculture of 15 EU Member States over the Period 1996–2019." *Annual Review of Resource Economics* 16.1 (2024): 63-81.

<sup>20</sup> Etim and Daramola, "Investigating the E-Readiness of Informal Sector Operators to Utilise Web Technology Portal."

<sup>21</sup> Jordaan, C.J., Bezuidenhout, A. & Schultz, C.M. (2018) 'A process model recognising prior learning of informal sector motor mechanics', *South African Journal of Higher Education*, 32(2), pp. 143-156. doi:10.20853/32-2-1318.

<sup>22</sup> S. Pheny, "Cabinet Approves Final Funding Policy to Support MSMEs and Cooperatives, Targeting Economic Growth and Job Creation," *Central News South Africa*, September 20, 2024, <https://centralnews.co.za/cabinet-approves-final-funding-policy-to-support-msmes-and-cooperatives-targeting-economic-growth-and-job-creation>.

though this transition is often slow and uneven, depending on external conditions such as infrastructure and financial support.

However, some scholars have criticised the Dual Economy Theory, claiming that worker movements in complex settings will not be adequately explained. For example, Gollin argues that in most developing nations, labour transfers from low-productivity agriculture to low-productivity services rather than higher-productivity sectors.<sup>23</sup> In addition, Sumner argues that the classic Lewis dual-economy model overlooks internal heterogeneity within sectors: for example, that rural households often combine farm and non-farm income, that employment types vary widely in both “formal” and “informal” sectors, and that the transition from agricultural to industrial employment is neither smooth nor inevitable.<sup>24</sup> Such critiques suggest that, although the Lewis model remains a useful framework for understanding labour market dynamics in developing economies, it must be adapted to account for contemporary challenges such as “premature deindustrialisation” and the increasing importance of non-farm and informal service income in rural economies.

This theory is particularly pertinent to the study since it can help explain why informal employment persists in South Africa's car repair sector. It also suggests that policy interventions are intended to facilitate the shift from informal to formal sectors by identifying hurdles to access to contemporary tools, money, and regulatory assistance. In the end, the Dual Economy Theory remains useful for understanding the role of the informal sector in economic development, but more research is needed to investigate the various pathways of labour mobility and sectoral transformation, particularly in rural and semi-urban areas such as Mthatha.

## METHODOLOGY

This study employed a qualitative research methodology that combines observation and literature review as complementary data-gathering methods to investigate bush mechanics' roles, difficulties, and prospects in Africa's informal automobile repair business, with an emphasis on South Africa. The observation approach was used to gather firsthand knowledge of bush mechanics' daily experiences in rural and semi-urban settings.

The method involved visiting many informal repair sites in the Mthatha District, where bush mechanics work under difficult conditions. The study documented essential components of their work environment through direct observation, such as the tools and equipment they use, their operating routines, and the safety precautions (or lack thereof) used during repairs. The study also revealed important insights into the socioeconomic linkages between mechanics and their clients, emphasising the cost and accessibility of their services to low-income individuals who would otherwise be excluded from formal repair services.

In addition to observation, a literature review was conducted to contextualize the field findings within the broader framework of existing research. The review drew on recent scholarly articles and case studies from South Africa and other African countries. These secondary data helped identify the systemic barriers bush mechanics face, such as limited access to modern tools, regulatory constraints, and financial challenges. Moreover, the literature provided insights into potential policy interventions and formalization strategies implemented in similar contexts, offering a comparative perspective on the issue.

### Inclusion and Exclusion Criteria adopted in the study

To keep the scope of this study brief and relevant, certain inclusion and exclusion criteria were adopted throughout the observation and literature review stages. These criteria were carefully constructed to ensure that the data collection properly linked with the research purpose of understanding the role and problems of bush mechanics in rural and semi-urban regions, notably in the Mthatha District.

The inclusion criterion prioritised informal mechanics working in rural and semi-urban areas where conventional vehicle repair facilities are limited or nonexistent. This spatial emphasis enabled the

<sup>23</sup> Douglas Gollin, “The Lewis Model: A 60-Year Retrospective,” *Journal of Economic Perspectives* 28, no. 3 (2014): 71–88.

<sup>24</sup> A. Sumner, “Is the Lewis Model of Economic Development Still Relevant to Developing Countries?,” *GPID / ESRC Global Poverty & Inequality Dynamics*, 2018, <https://gpid.univie.ac.at/2018/04/13/is-the-lewis-model-of-economic-development-still-relevant-to-developing-countries>.

study to capture the distinct socioeconomic dynamics of these regions, where bush mechanics provide critical services to low-income populations. Furthermore, only literature published during the previous four years (2020–2024) was considered to ensure that the study addressed current trends, difficulties, and policy changes within the informal automobile industry.

The study also prioritised research and data pertaining to the informal automobile repair business, particularly those centred on bush mechanics. This tailored methodology ensured that the findings were immediately applicable to the specific conditions of these mechanics. Furthermore, papers and studies involving important players, such as mechanics, their clients, and politicians, have been incorporated to offer a thorough picture of the sector's ecology.

In contrast, the exclusion criteria served to refine the scope by excluding data that did not fit the study's aim. Formal automobile repair businesses, such as franchised service facilities and licensed independent garages, were omitted since their operational dynamics and problems are very different from those of bush technicians. Furthermore, research produced prior to 2020 was eliminated to retain the relevance of the findings, given the fast developing nature of the car repair business and the informal economy.

The study also excluded mechanics who worked in large urban locations. Compared to their rural and semi-urban colleagues, metropolitan mechanics often have greater access to official repair services, tools, and regulatory assistance, making their experiences less relevant to the study's focus on underserved locations. Finally, wider studies on informality that did not particularly target the automobile repair industry were omitted to ensure that the research remained strictly focused on the issue of bush mechanics.

### **Data Analysis**

The researcher employed a qualitative, thematic approach to data analysis, combining observation and literature reading. Observations revealed direct insights into the bush mechanics' work conditions, tools, safety procedures, and customer relations, exposing obsolete equipment, safety concerns, and insufficient financial resources. The literature study supplemented these findings by contextualising them within wider socioeconomic and policy contexts, citing limitations such as the absence of formal training and regulatory assistance.<sup>25</sup> The researcher used triangulation to corroborate observed data with previous studies, indicating that the challenges encountered by bush mechanics are common to South Africa's informal sector. This integrative research provided a thorough grasp of bush mechanics' practical reality, as well as educated recommendations for formalisation and assistance.

## **DISCUSSION**

The discussion uses a qualitative thematic approach, which involves several key stages to ensure a thorough investigation. It commences with an extensive review of the existing literature related to the informal automobile repair industry, allowing for a deep understanding of the context and background of the subject. Following this literature assessment, detailed observations will be made in various informal repair settings. This observational phase aims to uncover recurring themes and patterns, shedding light on practices, challenges, and dynamics within the industry. Through this methodological framework, the article seeks to provide a comprehensive analysis of the informal automobile repair sector, highlighting its significance and the factors that influence its operation.

### **The Role of the Informal Sector in the Motor Industry**

The study found that bush mechanics play a crucial role in the automobile industry, particularly in helping customers locate spare parts for car repairs. Many vehicle owners depend on the expertise of bush mechanics to identify and obtain the necessary components to restore their vehicles to full working order. These bush mechanics often serve as trusted advisors by assessing repair needs, locating potential replacement parts, and guiding customers to relevant suppliers or automotive dealers.

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<sup>25</sup> Chen and Carré, *The Informal Economy Revisited: Examining the Past, Envisioning the Future*; Schneider and Enste, *The Shadow Economy*.

This observation is supported by Akpakpavi's research, which highlights the significant role that informal mechanics play in delivering accessible and affordable vehicle repair services to underserved communities.<sup>26</sup> These mechanics often operate outside of formal business structures, providing essential maintenance and repair options for individuals who may lack the financial resources to access conventional automotive services. By offering their expertise in a more flexible and community-oriented manner, informal mechanics help bridge the gap in transportation needs, enabling members of these communities to maintain reliable mobility. This contribution not only enhances individual livelihoods but also supports the overall economic stability of the areas they serve.<sup>27</sup> Similarly, Moyo examines the role of bush mechanics in Zimbabwe, noting their ability to offer cost-effective repair solutions in areas that lack institutional support.<sup>28</sup> These studies illustrate that bush mechanics not only carry out technical repairs but also help car owners access replacement parts and maintenance services.

This dynamic fosters a significant yet indirect transactional relationship between clients and the official automotive sector, with bush mechanics serving as informal brokers in the spare parts supply chain. Their roles extend beyond simple repairs; they influence customers' purchasing decisions, advocate for particular suppliers, and, in some instances, negotiate prices on behalf of their clients. This interaction highlights the interconnectedness of the informal and formal automotive sectors, illustrating how bush mechanics play a vital role in sustaining the demand for spare parts while ensuring that vehicle owners have access to affordable and suitable components.

Furthermore, informal mechanics in sub-Saharan Africa play a critical role in providing accessible and affordable vehicle repair services, yet face significant structural challenges that limit their productivity and access to resources. It is essential to establish legislative frameworks that formalise the informal automotive repair sector. For example, Jordaan, Bezuidenhout and Schultz propose a process model that recognises prior learning of informal motor mechanics and integrates them into formal training and certification systems, which could significantly enhance productivity.<sup>29</sup> Similarly, Masehela highlights that in South Africa's Eastern Cape, the absence of official registration restricts informal mechanics' access to essential resources, such as high-quality spare parts and specialised tools, and recommends interventions to improve both the skills and equipment available to these workers.<sup>30</sup> Together, these studies underscore the need for policies and programs that simultaneously address formalization, skill development, and resource access, providing a pathway for informal mechanics to contribute more effectively to local and regional economies.

### **Skills and Innovation in Bush Mechanics**

Bush mechanics demonstrated remarkable innovation and adaptability in vehicle repair, often crafting unconventional yet effective solutions despite lacking formal training. Their ability to solve mechanical issues is largely shaped by necessity, as they frequently operate in environments with limited access to specialised tools, diagnostic equipment, and standardised replacement parts. This practical ingenuity allows them to maintain vehicle functionality using alternative repair methods.

It has been observed that bush mechanics primarily develop their skills through informal learning rather than through formal automotive training programs. This observation is consistent with recent findings that highlight the importance of informal learning in the growth of bush mechanics. According to the International Labour Organisation (ILO), informal apprenticeship systems offer accessible and varied opportunities for skills development to millions of young Africans, especially in trades such as automobile mechanics.<sup>31</sup> Apprenticeships in micro or small enterprises primarily emphasise on-the-job

<sup>26</sup> Akpakpavi Michael, "Modern Automobile Vehicle Repair Practices in Micro, Small and Medium Scale Garages in Ghana," *International Journal of Science, Technology and Society* 2, no. 6 (2014): 216, <https://doi.org/10.11648/j.ijsts.20140206.19>.

<sup>27</sup> Michael, "Modern Automobile Vehicle Repair Practices in Micro, Small and Medium Scale Garages in Ghana."

<sup>28</sup> Nathan Moyo, "Covid-19 and the Future of Practicum in Teacher Education in Zimbabwe: Rethinking the 'New Normal' in Quality Assurance for Teacher Certification," *Journal of Education for Teaching* 46, no. 4 (2020): 536–45.

<sup>29</sup> Chris Jordaan, Adele Bezuidenhout, and Schultz, "A Process Model Recognising Prior Learning of Informal Sector Motor Mechanics," *South African Journal of Higher Education* 32, no. 2 (2018): 143–56.

<sup>30</sup> Kgabo Masehela, "A South African Perspective on the Solidification of Auditors' Competence in the Areas of Testing for the Presence of Fraud and Corruption, Post-Independence Development in Africa," 2022.

<sup>31</sup> International Labour Organization (ILO), "Strengthening Apprenticeship Systems in the Informal Economy," 2025, [https://www.ilo.org/sites/default/files/2025/01/Report\\_Cotonou\\_workshop\\_EN.pdf](https://www.ilo.org/sites/default/files/2025/01/Report_Cotonou_workshop_EN.pdf).

training, enabling apprentices to acquire skills through practical experience and mentorship without the need for formal certification. During my observations in the Mthatha District, this approach was clearly evident: many young mechanics relied on a hands-on method of learning, closely observing experienced practitioners and experimenting with the tools and spare parts at their disposal. This process allowed them to develop effective repair techniques in lieu of attending formal training programs.



*Figure 1: Panelbeaters*



*Figure 2: Welders*



*Figure 3: Tyre mechanics*

One of the most distinguishing features of bush mechanics is their resourcefulness in employing unconventional materials for repairs. Bush mechanics in sub-Saharan Africa demonstrate remarkable ingenuity in vehicle repair, often utilising locally sourced materials and adapting components to restore functionality. For instance, in Zimbabwe, mechanics frequently modify spare parts or adapt components from various vehicle types to provide cost-effective solutions to automobile owners who may lack the financial resources to purchase genuine parts. Similarly, in Kenya, bush mechanics employ locally sourced materials and alternative techniques to repair vehicles, ensuring they continue to operate even in remote areas where automotive supplies are scarce. These practices underscore the critical role of bush mechanics in maintaining mobility and supporting local economies, particularly in underserved communities.

Despite their technical expertise, bush mechanics often receive little formal recognition, which can limit their access to advanced tools, training, and business opportunities. Scholars advocate for policies that integrate bush mechanics into the broader automotive sector, arguing that institutional support could enhance their efficiency while preserving their innovative techniques. Such integration could lead to improved service quality, increased safety standards, and greater economic sustainability within the informal automotive repair sector.

### **Economic and Social Impact**

The survey revealed that bush mechanics provide vital financial support to their families, with their earnings from car repairs enabling them to cover essential expenses, such as school fees and travel costs. In many instances, bush mechanics involve their children in the repair work, which not only strengthens family bonds but also helps to fulfill the household's financial obligations. This finding underscores the important role bush mechanics play in sustaining livelihoods, particularly in rural or disadvantaged areas where formal employment opportunities are scarce.

Researchers have argued that integrating informal automotive repair practitioners into the formal economy can bring substantial economic advantages. In Uganda, Livingstone and Kemigisha highlight that informal sector apprenticeships, particularly in metalworking and woodworking, play a critical role in skill development and local economic activity. They suggest that similar systems among bush mechanics could enhance skill formation and economic participation.<sup>32</sup> Moreover, more recent work on microenterprises in urban Africa demonstrates that microenterprises recognising informal practices but adopting formal indicators (e.g. registration, access to finance) tend to have better performance,

<sup>32</sup> Ian Livingstone, & Susan Kemigisha, 'Some Evidence on Informal Sector Apprenticeship in Uganda', *The Journal of Modern African Studies*, Vol. 33, No. 2 (1995): 339-342. DOI: 10.1017/S0022278X0002111X.

implying formalising bush mechanics could enhance their income and contribution to local economic growth.<sup>33</sup> A systematic review examining the informal sector in South Africa and Nigeria reveals that informal businesses are vital contributors to economic growth in both countries.<sup>34</sup> These businesses, which operate outside of formal regulations, provide essential services and employment opportunities, particularly in communities where formal job options are limited. The review emphasises that implementing supportive policies, such as streamlined regulations and improved access to financial services, can enhance the sustainability and productivity of informal enterprises. By fostering a more inclusive economic environment, these policy efforts have the potential to generate widespread benefits, not only for informal providers but also for the overall economy, ultimately leading to increased livelihood stability and greater economic resilience in both nations.

### Formalising Bush Mechanics

The formalisation of bush mechanics faces several challenges. In many contexts within Southern Africa, legislative and institutional frameworks are weak, and bureaucratic processes can be cumbersome. For instance, Sakarombe demonstrate that in Southern Africa, regulatory burdens, poor institutional quality, and complex registration requirements significantly discourage informal operators from formalising their businesses.<sup>35</sup> Additionally, some informal businesses in Cape Town encounter substantial financial obstacles when trying to acquire modern equipment or adopt technologies that could enhance productivity and safety. Similarly, insights from informal sector businesses in Ghanaian slums, noting that a lack of credit, insufficient access to tools and materials, and limited business knowledge are significant challenges to growth and formalisation. Together, these studies highlight the need for deliberate policy interventions; without them, bush mechanics will likely continue to operate informally, with little capacity to expand or improve their operations.

### Discussion Summary

The current literature on bush mechanics and the informal automobile repair business in South Africa offers useful insights, particularly on their socioeconomic importance in rural and semi-urban areas such as Mthatha. However, considerable gaps exist in comprehending the sector's dynamics and possibilities for formalisation. One of the major weaknesses found is the lack of targeted research on the role of bush mechanics in certain places. Although there are many studies on the informal vehicle repair industry, few studies have looked at local socioeconomic conditions, problems, and demands of bush mechanics in specific places such as Mthatha. Research by Etim, Daramola and Chen and Carré addresses the larger informal sector, but additional localised research is needed to understand how regional characteristics impact bush mechanics' activities.<sup>36</sup>

Another gap in the literature is the lack of studies on the incorporation of informal automotive workers into the formal sector. Although there is a significant debate about the benefits of formalising the informal sector, research on the practicality of incorporating bush mechanics into the formal vehicle repair business is limited. Schneider & Enste discuss generic formalisation measures but do not define how bush mechanics might shift to formal labour.<sup>37</sup> The existing literature frequently overlooks several critical barriers that hinder this transition. These obstacles include the lack of comprehensive legislative frameworks that could support informal sectors, particularly in important areas like vehicle repair. Additionally, there is often insufficient financial assistance available to entrepreneurs and workers operating within these informal domains, making it challenging for them to thrive and develop their

<sup>33</sup> Busani Moyo, "Factors Affecting the Probability of Formalizing Informal Sector Activities in Sub Saharan Africa: Evidence from World Bank Enterprise Surveys," *African Journal of Economic and Management Studies* 13, no. 3 (August 30, 2022): 480–507, <https://doi.org/10.1108/AJEMS-06-2021-0304>.

<sup>34</sup> Nobuaki Hamaguchi et al., "Multi-Dimensional Informality and Heterogeneity of Microenterprises in Urban Africa," *The Japanese Economic Review*, June 20, 2025, <https://doi.org/10.1007/s42973-025-00212-w>.

<sup>35</sup> Upenyu Sakarombe, "Integrating Informal Economy into Official Economy in Southern Africa: Identifying Barriers and Possible Solutions," *UDSM Online Journal Testing* 10, no. 1 (2020): 105–22.

<sup>36</sup> Etim and Daramola, "Investigating the E-Readiness of Informal Sector Operators to Utilize Web Technology Portal"; Chen and Carré, *The Informal Economy Revisited: Examining the Past, Envisioning the Future*.

<sup>37</sup> Schneider and EnQuendler, Erika, and Friedrich Schneider. "The Shadow Economy, an Enigma, in the Agriculture of 15 EU Member States over the Period 1996–2019." *Annual Review of Resource Economics* 16.1 (2024): 63-81.

businesses. Moreover, public awareness regarding the vital role that informal sectors play in the economy and community is generally low, which can lead to a lack of support and recognition for the important services they provide. Addressing these issues is essential for encouraging a more favourable environment for informal sectors to flourish.

### **Practical Implications and Recommendations**

Several recommendations arise for integrating bush mechanics into the official small-scale motor industry, based on both personal experiences and the examined literature:

**Government Support:** Governments should create policies to recognise and assist bush mechanics. Offering financial incentives and subsidies for new equipment, together with developing certification programs, could assist these mechanics in migrating into the official business.

**Training and Certification:** Creating vocational training programs to improve bush mechanics' abilities will improve their services' quality while increasing their job chances. Certification programs might authenticate their talents, allowing them to charge greater fees and broaden their customer base.

**Technological Integration:** Adopting low-cost car diagnostic and repair technology has the potential to transform the informal motor repair business. Access to these technologies through government or private sector collaborations might improve the productivity and safety of bush mechanics.

**Collaborative Model:** Collaborations between formal automobile companies and bush mechanics may result in mutually advantageous relationships. Formal businesses may give bush mechanics with training and access to modern tools, while bush mechanics could offer services in locations that formal operations would not reach.

**Economic Impact:** By formalising bush mechanics and incorporating them into the small-scale motor industry, governments may boost local economies, generate employment, and enhance the quality of car repair services in rural and neglected regions.

### **Future Research Directions**

Future studies should focus on many critical areas to help formalise and improve the bush mechanic sector. First, additional localised research is required to better understand the unique problems and demands of bush mechanics in certain places, such as Mthatha. Research on the success of current formalisation strategies, as well as case studies from other countries, would give useful insights into how to effectively help informal workers in the automobile repair industry. Furthermore, additional research should be conducted to determine the influence of financial interventions and training programs on bush mechanic production and safety. Finally, research understanding the social and economic advantages of integrating informal workers into the formal sector is vital to shape successful policies and ensure that the transition is beneficial for all stakeholders.<sup>38</sup>

In conclusion, while bush mechanics play an important part in South Africa's informal economy, their incorporation into the formal sector has the potential to dramatically increase their productivity, safety, and socioeconomic impact. Targeted governmental interventions, such as training, modern equipment, and financial resources, are essential for ensuring that bush mechanics can transfer to formal employment contexts and contribute more effectively to economic growth. By addressing these policy and support gaps, bush mechanics' livelihoods may be improved, benefiting both the local economy and society as a whole.

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<sup>38</sup> Etim and Daramola, "InvestigaEtim E, Daramola O. The informal sector and economic growth of South Africa and Nigeria: A comparative systematic review. *Journal of Open Innovation: Technology, Market, and Complexity*. 2020 Nov 6;6(4):134. ting the E-Readiness of Informal Sector Operators to Utilize Web Technology Portal."

## CONCLUSION

Bush mechanics play an important role in Africa's motor industry, particularly in rural and semi-urban regions where conventional automotive services are few or prohibitively expensive. Their inventive tactics and extensive local knowledge allow them to properly maintain and repair cars in difficult conditions, ensuring that communities remain mobile and economically productive. The industry is primarily informal, limiting its potential for development, innovation, and economic impact. Integrating bush mechanics into the formal economy not only improves individual livelihoods but also provides a chance to increase national development on multiple levels.

Formalising the sector would provide mechanics with access to new tools, training, and certificates, improving the quality and efficiency of their jobs. As a result, they would be able to service more clients, earn more money, and boost local economies. Furthermore, by legitimising their enterprises, governments might tap into this informal workforce, boosting tax revenues and improving regulatory control of auto repair practices. Furthermore, the formalisation process has wider societal ramifications. It can provide bush mechanics access to social safeguards such as health care and workers' rights, which they presently do not have. This assistance would decrease the physical hazards they experience while working with antiquated and frequently hazardous equipment.

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