

The State of Emerging Agro-Processors in South Africa: A Case of Limpopo Province

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Abstract

The emerging agro-processors in South Africa are struggling to participate in the mainstream retail market in the country although they have potential. This study aimed to outline the challenges faced by the South African Limpopo Province-based emerging agro-processors. The study was conducted on 16 emerging agro-processors in the form of in-depth interviews, through which a thorough needs analysis was conducted using an unstructured interview technique. Concerning the analysis of data, this study conducted content analysis on the data that was collected. This was then written in the form of a case study. It was found in this study that challenges faced by emerging agro-processors range from capacity planning, working stations, financial resources, poor logistics, appropriate technology, and rigid compliance administration. These are proposed to be solved by a think tank that will address technological, logistical, and financial challenges. It is recommended that there should be a relook into the rigid compliance documents. A future study will focus on expanding the study to include other provinces so that authors can make a holistic recommendation about what should be done by emerging agro-processors.

Keywords

Agro-processing, Limpopo Province, COVID-19, SDGs

1. Introduction

South Africa has many agro-processing products, which play a role in ensuring food security, employment, and contribution to the economy. Data from the 1970s and 1980s show that agro-processing industries have been South Africa's largest manufacturing sector, accounting for nearly one-third of value-added and employment in the industry, and in 2018 it made up 2.7 percent of the GDP and 3.2% of the workforce (Chitonge 2021). According to Toyin, et al (2017) as agro-processing output increases in the sector, unfortunately, it does not increase the output of the agricultural sectoral employment. This is due to the exclusion of small-scale farmers, to form part of their supply network as suppliers (Louw 2007). Toyin et al (2017) study concludes that the increase of output in the agricultural sector is unable to increase employment in the agricultural sector. Besides employment creation according to (Shafi et al 2022) concerning foreign trade earnings South African agro-processing sector is relatively small when compared to its counterparts. Its performance globally is affected by the regional trade surplus of manufactured goods, as the export of the neighbouring countries has been very poor (Black et al 2020).

The emerging agroprocessors who were previously disadvantaged are facing challenges such as access to market skills development, and lack of acceptable infrastructure and technologies, Manasoe et al., 2021. Financial constraints, suppliers of higher quality materials, and lack of suitable materials are among other challenges faced by emerging agro-processors (Mercer 2011). There is a need for creativity, innovation, and teamwork among emerging agro-processors to be able to tackle the challenges that they face in the sector (Adolph et al 2014).

Problem Statement

The problem this study addresses revolves around the difficulties faced by emerging agro-processors in South Africa. It seeks to understand the specific challenges hindering their growth and development. Additionally, the study aims to identify the types of support these agro-processors require to expand and flourish. By focusing on these aspects, the study's objectives are to not only pinpoint the obstacles these emerging businesses face but also to propose practical solutions and necessary support mechanisms to enable their growth within the South African agro-processing industry.

1.1 Objectives

Research Questions

This study has the following research questions:

RQ 1: What are the challenges faced by South African emerging agro-processors?

RQ 2: What support do South African emerging agro-processors need for them to grow?

In response to the above research questions, the study has the following objectives:

1.2.1. To identify challenges faced by emerging agro-processors in South Africa.

1.2.2. To propose solutions to the challenges faced by emerging agro-processors that are based in South Africa.

1.2.3. To propose relevant support that South African-based emerging processors need for them to grow.

2. Literature Review

Global overview of agro-processing

Agro-processing is a crucial link between agriculture and industry, through transformation of the raw materials into finished usable products. Techno-economic processes are applied to agricultural, animal, aquacultural, and forestry products to preserve, handle, and add value for food, feed, fiber, fuel, or industrial raw materials (Kachru 2010). The agro-processing business is a significant source of employment and revenue worldwide (Owoo and Lambon-Quayefio 2017). One of the reasons why agro-processing industries have the potential is that they are labor-intensive, which is an important factor in job creation; another reason is that agro-processing industries are thought to have the potential to promote the growth of small and medium enterprises, leading to contribution to the country's economic and social transformation (Chitonge 2021). Africa has the biggest proportion of employment in the agro-processing industries despite the absence of country-level data on employment in the industry (Owoo and Lambon-Quayefio 2017). Thindisa (2014) explains that South Africa faces various economic and social issues, with unemployment, poverty, and inequality ranking among the most significant. Emerging agro-processors can be able to contribute positively toward the eradication of poverty and creation of employment. According to Kant (1989), the global food processing industry is the key agricultural sector capable of creating opportunities for economic growth and employment. The agro-processing chain is relevant to both global and local agro-processing industries (Caiazza and Volpe 2012). The South African government acknowledges the agro-processing sub-sectors importance in its development agenda, but its foreign trade earnings contribution is lower than its potential in developed countries (Shafi et al 2022).

South African overview of agro-processing

Since 1994, South African policy reforms have been implemented across various sectors, but indigenous communities still face significant disempowerment due to ruminants of past colonial policies, as governments struggle to change the inherited economic structure (Manasoe et al 2021). South Africa's post-apartheid economy is plagued by high levels of unemployment, poverty, and inequality (Makgetla 2004) and (Thindisa 2014). Particularly impacted by price distortions and limited inclusivity in agricultural sectors (Héroult and Thurlow 2009; Greyling et al 2015). The sector's transformation has been limited even with successful marketing and trade policy reform, (Greyling et al 2015). This is due to South Africa's underperformance economy, starting from 2010, per capita earnings decreased and increased unemployment, (Gumede 2021). According to Altman (2003) and Mahadea (2010) historical and structural factors, such as apartheid-era policies and the inability of the formal sector to generate sufficient employment are among the challenges faced by South Africa. The post-apartheid labour market institutions have not effectively adjusted the labour market or reduced inequality, despite their role in worsening aggregate inequality and dampening poverty reduction impacts (Leibbrandt et al 2010). Small and medium enterprises are among the solutions that can eradicate poverty and create employment opportunities Geremewe (2018).

South Africa's agro-processing industry has made substantial economic contributions, especially concerning manufacturing output and employment (Chitonge 2021). Multiple multiplier effects are produced by the agro-processing subsector of the manufacturing industry, one of which is the expansion of industrialization in rural areas (Shafi et al 2022). Nonetheless, certain industries have experienced a decline in value-added, investment, and employment, preventing the sector from reaching its maximum potential (Chitonge 2021). Despite the challenges of trade balance and unemployment in 2021, the agro-processing industry's growth and rebound impacted the South African economy positively for its contribution to sales revenue, sectoral growth, and production (DALRRD 2021). Insufficient proportions of foreign value-added products are exported by South Africa (Shafi et al., 2022). As a result, the country's agro-processing trade performance has been less than ideal. Toyin et al (2017) found that the agricultural sector's output has not substantially increased employment. The importation of agro-processing equipment poses challenges for the region (Chigumira 2019). According to Bohringer (2001) Kwesiga et al (2003) and Zerihun et al (2014) the adoption of agroforestry technologies has the potential to improve livelihoods and address environmental issues concurrently. Twalo (2021) mentions that in South Africa, agro-processing has the potential to create employment and eradicate poverty.

Challenges Faced by Emerging Agro-processors

In South Africa, emerging agro-processors faced several challenges such as securing land title deeds, inadequate technical and financial skills, and lack of credit access (Chikozho et al 2020). High transactional costs, lack of transportation and marketing skills, and poor physical infrastructure are among the challenges exacerbated in the sector, (Khapayi and Cilliers 2026). Further to that (Chitonge 2021) indicates that even though agro-processing is labour intensive South Africa is experiencing declining value-added, investment, and employment levels (Chitonge 2021). People who benefit from land reform, especially those who grow grains, are slowed down by population growth, a lack of skills and training, and a lack of resources (Claassen et al 2014). It was frequently observed that food processing operations required a great deal of labour and time, leading to inadequate yields and unfavourable economic returns (Mercer 2011). The government is playing a crucial role in supporting emerging agro-processors by providing training and workshops while addressing other challenges through recommendations on policy changes (Chikozo 2020 and Khapayi 2015).

The government's support for smallholder farmers has been costly and ineffective, with a need for a strategic choice between supporting a few selected farmers to become large-scale commercial farmers or supporting a large number to become sustainable commercial smallholders (Aliber & Hall 2012). The Land Bank customers among emerging farmers lack capacity, skills, finance, and infrastructure (Mmbengwa 2010). Bridging the gap between emerging farmers and formal markets is crucial, with a need for sustainable marketing linkages (Bediako et al 2008). The agro-processing sub-sector of manufacturing industries has a decreasing trend in each specific period (Shafi et al 2022). Agro-processing is one of the growth paths to help the region reindustrialize (Chigumira 2019).

3. Methods

The following are the characteristics of contracting a case study approach as mentioned by Khan (2014) the suitability of case studies for analyzing strategy as practice phenomena, as it allows for in-depth exploration of unique

organizational phenomena. The case study approach allows exploring of organizational unique phenomena in depth (Irani et al 1999) (Table 1).

Table 1: Case Study Characteristics

Case Study Characteristics	
Focus	Creating a detailed description and analysis of one or more cases
Problems best suited for design	Providing a comprehensive analysis of a case or cases
Background discipline	Drawing from a specific discipline
Unit of analysis	on observing an event, program, or activity that includes more than one person.
Data Form	Using a variety of sources, including interviews, observations, records, and artifacts,
Data strategy	Analyzing data by describing the case and its themes in addition to cross-case topics
Written report	Detailed case analysis

Participants in the study

The study was conducted on 16 emerging agro-processors who are currently based in Limpopo Province of South Africa. These emerging agro-processors are part of the association called Limpopo emerging agro-processors. It was easy to manage the interviews as well as do ingredient observation in their businesses as it was easy to locate the business due to the availability of the database. It was also possible to use archival reports through online magazines and newspapers that are based on some of the businesses, as well as going through participants' (businesses) social media business pages.

4. Data Collection

Data was collected from the 16 agro-processors in the form of interviews and 6 business cases were developed to give the business context as well as the opportunities and challenges the businesses have encountered. Participating agro-processors were interviewed virtually regarding their businesses to get a general understanding of the state of their businesses. The responses given by each agro-processor, the answers were then developed into business cases that were later used as one of the elements contributing to the case of this study.

Data analysis

Data was analysed manually following the thematic analysis. Authors read the entire data set to be familiar with archival records such as newspapers, magazines blog information, and social media business pages, as well as the transcripts of the interview questions. After familiarisation with data, coding started based on the research questions, themes, and patterns developed, which led to the development of the case study topic that is found in section 3. The thematic analysis led to the finding and discussion of the study based on the state of Limpopo's emerging agro-processors, opportunities, and challenges.

5. Case Studies

The case is based on the 16 emerging agro-processors from Limpopo Province of South Africa, selling variant products. The products range from dairy to snacks, operating in an industry were in dominated by well-established businesses that have been operational for many years. The businesses that have the customer loyalty of many have.

Being an emerging business with a lack of funds in this situation can be very challenging. The case study covers the challenges that are faced by these emerging agro-processors on the daily journey of their businesses. The struggles such as capacity constraints, non-compliance, lack of market access, and finances which are the main hindrances to their businesses, make it difficult to penetrate the very competitive market.

Business Landscape and Compliance Challenges

The agro-processing sector offers a wealth of opportunities, most of these processors are farming their ingredients, also sourcing nearer to the village. Not only do these businesses provide opportunities to agro-processors, but also the small-scale farmers around their villages. Klaas Selema is among the emerging agro-processors in a small village outside Polokwane, he produces chili sauces branded Klashy28. Mr Selema grows his pepper and also buys some of the chilies from the small-scale farmers in the village. The challenges faced by these businesses include meeting the standard requirements to enter the informal market. Many of these businesses as mentioned earlier are operating from home. Certifications such as Occupational Health and Safety, and SABS (South African Bureau of Standards) are difficult for all of the 16 emerging agro-processors to meet.

Capacity Constraints and Market Access

To secure a market, the agro-processing business needs to meet its capacity. Kgaros Kgarose the company holding Pota yoga brands, which sells sweet potato Yoghurt and Juice was approached by one of the well-established retailers to supply them with at least 20,000 units of yogurts per day, at the time, the company was only able to produce 350 units per day with a theoretical capacity of 1000 units per day. The business missed the opportunity due to not meeting the required capacity. These businesses are mainly operating in the local informal market, with two agro-processors one selling ginger juice, while the other sells mayonnaise both have targeted the informal market surrounding their areas especially events such as weddings and funerals. Maisha Raphela is also among the agro-processor businesses that are finding it difficult to meet the capacity required by the formal market. Maisha is a primary farmer who grows chickens and later slaughters them for resale. His business was once approached by a butchery in the nearest town. The company needed 5000 chickens per week and in this case, Maisha was able to produce at least 1500 chickens every two weeks, based on that, Maisha missed the opportunity.

Innovation and Adaptation

Even though the sector is faced with several challenges, these entrepreneurs are striving to come up with new ways to expand their businesses. Ngwakoane Seleka is the owner of the ginger Juice, which is branded La'Sweet Gemmer, concentrating her business on the informal market, she is also baking cakes and scones which she is also selling together with the juice. On the other side, Maisha Raphela is turning the chicken waste into cattle feed turning the potential waste into profit. The emerging agro-processors are doing their best to ensure that they stay in business despite many challenges faced by their businesses. Such examples showcase the creativity of the agro-processors which will lead to sustainability and inclusive growth in the sector.

Challenges of Seed Funding and Financial Support

50 percent of the 16 emerging agro-processors received funding from various organisations both public and private, this was mainly capital to kick start their businesses. The main challenge is that the funding received is not adequate for the agro-processors to compete in the market. On an individual basis, each agro processor requires a couple of million to be fully operational, the funds provided even if is for the second round are all less than a million. The agro-processors, do not qualify to can get a loan from banks because their businesses are not viable to can secure a loan. Several governmental agencies do fund such businesses adequately, the 16 agro-processors did apply in such organisation but the challenge is the requirement, as most of the compliances which these agencies require the agro-processors in most cases do not have such compliance for example the SABS certificate. The emerging agro-processors are not giving up, keep on applying for such funds as well as looking for other alternatives. So far government has been helpful with non-financial support where they provide the agro-processors with training, sponsoring their expo, and all other useful activities for which the government takes care of the payment. The 16 emerging agro-processors from Limpopo have also formed an association, where they always conduct the needs analysis and communicate with relevant stakeholder, to support them, especially on training, traveling support if the workshops are outside the province and in the expos where they promote their products.

Conclusion

This case study reveals what 16 agro-processors that are based in Limpopo province in South Africa are facing. The challenges they faced as emerging agro-processors range from compliance such as occupational health and safety, SABS certificate, funding for seed and growth purposes, and not having sufficient capacity to produce in large quantities to meet the expected units/quantities of large retail outlets. This then makes it difficult for them to supply to the big retail chain. However, there is potential for these agro-processors.

5. Results and Discussion

In this chapter, findings, and discussions of the study are made. Through a thorough thematic analysis that was conducted. This study found the following key issues that were prevalent in the enterprises under study and were responding to the following research questions:

RQ 1: What are the challenges faced by South African emerging agro-processors?

A fundamental challenge is the lack of finance and appropriate equipment, which hinders the development and growth of the emerging agro-process. Required machinery and space are very costly for these businesses resulting in ineffectively running their operations or manufacturing of products. Leading to a loss of potential market which requires a large quantity of produce. Sole proprietors or administration become one of the challenges that these emerging agro-processors are faced with, ensuring the good filling of documents, records of orders, compliant documents, and other important administration activities. Most of the emerging agro-processors in the study operate from home, which hinders them from getting the required certification of a compliant working space, this further affects their opportunities to be considered as a viable business that can produce safe food. The businesses do not meet the capacity required to supply well-established formal markets, but due to the types of space used, they are unable to measure both their theoretical and actual production capacity.

Lack of credibility and market access are among Another significant hurdle is the lack of market access and credibility. Compliance requirements, including the need for nutrition information and the ability to meet required production capacities, pose serious barriers. The formal market demands consistent delivery of certain quantities of products, a requirement that these emerging agro-processors often struggle to meet due to their limited production capabilities.

Marketing skills are among other challenges which are faced by emerging agro-processors. In some cases, they are not promoting their business to the full potential which can lead to the potential growth of the business. In the cases where supermarkets have accepted their products, it becomes their responsibility to promote the products so customers can know that the products are in that specific store.

RQ 2: What support do South African emerging agro-processors need for them to grow?

Institutions in South Africa are mandated on key issues when it comes to socio-economic challenges, which are enterprise development and job creation. Emerging agro-processors stand for both job creation and enterprise development. Institutions supporting enterprise development are indirectly creating jobs. But to fully assist the emerging agro-processors is to understand the environment of this sector and also soften the procedures of entering the markets. It is questionable how retailers who contract suppliers by quantity requirements, are then assisting the emerging agro-processors to Meet the market. Government agencies need to revisit their strategies for growing the agro-processing sector. Currently, some abbot are government-owned, which abbot their capacities cannot be met by the emerging agro-processors. The abbot are underutilized due to capacity constraints faced by small-scale poultry producers.

Supplier development programmes by the retailers will assist the agro-processors, this also means designing the compliance requirements in a way that can be met by the emerging agro-processors.

Adequate capital funding but under strict administration because the emerging agro-processors are likely to give up due to struggles of keeping up with demand and supply. Inadequate funding goes to waste when the agro-processors give up on their businesses due to several challenges relating to capacity, resources, and others.

6. Proposed Improvements

There are several challenges that the South African emerging agro-processors face. Challenges range from capacity planning, working stations, financial resources, poor logistics, appropriate technology, and rigid compliance administration. These challenges should be solved in the following way:

As it has been alluded to in this study agro-processors contribute extensively both in the economy and livelihoods of those who benefit from them. Furthermore, they can even contribute much better by helping eradicate unemployment in the country provided they get better support from the relevant organisations (organs). Financial institutions should make funding available to agro-processors as this sector contributes to dealing with malnutrition, Sustainable Development Goal 1 (Zero Hunger), and Sustainable Development Goal 8 (Economic Growth). Funding will help get better working stations where they can produce in large quantities to meet the demand of the bigger retail chains. Additionally, the poor logistic processes and systems can be addressed by collaboration with reputable supply chain and logistics companies that are willing to support small businesses. The supply chain and logistics firms can then do deliveries on behalf of emerging agro-processors. This is a double-edged sword; it will ultimately contribute to job creation and will increase in tax base for the country. This is a much-needed solution as the money can be used to address other government activities.

Agro-processors are struggling to comply with the government regulations about their sector. This serves as a hindrance to emerging agro-processors. These regulations leave agro-processors sitting with food on their shelves but struggling to sell, some are even restricted from applying for funding to be able to grow their enterprises. These regulations should be revisited by policymakers and be adjusted to suit the needs of emerging agro-processors.

Concerning agro-processors using appropriate technology requires the involvement of technology specialists/developers/experts, agro-processors, academia, and policymakers to form a think tank where they will discuss and develop technologies that will be relevant to agro-processors. Academia can be the custodian of the think tank so that they can facilitate the progress of this. In addition, academics will contribute immensely by researching these technologies. Brainstorming about these technologies with all the relevant stakeholders and making funding available to investors and the government will make this project a reality. The think tank can also be used to address logistical and financial challenges.

Emerging agro-processors can leverage, a cooperative business model, in the case where they operate as private companies, they can come together to form a primary cooperative which will be for the accumulation of shared resources. The capacity constraints, and noncompliant due to suitable working space are among some of the challenges which are faced by these emerging agro-processors, coming together, they can save up for the shared resources, and even in the case of funding, it will be reasonable to assist the emerging agro-processors in groups rather than on individual capacity. Understanding of cooperative movement will be a very crucial step, as formal financial institutes do not borrow money from cooperative enterprises. Cooperation among cooperatives will be one of the principles for emerging agro-processors to understand and practice, in a way that can be reliant on other cooperatives or can form other cooperatives which will support their main goals which is to make a profit.

7. Conclusion

This study was conducted in South Africa in the province of Limpopo. The purpose of the study was to write a case study that explores the challenges faced by agro-processors and proposes solutions to the identified and explored challenges. The research questions and objectives were met in this study through a detailed case study. The case study was written after engagements with 16 emerging agro-processors that participated in the study. These agro-processors are part of the training they receive from the University. They are treated as a research project and community engagement projects. The emerging agro-processors that participated in the study are limited to the food industry except for one agro-processor who is making shoes using leather and belts. This was purely by the fact that this was the only one that was part of the research project and was willing to be part of the broader study and training. Based on the researchers' knowledge there is no paper that is written in Limpopo Province and written in the form of a case

study. Challenges that have been identified and explored range from capacity planning, working stations, financial resources, poor logistics, appropriate technology, and rigid compliance administration. Opportunities for the identified are a think tank that will address technological, logistical, and financial challenges. It is recommended that the should be a relook into the rigid compliance documents. A future study will focus on expanding the study to include other provinces so that authors can make a holistic recommendation about what should be done by emerging agro-processors.

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Biographies

Sebonkile Thaba is currently a lecturer at the University of Johannesburg. She is a cited author in Google Scholar and Scopus. As the Best Paper award winner, she published more than 30 academic articles presented locally and internationally. Some of her duties in the University are to serve in Teaching and Learning, Community Engagement, and Decolonization committees. She serves these committees with pride because she is passionate about contributing to enhancing the quality of tertiary education in South Africa. Her teaching and learning philosophy informs her curriculum to include decolonization, 4IR, and community engagement. Her students participate in socio-economic-driven community projects. Their involvement resulted in more than 500 students being awarded 100 hours of community service certificates from Enactus University of Johannesburg. During her spare time, she mentors young

people who aspire to be academics some of them are now lecturers and cited authors. About her contribution to the body of knowledge internationally; she serves as a track and session chair, reviewer, distinguished speaker in the supply chain, and served as panelist in inclusion and diversity in academia. Sebonkile Thaba has been awarded the Academic Doctorate Advancement Project towards Transformation (ADAPTT) Scholarship, which is a collaboration of the University of Florida (USA) and South African Higher Education (SA-HE) Network (UJ), and is currently finalizing her doctoral studies.

Lawrance Seseni is an Entrepreneurship Lecturer who teaches undergraduates and supervises honours and master's students at the University of Johannesburg. As part of his work in disadvantaged communities, he has initiated several developmental projects, such as conducting career exhibitions in those communities. He currently serves as the Primary Faculty Advisor of the Enactus University of Johannesburg, an international student organisation dedicated to solving societal problems through social entrepreneurship. In addition, he launched the Business Clinic at the University, as he believes that teaching students to take part in community service projects will create citizens of value. This initiative aims to help struggling SMEs in and around Johannesburg. Furthermore, he is the editor of the department's newsletter and a houseparent in a mixed residence on campus. Among his commitments, he is the lab manager for the European Union's and Erasmus+'s Common Good First Digital Storytelling project. Participants in the Digital Storytelling Project are universities from Iceland, Norway, Denmark, Scotland, Spain, and South Africa. A major goal of this project is to showcase community-generated innovative content. As a researcher, he has had a number of his articles published in international conferences that are indexed by Scopus. His recent experience includes serving as a Session Chair at international conferences, reviewing conference papers, and serving as a Track Chair as well as presenting as a distinguished speaker at conferences. A Golden Key member, Lawrance Seseni is in the process of achieving his Ph.D. in Operations Management.

Professor Charles Mbohwa is the former Pro-Vice-Chancellor of the University of Zimbabwe. As an established researcher and professor in the field of sustainability engineering and energy, his specializations include sustainable engineering, energy systems, life cycle assessment, and bioenergy/fuel feasibility and sustainability, with general research interests in renewable energies and sustainability issues. Professor Mbohwa has presented at numerous conferences and published more than 150 papers in peer-reviewed journals and conferences, six book chapters, and one book. Upon graduating with his B.Sc. Honors in Mechanical Engineering from the University of Zimbabwe in 1986, he was employed as a mechanical engineer by the National Railways of Zimbabwe. He holds a Master's degree in Operations Management and Manufacturing Systems from the University of Nottingham and completed his doctoral studies at the Tokyo Metropolitan Institute of Technology in Japan. Prof. Mbohwa was a Fulbright Scholar visiting the Supply Chain and Logistics Institute at the School of Industrial and Systems Engineering, Georgia Institute of Technology; is a fellow of the Zimbabwean Institution of Engineers; and is a registered mechanical engineer with the Engineering Council of Zimbabwe. He has been a contributor to the United Nations Environment Programme and a Visiting Exchange Professor at Universidade Tecnológica Federal do Paraná. He has also visited many countries on research and training engagements, including the United Kingdom, Japan, Germany, France, the USA, Brazil, Sweden, Ghana, Nigeria, Kenya, Tanzania, Malawi, Mauritius, Austria, the Netherlands, Uganda, Namibia, and Australia.

Dr Nelson Sizwe Madonsela (ND: IT, BTech, MTech, Ph.D). Business Intelligence Analyst, Senior Lecturer, and Acting Head: Department of Quality and Operations Management, University of Johannesburg (UJ). He holds a doctoral degree (Ph.D. in Engineering Management) from UJ and obtained his Master of Technology degree in Operations Management from UJ. He received a Bachelor of Technology degree in Quality from the University of South Africa (UNISA) and a National Diploma in Information Technology (Software Development) from Tshwane University of Technology (TUT). His research focuses on Business Artificial Intelligence and operation management, focusing on operational excellence. He also focuses on areas such as quality management systems, digital transformation, and project management. He has presented at local and international conferences and authored book chapters. Dr. Madonsela has helped provide high-level strategic and technical guidance in quality management and advanced project management to upskill the workforce among industries within South Africa. Additionally, he serves as a National Advisor on curriculum development, teaching and learning methods, and best practices in quality and operations management in several South African universities.