Exploring managers' perceptions of critical managerial competencies for future success in selected South African manufacturing organisations

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Mini-dissertation accepted in partial fulfilment of the requirements for the degree Master of Arts in Industrial and Organisational Psychology at the North-West University

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Graduation: June 2022

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FOR THE READER'S ATTENTION

The reader is reminded of the following:

- This mini-dissertation was submitted in the form of a research article that consists of three chapters. Chapter 1 is an introduction; Chapter 2 covers the research article; and Chapter 3 contains the conclusions, limitations and recommendations, which are discussed.

- The American Psychological Association's (APA) (7th edition) publication manual style, reference and editorial guidelines are followed within this study. This practice was used in terms of the School of Industrial Psychology and Human Resource Management at the North-West University (Potchefstroom Campus), which stipulates the use of the APA style in all scientific documents as from 1999, January.

- Each chapter of this mini-dissertation has its own reference list.

ACKNOWLEDGEMENT

I would like to express my sincerest gratitude to the following people without whom this research would not have been possible:

- I firstly would love to thank my God for protecting, provisioning and providing for me during this journey. I am thankful for the strength and support God blessed me with.

- A very special thank you to my supervisor, Dr Bouwer Jonker. He has always been there for me from day one. I am thankful that he never gave up on me and that he always kept me going. I am thankful for all the moments he picked me up with prayer and truth when I was down. He always motivated me to go on and keep pushing even when it was hard. Dr Bouwer Jonker, you have been an amazing supervisor and a blessing to me. Thank you for that.

- To my loving husband and best friend, Kabelo Stenger. Thank you for always providing me with support. For all the nights I stayed up late working – you joining me and you motivating me not to give up – I thank you for that. You have been understanding, loving and supporting' you are extremely amazing for that.

- Thank you so much to all my friends and family for the encouragement. Master class students, I hope we will all get where we all hoped to be.

- To all the participants to my study, thank you so much for taking time off your busy schedules and making time for me. Thank you all for your undivided attention and for providing me with quality data.

- Thank you so much to my language editor, Cecile Van Zyl, without your professional assistance this would not have been possible.

DECLARATION OF OWN WORK

I, **Portcia Thembekile Lungile** , hereby confirm that this mini-dissertation/dissertation/thesis with the registered title "*Exploring managers' perceptions of critical managerial competencies for future success in selected South African manufacturing organisations*" is my own work.

I further declare that:

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7 December 2021

Portcia Thembekile Lungile   Date

DECLARATION BY SUPERVISOR

I, **Dr Bouwer Jonker**, confirm that the above declaration signed by the candidate is accurate to the best of my knowledge and that I have received a satisfactory similarity report from *Turnitin* before allowing the candidate to submit for examination.

7 December 2021

Dr Bouwer Jonker   Date

DECLARATION BY LANGUAGE EDITOR

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7 December 2021

Dear Mr / Ms

Re: Language editing of mini-dissertation (Exploring managers' perceptions

of critical managerial competencies for future success in selected South

African manufacturing organisations)

I hereby declare that I language edited the above-mentioned mini-dissertation by Ms TP Lungile (student number: 27368467).

Please feel free to contact me should you have any enquiries.

Kind regards

Cecile van Zyl

Language practitioner

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SUMMARY

Title: Exploring managers' perceptions of critical managerial competencies for future success in selected South African manufacturing organisations

Keywords: Critical skills, future success, managerial abilities, managerial competencies, managerial knowledge, managerial skills, manufacturing sector, South Africa

The manufacturing sector contributes to the gross domestic product of South Africa and employs many people in the country. The advent of the fourth industrial revolution, with its technological advances, is set to disrupt the manufacturing sector, which is already competitive. Having managers with the requisite managerial competencies will be critical for the future success of managerial organisations in this fast-changing sector.

Managerial competencies consist of skills, knowledge and abilities. Managers should have the right balance of competencies in their respective fields. It is, however, not clear what managerial competencies are critical for future success from the perspective of current managers in the South African manufacturing sector.

The objective of this study was to explore the perceptions of managers regarding the critical managerial competencies needed for future success in selected manufacturing organisations in South Africa. A qualitative research approach with an interpretivist research paradigm was used in this study. Purposive sampling was employed to select the sample of ($N= 20$) managers. Online semi-structured interviews were conducted to collect the data. Conventional (inductive) qualitative content analysis was used to process the collated data.

The findings of this study indicated that the managers should have a variety of managerial competencies to ensure future success. These competencies can be grouped as: cognitive, general managerial, intrapersonal, economic, organisational-focused, and social skills. Most notable were the importance of people skills, empowering others and interpersonal skills, because managers of the future will have to work very closely with teams to be successful in the competitive manufacturing environment. Participants made recommendations to manufacturing organisations, such as management training courses, curated training, innovation, coaching others, and the proper assessment of managerial ability. In addition, the researcher made recommendations for future research and practice.

OPSOMMING

Titel: Verkenning van bestuurders se persepsies van kritieke bestuursvaardighede vir toekomstige sukses in geselekteerde Suid-Afrikaanse vervaardigingsorganisasies

Sleutelwoorde: Kritiese vaardighede, toekomstige sukses, bestuursvermoëns, bestuursbevoegdhede, bestuurskennis, bestuursvaardighede, vervaardigingsektor, Suid-Afrika

Die vervaardigingsektor dra by tot die bruto binnelandse produk van Suid-Afrika en bied werksgeleenthede aan baie mense in die land. Die koms van die vierde industriële rewolusie, met sy tegnologiese vooruitgang, gaan die vervaardigingsektor, wat reeds mededingend is, ontwrig. Om bestuurders met die vereiste bestuursbevoegdhede te hê, sal van kritieke belang wees vir die toekomstige sukses van bestuursorganisasies in hierdie snelveranderende sektor.

Bestuursbevoegdhede bestaan uit vaardighede, kennis en vermoëns. Bestuurders moet die regte balans van bevoegdhede in hul onderskeie velde hê. Dit is egter nie duidelik watter bestuursvaardighede van kritieke belang is vir toekomstige sukses vanuit die perspektief van huidige bestuurders in die Suid-Afrikaanse vervaardigingsektor nie.

Die doel van hierdie studie was om die persepsies van bestuurders rakende die kritiese bestuursbevoegdhede wat nodig is vir toekomstige sukses in geselekteerde vervaardigingsorganisasies in Suid-Afrika te verken. 'n Kwalitatiewe navorsingsbenadering met 'n interpretivistiese navorsingsparadigma is in hierdie studie gebruik. Doelgerigte steekproefneming is gebruik om die steekproef van (*N*= 20) bestuurders te selekteer. Aanlyn semi-gestruktureerde onderhoude is gevoer om die data in te samel. Konvensionele (induktiewe) kwalitatiewe inhoudsanalise is gebruik om die versamelde data te verwerk.

Die bevindinge van hierdie studie het aangedui dat die bestuurders 'n verskeidenheid bestuursbevoegdhede moet hê om toekomstige sukses te verseker. Hierdie bevoegdhede kan gegroepeer word as: kognitiewe, algemene bestuurs-, intrapersoonlike, ekonomiese, organisasie-gefokusde en sosiale vaardighede. Die belangrikste was die waarde van mensvaardighede, bemagtiging van ander en interpersoonlike vaardighede, want bestuurders van die toekoms sal baie nou met spanne moet saamwerk om suksesvol in die mededingende vervaardigingsomgewing te wees. Deelnemers het aanbevelings aan vervaardigingsorganisasies gemaak, soos bestuursopleidingskursusse, saamgestelde opleiding, innovasie, afrigting van ander en die behoorlike assessering van bestuursvermoë. Daarbenewens het die navorser aanbevelings gemaak vir toekomstige navorsing en praktyk.

CHAPTER 1

INTRODUCTION

INTRODUCTION

In South Africa, the manufacturing industry has grown to be a sector that contributes to its country's economic development and the global economy. According to Stats SA (2021c), the manufacturing sector contributes and plays an important role in the national economy. Not only does it have an important role to play in the economy, but it also provides employment to South Africa's workforce; however, in the manufacturing sector, there was a decline of -1.4% in employment (Stats SA, 2021c).

The industries in the manufacturing sector in South Africa include, but are not limited to information communications technology (ICT), electronics, automotive, metals, textiles, chemicals, agri-processing, clothing and footwear industries (Brand South Africa, 2017). In 2021's second quarter, there was a decline of -0.1% in the contributions made to the GDP by the manufacturing (Stats SA, 2021d). This shows that the manufacturing sector did contribute to the GDP of South Africa. Therefore, it is crucial that the manufacturing sector's managers possess the relevant competencies that are needed for future success in South Africa. Managers have a significant impact on the success or failure of an organisation (Popescu et al., 2020).

The manufacturing industry is on its way to implement the concept of smart factories (Sjödin et al., 2018). This would include making use of new technologies in manufacturing organisations (Sjödin et al., 2018). This is something that manufacturing industries had already experienced in 2020, as it had been impacted by COVID-19 and the new emerging technologies. The manufacturing industries in Asia were impacted by the COVID-19 pandemic just as the rest of the world, and now they are implementing digital fourth industrial revolution (4IR) solutions of up to 39 percent nerve centre or control-tower approaches as a result of worker shortages (Agrawel et al., 2020).

The 4IR technologies that are introduced in the manufacturing organisations include connectivity, automotive, advanced analytics and advanced manufacturing technologies (Agrawel et al., 2020). This has been an ongoing occurrence, even before the COVID-19 pandemic. Consequently, it is important that managers have a clear understanding of their managerial competencies so that they can lead the organisation to success (Khare & Varma, 2017).

International studies on critical managerial competencies in the manufacturing sector highlight the importance of technological, managerial and social knowledge, skills and abilities (Bolukbas & Guneri, 2018). A Polish study focused on how successful innovation and implementation in a company is dependent on both the managers and employees' competencies and human capital (Szcepanska-Woszyna & Dacko-pikiewicz, 2014). The study was conducted on middle, top and operational management in Poland's companies and they looked at the idea that for innovation

management to be successful, management need to have domain understanding as well as specific competencies (Szcepanska-Woszyna & Dacko-pikiewicz, 2014).

Another South African study conducted on managerial competencies, focused on the relationship between the managerial competencies of managers/owners in emerging technology firms and business performance (Rambe & Makhalemele, 2015). The previously mentioned study was done in South Africa on the conceptual framework of the services industry (Rambe & Makhalemele, 2015).

This study aims to explore the perceptions of managers regarding critical managerial competencies needed for future success in selected manufacturing organisations in South Africa.

This chapter includes the problem statement, research objectives, the general and specific objectives, and thereafter the research methodology and chapter overview. The following keywords were used to increase the visibility of this study in search engines: critical skills, future success, managerial abilities, managerial competencies, managerial knowledge, manufacturing sector, managerial skills and South Africa.

Problem statement

The GDP of South Africa had an increase from 1.0% in the first quarter of 2021 to 1.2% in the second quarter, leading the manufacturing sector to contributing -0.1% to the GDP in the second quarter of 2021 (Stats SA, 2021b). This decrease in the GDP was influenced by the COVID-19 pandemic (Stats SA, 2021a). The manufacturing sector in South Africa was one of the largest contributors to the country's GDP, with 21.4% in the fourth quarter of 2020 – an improvement of 2.4% on the third quarter (Stats SA, 2020). A successful manufacturing sector therefore plays an important role in this country's developing economy.

Companies will have to adapt to the 4IR technological transformation and prepare their employees for this change to stay relevant (Birgit et al., 2017). Various emerging technologies, for example the internet of things, nanotechnology, robotics, artificial intelligence, biotechnology and 3D printing, are increasingly shaping the industry and transforming systems such as production management and governance (Schwab, 2016). The manufacturing sector moved from the use of steam engines (the first industrial revolution) to the era of digitalisation (Carvalho et al., 2018). Employees in the manufacturing industry need to be prepared for the rapid changes of new technologies in factories (Ferrario et al., 2019).

The devastating effects of the COVID-19 pandemic have negatively impacted the growth of the global economy. Specifically, a decline of 35% in market credit was recorded, leading to similar economic levels experienced in 2008 (Roubini, 2020). In South Africa (SA), the economy retracted

by 7% during 2020 (Smith, 2021). A vibrant manufacturing industry may therefore uplift the local economy, if managed effectively. According to Rodset (2016), SA has a slow economic environment and the manufacturing sector has the power and potential to turn this economic situation around. The scholar postulated that a thriving manufacturing sector is critical in SA for creating sustainable growth through job creation. It is management's responsibility to lead the way in any organisation, and this is needed in the current challenges facing the economy and manufacturing sector (Khare & Varma, 2017). Having managers with the relevant competencies to navigate the technological environment of manufacturing in the future is essential to the success of a company (Khare & Varma, 2017). Therefore, it is important that managers in the manufacturing sector possess the requisite managerial competencies to revive the economy of SA.

Managers are evaluated based on a set of tasks that are well-defined as industrial standards, termed as competencies, and they are different from individual competencies (Chong, 2013). Successful and effective managers possess a number of competencies that enable them to perform effectively and efficiently to help an organisation reach its objectives in a competitive and dynamic business environment (Bhardwaj & Punia, 2013). Competencies consist of three base components, namely skills, knowledge and attributes that a person requires to perform a task (Coetzee & Schreuder, 2010). *Competency* is defined as a person's skills, knowledge and additional values that improve an individual's ability to adapt to change and their employability, which contributes to a satisfying job and organisational requirements (Coetzee et al., 2016). Managers with indispensable knowledge, skills and abilities (KSAs) will be essential to ensure that the manufacturing sector is effective in the future.

Management's role is important in manufacturing companies because having ineffective management can lead to inferior quality, defects and safety problems in products (Markgraf, 2020). In addition, poor manufacturing management jeopardises the survival of the organisation in question and not only its profitability (Markgraf, 2020). According to Lavoie (2016), poor management can lead to employee retention and it may have a long-lasting effect on the entire organisation. Managers with the relevant competencies to navigate the technological environment in the manufacturing industry of the future are essential to the success of a company. Specifically, managers lacking technical skills will not be able to manage work in an effective way (Khare &Varma, 2017). Therefore, it is important for managers to understand the organisational goals and objectives and their roles and responsibilities by mastering critical managerial skills (Khare & Varma, 2017). A manager who wishes to be effective and efficient, and to add value to the organisation, needs to be very competent in their managerial skills (Publito, 2021).

Management skills are abilities that will have a large impact on a company reaching its success or being led into failure (Popescu et al., 2020). Maurya et al. (2017) describe managerial skills as knowledge and abilities that individuals in a managerial position should have in order to enable them to fulfil specific managerial tasks. Based on these descriptions, managerial skills can be seen as knowledge and capabilities that managers need to accomplish their job requirements and be successful in the future.

According to Khare and Varma (2017) and Mujtaba et al. (2013), management skills consist of technical, human and conceptual skills. These skills are briefly discussed below:

- **Technical skills** include activities that involve methods of process, procedures, or techniques. Specialised knowledge, analytical abilities and the capacity to make use of tools and techniques in a specific discipline, are conceptualised as technical skills.

- **Human skills** are mostly focused on working with people and how individuals perceive their superiors, equals and subordinates by the way they behave. Human skills include being aware of your own attitudes, assumptions and beliefs towards others.

- **Conceptual skills** entail an individual's understanding of the organisation's various functions and how these functions depend on each other. Conceptual skills are required when having to make a successful decision, for example making crucial changes in the marketing policy can influence production, control, finance, research and those involved.

Mastering these managerial skills is important for the success of any organisation and may lead to cost saving measures, which include affordability, availability, acceptability and accessibility towards services for both clients and the organisation (Khare & Varma, 2017). Therefore, organisational success is a consequence of effective managerial competencies and is reflected in an increased return on investment, return on equity, return on assets, increased profit margin and sales growth (Putsom et al., 2019).

The job skills that will be needed for future success are: complex problem-solving, critical thinking, creativity, people management, coordinating with others, emotional intelligence, judgement and decision-making, service orientation negotiation, and cognitive flexibility (Gray, 2016; Publito, 2021). In addition, the following skills are recognised as the 10 skills for the workforce of the future: sense-making, social intelligence, novel and adaptive thinking, cross-cultural competency, computational thinking, new-media literacy, transdisciplinary, design mindset, cognitive load management, and virtual collaboration (Davies et al., 2011). Creativity is the one skill that will make the most impact in the new world of work and it is what employers are currently hiring for (Gray, 2016; Jopp, 2020). Managers who have a good understanding of their managerial

competencies will be able to take care of their organisational managerial tasks, which include responsibilities toward people (clients), high office, staff, stakeholders, government and society (Khare &Varma, 2017).

Managerial skills are a set of behaviours that ensure a good job performance and without these skills a manager's knowledge does not have any effects in an organisation (Khare & Varma, 2017). In addition, appropriate and effective behaviour and attributes form part of the competencies that an effective manager should possess. The term managerial behaviour is utilised sporadically to refer to the behaviour itself, frequently portrayed as what managers do in their managerial positions (Frempong et al., 2013). Desirable managerial behaviours consist of service/product development, promotion, human resource management, planning and evaluation, cost reduction and networking (Park et al., 2014). These six categories of managerial behaviour are congruent with managerial skills. The influence that managerial behaviour has on business performance revealed that product/service development and promotion have a statistically significant and positive effect on real profits and subjective evaluations on organisational finances (Park et al., 2014). Accordingly, management with accurate managerial behaviours can benefit an organisation. Attributes are just as important as skills and behaviours that managers should possess. Attributes are underlying characteristics that individuals have of their personality and traits that are expressed in behaviours, including physical traits (Coetzee & Schreuder, 2010). A manager's performance is influenced by individual competencies, and consequently it is critical that management possesses good managerial competencies, because it is important for the success of an organisation (Bhardwaj & Punia, 2013).

Little is known about the critical competencies (essential knowledge, skills, and abilities) required by managers to achieve future success in the manufacturing industry. A study on leadership in the manufacturing industry has been done and highlights the need for flexibility and competencies (Alat & Suar, 2019). *Flexibility* comprises factors that necessitate adaptability and adhering to performance requirements. Changes in external environments, reconciling contrasting demands, navigating the unpredictability of human resources, and daily contingencies require adaptability. Performance requirements include checking the environment, anticipating changes, crafting shared meanings, developing adaptability in human resources, making sense of contradictions, and creating alternative solutions. *Competencies* that managers require in the manufacturing industry encompass harmonising different roles, values and behaviours, coaching and team building skills, planning skills, systems thinking, social skills, conflict management skills, and receptiveness to learning (Alat & Suar, 2019).

A literature review on the critical managerial competencies for future success in the South African manufacturing industry yielded sparse results. According to Urban and Naidoo (2012), operations

skills such as inventory management, production planning and control, operational specifications and quality, production measurement techniques, and support production requirements are linked to business sustainability in the manufacturing industry. Therefore, more research is required to address this gap regarding the critical managerial competencies for future success in the South African manufacturing industry.

This study provided insights, based on management's accounts, concerning critical managerial competencies required for future success (productivity and sustainability) in this important sector. Such managerial competencies were clustered, categorised and defined. Thick descriptions of the identified competencies were generated to facilitate responsible and evidence-based planning for future management development in the manufacturing industry. In addition, this study provided recommendations from managers regarding the attainment of essential skills needed for a productive and sustainable manufacturing sector in the future.

In light of the above discussion, the problem statement, to guide the proposed study of the identified phenomenon, is as follows: It is not clear what the perceptions of managers are regarding critical managerial competencies for future success in the manufacturing sector in South Africa.

1.2 Research questions

The research questions that guided the study are listed below:

- How are managerial competencies conceptualised in scientific literature?
- What are managers' perceptions regarding critical managerial competencies for future success in the manufacturing sector in South Africa?
- What recommendations can be made, by managers in selected manufacturing organisations in South Africa, regarding the attainment of critical managerial competencies for future success?
- What recommendations can be made for future research and practice regarding critical managerial competencies for future success in the manufacturing sector in South Africa?

1.3 Expected contributions of the study

1.3.1 Contributions to industrial and organisational psychology literature

Little research was found on the perceptions that managers have regarding critical managerial skills for future success in the manufacturing sector in South Africa. Therefore, this study will contribute to industrial and organisational psychology literature by exploring managers' perceptions regarding critical managerial competencies for future success in this sector.

1.3.2 Contribution to the individual and the organisation

This study will contribute to individual managers, or aspiring managers in the manufacturing sector in South Africa, by outlining the critical managerial competencies that will be required to perform successfully in this dynamic and competitive environment.

Organisations will benefit from this study by obtaining curated recommendations, from current managers, regarding critical managerial competencies that will be needed to remain competitive in the future. These recommendations can inform the talent management strategies of organisations to ensure that managers with the requisite competencies are acquired, developed and retained.

1.4 Research objectives

The research objectives comprise a general objective and specific objectives. These objectives are listed below.

1.4.1 General objective

The general objective of this study is to explore the perceptions of managers regarding critical managerial competencies for future success in selected South African manufacturing organisations.

1.4.2 Specific objectives

The specific objectives of this study are expounded below:

• Establish how managerial competencies are conceptualised in scientific literature.

• Explore the perceptions of managers regarding critical managerial competencies for future success in the manufacturing sector in South Africa.

• Explore what recommendations can be made, by managers in selected manufacturing

organisations in South Africa, regarding the attainment of critical managerial competencies for future success.

• Make recommendations for future research and practice regarding critical managerial competencies for future success in the manufacturing sector in South Africa.

1.5 Research design

In the research design section, the research approach, research strategy and the research method of this study will be discussed in detail.

1.5.1 Research approach

For the purpose of this study, a qualitative research design was used because the researcher wanted to obtain a deep understanding of the perceptions of managers' critical managerial competencies for future success in selected manufacturing organisations in South Africa. Qualitative research is described by DeFranzo (2011) as exploratory research. By making use of this research method, the researchers can have a clear understanding of what they are researching (Struwig & Stead, 2013). Therefore, qualitative research can be used to have a clear and in-depth exploration of a research problem (DeFranzo, 2011). Furthermore, the qualitative research method is used to reflect on the views of the participants and the researcher having an in-depth analysis and little commentary on those views (Struwig & Stead, 2013). The researcher's task is then to take the data provided by the participants to analyse and interpret it (Struwig & Stead, 2013).

In this study, the researcher made use of the interpretivist paradigm. The goal of an interpretivist is to understand the point of view of those who experience living in a complex world (Schwandt, 1998). An interpretivist accepts that there are multiple perspectives on reality (Hudson & Ozanne, 1988). The researchers will avail themselves to new data, from the participants, as they enter the field of exploration with lacking data (Hudson & Ozanne, 1988). The researcher conducted online interviews with multiple managers to get their perspective on what managerial competencies they think are necessary for future success within the manufacturing sector in South Africa. Every manager had their own perspective regarding critical competencies, and the researcher wished to understand these perspectives from different points of view. Gemma (2018) argues that the interpretivist believes that the truth and knowledge are based on people's experience and their understanding (perception) that is subjectively, historically and culturally placed.

1.5.2 Research strategy

In planning the current study, a qualitative descriptive strategy was employed. According to Kim et al. (2016), a qualitative descriptive strategy is used in qualitative studies that are descriptive in nature. Relatedly, a qualitative descriptive strategy seeks to create an understanding of a phenomenon by gaining access to the significances that the participants have towards that phenomenon by having a naturalist approach (Bradshaw et al., 2017). This design allowed the participants to give in-depth data of their perception of critical managerial competencies that are needed for future success in the manufacturing sector in South Africa.

1.6 Research method

The research method implemented in this study consisted of the literature review, research setting, entrée and establishing researcher roles, research participants and sampling methods, data collection methods, recording of data, data analysis, strategies employed to ensure quality data, reporting of data, and ethical considerations.

1.6.1 Literature review

A detailed literature review was conducted on the critical managerial competencies for future success in the manufacturing sector in South Africa. The focus was on managers' perceptions of what these critical managerial competencies should be within the manufacturing sector in South Africa. The literature source publications that were used were from 2011 to 2021. The keywords that were used in scholarly search engines were the following: critical skills, future success, managerial abilities, managerial competencies, managerial knowledge, manufacturing sector, managerial skills, and South Africa.

The researcher also made use of the Potchefstroom, North-West University Ferdinand Postma library to consult relevant books. A number of databases were utilised when gathering information. The online search engines or databases that were used to obtain information were Google Scholar, EBSCOHost, EBSCO Discovery Service, SAePublications and Google. The aforementioned keywords were used to conduct a literature search. Some journals, such as the *International Journal of Business and Economic Sciences, International Journal of Advance Research, International Journal of Logistics Research and Applications, Tourism Management, and Networking*, *Qualitative Research in Psychology, Procedia Manufacturing, Journal of Business Research*, *South African Journal of Industrial Engineering*, *International Journal of Interdisciplinary Research*,

International Journal of Science and Research (IJSR), and *International Journal of Research in Commerce & Management* were used for this study.

1.6.2 Research setting

In this study, the research setting involved selected manufacturing organisations in SA. Manufacturing organisations in all nine provinces of the country were invited to participate in this research. The manufacturing organisations that participated in this study were the food and chemical sectors. The data collection was conducted among the managers in manufacturing organisations in SA. Online interviews were conducted via Skype, Zoom, Microsoft Teams and telephonic platforms, due to the COVID-19 pandemic and restrictions placed on face-to-face contact. The participants could make use of their company computers or cell phones for the interviews. The managers (participants) informed the researcher of the date and time that suited them best for the interviews. The interviews took place during working hours as indicated by the participant.

1.6.3 Entrée and establishing researcher roles

After the Scientific Committee approved the research proposal, it was submitted to the Economic and Management Sciences Research Ethics Committee (EMS-REC) for ethics approval. Thereafter, the researcher made formal contact with manufacturing organisations via email. Specifically, the decision-making structure at potential participating organisations was contacted, requesting permission to collect data. The researcher located the organisations by means of internet searches, social media platforms and geographically. A formal letter providing information on the study was sent to potential organisations via email. This information included the following aspects: the objective of the study, the criteria for participants (managers), how privacy and confidentiality would be approached, how and where data would be collected, how long the data collection process would take, and who to contact in the event of any inquiries. The ethics clearance number of the study was provided in the letters to the organisations. It was clearly stated that the identity of participating organisations would be treated confidentially.

Upon receiving permission to collect data from an organisation, the researcher requested that a designated coordinator (preferably the human resource manager) forward an email, from the researcher, to all potential participants (managers). This email included a participant letter, informed consent form and biographical questionnaire. The participant letter invited the manager to participate in the study. In the participant letter, participants were assured that participation would be voluntary. The general objective, data collection method, and type of questions that will be

asked, were shared with participants in the letter. Participants were also informed that the semi-structured interview would take approximately 30 to 40 minutes of their time and that the risk level of participating in the study was minimal.

Interested managers were requested to email the researcher and to forward the completed informed consent form and biographical questionnaire. Thereafter, arrangements were made by the researcher, with the interested party, for a suitable date and time for the online interview.

The roles of the researcher included:

- Planning the research process and remaining objective.

- Communicating with the designated coordinator to disseminate invitations to potential participants.

- Making arrangements for data collection with interested participants.

- Conducting online semi-structured interviews with the participants.

- Transcribing, analysing and interpreting the data (the supervisor acted as the co-coder to enhance the rigour of the study).

- Compiling a report in the form of a scientific article and a mini-dissertation. It is planned to submit the research article to a suitable peer-reviewed scientific journal.

1.6.4 Research participants and sampling methods

The participants of this study were managers in various manufacturing organisations in SA, which included food processing manufacturing and a chemical and electrical refinery that formed part of the manufacturing sector. Areas of responsibility of such managers included production, quality, plant, technical, occupational health and safety, engineering, maintenance, operations and human resources. The participants should have been able to communicate in English as the main business language.

This study made use of the purposive sampling method. Purposive sampling is a technique that purposefully identifies participants who are information rich (Etikan et al., 2015). This sampling method is a non-random method and is not based on a set number of participants, nor does it need to underline theories (Etikan et al., 2015). Inclusion criteria for participation were:

- Participants working in the manufacturing sector in SA.
- Participants in a managerial position.

- A good command of the English language (Grade 12 English level).
- When permission is granted to record the interview.

The exclusion criterion for this study included managers who have been appointed in their managerial position for less than one year.

The sample comprised (*N*=20) managers in selected manufacturing organisations. Sampling continued until data saturation was reached.

1.6.5 Data collection methods

Semi-structured interviews were used as a method to gather data, which were conducted online due to the social distancing protocol during the COVID-19 pandemic. A semi-structured interview allows for a list of topics and subtopics that need to be covered in advance (Coetzee & Schreuder, 2010). According to Pathak and Intrata (2012), a semi-structured interview is utilised when the researcher would find it beneficial to have a fairly open framework. As part of the interview, the researcher made use of open-ended questions. Open-ended questions allow the respondents to answer the questions freely and express their ideas without restrictions (Struwig & Stead, 2017).

The interview questions that were posed to managers in the manufacturing sector were based on the specific objectives of the proposed study. These interview questions are summarised in the interview schedule below:

Online interview schedule

In order to focus the online interview, the researcher firstly provided a general definition of the terms *skills*, *knowledge* and *abilities*. Thereafter, the following questions were posed to managers in selected manufacturing organisations in South Africa:

Managerial skills:

General definition of a skill: A skill is the ability to perform a job to a prerequisite standard (Blanchard & Thacker, 2012)*.*

Interview question 1: In your opinion, what critical **managerial skills** are required in your organisation **for future success**?

Managerial knowledge:

Definition of knowledge: Knowledge is a product of learning that refers to information, facts, opinions, theory, arguments, principles, procedures, and their interrelationship, which an individual can demonstrate in the workplace (Coetzee et al, 2019).

Interview question 2: In your opinion, what critical **managerial knowledge** is required in your organisation **for future success**?

Managerial abilities:

General definition of an ability: An ability is a basic capacity to perform a variety of tasks, acquiring knowledge or developing a skill (Coetzee et al., 2019).

Interview question 3: In your opinion, what critical managerial **abilities** are required in your organisation for future success?

Recommendations:

Interview question 4: What recommendations can you make **to your organisation** to ensure that **managers** develop critical managerial attributes **for future success**?

A biographical questionnaire was used to describe the research sample and to enhance transferability of research findings to related environments. Required information that was asked of participants included the following:

- Age, e.g. 30

- Gender, e.g. male or female

- Ethnic group, e.g. black

- Area of responsibility, e.g. supply chain/procurement, production, finance, quality, plant, maintenance, operations, human resources

- Number of years in managerial position, e.g. 12 years 6 months

1.6.6 Recording of data

As part of the researcher gaining quality, trustable data, the online interviews were recorded with the permission of the participants. In addition, the consent form indicated that the interviews would be recorded for the purpose of obtaining reliable and valid data. Online interviews were recorded on an electronic device by the researcher. The recordings were stored on a laptop as backup and saved with an encrypted password. The interviews were transcribed verbatim to Microsoft Word documents. The researcher maintained confidentiality by not making use of data that easily

identified the participants. The interview transcriptions were securely saved in password protected documents. Back-ups were also saved to a computer hard drive. Document will be saved for five years. Only the researcher and the researcher's supervisor have access to these documents.

1.6.7 Data analysis

Conventional (inductive) qualitative content analysis will be used to process the data. According to Vaismoradi et al. (2016), conventional qualitative content analysis is the preferred data analysis methodology in qualitative research as it assists in developing theories, models and conceptual frameworks. In this study, the researcher avoided using preconceived categories derived from theory. Specifically, the researcher directly and inductively coded categories stemming from the raw data. The following steps were taken in analysing the data, as prescribed by Hsieh and Shannon (2005):

Step 1: Rereading the data

The researcher read the interview transcriptions repeatedly to obtain a sense of the whole.

Step 2: Highlighting relevant words

The researcher highlighted words in the transcribed interviews that seem to capture key thoughts or concepts of managerial competencies.

Step 3: Coding the data

Codes were allocated to the highlighted text by means of open coding. The researcher and the researcher's supervisor made use of ATLAS.ti (version 9.0.24.0.4) to process the data. ATLAS.ti is a qualitative analysis software programme used to analyse textual, graphical, audio and video data (ATLAS.ti Scientific Software Development GmbH, 2021). Operational definitions were attached to each code. Collectively, the codes constituted the initial coding scheme of the study.

Step 4: Generating categories

Next, the researcher organised and grouped related codes into meaningful code groups (categories). In some instances, codes with similar meaning were merged and assigned a new name. These merged codes then formed part of the overarching code categories.

Step 5: Defining categories

In this phase, the researcher developed in-depth definitions for each category that emerged from the data. Defining the categories helped to bring words to the data, which then formed a narrative (story). The narrative assisted the researcher to interpret the data.

1.6.8 Strategies employed to ensure quality data

To ensure a study of quality, the following strategies were employed to ensure that the quality of the data is not influenced by the researcher's personal biases.

Confirmability

Confirmability is concerned with objectivity that ensures that the information gathered is done in a way that is an honest representation of the participant's view and not influenced by the researcher (Shenton, 2004). The researcher was neutral when collecting the data and did not influence the answers of the participants. To make sure that confirmability is achieved, the researcher noted down answers from participants and made use of a voice recorder to make sure that the correct data given by the participants, is utilised.

Authenticity

According to Merriam and Tisdell (2015), *authenticity* refers to the nature of doing research in a truthful or honest way. The researcher was able to point back to the original data collection to make sure that the work is genuine and truthful after reporting on the data. The data was valid and reliable. This was done by keeping the original notes and recordings from the data collection. The researcher also made use of a co-coder to enhance the authenticity of the analysed data.

Credibility

Credibility is when the research study makes use of the validity of the research findings by having the ability to measure what it is meant to measure (Lincoln & Guba, 1985). The researcher achieved this by ensuring that the managers voluntarily participated in this study. The data that was collected should therefore be honest and valid.

Transferability

According to Trochim (2006), *transferability* refers to the way in which a person can make general assumptions within a different context from the original study's results. The researcher reported and submitted the results of this study in a scientifically detailed, reliable and valid manner. Other researchers should be able to transfer findings from the proposed study to related settings. A description of the sample population (managers in the manufacturing sector), context and research setting also promoted transferability.

Dependability

The matter of reliability is addressed within dependability, meaning that similar results should be attained if the study is repeated on the same group of people (Shenton, 2004). The researcher ensured that the work that is delivered was done in a scientific way and that it was reliable and

valid. This was done by providing detailed descriptions of the research process. In addition, a code scheme was standardised between the researcher and the supervisor to ensure the coding of the data is reliable (inter-coder reliability) (Henning et al., 2013). Data will be coded independently by the researcher and study supervisor and codes were compared methodically (interrater checks) to detect possible drifts in code definitions and to ensure inter-coder agreement (Kawulich & Holland, 2012).

1.6.9 Reporting of data

A detailed discussion of each theme and subtheme was accompanied by direct quotations from the participants. In addition, the researcher made use of tables to report the findings.

1.6.10 Ethical considerations

Coetzee and Schreuder (2011) state that the participation of the participants should be voluntary and if there are any consequences, they should be stated in the informed consent form. Therefore, the participants were informed that they had the right to withdraw from the study at any time they chose without consequences. In addition, participants were informed that all data collected from them would be removed should they choose to withdraw.

The researcher obtained permission from manufacturing organisations before collecting data. A formal letter providing information on the study was sent, via email, to the decision-making structure of identified organisations. This information included the following aspects: the objectives of the study, the criteria for the participants (managers), how privacy and confidentiality will be approached, how and where data will be collected, how long the data collection will take, and who to contact in the event of any inquiries. The ethics clearance number of the study was provided in the letters to the organisations. It was clearly stated that the identity of participating organisations would be treated confidentially. With this information in hand, manufacturing organisations were able to make an informed decision on the request to collect data.

The participant letter, biographical questionnaire and informed consent form were sent to all the participants beforehand by the organisation's coordinator via email. If potential participants had any questions or concerns about the informed consent form, or the study as a whole, they were invited to contact the researcher or the researcher's supervisor on the email addresses provided on the informed consent form.

It was the researcher's duty to ensure that the collection of the data adhered the ethical principle of doing no harm. According to Coetzee and Schreuder (2011), no harm should be done to the participant. All participants were treated in an unbiased, fair manner and treated with respect and

dignity (Mtshelwane, 2016).

The researcher ensured confidentiality towards the participants and the information given. Privacy of participants was observed by not recording names or identifiable information. Instead, numbers were allocated to participants. The data retrieved is stored by the researcher in password protected files. The researcher and the researcher's supervisor are the only two individuals who have access to the data.

The data collected will be kept in password protected files for five years by the researcher. The participants gave consent that the findings of the study could be used for publication in scientific journals, chapters, presented at scientific conferences and for completion of a mini-dissertation as required by the university. Should an organisation request feedback, it will be provided in a report after the completion and examination of the mini-dissertation. Such feedback will be provided on a group level, meaning that all data is de-identified and no data from an identifiable individual is shared.

1.7 Chapter division

This mini-dissertation consisted of three chapters:

Chapter 1: Introduction

Chapter 2: Research article

Chapter 3: Conclusion, limitations and recommendations

1.8 Chapter summary

This chapter presented the problem statement, research questions and research objectives of the study. In addition, the research design and research method used in the present study were outlined. Chapter 1 concluded with a brief structure of the chapters to follow in this mini-dissertation.

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CHAPTER 2

RESEARCH ARTICLE

EXPLORING MANAGERS' PERCEPTIONS OF CRITICAL MANAGERIAL COMPETENCIES FOR FUTURE SUCCESS IN SELECTED SOUTH AFRICAN MANUFACTURING ORGANISATIONS

Orientation: Manufacturing organisations are now in a fast-changing environment where new technologies and new methods of doing work are being introduced and implemented. The managers in these organisations are essential to ensure success in the fourth industrial revolution (4IR). With this comes the responsibility of managers to have the right competencies to be successful in this sector

Research purpose: The general purpose of this study was to explore managers' perceptions of critical managerial competencies for future success in selected South African manufacturing organisations. The study also aimed to get recommendations from managers on what managers in selected manufacturing organisations in South Africa can do to attain critical managerial competencies for future success.

Motivation for the study: The manufacturing sector contributes a large portion to the GDP of South Africa. Consequently, it leads to fighting unemployment in South Africa. It is important that managers have the right managerial competencies in this working environment, as it is one of the fields that is also highly impacted by new technologies. Managers should have these needed competencies to better manage and deal with the continuous environmental changes, while taking into account that they also work with people. Having the right managerial competencies will not just benefit managers in their career growth, but it would also lead to employees effectively performing in the organisation while reaching their set targets. This is also beneficial for organisational success. This study holds the potential of making managers and organisations aware of these competencies and how they can also be developed.

Research approach, design and method: This study followed a qualitative research approach with an interpretivist paradigm. This study made use of a purposive sampling technique. The sample size of the present study was (N=20) managers from selected manufacturing organisations in South Africa. The researcher made use of a semi-structured interview with open-ended questions to collect the data. The researcher made use of the conventional (inductive) qualitative content analysis method to process the data.

Main findings: Various managerial competencies emerged from the data analysis process. Participants identified the competencies needed for future success in manufacturing organisations.

In this process, themes and sub-themes of hard and soft competencies were identified. In addition, the participants provided recommendations on how these competencies can be developed.

Practical implications: Managers in manufacturing sectors will become aware of the necessary managerial competencies needed for future success in manufacturing organisations. These managers will be able to develop the competencies of the managers who are already in positions and recruit the right managers with the right managerial competencies.

Contribution/value-add: This research study provided a qualitative perspective on the critical managerial competencies for future success in the manufacturing sector in South Africa. Moreover, this study will create awareness within organisations and hiring managers of what critical managerial skills for future success will be needed in manufacturing organisations.

Keywords: Critical skills, future success, managerial abilities, managerial competencies, managerial knowledge, manufacturing sector, managerial skills, and South Africa

INTRODUCTION

South Africa's economy went through a dent in the past financial year, with GDP dropping 2.7% from R782 billion in the first quarter of 2020 to R761 billion in the first quarter of 2021 (Stats SA, 2021a). As one of the contributors to GDP, the manufacturing industry has to be a success. In the first quarter of 2021, there was an economic growth of 1.1%, with the manufacturing industry growing by an increased rate of 1.6% and contributing 0.2% to South Africa's GDP (Stats SA, 2021a). The manufacturing industry does not just contribute to South Africa's GDP, but also contributes to the country's employment. The manufacturing industry increased its employment by 2000 employees in the first quarter of 2021 (Stats SA, 2021b).

The economy of South Africa has been influenced by the environmental changes that the country has been facing. These environmental influences include the global COVID-19 pandemic that is currently causing the country to go into lockdown, while restricting social and economic forms of contact, subsequently leading to long-term and short-term negative effects on the SA economy and the manufacturing sector (Arndt et al., 2020). The COVID-19 pandemic caught many industries, including the manufacturing industry, off guard and altered the way in which activities are executed (Furtado et al., 2021). Likewise, the emergence of new technologies associated with the fourth industrial revolution (4IR) such as digital production technologies that include nanotechnology, new materials, biotechnology, and the advanced digital production impacted the operations function of this industry (Lavopa & Delera, 2021).

Globally, there are new technological changes happening in the manufacturing environment and businesses world. The technological developments that are currently taking effect is the progress of the internet of things (IoT) and artificial intelligence (AI) (Pitchford, 2020). The internet of things (IoT) is described as a network of physical objects that make use of the internet to effectively connect and communicate (Patel, Scholar, Salazar, & Patel, 2016). Artificial intelligence is described as computer programs that are used to complete tasks that human intelligence would otherwise complete (Saleh, 2019). The new technologies have to do with the uprising of the fourth industrial revolution (4IR), and the sooner we are aware of these environmental changes, the sooner it will benefit all of us (Xu et al., 2018). Therefore, managers should possess the necessary managerial competencies needed for future success in South Africa.

Managers have an important role to play in a company. The role that a manager has in an organisation is keeping an eye on the company's daily operations and the employees (Natter, 2019). Being in management includes performing tasks such as planning, motivating human resources, organising and controlling the overall procedures (Tovmasyan, 2017). Being in management means making sure that there is a balance between the profit that the business is making and making sure that the employees working in that business can perform their tasks to the best of their ability. Managers must meet the requirements of having the necessary skills, playing the role of shaping the culture of the team and the working environment, which are all part of being a successful manager, while maintaining an administrative role and a leadership role (Reh, 2020).

Managers should have the necessary managerial competencies to lead a company to success. Not only is it hard hiring the right manager with the required competencies, but those necessary competencies evolve and change over time (Aslan & Pamucu, 2017). Therefore, keeping managerial competencies sharpened over time is important. Competencies are related to actions that may directly have an effect on the profit an organisation makes and having the right managerial competencies may lead to positive attitudes such as engagement (Lara & Salas-Vallina, 2017). Having the right manager with the right managerial competencies would mean the difference between a thriving organisation or a dying organisation.

Managers without the needed managerial skills may lead to poor management. Poor management is associated with a decrease in employee morale and an increase in personnel turnover (Lavoie, 2016). Poor management plays a role in organisational poor morale, increased work-related stress, productivity in relation to turnover, and may lead to most employees leaving their jobs even for a lower paying position (Gallagher, 2020; Morgen, 2012).

Managers in the manufacturing sector, in South Africa, who have the necessary managerial competencies will be able to successfully navigate through the environmental technological changes that the manufacturing industry is and will be facing. It is, however, not clear what managers perceive as critical managerial competencies for future success in the South African manufacturing sector. Therefore, the researcher found it relevant to further investigate this phenomenon.

Research purpose and objectives

The purpose of this study was to explore managers' perceptions regarding critical managerial competencies for future success in selected South African manufacturing organisations.

The specific objectives of this study are expounded below:

- Establish how managerial competencies are conceptualised in scientific literature.
- Explore the perceptions of managers regarding critical managerial competencies for future success in the manufacturing sector in South Africa.
- Explore what recommendations can be made, by managers in selected manufacturing organisations in South Africa, regarding the attainment of critical managerial competencies for future success.
- Make recommendations for future research and practice regarding critical managerial competencies for future success in the manufacturing sector in South Africa.

To address the stated purpose and objectives, this chapter is structured into different sections, including a literature review, empirical study, discussion, and a section that outlines the limitations and proposed recommendations.

Literature review

Managerial competencies

Managerial competencies are defined as skills, knowledge and abilities that managers should have to successfully and effectively execute their managerial responsibilities, and may include characteristics such as communication skills, problem-solving skills, the ability to work in a team and being customer focused (Czaja, 2017). Competency is what an individual needs to have in order to do their job to the best of their ability. This includes reaching performance outcomes. Competencies can be described in many ways. According to Hoffmann (1999), there are three different definitions of competencies: 1) competencies are referred to as the performance output of learning processes, 2) having the ability to be productive and efficient in the working environment and 3) competencies refer to the attributes that a person has, which include knowledge, attributes and skills. Managerial competencies will be discussed next.

Managerial skills

Skills are one of the requirements of future employability. According to Bakhsi et al. (2017), skills, such as interpersonal skills, systems skills and higher order cognitive skills, will be in great demand and they will shape new job positions when considering human judgement and machine learning. Bakhshi et al. (2017) also state that skills investments will not just be in demand, but it will have an impact on occupational demand, and it provides information that businesses, governments and educators can make use of for policy-making and strategic purposes. Skill is not something that a person can just possess, but it is something that is developed and learned. There are different types of existing skills, including self-related skills, which are learned during educational years, and self-perceived skills, which are learned through on-the-job learning and over-time building of experience (Muja et al., 2019).

There are different types of skills that a manager can possess that will lead them to future success and employment. The new technology that is and is yet to come into the working environment will require skills-based technological change and this will lead to there being a high demand of high skilled workers such as educated workers rather than low skilled workers such as non-educated workers (Grundke et al., 2018). There are different types of skills that managers should have to be successful in their careers, and these skills include the following (Smith, 2020):

Interpersonal skills: Interpersonal skills are the ability to effectively interact or communicate with other people (Tarver, 2021). Managers work a great deal with people, including their teams and clients. Interpersonal skills will help with being able to build and maintain good relationships; it will also help with getting to do daily activities such as social activities and team building training, while maintaining the team's respect.

Organisation and delegation skills: Delegation in a work setting means the transfer of task responsibility from a manager to a subordinate (Dolye, 2020). Organisational skill is having the ability to stay focused on different tasks while effectively making use of your time, energy, physical space, mental capacity and strength (Duszynski, 2021). A successful manager will have to multitask different managerial responsibilities. Having the right organisation skills is important and the delegation skills will come in handy when managing and delegating the workload to the employees and yourself. Delegating work to employees will help in developing their confidence and skills while being able to reach more or the tasks as a manager.

Communication skills: Communication skills are when one has the ability to give and receive different types of information (Zane, 2021). A manager with the right communication skills is an effective manager. Communication skills include, but are not limited to written communication skills, verbal communication skills and listening communication skills.

Forward planning and strategic thinking: These are skills that come in handy when, as a manager, you need to plan and have the ability to see the bigger picture of the responsibilities of today and of a successful future. This is also where skills such as innovation and adapting to change will fall in place.

Problem-solving and decision-making skills: Problem-solving is an "act of using systematic approach to overcome obstacles in the management of an enterprise" and decision-making is "an act of making rational choices among multiple options or courses of action" (Kurian, 2013, p. 81, p. 220). As a manager's daily tasks, a manager will need to spot any problems that turn up and solve those problems. This process will lead to managers making decisions that will help solve the problems. This is where skills such as paying attention to detail, creative thinking and having the ability to remain calm under pressure will come in handy.

Mentoring: Mentoring is when mentees build a relationship with a mentor who is an expert in their careers, professional skills and personal lives (Vikaraman, 2017). A mentor is an experienced person who provides advice and helps less experienced people over a period of time (Kurian, 2013, p. 183). Managers need to play a supportive role towards their teams. This includes managers teaching others the skills and knowledge that they have accumulated throughout the years. Mentoring others will include having training skills.

Commercial awareness skills: This skill includes the manager being aware of the organisation's mission and aims, understanding the sector that the company is in, having knowledge of the economic issues that will affect the business and knowing the competitors the business has and how to overcome them.

Managerial knowledge

Knowledge is defined as wisdom that is acquired from a person's perspective (Bolisani & Bratianu, 2018). According to Battisutti (2017), knowledge acquisition is a cognitive process that may include problem-solving, decision-making, knowledge modeming, understanding languages, learning reasoning and knowledge conversations. Just as skills, knowledge can be learnt over time in the working environment or an individual can learn about it through education. There are three different types of organisational knowledge that one should have. These include explicit knowledge, tacit knowledge and embedded knowledge (Alexander, 2018).

Explicit knowledge is the type of knowledge that is easy to document, articulate and share (Orangui, 2020). This is the type of knowledge that can be shared through an employee or manager's record keeping or documentation, and it can be used in things such as organisational onboarding as a guide.

Tacit knowledge, according to the Cambridge Dictionary (2021), is the type of knowledge that one can only gain through personal experience while working in an organisation; this is the type of knowledge that cannot be gained through being taught or from books. Tacit knowledge includes technology knowledge such as practice skills, cognitive implicit knowledge such as personal experience and perception and technical tips (Jin-feng et.al, 2016). A manager can transfer this knowledge by coaching fellow employees.

Embedded knowledge is the type of knowledge that is embedded in processes, products and the organisational culture and it is not attained by people but routines (Vössing et al., 2018). It is how things are done in an organisation. A manager can lead employees working under them by setting good examples in regard to processes, products and the organisational culture and this embedded knowledge will be transferred.

Managers who possess the right managerial knowledge will lead the organisation to success. According to Gonzales and Martins (2017), there are some preparations that need to take place in an organisation that would require knowledge to circulate among individuals so that it can actively be used to reach improvement in the organisation.

Managerial abilities

An *ability* is when a person has the needed knowledge, skills and power to do things right (Spacey, 2018). Managers who possess the right managerial abilities will lead to a strong organisation that reaches its targets. Managers who have the right quality of managerial abilities may also have an effective impact on the organisation's operational routine and its profitability by getting higher firm value and the best interest for stakeholders (Nawaz et al., 2020). This means that having the right managerial abilities might lead the organisation to financial growth and stability.

Managerial abilities include the following types of abilities (Hermel-Stanescu & Scarlet, 2017):

- Personal abilities include communication, planning and organising, initiatives and personal stress management.

- Interpersonal abilities: The abilities that form part of the interpersonal abilities include empowering others, relationship building and motivating others.

- Administrative abilities include having the ability to set objectives, decision-making abilities, time management and being goal oriented.

Managers need to constantly update and develop their managerial knowledge and skills to correctly update and improve their abilities in their managing inventory. This will have a positive effect on the financial performance of the organisation (Orobia, 2020). Managers need relevant managerial competencies, including skills, knowledge and attributes.

Literature shows evidence of research being done on the importance of managerial competency in knowledge-based organisations. Martina et al. (2012) state that the focus should be on knowledge-based organisations in terms of developing and identifying managerial competencies, because managerial competencies can help managers perform well and lead the organisation to success. Further research on the importance of managerial competencies has been done on a global scale, where ratings of 24 managerial competencies were identified from 22 countries in different regions across the globe (Clark et al., 2016). Managerial competencies are identified and researched because they can be attributed to the role a manager plays in the effectiveness of an organisation (Tyranska, 2016). Managers who possess good managerial competencies and good digital managerial competencies hold a competitive economic performance advantage over every every company (Mesaros, 2016).

In conclusion, it is clear that managers need the necessary managerial competencies to be a successful manager in the manufacturing industry in South Africa. Therefore, the general objective of this study was to explore the perceptions of critical managerial competencies needed for future success in selected South African manufacturing organisations.

RESEARCH DESIGN

In the research design part of this study, the research method, research strategy and the research approach will be discussed in detail.

Research approach

This study used a qualitative design method. This method was used because it described the individual's experience. The term *qualitative research* is described by Levitt et al. (2018) as a number of approaches that are used to analyse data from an expression or experience that may include social interactions and a natural language perception. This perception will explain a certain phenomenon. The researcher's task is then to identify and analyse the data related to a set phenomenon that is experienced by a set group of individuals. The qualitative research method will allow the researcher to filter, absorb and interpret the information given (Sutton & Austin, 2015). The qualitative research method is not just a one-way data collection method, but an interactive two-way process (Aspers & Corte, 2019). By following the qualitative research approach, the researcher did obtain information of what the necessary managerial competencies are for future success in the selected manufacturing companies in South Africa.

This study made use of the interpretivist paradigm. Understanding the experience and perceptions of participants living in a subjectivist world is the goal of an interpretivist paradigm, thereby highlighting the fact that reality can be seen from multiple perspectives (Kivunja & Kuyini, 2017). The researcher's aim was to get a clear view from the different participants as to what their perspectives are regarding what the critical managerial skills needed for suture success in the manufacturing sector in South Africa. This was done by conducting online interviews. Using an interpretivist paradigm in this research, the researcher could simplify and interpret meaning to allow both the researcher and research participant to interact with reality (Khan, 2014).

Research strategy

A qualitative descriptive strategy was followed in this study. "While phenomenology, grounded theory, and ethnography also are descriptive qualitative approaches, by nature, they are not exclusively in the descriptive domain because they also tend to explain phenomena" and it is the least theoretical approach in qualitative research (Lambert, 2012, p. 255). Qualitative research is a research method that includes collecting and analysing non-numerical data such as text, audio and video (Bhandari, 2020). The goal of using a qualitative descriptive research strategy is to gain understanding from the participant's perspective regarding their first-hand experience of a specific phenomenon that is poorly comprehended (Nassaji, 2015). The researcher made use of the

qualitative descriptive design to provide the participants with the opportunity to give in-depth accounts of their perception regarding critical managerial competencies that are needed for future success in the manufacturing sector in South Africa. This was done so that the researcher can comprehensively understand the perceptions of the participants regarding this specific phenomenon.

Research method

The following will be discussed in the research method section of this study: the research setting, entrée and establishments researcher's role, sampling, research procedures, data collection method, data recording, which are the strategies that are used to ensure that the data is of quality and integrity, reporting style and the ethical considerations.

Research setting

The data of this research was collected at selected manufacturing organisations in South Africa. The manufacturing organisations included chemical and food organisations. These organisations were in the following provinces: North West, Gauteng, Mpumalanga, Free State and Western Cape. The data collection was conducted among managers representing the following line functions: maintenance, production, human resource management and occupational health and safety. The interviews were conducted using online video conferencing platforms that included Skype, Zoom, Microsoft Teams and telephonic platforms, and this was as a result of the COVID-19 pandemic. During the COVID-19 pandemic, one of the regulations was that social distancing should be applied and that meant making use of resources such as online video conferencing platforms instead of in-person, face-to-face communication (Maragakis, 2020). The participants were able to choose the platform that suited them best and they could make use of their company computers or cell phones for the interviews. The participants could inform the researcher of a time and date that suited them best for the interviews to take place. The researcher was flexible as to the time the interviews could take place as indicated by the participant.

Entrée and establishing researcher roles

The Faculty of Economic and Management Sciences' Research Ethics Committee (EMS-REC) provided ethics approval for this study. Thereafter, the researcher was in contact with the decision-making structure at potential participating organisations requesting permission to collect data.

The researcher submitted a formal invitation letter via email to potential participating organisations. The formal invitation letter included the ethics clearance number of the study and the following information: the objective of the study, the criteria for participants (managers), how privacy and confidentiality will be dealt with, how the data could be collected and where data will be collected, the duration of the data collection and who to contact if any injuries would occur.

An email including the participant letter, informed consent form and biographical questionnaire was forwarded to the participants inviting them to participate in this study. Prior to this, the researcher requested that a designated coordinator (ideally the human resource manager) relays an email from the researcher to all possible participants after getting authorisation to collect data from the participants in the organisation.

The researcher fulfilled several roles throughout the study. The researcher planned and organised the whole research process while staying objective. The other role that the researcher played included keeping communication with the interested manager that contacted the researcher. The participants forwarded the completed and signed informed consent form to the researcher accompanied by the biographical questionnaire. Afterwards, the researcher would contact the participants to schedule the online interview that would be conducted for data collection. The researcher would then do a data transcription, analysis, and interpretation for the study, while the supervisor acted as the co-coder to enhance the rigour of the study and ensure that the study remained unbiased. The researcher would then also play the part of putting together a report in the form of a scientific paper and a mini-dissertation.

Research participants and sampling methods

In this study, the purposive sampling method was used. Purposive sampling is known as making use of your own judgement as to who would be the best participant that will provide you with the best information for your study's objective (Kumar, 2014). Purposive sampling leads to a cautious choice of the researcher identifying the participant due to what the participant possesses (Michalos, 2014). This leads to a participant who has valuable input in the study.

In this study, the researcher applied the following inclusion criteria to select the various managers based on:

- Participants working in the manufacturing sector in SA.

- Participants in a managerial position.

- A good command of the English language (Grade 12 English level).

- When permission is granted to record the interview.

The exclusion criteria for this study included managers who were appointed in their managerial position for less than one year. The reason for this exclusion criteria was to ensure quality data. The researcher intentionally wanted to exclude the perceptions of managers who did not yet have suitable experience in a managerial position.

The participants of this study were managers from various manufacturing organisations, including the chemical and food processing industries in SA. The sample size consisted of (N=20) managers and the sampling continued until data saturation was reached.

Table 1

Characteristics of the participants (N=20)

Item	Category	Frequency (F)	Percentage (%)
Age	30-34	4	20.00
	35-39	6	30.00
	40-44	4	20.00
	45-49	4	20.00
	50-54	2	10.00
Gender	Female	3	15.00
	Male	17	85.00
Ethnicity	African	5	25.00
	White	14	70.00
	Indian	1	5.00
Number of years managerial experience	1-5	5	25.00
	6-10	5	25.00
	11-15	5	25.00
	16-20	3	15.00
	21-25	2	10.00
Area of responsibility	Maintenance	8	40.00
	Production	9	45.00
	Human Resource Management	1	5.00
	Occupational Health and Safety	2	10.00
Organisational type	Food Production	3	15.00
	Chemical	17	85.00

Table 1 clearly shows that the majority (70%) of managers were between 30 and 44 years old. 85% of the candidates were males. The majority (70%) of the candidates were white, with 25% of the candidates being African and 5% Indian. The candidates who participated in this study had different years of working experience. Half (50%) of the managers had between one and 10 years' managerial experience. The managers' area of responsibility varied, with the majority of them being in production and maintenance (85%). The participants in this study were from two different manufacturing organisations, namely 85% in chemical and 15% in the food production industry.

Data collection methods

Online semi-structured interviews were used as a data collection technique in the present study. The

researcher opted for this data collection method because of the COVID-19 pandemic, which necessitated individuals to observe protective protocols such as social distancing (Maragakis, 2020). A semi-structured interview method allows the researcher to have an open framework (Keller & Conradin, 2019). The semi-structured interview could also allow the researcher to conduct the interview to gain personal experience, attitudes, beliefs and perceptions in a telephonic and online interview (Dejonckheere & Vaughn, 2019). A semi-structured interview does not just provide the researcher with flexibility, but it also provides the ability to ask open-ended questions (Doyle, 2018; Dejonckheere & Vaughn, 2019). This provides the researcher with the opportunity to ask questions that do not just require a yes or no answer, but provides the opportunity to answer freely. During the online interviews, the researcher provided the participants with a general definition of skills, knowledge and abilities. The definition was then followed by these interview questions that all the participants were required to answer:

Managerial skills

General definition of a skill: A skill is the ability to perform a job to a prerequisite standard (Blanchard & Thacker, 2012).

Interview question 1: In your opinion, what critical **managerial skills** are required in your organisation **for future success**?

Managerial knowledge

Definition of knowledge: Knowledge is a product of learning which refers to information, facts, opinions, theory, arguments, principals, procedures, and their interrelationship, that an individual can demonstrate in the workplace (Coetzee et al, 2019).

Interview question 2: In your opinion, what critical **managerial knowledge** is required in your organisation **for future success**?

Managerial abilities

General definition of an ability: An ability is a basic capacity to perform a variety of tasks, acquiring knowledge or developing a skill (Coetzee et al., 2019).

Interview question 3: In your opinion, what critical managerial **abilities** are required in your organisation for future success?

Recommendations

Interview question 4: What recommendations can you make **to your organisation** to ensure that **managers** develop critical managerial attributes **for future success**?

A biographical questionnaire was used in the current study, enabling the researcher to accurately describe the characteristics of the participants. This description enhanced the transferability of the findings to related environments and it included the following questions:

- Age, e.g. 30

- Gender, e.g. Male or Female

- Ethnic group, e.g. African

- Area of responsibility, e.g. Production

- Number of years in managerial position, e.g. 12 years 6 months

Data recording

The consent form indicated that the interview would be recorded. This was done so that the researcher could gain access to qualitative, trustable, descriptive and valid data (Isaac, 2017). The participants' data that was collected was maintained in a confidential way that would not easily identify them. The participants were allocated numbers, e.g. Participant 1, rather than making use of their names or any specific information that could easily identify them. The researcher recorded the interviews on an electronic device and the recordings were stored on a laptop that had an encrypted password. The transcription of the interviews was done in a Microsoft Word document that was saved together with the recordings on a backed up, password protected file. The data document will be kept for five years. The researcher and the researcher's supervisor will be the only people that had access to these documents.

Data analysis

In this study, the researcher quested to avoid making use of preconceived categories that are derived from theory. To process the data of this research, conventional (inductive) qualitative content analysis was used. In conventional qualitative content analysis, data is presented in words and themes making it possible for the researcher to draw some interpretations of the findings (Bengtsson, 2016). *Content analysis* is defined as "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (Krippendorff,

2019, p.24*). This is done to help explain the phenomenon that is being studied. In the inductive approach, open coding, creating categories and abstraction are utilised (Elo & Kyngas, 2008). The following steps were taken to process the data, as prescribed by Bengtsson (2016):

Step 1: Rereading the data

The researcher read and reread the interview transcriptions to generate a better understanding of managers' perceptions of critical managerial competencies required in manufacturing organisations to ensure future success.

Step 2: Highlighting relevant words

The researcher highlighted keywords in the transcriptions that described the perceptions of managers regarding critical managerial capabilities that will be needed for success in the future.

Step 3: Coding the data

Open coding was used to code the data. Each code was allocated an operational definition to distinguish it from the rest. The codes formed the initial coding scheme of the study. ATLAS.ti (version 9.0.24.0.4) was used by the researcher and the researcher's supervisor to process the data and it is a qualitative analysis software program used to analyse graphical, textual, video and audio data (ATLAS.ti Scientific Software Development GmbH, 2021). The researcher made use of a co-coder to enhance the credibility and dependability of the data.

Step 4: Generating categories

The researcher grouped related codes into overarching categories. In cases where codes were similar, the researcher merged such codes and updated the operational definitions.

Step 5: Defining categories

The researcher defined each category in-depth to create meaning from the data. This step supported the inductive nature of analysing the data, as indicated earlier, by allowing it to be presented in a narrative from which interpretations can be drawn.

Strategies employed to ensure quality data

Quality and trustworthiness of the data in a study are very important (Elo et al., 2014*). To ensure a study of quality and trustworthiness, the research was maintained and not influenced by the researcher's personal biases, and the following was implemented (Lincoln & Guba, 1985):

Confirmability

According to Kawulich and Holland (2012), the researcher's focus in terms of confirmability is to remain neutral and objective throughout the study. The researcher remained objective when collecting the data and ensured that the answers of the participants were not influenced by the researcher. To make sure that confirmability was achieved, the researcher noted down all the participants' responses and recorded all the participants' perceptions to ensure that the correct data given by the participants was captured and used.

Authenticity

According to Amin et al. (2020), authenticity is what guides the researcher into taking the influence of context into account by achieving fairness, ontological authenticity, catalyst authenticity, educational authenticity and tactical authenticity as sub-criteria of authenticity. Through making use of recording and taking notes as an option of data collection, the collected data was trustable, valid and reliable. The researcher was able to point back to the original data collected. The researcher did this with the hopes that she will be delivering work that is genuine and truthful even after reporting on the data.

Credibility

Credibility refers to making sure that the research study measures what is aimed to measure by delivering on the validity of the research findings (Lincoln & Guba, 1985). Through maintaining and ensuring that the participation in this study is voluntary, the researcher was able to collect data that is honest and valid from participants. The researcher motivated the participants to give their very own responses and that led to the researcher collecting high quality data and results. In addition, the researcher made use of a co-coder to enhance the trustworthiness of the data. The co-der is an industrial psychology expert.

Transferability

Transferability allows readers to notice information in the research done and compare that information in detail in their environment or their situation (Johnson et al., 2020). The findings of this research study were reported and submitted in a scientifically detailed, valid and reliable manner. Transferability refers to making use of the direct descriptions of the participants and the research process; this will open the option of having the reader evaluate whether the findings of this research study can be transferable to their own setting (Korstjens & Moser, 2018). Readers and researchers should be able to transfer findings from this proposed study with a population sample of managers in the managerial sector, to related settings.

Dependability

Dependability in a qualitative study is achieved when the stability of the data stands against time and other conditions (Kemparaj & Chavan, 2013). This has been achieved by the researcher by ensuring that the work delivered was done so in a scientific, valid and reliable way. In addition, the research process was reported in detail. The researcher and the supervisor made use of co-coding to deliver more quality and reliable data.

Reporting style

The researcher provided adequate evidence to support the findings through detailed discussions of each theme and subtheme. These themes and subthemes were presented in tables and were accompanied by direct quotations from the participants.

Ethical considerations

The researcher obtained approval from the Economic and Management Sciences Research Ethics Committee (EMS-REC) before commencing with data collection. In addition, the researcher gained permission from the manufacturing organisations before collecting data. A formal letter was sent to the organisations that included the objectives of the study, the criteria for the participants (managers), how privacy and confidentiality will be approached, how and where data will be collected, how long the data collection will take place, and who to contact in the event of any inquiries. The information letter also included the ethics clearance number of the study and it stated that the identity of the organisations and the participants would be treated confidentially.

The information that was sent to the organisation and the participants included that the participation in this study will be voluntary. In research conducted in different fields, informed consent is considered an integral part of ethics (Sanjari et al., 2014). Should there have been any concerns or questions from the participants about the informed consent form or the study, the participants were invited to contact the researcher or the researcher's supervisor on the email addresses provided on the informed consent form. The participants could withdraw from the study at any time without repercussions.

The following information was sent via email to the participants by the organisational representative beforehand: the participant letter, biographical questionnaire and informed consent form. The data that was collected with the approval of the participants was done in a way that did not put the participants in any harm (Barrow et al., 2020) and they were treated in an unbiased way.

The researcher made sure to treat all the participants with respect and dignity (Barrow et al., 2020). To maintain confidentiality and privacy towards the participants and the information given, the researcher did not record any names and did not make use of data that could easily identify the participants or their organisation. The researcher made use of numbers to identify the participants, e.g. P1, referring to participant 1. The data that was collected was stored in a password protected document where only the researcher and the supervisor have access. This document will be stored and password protected for five after the data is collected. The researcher will make use of the results from the data collection for this scientific research study resulting in a mini-dissertation. The data collection may also be used for other purposes such as a peer-reviewed article, chapters and conferences.

After the submission of this research study and it has been approved, should any organisation or participant request feedback, it will be done in the form of a report on group level.

FINDINGS

The findings of this study were grouped into categories. The categories were informed by the research questions posed at the onset of the study. Each category contains findings that are summarised in tables and discussed below each table. Each table provides an overview of the themes, subthemes, groundedness, and direct quotations from managers to substantiate the findings.

The researcher included a groundedness metric in the tables to demonstrate the number of times a theme or subtheme emerged from the data. Quantitative data can be used in qualitative descriptive research to describe the phenomenon being studied more accurately (Colorafi & Evan, 2016). According to Colorafi and Evans (2016), quantitative data can be used in qualitative descriptive research if the goal is to better or completely describe a person or phenomenon being studied. In the current study, the researcher aimed to develop an in-depth understanding of managers' perceptions of critical managerial competencies needed for future success in South African manufacturing organisations.

Category 1: Managers' perceptions regarding critical managerial competencies for future success in the manufacturing sector in South Africa.

In this category, the responses of managers concerning critical managerial competencies for future success in the manufacturing sector in South Africa are represented. Competencies include

knowledge, skills and abilities (Bolukbas & Guneri, 2018). *Firstly*, Table 2 (below) represents the cognitive skills needed for future managers. *Secondly*, the general managerial skills required for future success are presented in Table 3. *Thirdly*, Table 4 reports on the intrapersonal skills future successful managers should have. *Fourthly*, the economic competencies required from future managers are summarised in Table 5. *Fifthly*, a synopsis of the organisational-focused skills that will be imperative for successful managers are reported in Table 6. *Lastly*, the social skills that managers will have to acquire are represented in Table 7.

Table 2

Cognitive skills of future managers in the manufacturing sector in South Africa

Theme	Groundedness	Response
Analytical skills	31	*"You need to interpret information, critical information and make your decision on that."* (P. 5) *"...is informed by a lot of data and analysis, and your skills in finding your way with basic statistics, data manipulation, data analysis, interpreting results, interpreting figures."* (P. 20)
Complex problem-solving	29	*"You get flooded with a lot of information and you have to make the decision quickly."* (P. 5) *"Problem solving skills, because as a manager you need this particular skill to solve problems and to get your team out of difficult situations and through this your will definitely gain credibility in your team being able to have particular problem solving skills."* (P. 3)
Continuous learning	11	*"...you must remain relevant from a subject matter perspective. So, in my industry, subject matter knowledge, I believe is key..."* (P. 18) *"I think organizations should be continued continuous learning phase, and organizations that adopt a philosophy of absolute avoidance of repeating mistakes so in my organization."* (P. 19)
Creativity/innovation	11	*"I think in the modern work being able to create and be innovative is important"* (P. 8) *"...that you can actually be creative in your solutions that you come up with..."* (P. 6)
Multitasking	4	*"You must be able to multitask."* (P. 15) *"Short term would be anything, anything from a day, week, month perspective."* (P. 18)
Organising	*6*	*"You must be good in organizing..."* (P. 2)

		"It's important to start to convert to have you organise your people around you, above you and below you." (P. 8)
Strategic thinking	36	*"So must be able to think strategically so in a way that's strategically interesting."* (P. 2)
		"The visionary creative part is regarding having a good strategy, but the word strategy is a bit over used in our world" (P. 8)
Technical skills	28	*"Tactical skills are very critical to lead your team on that level."* (P. 3)
		"You should have some technical skills so that you have the ability to evaluate solution, that you can critically assess the feedback that's given to you as well as the status of the operations and the risks that could be associated with making a certain decision." (P. 6)

P = Participant

Analytical skills: The participants (managers in the manufacturing sector) mentioned that a manager needs to have the ability to interpret data and information and be able to make the connection and manipulate the data that they are working with. This data includes interpreting results and figures.

Complex problem-solving: Participants indicated that a manager needs to have the ability to take the information that they are flooded with on a continuous basis and make decisions with that information. The participants also mentioned that problem-solving is an important skill to have as a manager, because it helps with getting the team out of difficult situations.

Continuous learning: The participants reported that, as a manager, one needs to remain relevant within their subject matter and the industry. The manager also mentioned that organisations should invest in continuous learning.

Creativity/innovation: Creativity was stated as an important cognitive skill for future success in the manufacturing environment. The participants added by saying that it is important that managers are innovative in the modern work space and that they should be creative in the solutions they come up with.

Multitasking: Participants mentioned that multitasking is a competency that a manager should have, and this is multitasking on a daily, weekly, or monthly basis. The participants mentioned that this includes having the ability to deal with unforeseen problems and challenges, which means that one would have the ability to handle these challenges by making use of a short frame of mind and making use of medium focus points.

Organising: The participants mentioned that, as a manager, one should be good at organising and that it is important to revert to organising and planning short-term and long-term tasks for people who work with you.

Strategic thinking: The managers indicated that having the ability to think strategically is important as it helps with envisioning the future, and having a good creative visionary is important for a good strategy.

Technical skills: Some managers stated that having technical skills is critical for leading the team and they can be used in a very effective way to evaluate situations.

Table 3

General managerial skills of future managers in the manufacturing sector in South Africa

Theme	Groundedness	Response
Delegation of duties	11	*"...delegating skills so that you can also delegate to people..."* (P. 6) *"...I think it is very important to have the skill to be able to delegate."* (P. 14)
Leadership skills	18	*"...it's leadership. So, leadership knowledge."* (P. 10) *"...being able to lead from your position."* (P. 3)
Performance management	6	*"...know when to use which portion of the performance management process...you can't work with people that are not performing that is just not effective."* (P. 9) *"...performance management."* (P. 1)

P = Participant

Delegation of duties: Delegating work towards other people was one of the skills that the managers identified as a very important skill to have.

Leadership skills: The participants mentioned that being able to lead from the position that they are in is a skill that they should have. Leadership skills are not just having the ability to lead, but it is also having the leadership knowledge that a leader should have.

Performance management: Performance management is a skill that the managers mentioned that they should know when to make use of the performance management process. The participants said that a manager should be working with people who are performing effectively.

Table 4

Intrapersonal skills of future managers in the manufacturing sector in South Africa

Theme	Groundedness	Response
Adaptability	25	*"...and the ability to change." (P. 4)* *"So, you need to have the ability to adapt, and you need the ability to absorb change." (P. 8)*
Emotional intelligence	14	*"...should have a strong balance between emotional intelligence and your IQ." (P. 1)* *"...they should be emotionally intelligent." (P. 9)*
Self-awareness	6	*"...understand your strengths and weaknesses and build on the strengths, develop the weaknesses and those that are not of interest into the resource that can support you in that regard." (P. 18)* *"...have the sort of self-awareness, you know, turn down the ego a little bit so that you are a little bit more fallible." (P. 13)*
Self-development	8	*"...that basically you realise where you've got weaknesses that you need to try and strengthen and build on." (P. 14)* *"...build on the strengths and develop the weaknesses." (P. 18)*
Self-management	14	*"...are you self-driven or use a self-starter." (P. 8)* *"...time management so that you can actually ensure that you deliver to the fullest that you can." (P. 6)*

P = Participant

Adaptability: The participants mentioned that adaptability is having the ability to adapt to change. The managers also stated that it is important that managers have the ability to adapt and absorb change.

Emotional intelligence: Some managers stated that, as a manager, one should have a strong balance between emotional intelligence and IQ.

Self-awareness: Some participants mentioned that being safe has to do with having the ability to understand your strengths and weaknesses.

Self-development: The participants stated that a manager should be able to notice the weaknesses that they have and they should work at developing them into strengths.

Self-management: Managers believe that a manager should be a self-driven manager who is a self-state. Having the ability to be a self-managed manager, it is noted that you should be able to time-manage.

Table 5

Economic competencies of future managers in the manufacturing sector in South Africa

Theme	Subtheme	Groundedness	Response
Macro-economic competencies	Regulatory and legal	6	*"...you must have knowledge on all the applicable legislations and for us specifically is the Occupational Health and Safety Act, Basic Conditions of Employment, EE, and all the regulations form the OHS Act as well" (P. 15)* *"...specifically to our industry is regulatory and legal knowledge, as we are regulated to an extent and if you go with outside of those boundaries, you will lose your license to operate." (P. 10)*
	World developments	4	*"...knowledge of the macro environmental factors, which is very, very quintessential hat we need to possess as managers, because of the pressures of organizations to apply green technology will in fact, I have a significant impact on my organization to change from, from the old technical processes and knowledge and procedures that we, that we actually were very quiet familiar with and have gained vast knowledge over the last couple of decades." (P. 19)* *"...know what is going on in the world out there as well as in the macroeconomic goal space of sphere to understand how you should position yourself from a knowledge perspective, going forward" (P. 18)*
Mesi-economic competencies	Local developments	2	*"I want to believe that you must read such that you are aware of what is going on in your immediate industry, and your immediate community, but also know what is going on in the world out there as well as in the macroeconomic goal space of sphere, to understand how you should position yourself from a knowledge perspective, going forward." (P. 18)* *"...knowledge of, not only technical but also of our economic goal and our political landscape." (P. 19)*
	Understand industry	2	*"I think it's important to understand the industry in which you are functioning." (P. 11)* *"...you must read such that you are aware of what is going on in your immediate industry." (P. 18)*

P = Participant

Micro-economic competencies: The subthemes in micro-economic competencies were regulatory and legal. The participant mentioned here that, as a manager, one should know all the applicable legislations specifically in the industry that they are in.

The other subtheme in micro-economic competencies was world developments. The participants mentioned that this is having knowledge of the macro-environmental factors, including the macroeconomic goal space of the sphere.

Mesi-economic competencies: The subthemes identified in the mesi-economic competencies were local developments: The manufacturing managers stated that a manager should have knowledge of what is happening in their immediate community's technical, economic and political landscape.

The other subtheme identified by participants in the mesi-economic competencies was to understand industry. The managers mentioned that it is important to understand the industry in which they function and that one should be aware of what is happening in their immediate industry.

Table 6

Organisation-focussed skills of future managers in the manufacturing sector in South Africa

Theme	Groundedness	Response
Add value	4	*" ... use your own experiences that you have experienced in your personal life, and then try and use that to also help the organisation that will help you in your workspace." (P. 2)* *" ... and to add value to the organisation's bottom line…" (P. 12)*
Change management	3	*"I think the use of change management [is] the first thing you need to have to adapt into the future right." (P. 4)* *"The ability to handle and manage big changes." (P. 17)*
Customer-focussed	3	*"...understanding the market demands and the patterns and, you know what the customer's needs are important." (P. 13)* *"You know that [the] customer is quite important." (P. 12)*
Execute strategy successfully	8	*"Managers also have the tendency to formulate excellent strategies on paper but fail to translate these into real results." (P. 5)* *"...understand what is the strategy in terms of interpreting that into the team's goals to be able to create trust with your team, by, by being honest, have integrity, having integrity, and also, you know, basically, not necessarily always talk the most, but let them speak as well, and just steer them in the right direction." (P. 14)*

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Financial management	14	*"... should be able to manage your finances and your budget."* (P. 2) *"... important knowledge area is financial management principles and a concern for the organisation's financial position."* (P. 5)
Interpret organisational goals	9	*"... the ability to interpret organisational goals…"* (P. 5) *"You need to have the skill and the ability to interpret the organisation's objective…"* (P. 16)
Process management	16	*"... understand the business processes you know, what is the values for your company?"* (P. 14) *"... manager should know those procedures, because without no processes and procedures, you will not be able to do the job."* (P. 1)
Situational awareness	5	*"... situational awareness is very critical; we can't do things the same way as what we were doing before."* (P. 3) *"... where it is dependent on where I am, who I am dealing with, their level of understanding in terms in the organisation."* (P. 16)
Stakeholder management	8	*"Do proper stakeholder management."* (P. 6) *"One big element, and people forget, is stakeholder management."* (P. 12)
Understand the business	25	*"So [future managers] must be able to have good organisational knowledge."* (P. 2) *"Understanding the business environment in which you are functioning."* (P. 14)

P = Participant

Add value: The participants mentioned that adding value in an organisation is important. A manager can do this by applying their own past experiences in the work space to add value in the organisation and their workspace.

Change management: The participants (managers in the manufacturing sector) mentioned that managers should have change management to adapt correctly to the future and to have the ability to effectively handle and manage big changes.

Customer-focused: The participants mentioned that knowing customers' needs is important and one can do this by understanding the market demands and patterns.

Execute strategy successfully: The managers stated that managers are usually good at thinking out good strategies, but they fail when it comes to implementing and applying those strategies and

getting good results out of them. The participants also mentioned that they should be able to understand what the strategy is and how they can interpret that into good team goals.

Financial management: The manufacturing managers indicated that, as a manager, one should have the skills to manage their finances and the budget that they have. The participants also mentioned that an important knowledge to have is of financial principles and a concern for the organisation's financial wellbeing.

Interpret organisational goals: Some of the participants (managers in the manufacturing sectors) mentioned that one should be able to interpret organisational goals and objectives.

Process management: The managers in the factoring sector mentioned that it is understanding the business process that is important. They mentioned that managers should know the different procedures and processes within the organisation.

Situational awareness: Some of the participants stated that situational awareness is very critical because managers and teams cannot do things the same way as they previously did. Managers need to pay attention to their surroundings and they need to be aware of where they are and what they are dealing with in terms of their level in the organisation.

Stakeholder management: Managing the organisation's stakeholders is important; the participants (managers in the manufacturing sectors) stated that stakeholder management is one big element that people forget about.

Understand the business: Organisational knowledge is important and the participants also mentioned that understanding the business environment in which they function is important.

Table 7

Social skills of future managers in the manufacturing sector in South Africa

Theme	Groundedness	Response
Empowering others	28	*"… a manager must be in a position to motivate people you know, his employees." (P. 12)* *"… empower people to deliver." (P. 16)*
Influencing others	17	*"… ability to influence other people." (P. 20)*

		"... influence someone else because in a managerial position you work with people." (P. 9)
Interpersonal skills	25	*"... influence someone else because in a managerial position." (P. 5)*
		"... very important to build trust with your team and with your internal action with other people." (P. 14)
People management	41	*"Being able to manage people according to their strengths and weaknesses." (P. 1)*
		"... it talks about an ability to manage people." (P. 4)
Resourcefulness	18	*"... the ability to be resourceful..." (P. 7)*
		"... the ability to know where to seek help, who's the right people to involve in either solving a problem or delivering on a specific task." (P. 6)
Strategic communication	26	*"...when I am communicating with my peers; with a senior manager we are very strategic." (P. 16)*
		"... how to clearly articulate that to your employees, how to demonstrate to them the end goal, because you never know if everybody has the same end goal. I think you already pull your employees with you" (P. 6)

P = Participant

Empowering others: Empowering and motivating others to deliver is a position that a manager should be in, as stated by the participants.

Influencing others: The managers mentioned that as a manager one should have the ability to influence other people because managers work with people.

Interpersonal skills: The managers mentioned that it is important to have interpersonal skills because building trust with the team a manager works with is important; furthermore, building trust with internal action with other people is important.

People management: Having the ability to manage people is identified as important by the participants. They mentioned that managing people based on their strengths and weaknesses is what a manager should be able to do.

Resourcefulness: The participants mentioned resourcefulness as one of the competencies to have for future success. This is when one has the ability to know where to look and who the people are that they can include in their problem-solving process or in finishing a specific task.

Strategic communication: The participants mentioned that strategic communication has to do with properly articulating information effectively to fellow employees and how they can communicate the strategy to their peers and senior managers.

Category 2: Managers' recommendations regarding critical managerial competencies for future success in the manufacturing sector in South Africa

In this category, the recommendations of managers regarding critical managerial competencies for future success in the manufacturing sector in South Africa are provided in Table 8 below.

Table 8

Recommendations of managers for future success in the manufacturing sector in South Africa

Theme	Subtheme	Groundedness	Response
Coaching & mentoring	Assign coach	7	*"... whereas if you added a more real time coach, that person that actually works with them, they can on a more frequent basis, as I've said point out, and I think the individual will then grow and learn much faster, much more than just getting feedback on the six-monthly order, whatever basis it is" (P. 6)* *"... young managers or potential managers are assigned to a coach and or a mentor." (P. 16)*
	Mentoring programmes	8	*"Implement mentorship programmes for lower-level managers and supervision level like line managers is very important." (P. 5)* *"I think good mentorship programs can help." (P. 11)*
Enhance employability	Develop soft skills	6	*"...develop these specific individuals on their soft skills." (P. 5)* *"... and that's what organisations to focus on how they actually develop that, that softer skills." (P. 12)*
	Innovation	9	*"...be innovative." (P. 4)* *"...adopt a visionary, out of the box thinking strategy for executive structures." (P. 19)*
	Self-improvement	7	*"...a manager must be willing to personally grow; he must keep on growing continuously improving himself." (P. 12)*
Feedback	Provide feedback	2	*"...and feedback is important..." (P. 3)* *"... that sounds very logical but organisations in general, very poor at giving feedback to managers, and they continue for years." (P. 17)*

	Receive feedback	1	*"…Get feedback from your peers…" (P. 14)*
Leadership style	Authentic leadership		*"…To be authentic leader and a positive leader with integrity, I think that's very important attribute." (P. 14)*
		3	*"It's quite important to understand your leadership style. My leadership style is good situational leadership where it is dependent on where I am, who I [am] dealing with, their level of understanding in terms in the organisation, I mean when I'm dealing with a supervisor." (P. 16)*
Management training	Curated training	11	*"… technical training of systems and processes." (P. 1)* *"Training is obviously critical to understand the processes and procedures within a company." (P. 11)*
	Financial education	3	*"… educate your people on your financial position." (P. 18)* *"… your financial position, and what to do with your finances and educating your people on your financial circumstances have the right where you can maybe come up with a nice return you understand what I am saying I do believe you're what I'm saying but educate your people on your financial position." (P. 18)*
	Management training courses	19	*"I would say more manager training programmes should be offered." (P. 2)* *"… develop senior leaders on training courses, MBA. I've done MBA now the last two years. I was fortunate enough to be able to learn quite a lot on the MBA so that kind of thing helps a lot." (P. 14)*
	Training on the job	5	*"… training on the job." (P. 1)* *"… in service training and in-service experience in my opinion, is very important in terms of value add." (P. 11)*
	Virtual team management	2	*"… we don't have to have face to face meetings, and we have to we have to teach managers as well how to manage without seeing the team every day." (P. 12)* *"… we have to teach managers without sitting every day in a meeting, virtual management is one of those…" (P. 12)*
Organisational culture	Ethics knowledge	3	*"…That leadership course should include core modules such as governance ethics." (P. 1)*
	Succession planning	8	*"… succession planning in place," (P. 12)* *"…embrace the change that is upon us and make it part of the company that will do those, the opportunities that do present itself and make the best of it." (P. 18)*
	Supportive culture	8	*"… a culture that allows people to learn from mistakes." (P. 11)* *"I think it's very important that this is as a culture and a system*

			of, of learning, and feedback to managers." (P. 14)
People development	Coaching others	9	*"... the person to either go on training or have coaching." (P. 6)* *"... continuous couching really helps." (P. 3)*
	People skills	4	*"... you need someone that knows how to work with people." (P. 1)* *"It's difficult to manage people on the management skills so that we still manage the process and the financial results and the production results and those things and you need people to get there, and I don't think we focus on that. and you've been, I would also encourage people to talk to one another because managers are kind of expected to know it all." (P. 9)*
	Wellbeing of team	4	*"... motivating our people through recognizing the individual contribution to the business." (P. 18)* *" ... be the people focus, but also business focused. You make decisions based on the right criteria for business, and people." (P. 14)*
Recruit correctly	Assess managerial ability	12	*"You take them through an IQ test, you know, you take him, you test his knowledge, critical thinking, his problem solving ability his communication ability... and one big element and [what] people forget is stakeholder management, I always say this, you know you can have them, you can have brilliant ideas..." (P. 12)* *"... we should adapt our selection process to appoint ... technical skills and capabilities that they built up through the years." (P. 19)*
	Governance knowledge	2	*"... someone that knows governance." (P. 1)* *"... that leadership course should include core modules such as governance." (P. 1)*
	Prioritise emotional intelligence	5	*"... emotional intelligence, that will ensure that your abilities and managerial knowledge..." (P. 19)* *"... emotional intelligence, which is an attitude as well, which is critical in terms of a person's ability to perform." (P. 11)*

P = Participant

The following were recommendations made by the managers in selected manufacturing industries that will ensure that managers in their fields have the necessary critical managerial skills for future success in selected manufacturing industries.

Coaching and mentoring

Assign coach: The main theme is coaching and mentoring and the subthemes are assigned coaches. This is where the participants mentioned that a young manager should get an assigned mentor or real-time coach.

Mentoring programmes: Participants mentioned that if there is a good mentoring programme for junior-level managers and supervisors, it is important, and that it will help.

Enhance employability

Develop soft skills: The participant mentioned that managers should develop soft skills to enhance their employability.

Innovation: The managers stated that a manager should have innovation and they should also have the ability to creatively think out of the box.

Self-improvement: As part of enhancing employability, the participants noted that a manager must be willing to continuously grow and improve him- or herself.

Feedback

Provide feedback: The managers mentioned that organisations are not good at providing managers with feedback; as a manager you should be provided with feedback and provide employees with feedback.

Receive feedback: The participants mentioned that, as a manager, one should not just be willing to provide people with feedback, but they should also be open to receiving feedback.

Leadership style

Authentic leadership: The participants mentioned that understanding your leadership style is important and that being an authentic leader and being a positive leader is important.

Management training

Curated training: The participants mentioned that technical system and process training is important and critical for the company.

Financial education: The participants noted that it is important that managers and the employees under them are educated on their financial position and on finances.

Management training courses: The managers suggested that more manager training programmes should be offered and that senior leaders should be developed in training courses.

Training on the job: According to the results, there should be an in-service or on-the-job training experience in terms of training management.

Virtual team management: Virtual team management was suggested by the participant and this is because managers do not have face-to-face meetings. This is where management should be taught how to manage their teams without seeing them on a daily basis; however, managers need to adjust to the virtual management of their teams.

Organisational culture

Ethics knowledge: The participant mentioned that leaders should know about work ethics and that being on a leadership course that includes core models such as governance ethics is important.

Succession planning: Succession planning is a suggestion that is made by the participants and they mentioned that succession planning should be in place and there is change happening and companies should embrace it.

Supportive culture: A culture of an organisation should be a supportive culture. According to the participants, the culture of an organisation should create room for mistakes and improvement. The participants mentioned that it is important that there should be a culture and system of learning and feedback that can be provided to managers.

People development

Coaching others: According to the results, the participants noted that a manager should either go on training or coaching because continuous coaching really helps in terms of development.

People skills: The managers mentioned that it is important that one should know how to work with other people. The participants stated that it is difficult to manage people without managerial skills and that financial and production results can be achieved and this can be done effectively if you work with people.

Wellbeing of team: Participants mentioned that people should be motivated by identifying their contribution in the business and that managers should be people and business focused so that the right decisions for the business and the people can be taken.

Recruit correctly

Assess managerial ability: According to results, the recruitment of the managers should be done right, and the managers should go through IQ testing to test their knowledge, critical thinking, problem-solving and communication abilities. The selection process should be adapted.

Governance knowledge: The participants stated that the recruitment process should include recruiting somebody that has knowledge of governance.

Prioritise emotional intelligence: The managers mentioned that emotional intelligence should be prioritised, because it will ensure abilities and managerial knowledge. Emotional intelligence is suggested to be critical in terms of a person's ability to perform.

Outline of the findings

The *first objective* of this research was to establish how managerial competencies are conceptualised in scientific literature. *Managerial competencies* are a set of skills that are related to knowledge and attributes that allow small-scale business owners or managers to perform specific functions and job tasks or activities (Rambe & Mskhslemele, 2015). The term competencies includes traits, values, potentiality, knowledge, abilities, opinion, aptitude, preference and skills (Khoshouei et al., 2013). For this study, the researcher focused on skills, knowledge and abilities as managerial competencies.

There is a main difference between skills, knowledge and abilities. This is that skills and abilities are more practical, and knowledge is theoretical (Hasa, 2016). A skill is defined as a manager's ability to perform managerial functions (Tewari & Sharma, 2012). According to Katz (1974), there is a three-skill approach that consists of technical skills, human skills and conceptual skills. Knowledge, according to Hasa (2016), is an understanding of the theory of a subject and feeling familiar with factual information or theoretical concepts. Ability is when one has the power to do things extremely well (Spacey, 2018). Managerial competencies include skills, knowledge and attributes, and are important to have for a manager to effectively perform in his or her workspace.

From the above conceptualisation of managerial competencies from literature, it can be said that the first objective was met.

The *second objective* was to explore the perceptions of managers regarding critical managerial competencies for future success in the manufacturing sector in South Africa. The majority of participants (groundedness = 31) mentioned that *analytical skills* are needed for future success in the manufacturing sectors in South Africa. One participant summarised the importance of analytical skills by explaining that:

> "You need to interpret information, critical information and make your decision on that." (P. 5, 4 years of managerial experience, area of responsibility in Occupational Health and Safety)

This sentiment is supported by Burley (2017), stating that managers with analytical skills have the ability to plan well and lead successful projects. Analytical skills can be defined as having the ability to effectively deal with problems by seeing the relationships and interdependency in those problems (Burley, 2017).

Many participants (groundedness = 29) indicated that *complex problem-solving* will be a critical managerial competency in the manufacturing sector. This is in line with the findings of Ke (2015).

The majority of participants (groundedness = 36) were of the opinion that strategic thinking will be an important skill for managers. The following excerpt highlights this perception:

"As a manager you, you're sitting in the crossfires from both directions. So, you're getting it from the top, you're getting it from the bottom, you're getting it from everywhere. So, you need to be able to let go of emotion and then think of things logically and objectively." (P. 9, 14 years 9 months of managerial experience, area of responsibility in Operations)

The managers also mentioned that *delegation of duties* towards other people, *leadership skills* and *performance management skills* are necessary as managerial skills needed for future success. *Delegation*, which is the assignment of tasks to other employees, is an important skill to have and it is an effective leadership behaviour that will help a leader develop his or her employee (Akinola et al., 2018). The majority of participants (Groundedness = 18) were of the opinion that *leadership skills* will be essential. One of the participants explained leadership skills as follows:

"… leadership skills, being able to work with people to, lead people to function in an organization with other people with spears, senior people with management and other stakeholders' unions etc." (P. 17, 16 year 6 months of managerial experience, area of responsibility in Operations)

Similarly, Algahtani (2014) postulates that the function of leadership skills is to focus on potential change in how a manager would direct, align, inspire and motivate people. Managers should not just have good leadership skills and delegation skills that will help them effectively lead their fellow employees, but they should also have good performance management skills, according to the participants of this study. This opinion is supported by Graybill (2019), who found that managers who are effective leaders will see performance management as effectively providing employees with feedback through the year and building relationships with employees. Conversely, poor performance management skills could lead a working relationship between manager and employee to deteriorate (Tidey, 2021).

The following themes were also identified by the candidate's *adaptability* to change and *emotional intelligence* (EQ) in terms of having balance between EQ and IQ. Adaptability is a critical attribute to have in a workplace (Smih & Webster, 2018). *Adaptability* refers to how an individual can make use of their thoughts, emotion and behaviour to adapt and respond to change and uncertainty (Martin et al., 2012). Emotional intelligence in the future world of work will help allow managers with the ability to motivate employees and support existing challenges by providing an answer to workplace stress, fatigue and work life balance (Flores et al., 2020). *Emotional intelligence* is defined as having the ability to analyse one's own emotions and having the ability to also manage

those emotions to effectively defuse conflict and overcome challenges (Veluchamy et al., 2021). This is having the ability of being aware of your own emotions and the emotions of other people. The majority of participants (Groundedness = 25) were of the opinion that *adaptability* will be essential.

> "Other thing that is changing. So that, to be successful in the future you can adapt early." (p.9, 12 year 5 months of managerial experience, area of responsibility in Maintenance)

This opinion is supported by O'Brien (2020), who found that adaptability is important so that the leaders can show flexibility and resilience towards changes and failures happening in the working environment. O'Brien (2020) also found that adaptability is needed for future success. According to Nivetha and Sudhamathi (2017), there has been a realisation in organisations that there should be a balance between EQ and IQ; this is because IQ alone cannot be a predictor of individual's success, but EQ should carry just as much importance in individual's success in the workplace and their personal lives.

The managers also mentioned competencies that, in terms of *macro-economic competencies,* they should be aware of and have knowledge of the *regulatory* and legal *legislations* that are specifically related to their line of work. According to Teece (2017), regulatory and legal frameworks' reliance on economic research, particularly agency theory, has pushed corporate governance away from a focus on the organisation's long-term health and toward more immediate concerns. Other interesting and frequently identified competencies include *adding value* within the organisation and workspace, process management that includes having good knowledge of the business process and procedures, and understanding the business, which includes having good organisational knowledge. Adding value is not something that managers usually get in touch with; managers were usually tasked with tasks that did not add value to organisations, but that are essential for the survival and success of the business (Wellwood, 2015). According to Mendaza (2018), value add in organisations and teams you work with is important. The organisation can also grow and achieve customer satisfaction through managers understanding how the business runs and what the business process and systems look like (Kirchmer, 2017). Managers having organisational knowledge is important, because organisational knowledge is all the knowledge that can provide business value that is contained within the organisation (Hajric, 2019).

The business process management or *process management* is when a person has the ability to improve the business processes that is a sequence of activities and tasks performed in the business to achieve organisational goals (Martins, 2021). Having the process management skill as manager will help you in (Lutkevich, 2021):

- Having an understanding of the organisational processes.

- Having the ability to properly analyse the process from start to finish.

- Being able to have an impact on the business outcomes and being able to continuously improve the business strategy and processes.

- Being able to adapt to capitalise on emerging technologies and adapt the business process to what is on the market trends and the industry requirements.

The majority of participants (Groundedness = 25) were of the opinion that understanding the business will be essential.

> "You just need to at least be able to interpret and understand the objectives of the organization to be able to look at a specific organization." (P. 17, 16 years 6 months of managerial experience, area of responsibility in Operations)

This opinion is supported by Teague (2019) and it was found that *understanding the business* will help the managers understand what exactly they are selling and what the requirements of the market are so that they can adapt to it.

Empowering others, interpersonal skills and people management skills were some of the most frequently mentioned competencies within the data collection. The behaviours and qualities that a person displays when having an interaction with other people are what is called interpersonal skills (Kerr, 2019). One of the important parts of working effectively and successfully leading other people is having interpersonal skills (Pichler & Beenen, 2018). Empowering employees in the workplace will lead to addressing problems within an organisation and it helps in achieving company goals (Sennett, 2021). Employee empowerment is when employees are given the autonomy, support and resources they need that will help them be independent and have the ability to take accountability for their decisions (Hirsch, 2020). People management is a way of managers effectively managing employees on a daily basis by overseeing the training, motivation and development of those employees (Kukhnavets, 2020).

The majority of participants (Groundedness = 41) were of the opinion that *people management* will be essential. One of the participants explained people management as follows:

> "… obviously as a manager one would be managing people so the skills one would require to be able to manage people, you know, in terms of like managing not leadership sort of attributes but all management, kind of things you know, organising people, organising resources back to the people being used, skills to be able to develop the people you know so

almost like coaching skills, those kind of things." (P. 13, 15 year 5 months of managerial experience, area of responsibility in Maintenance)

This opinion was supported by Contributor (2021), by stating that managers who have the right people management skills will be able to effectively perform their jobs.

The following competencies were identified and classified as key core competencies for employees in the 21st century: problem-solving skills, conflict-solving skills, entrepreneurial thinking skills, analytical skills, decision-making skills, research skills, and efficiency orientation skills (Grzybowska & Lupicka, 2017). Managerial competencies are necessary for managers' performance (Martina et al. 2012).

The *third objective* was to explore what recommendations can be made by managers in selected manufacturing organisations in South Africa regarding the attainment of critical managerial competencies for future success. The participants suggested that coaching and mentoring should be in place to help develop young managers. The participants mentioned that a young manager should get an assigned mentor or real-time coach. Coaching and mentoring critical competencies for leaders and managers, these competencies improve employees and the organisation's resilience and effectiveness to change (Rose, 2021). Coaching and mentoring encourage employees to improve themselves and achieve their fullest potential (Kelly, 2020). Participants also mentioned that there should be a good mentoring programme (Groundedness = 8) for junior-level managers and supervisors.

"… so, there's some organisations I think that gets it right, that got that, … put a big emphasis on mentorship programmes, and that, in terms of picking somebody that shadows you and that gets groomed for a specific managerial role and things like that." (P. 20, 16 year 8 months of managerial experience, area of responsibility in Operations)

Some mentoring programmes have reduced employee turnover, turnover costs, medical negligence rates, communication skills, professional identity and increased job satisfaction (Feyissa et al., 2019). Mentoring programmes can be beneficial for new managers, mostly for first-time managers in order to develop their skills to succeed in their roles (Lee, 2021).

The participants made other suggestions such as management training. The managers' suggestions were financial education that meant that managers and the employees under them should be educated in financial skills, management training courses and training on the job, as well as virtual team management.

"Because although it is seen as a hygienic motivational factor, your financial position, and what to do with your finances and educating your people on your financial circumstances

have the right where you can maybe come up with a nice return you understand what I am saying I do believe you're what I'm saying but educate your people on your financial position." (P. 18, 8 year of managerial experience, area of responsibility in Operations)

Managers should have the right financial skills because managers make decisions that affect the organisation's financial performance (Oliver, 2016). Clote (2020) found that financial literacy can help one in terms of succeeding in any part of the business by elevating the manager's decision-making process, leadership skills and negotiation skills.

In terms of people development, the managers gave the recommendation of the following being implemented in the working environment. The suggestions included coaching others and having people skills. According to Heumann (2019), an organisation's leaders and managers are essential for the success of the business, and therefore effective coaching skills consist of helping employees with retention, onboarding, skills improvement, coaching and knowledge transfer. In terms of people skills, having the extensive experience and technical skills in one's career is no longer enough; as it turns out, having more soft skills or what we know as people skills is what is crucial for one's professional success (Smith, 2013). Smith (2013) also mentioned these skills, i.e. leadership skills, the ability to motivate and support others, proactive problem-solving, negotiations skills, flexibility and active listening skills, among others. The participants also suggested that the wellbeing of the team is important. Employee wellbeing is linked to the productivity of the employees and employee engagement and it helps the organisation become stronger (Murphy, 2021). In the world of today, where remote work and the balance between work life are blurred, the wellbeing and mental health of employees have to be a top priority (Meister, 2021).

The managers recommended that the organisation should recruit correctly, and the following should be taken into consideration in the recruitment process to get the right managers for future success, to assess managerial ability (Groundedness = 14) and they should prioritise emotional intelligence. In any business, finding and retaining talent are important for an organisation's success (Percucci, 2020).

"I mean, these days, we've got so much more in terms of assessment centres, or just a bit more to put the person, maybe a bit in a more stressful situation or get some on the job evaluations or something like that." (P. 18, 8 year of managerial experience, area of responsibility in Operations)

Saha (2020) supported this opinion by stating that the recruitment process includes making use of the right psychometric assessments that are used to assess a potential candidate's attributes related to the job such as skills, talent and motivation. Psychometric assessments are a series of tests that

measure a candidate's personality and ability by asking a set of questions (Gauin, 2020). Hiring candidates who have emotional intelligence and not just IQ and technical skills in the workplace is important (Brooks, 2019). Emotional intelligence can assist managers in effectively dealing with workplace conflict (Al-Hamdan et al., 2018).

The *fourth objective* was to make recommendations for future research and practice regarding critical managerial competencies for future success in the manufacturing sector in South Africa. This objective will be addressed in the section titled: Limitations and recommendations.

Practical implications

This study will create awareness among managers in manufacturing organisations in South Africa on what critical managerial competencies are needed for future success. This study can make organisations aware of which critical managerial skills will be required for manufacturing companies to be successful in the future. This study also has the potential of making hiring managers aware of what they should look for when hiring or developing employees who are technically strong into managerial positions. An important practical implication of this research is that it provides recommendations to manufacturing organisations on how to develop managers' competencies and what programmes should be in place to empower managers with a good balance between hard skills and soft skills. Not only will the managers and employees benefit, but so will the other researchers who have interest in a similar study.

Limitations and recommendations

Although this study provided valuable insights into the necessary competencies that managers need for future success in selected manufacturing organisations in South Africa, there were some limitations that existed, and they should be taken into consideration.

The first limitation that can be taken into consideration is the sample size of this study. The use of a qualitative research design in the current study limits the generalisability of the findings. However, the aim of the study was to investigate managers' perception regarding critical managerial competencies that will be needed for future success in the manufacturing sector of South Africa. A deeper understanding of this phenomenon was therefore required, which made the choice of a qualitative research design suitable for this study. The researcher did, however, provide rich descriptions of the participant characteristics, research setting and the research findings to aid transferability to similar environments.

The second limitation in this study relates to the diversity of the sample. A large group of the participants were white males. In addition, this research study mainly consisted of male participants. The manufacturing sector in South Africa is, however, overrepresented by males and in the managerial echelons, white males are in the majority.

The third limitation relates to the data collection technique that was applied. Not all managers felt comfortable with the use of a semi-structured interview and preferred to make use of a qualitative survey. Time limitations and workload were offered as reasons for the hesitancy. The researcher could, however, not reciprocate due to the limitations on asking probing and clarifying questions. The researcher wanted to afford all participants the same opportunity to express their perceptions in an interactive way with the researcher.

The last limitation relates to data collection during the COVID-19 lockdown period. Manufacturing organisations could execute their functions in an altered manner, but managers found themselves in unusual circumstances. This phenomenon might have influenced the responses of some participants.

For future research, the first recommendation is that more manufacturing organisations should be included in the sampling. Specifically, the researcher recommends that this qualitative study be followed by quantitative studies to validate the findings.

The second recommendation is that future studies should be more representative of race. Likewise, the third recommendation is that the samples of future studies be more representative concerning gender. To achieve both recommendations 2 and 3, stratified sampling (recommendation 4) can be considered.

The fifth recommendation is that future studies could make use of various data collection techniques such as qualitative surveys. It is possible that some managers in the manufacturing sector may feel more comfortable with a textual data collection modality.

The last recommendation would be to replicate this study post-COVID-19, when day-to-day functions of managers such as face-to-face meetings and working from the office have normalised to a great extent.

Recommendations can also be made for practice. Organisations can implement the findings of this study to inform the talent acquisition, talent management and talent retention strategies. These practices will help organisations attract, develop and retain managers with the requisite competencies needed to be successful in the 4IR.

In addition, it is recommended that manufacturing organisations pay special attention to social skills required by managers. These skills may include people management, employee empowerment, strategic communication, and interpersonal skills. Many participants indicated that employees with

good technical skills and knowledge do not necessarily transition into good managers. The social component seems to be a key super competency for successful managers in the manufacturing sector going forward.

Moreover, it is recommended that manufacturing organisations invest in the development of curated training programmes for managers. To this point, financial skills for managers managing budgets seem to be in high demand. Relatedly, manufacturing organisations should make use of coaching and mentoring to develop managers' competencies. General management training courses are still relevant, and organisations should invest in succession planning to ensure the availability of competent managers in the future. Managers should focus on enhancing their employability with special emphasis on innovation, developing soft skills and self-management.

Conclusion

In conclusion, the results of this study indicated that the participants were aware of the importance of managerial competencies for future success in the manufacturing sector in South Africa. The majority of the participants emphasised the importance of social-, and intrapersonal skills in addition to the expected cognitive-, general managerial-, organisation-focused-, and economic competencies. The participants made valuable recommendations concerning critical managerial competencies to ensure future success for manufacturing organisations. These recommendations included, among others, the importance of having access to coaching and mentoring, the development of curated training courses and the ability to innovate and develop soft skills.

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CHAPTER 3

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

This final chapter will elaborate on the conclusion of the results drawn from the findings in the research article (Chapter 2). The conclusions in this chapter are done to address the general and specific objective of this research study. Chapter 3 will also discuss the limitations experienced in this study, and recommendations for future research studies and practice will be made.

3.1 Conclusion

Objective 1: To conceptualise managerial competencies in scientific literature

The term managerial competencies have been linked to managerial performance (Burcur, 2013). Identifying and developing managerial competencies such as behaviour are what human resource management should be focused on so that they can reach organisational strategic goals (Martina et al., 2012). Managerial competencies should be valued in a working environment as they help to heighten a manager's ability to become a successful manager (Hassan, 2020). Chong (2013) defined *managerial competencies* as characteristics that a manager uses and that are related to performance over time.

Managerial competencies consist of competencies such as knowledge and skills that include but are not limited to communication, managers' professional knowledge, and building rapport that makes managers highly competent, effective and successful (Tyrańska, 2016) The term competencies is described as what a person would need to successfully complete a specific job role (Lasse, 2015). Observable behaviours such as various abilities, skills, traits, motivations and knowledge are competencies that successful performers display in a working environment (Beckett, 2018). *Competencies* relate to behaviour that consists of skills, abilities and knowledge (Sturgess, 2012). According to Hasa (2016), skills, knowledge and abilities are competencies that one needs to reach a successful task. The researcher focused on the knowledge skills and attributes as managerial competencies for this study.

There is a difference between skills, knowledge and abilities (Hasa, 2016). *Skills* are defined as specific activities that are learned and it gives us the 'what' (Backett, 2018). A manager who has the needed skills is essential for an organisation, as the skills can lead to a manager being successful in reaching the organisation's goals and objectives (Bhasin, 2019). There are three types of management skills that can help lead a business to success (Bhasin, 2019):

- Technical skills: These are the skills needed for evolving technical tasks such as operating machines, production tools and software.

- Human or interpersonal skills: These are the skills that are needed for human interaction, empathy and effectively working with other employees to achieve better organisational results.
- Conceptual skills: These are capabilities such as abstract thinking, creative thinking and problem-solving.

Knowledge is defined as a practical or theoretical understanding of a subject (Hasa, 2016). Knowledge can be acquired by making use of sensory inputs such as reading, watching, touching and listening etc., and it can be transferred from person to person through observation and self-study (Boulet, 2015). Knowledge is when a person has a level of awareness that leads to being committed to facts and memories (Shah, 2021). Knowledge consists of different types of knowledge (Alexander, 2018)

- **Implicit knowledge** is the knowledge that an employee has through explicit knowledge and they carry it on by teaching others about it. This is when another employee comes and asks about processes and you explain.
- **Tacit knowledge** is personal knowledge and experience that a person possesses and cannot easily be written down, presented in a tangible way or articulated.
- **Explicit knowledge** is the type of knowledge that is easy to pass along. This is because this type of knowledge is knowledge that is documented by being written down and it is usually accessible.

Knowledge is universally understood as the information one needs, such as a way or steps to do a specific task (Toister, 2021).

Abilities help to shape a person's behaviour (Writer, 2020). *Abilities* are defined as innate talents or traits that a person has, such as negotiation skills (Reh, 2019). An ability is developed through feedback and repetition and it can take some time and practise to develop (Toister, 2021). The lack of managerial ability can influence the performance of a manager and the success of a business (Bhutta et al., 2021). The managerial competencies, which include skills, knowledge and attributes, are important for the success of the business and efficiency of the manager.

Explore the perceptions of managers regarding critical managerial competencies for future success in the manufacturing sector in South Africa.

This study listed various managerial competencies that are critical for the future success in selected manufacturing organisations in South Africa. The findings of this study showed that the participants

had shared opinions on the types of managerial competencies that would be needed for future success in selected manufacturing organisations. The types of managerial competencies needed included hard and soft skills. This is supported by Kagan (2021), who states that hard and soft skills should be blended and balanced. *Hard skills* are skills that employees get trained in, such as sales; and *soft skills* are associated with skills such as interpersonal skills, for example rapport building (Kagan, 2021).

Participants mentioned skills such as analytical skills where a manager needs to work with a large amount of information, and they need to have the ability to analyse and interpret and make decisions based on that information. This statement is supported by Doyle (2020a), by stating that analytical skills refer to having the ability to analyse and collect information that helps one with decision-making and problem-solving. This statement by Doyle (2020a) is also linked to one of the other skills the participants mentioned, which is complex problem skills.

The participants also mentioned the importance of skills such as the delegation of duties towards others, improving your efficiency as a manager, and displaying and having leadership skills as manager. Doyle (2020b) supports this statement by stating that managers who know best know that they should not try to do all the tasks on their own and that they should delegate it to the team. Managers with good leadership skills invest time in developing skills that will help them in mobilising other employees (Stobierski, 2021). The participants also reported on skills such as performance management skills, adaptability in terms of new and changing environments and situations and having emotional intelligence. According to Stobierski (2021), adaptability is when you can adapt to the situation even in communication. Good performance management requires managers to have the ability to provide employees with an environment where they can perform best (Henson, 2020). Emotional intelligence is some of the skills that managers need, which consists of social skills, empathy, motivation, self-regulation ad self-awareness (Kubala, 2021).

The other results identified by the participants included micro-economic competencies such as regulatory and legislation knowledge and the ability to add value in a working environment. Knowing legislation and regulations is important and would be beneficial to the business (Atkinson, 2020). Adding value in a business means having an impact on the economic enhancement in a company and its products or services before service delivery (Hayes, 2020). Process management, empowering others, understanding the business and people management are some of the skills that were identified by the participants. The management of processes is supported by Sennewald and Bailie (2016) and is in the coordination and integration of organisational resources. Understanding the business you are in is important as it helps with how it will adapt to the market (Teague, 2019). The findings of people management are supported by Brooks (2020), stating that it is there to place

the employees and organisation in a better environment and also to motivate employees by empowering them. The critical managerial competencies were identified and the participants did report on what managerial competencies are needed for future success.

Explore what recommendations can be made, by managers in selected manufacturing organisations in South Africa, regarding the attainment of critical managerial competencies for future success.

The participants of this present research provided recommendations on the attainment of critical managerial competencies for future success. The findings of this study reposted recommendations on financial education, coaching and mentoring managers and junior managers. These findings were supported by Fernando (2021), stating that financial education has the ability to let managers understand and effectively use financial skills in financial management investing and budgeting. Coaching and mentoring have been found and are supported by Rose (2021), stating that coaching and mentoring are important in organisations to help employees to succeed. The participants also recommended that managers should have the necessary people skills that will help them to work effectively with and manage employees. This recommendation was supported by Johns (2019), by stating that people skills are important for managers and it refers to having the ability to effectively work with other employees and being able to communicate and effectively empathise with people. Poor people skills and ineffective interpersonal behaviours can highly derail the business outcome and career aspirations (Garrison, 2017). Ensuring employee wellbeing is one of the recommendations from the participants. Employee wellbeing is about more than just physiological or mental wellbeing, but it also extends to employee happiness and job satisfaction (Shot, 2018). Hiring employees with emotional intelligence is important (Brooks, 2020).

The final recommendations that were evident in the findings was that recruitment should be done differently and that psychometric assessments should be included in the process. This statement was supported by Gaguin (2020), where he stated that psychometric assessments consist of a set of questions that will measure the candidate's personality and ability to match the candidates in their new position. Psychometric tests make hiring decisions easier for managers, as they have a new interest in prospective employees; personality, ability to work with others, soft skills, and the employees' interest (Gaguin, 2020).

Make recommendations for future research and practice regarding critical managerial competencies for future success in the manufacturing sector in South Africa.

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This section will be covered under the heading *3.3 Recommendations*

3.2 Limitations

Various limitations were identified in the current study.

The first limitation related to the use of a qualitative research design in this study, which impacted the generalisability of the findings. However, the findings of this study can be useful to other researchers by making use of the transferability strategy. The qualitative research design that was used in this study and was suitable, as the researcher investigated managers' perception of critical managerial competencies for future success in selected manufacturing organisations in South Africa.

The second limitation of this research study was the diversity of the participants. The majority of the participants in the research study were male (85%), with the majority being white males (55%). This is mainly because the manufacturing sector is dominated by males, and many of them, on a managerial level, are white.

The third limitation in this study was the chosen data collection technique of semi-structured interviews. Not all managers preferred semi-structured interviews and some of the managers requested qualitative surveys due to time limitations and workload stressors during the COVID-19 lockdown. The researcher wanted to proceed with the semi-structured interviews as it provided all the participants with the same opportunity to express their perceptions in a way they could interact. Some potential participants therefore opted not to take part in the current study.

The final limitation of the study is related to the COVID- 19 lockdown limitations and requirements of social distancing. The data collection that was done by video conferencing platforms revealed some limitations when it came to connectivity. The researcher, however, adapted to the realities in the field and utilised the video conferencing platform preferred by the participant.

3.3 Recommendations

Recommendations directed towards practice and future research.

3.3.1 Recommendations for the organisation

This study showed that there are different managerial competencies that managers need for future success in selected manufacturing organisations in South Africa. The manufacturing organisations

can implement the recommendations to inform the talent acquisition, talent development and talent retention strategies. This will result in organisations being aware of, and able to utilise critical managerial competencies required for future success.

Specifically, organisations should pay special attention to the social skills that are required by managers. These skills include all the soft skills, such as people management, interpersonal skills, strategic communication and employee empowerment. The findings of this study indicated that many employees are good when it comes to technical skills and operational skills, but cannot transition into becoming a successful manager. Having a balance between social skills and technical or operational skills will lead to successful managers in the manufacturing sector.

In addition, it is recommended that organisations invest in recruiting managers with the necessary managerial competencies. Psychometric assessments during the recruitment process can be utilised to identify suitable candidates. Moreover, it is recommended that manufacturing organisations should invest in developing managers through training programmes focusing on general management and financial skills. Developing managers' financial skills will help managers in successfully driving budgets for departments.

Manufacturing organisations should also make use of coaching and mentoring to develop managers' competencies. Coaching and mentoring programmes will ensure that managers develop the requisite skills to ensure success in the future. These programmes will strengthen the organisations' succession planning strategy.

3.3.2 Recommendations for future research

There are specific recommendations that can be made for future research when taking into consideration the finding of this study.

The first recommendation is that more manufacturing organisations should be included in future studies. Relatedly, the researcher recommends that the findings of this research study should be validated by using a quantitative research approach.

The second recommendation is that future studies should include stratified samples that ensure equal representation across gender and race.

The third recommendation is that a qualitative survey should be considered as data collection technique in future studies. This method will provide some managers in the manufacturing sector with the opportunity to complete the survey in written form during a time that suits them best. This

will be ideal, especially during peak seasons in the manufacturing sector, when managers might not have time for semi-structured interviews.

The fourth recommendation for future studies is to conduct a longitudinal research study to allow for more data points over an extended period.

The last recommendation is that a follow-up study should be done post COVID-19 when the daily functions of managers have largely normalised, since the impact of the COVID-19 pandemic might have affected the views of participants.

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