

Influence of Organisational Capability and Knowledge Sharing on Performance at Eskom Distribution

A

Research Report

By

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**A research report submitted to the Faculty of Commerce, Law, and
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ABSTRACT

This research report is about how organisational capability and knowledge sharing influence performance in a South African power utility organisation, namely Eskom Distribution division. Organisational capability in this report means the ability and capacity to do maintenance on the existing infrastructure, network, and equipment to have a sustainable and consistent electricity distribution. Electrical system maintenance has gained attention from both researchers and practitioners over the past few years due to, among other things, constant load shedding that affects the social and economic aspects of South Africa. To this point improving electrical system reliability and reducing maintenance costs are top priorities of a power utility, notably Eskom Distribution (ED). Knowledge sharing is the transferring of the know-what and the know-how of doing maintenance, from one person to the next; that is, the research problem is that transferring of experience, skills, and information among employees is still a key issue at the Power Utility.

The purpose of the study was, thus, to explore and describe organisational capabilities and knowledge-sharing enablers and challenges, using Resource-based theory (RBT) and Social-exchange theory (SET) as theoretical lenses. Improved performance is inferred to be when there is less downtime, less failure of equipment due to good maintenance and restoration time of electrical supply, achieved without compromising the safety of personnel and equipment.

The study was conducted following an interpretive research philosophy and a case study was employed as a research strategy to get an in-depth understanding of ways that could be used to improve organisational performance. Semi-structured interviews were conducted with managers, engineers, technicians, and artisans as study participants.

In the present study, one way to improve performance is the understanding of resources and behaviour, especially how maintenance strategies are formulated and how knowledge sharing could happen among employees to subsequently enhance and effect performance. The study found that managers play a key role in designing organisational capability and that they should affect knowledge sharing through various internal processes. The outcome and the contribution of

the study is a conceptualised framework that may help improve performance through an enhanced knowledge sharing and organisational capability, in the context of the Power Utility, Eskom distribution division.

Keywords: Organisational Capability, Knowledge Sharing, Maintenance, Performance, Social Exchange Theory, Resource-Base Theory

DECLARATION

I, Thabo Mothobi Mampuru declare that this research report is my work except as indicated in the references and acknowledgements. This study is conducted and submitted in partial fulfilment of the requirements for the degree of Master of Management in Energy Leadership at the University of the Witwatersrand, Johannesburg. It has never been submitted before for any degree or examination in this or any other university.

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LIST OF ACRONYMS

ED – Eskom Distribution

ICT – Information Communication Technology

KS – Knowledge Sharing

OC - Organisational Capability

OP – Organisational Performance

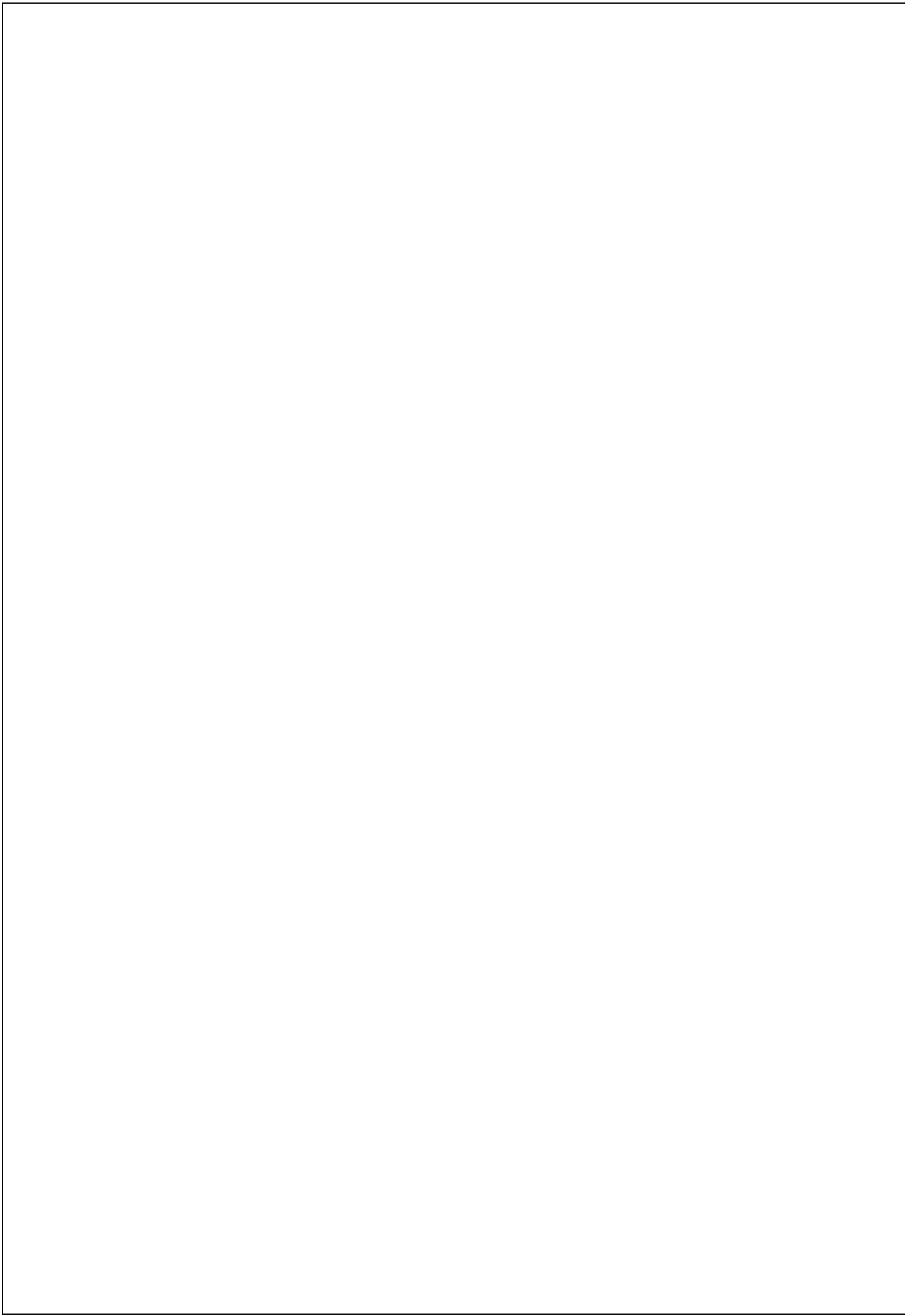
P- Performance

RBT – Resource-Based Theory

SET – Social Exchange Theory

SAIDI - System Average Interruption Duration Index

SAIFI - System Average Interruption Frequency Index



CHAPTER 1. INTRODUCTION AND BACKGROUND

1.1 Introduction

This chapter introduces the research report by providing the background to the present study. The chapter, first, discusses the purpose of the study, the theoretical foundations, defines key study concepts, describes the context and location of the study, and then puts forward the research problem. Based on the research problem, the study formulates the research questions and the study objectives. The chapter, lastly, discusses the significance of the study and gives the delimitations.

1.2 Purpose of the study

The purpose of the study was to explore and describe how organisational capability (OC) and knowledge sharing (KS) influence performance (P), in the context of a Power Utility company, Eskom, namely the Eskom Distribution division. In this knowledge intense industry and continuous change in technology within electricity distribution, organisations are forced to adopt strategies that incorporate technology usage to improve service delivery and competitive edge (Travern, Naidoo, & Rajcoomar, 2021). In striving to gain insights into Eskom Distribution's reality, the study explored organisational capabilities and knowledge sharing amongst the employees and subsequently described how the two could improve performance.

1.3 Underpinning theories for the study

Two theoretical frameworks, Resource-based theory and Social-exchange theory underpin the present study.

Resource-based theory (RBT) begins with a conclusion that organisations have considerable number of resources (Barney, Ketchen, & Wright, 2021). Resources include all assets, organisational capabilities, organisational processes, organisational attributes, and information as stated by Barney J. (1991). RTB talks to resources which the organisation possess. RBT has been used over the years as an enabler for strategic approach in organisations (Zhang, Hou, Yang, Yang, & Wang, 2021). In the present study, it is used as a lens to understand organisational capabilities as an enabler of performance.

Social Exchange Theory (SET) is the most influential theoretical principle that assist with the understanding of workplace organisational behaviour (Cropanzano & Mitchell, 2005). SET assist organisation's management with generating employee responsibilities and optimistic work environment (Thomas & Gupta, 2021). Social exchange refers to reciprocal acts of benefit (Molm, Takahashi, & Peterson, 2000). The theory posits that people tend to repeat acts where they get rewarded. It has elements such as trust between employees and organisation, perceived organisational support to employees and it alludes that manager–employee exchange is important for task performance (Chernyak-Hai & Rabenu, 2018). SET is used in the present study to understand relationships between people and the organisation concerning cost and benefits.

1.3.1 Resource-Based Theory on Organisational Capabilities

Resource-Based Theory is considered by scholars as one theory which is used broadly to explain and understand organisations. It focuses on the strength and weaknesses on the organisation's resources (Abbas, Arshad, & Subramaniam, 2019). Resource Based Theory helps the organisation to realise performance by acquiring and sharing unique resources which are assimilated into routine operational processes (Irfan, Wang, & Akhtar, 2019). Mahoney & Pandian (1992) state that Resource-based theory incorporates traditional strategy insights concerning organisational capabilities and competencies.

Organisations invest in enhancing their capabilities to deliver services they provide and survive in unpredictable situations (Irfan, Wang, & Akhtar, 2019). Organisational Capabilities assist organisations with the realisation of human factors (Social Skills) and technical factors (Technical Skills) which when deployed may bring success to the organisation and improve performance by looking at technology usage, processes of formulating maintenance strategies, and outcomes (Ahuja, Sawhney, & Arif, 2018).

Based on the resource-based theory an understanding of resource availability and usage within the organisation is critical, for it allows growth and improvement of the current organisation's capabilities. It also provides the opportunity for introspection for managers to see where the area of improvement is needed within the organisation so that it fulfils its goals. Organisational capabilities, if not understood, could harm Eskom Distribution, or cause it to not achieve its mandate of distributing electricity to the South African population. Therefore, negatively affecting organisational performance.

1.3.2 Social Exchange Theory on Knowledge Sharing

Social exchange theory (SET) suggests that people in organisations will be involved in a relationship because of the benefits expected from each other economically - e.g., products, services, and knowledge) and socially (e.g., friendships and reputation - (Wang, Xiang, Yang, & Ma, 2019). An interaction among individuals is normally generated by the pursuit of rewards and benefits which might be rewarding or be costly (Wan & Antonucci, 2016). In the present study, SET is used to understand factors affecting knowledge sharing among the

Power Utility employees. The assumption is that trust and support are key enablers for any exchange to occur, between the organisation and employees.

The below conceptual research framework is provided to illustrate the relationship and the interplay among organisational capabilities, knowledge sharing and performance of the organisation, as explored in the present study.

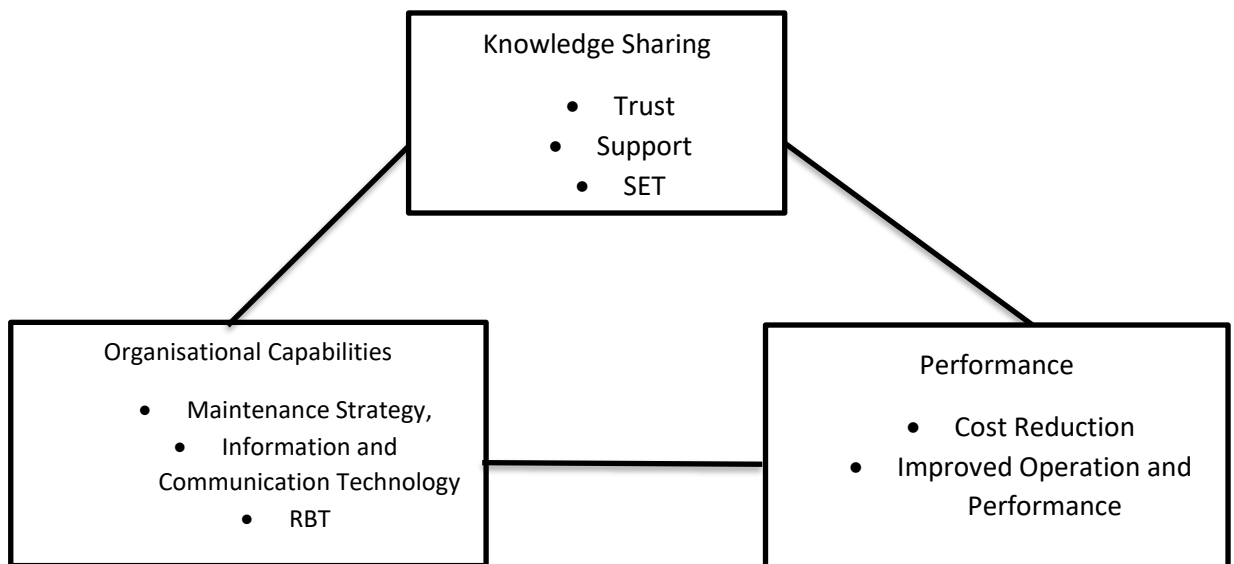


Figure 1. 1 The conceptual research framework

1.4 Location and Context of the study

This section provides the study location and context. The study location is South Africa's Power Utility, Eskom Distribution division. The division is responsible for supplying electricity to both residential and industrial areas.

Eskom delivers about 40% of electricity to the electrical network in sub-Saharan Africa (Department of Energy, 2018). Eskom has three divisions namely Generation, Transmission and Distribution. Eskom is currently faced with numerous challenges ranging from low energy availability factor, corruption, lack of proper maintenance, indecision, and paralysis in government policy (Kessides L. , 2020). Eskom power plant performance is measured by energy availability factor (EAF). In recent years, due to poor performance of coal-fired power stations responsible to generate electricity, the decline in the EAF at Eskom has negatively impacted the South African Economy (Kock & Govender, 2021). The EAF has reduced from 92% in 1998-2001, further declined to 71% in 2016 and currently sitting around 55% to 60% in 2023 (Kessides I. , 2020). An EAF of 75% or above is generally regarded as being adequate to meet the forecasted demand (Kock & Govender, 2021).

Eskom distribution represents a critical component of the electricity supply value chain accountable for the safe and sustainable delivery of electricity to end-customers (SANEDI, 2023). Eskom Distribution operates and maintains approximately 48 805 Km of distribution lines, 296 188 Km of reticulation power lines, and 7 499 Kms of underground cables to sell electricity to about 6 000 industries, 18 000 commercials, 70 000 agricultural sites, and more than three million residential customers (Department of Energy, 2018). The demand for electricity has increased lately because of industrial developments, the growing economy, and the electrification of more households (Vaikund & S.G., 2022). There is an expected increase in Electric vehicle manufacturing, so that the usage of fossil-fuels can be minimised to achieve the Just Energy Transition target (Johansson, Persson, Lazarou, & Theocharis, 2019). Expanding electrification of rural areas and providing communities with affordable electricity to enable economic growth and job opportunities is on the agenda of most policy makers

(Aly, Moner-Girona, Szabó, Pedersen, & Jensen, 2019). Electricity Distribution is the backbone of any developing country and consequently the fundamental critical infrastructure (Loeser, et al., 2022). Country developments necessitate that power utility organisations adopt changes with speed and flexibility, whereby technology is used to provide new organisational capability, and efficiency (WEF, 2019).

Eskom Distribution is responsible for electrical network operation, construction, and maintenance of infrastructure to supply power to customers safely and reliably so (Department of Public Enterprises, 2019). An electrical network is a socio-technical system involving complicated interactions between humans, social norms, and values (Salite, et al., 2021). The power utility's distribution network is directly connected to the customers. This encourages the company to realise the sensitivity of the safety and reliability of electrical supply, taking into consideration the different electricity demands (Amadi-Echendu & Bosaletsi, 2016). Electrical distribution network has various equipment ranging from power lines, transformers, and substations that supplies a wide geographic area (Amadi-Echendu & Bosaletsi, 2016). The challenge for any power utility is how to acquire, operate, maintain, and sustain electrical infrastructure - balancing the operational performance against business goals and technical risks that might occur on the network (Amadi-Echendu & Bosaletsi, 2016). Khonjelwayo and Nthakheni (2020) state that Eskom's electrical networks are inadequately maintained which results in maintenance backlogs. Not being able to maintain and operate the electrical infrastructure is the key risk to growth, development, and stability in the country (SANEA, 2022). And the lack of skills, human capital and reliability of maintenance outcomes are causing the rise in electricity supply disruptions (SANEA, 2022).

For Eskom Distribution (ED) to be able to continuously deliver electricity to the customers reliably, Eskom must ensure that they have a high level of knowledge amongst employees and that knowledge should be shared for equal competency. With the role of Eskom in the region and the country, it is important that employees receive adequate support to enhance their knowledge through knowledge sharing. Engineers, technicians, and artisans need to operate with high quality and competence; therefore, the power utility must know how they can use their in-house resources to ensure knowledge is shared amongst employees. Just as

any organisation doing business rely on its organisational capabilities to sustain their innovative capacity and competitive advantage, Eskom distribution must resort to its capabilities to improve its ability to provide electricity to the country, but the most important question is to ask if they have and understand the organisational capability. Organisational survival has overtime become dependent on the organisation's ability to monitor and to adapt through capability (Al-Gharaibeh & Ali, 2022).

In the present study, the in-depth organisational factors and individual factors which affect knowledge sharing were looked at through the lens of Social-exchange theory. The challenges faced within the electricity industry necessitate the rethinking of electricity supply or renewable energies as proposed by a lot of policy makers around the world. Less attention is currently given to integration of the renewables into the current Eskom distribution fleet and strategies on ways to share knowledge for maintaining and operating the new proposed electricity distribution infrastructure.

Organisational capability is a specific way that an organisation gradually accumulate abilities to deal with its challenges (Schienstock, 2009), and capability is achieved through establishing routines and operational patterns (Hernandez & Kreye, 2022). Organisational capability can be disaggregated into mostly organisational-level capacity to sense and share opportunities and threats; and to enhance and reconfigure, when necessary, the organisation's resources (Trivellato, Martini, & Cavenago, 2021). Since RBT realises organisational capability as a resource that the organisation could utilise, the topic of organisational capability has been researched a lot within the information systems space; however, what is vividly missing from the literature is an examination of how organisations responsible for electricity supply could use their current capability to enhance and reconfigure their operation model. It was, therefore, imperative that Eskom Distribution be looked at to gain insights into the current capability that could be used to enhance and reconfigure to achieve an improved performance.

Wu, Lin, & Lin, (2006) state that in this knowledge economy age, knowledge is seen as a critical resource in an organisation. Knowledge is a key resource for gaining sustainability in an organisation, concretely translated into organisational processes and quality improvement (Manesh, Pellegrini, Marzi, & Dabic, 2021). By the same breath, Al-Gharaibeh & Ali, (2022) identify knowledge as the capability of choosing and implementation rational actions for a certain purpose within an organisation. Previous studies have proven that good knowledge sharing could effectively elevate an organisation's capability and performance (Wu & Lee, 2017). Knowledge-sharing literature has identified a wide range of factors that influence knowledge-sharing behaviour in the organisation, and they are (i) Technological factors, (ii) Organisational Factors, and (iii) Individual factors (Yassin, Salim, & Ashaari, 2013). Knowledge sharing has been argued to be contributing to the generation of organisational capability which is vital for performance (Wanga & Wang, 2012).

In Mozambique, power consumption is expected to grow to 33.2 terawatt hours (tWh) by 2023 from 14.2 tWh in 2014 due to population growth. The construction of five hundred kilometres of medium voltage cable line, including twenty-one kilometres of low voltage cable, with twenty-one new transformers, is an indication that infrastructure development is taking place (BMI, Business Monitor International, 2014). Mozambique is faced with challenges ranging from providing access to electricity to the rural areas, coping with increasing electricity demand and supplying reliable and efficient electricity to the entire population. Frequent power failures result in energy losses due to the lack of technical knowledge to cope with regular operation and maintenance of the grid (Bank, 2015), Mozambique installed a 220 KV substation to improve its supply losses and boost the country's electrification rate, minimising dependency on South Africa (BMI, Business Monitor International, 2014).

The use of Information and Communication Technology (ICT) assists in enhancing electrification projects. Technologies are already altering business models and pathways to development, which yield significant gains, by increasing convenience and support electricity access (Bank, Mozambique Digital Economy Diagnostic, 2019). ICT has evolved into an effective means for helping institutions

and citizens mitigate and prevent severe impacts that affect the physical infrastructure and financial well-being of a country (The World Bank, 2012). Mozambique has embraced ICT as a tool through its rendition of better service delivery capability. Mozambique linked their financial and technical sustainability so that the power sector brings financial benefits to the population. Technical sustainability is achieved through the development of a maintenance strategy that will efficiently develop technical knowledge in the country (Bank, 2015).

Eskom's goal is to have highly skilled employees undertaking infrastructure maintenance, employees that can handle electricity infrastructure and not endanger the public. Thus, the organisation should know which factors can influence and improve performance. Electricity is a dangerous product because it cannot be seen or smelled but should it be touched can result in a fatality. People working with it should have equal and competent knowledge. Having different employee competency levels and backgrounds makes it very important to have a common knowledge resource and knowledge sharing capability so that the impact of infrastructure failures and unnecessary plant outages is minimised. Therefore, the present study explored organisational capabilities and knowledge sharing to help address the challenges.

1.5 Research problem

Power Utility organisation, Eskom Distribution division, is confronted with the challenge of aging infrastructure and inadequate maintenance while there is a need to keep the infrastructure and electricity network running optimally. Studies conducted in the last 20 years agree that challenges in electrical distribution industry need urgent attention. Inadequate asset management, maintenance and lack of technical resources are contributing to an alarming deterioration in the electrical distribution infrastructure (Kessides I. , 2020). The research problem is that these inadequacies and lack of resources could be attributed to insufficient organisational capability and lack of knowledge sharing.

However, there is inadequate literature addressing this problem, especially in the context of a South African power utility organisation. To this point, the present

study sought to explore and describe the influence of organisation capability and knowledge sharing, and subsequently conceptualise a framework to address the problem.

1.6 Research Purpose, Goal, Objective, and Questions

The purpose of the study was to explore and describe the influence of organisational capability and knowledge sharing in improving organisational performance.

The goal of the study was to conceptualise a framework for organisational capability and knowledge sharing to improve organisational performance, in the context of Eskom's Distribution division.

The study objectives and research questions driving the study were:

1. To explore and describe the influence of organisational capabilities on organisational performance at Eskom Distribution
 - How does organisational capability influence organisational performance?
2. To explore and describe the influence of knowledge sharing on organisational performance at Eskom Distribution.
 - How does knowledge-sharing influence performance?
3. To determine ways of enhancing organisational capability and knowledge sharing for an improved organisational performance.
 - How can organisational capability and knowledge-sharing influence organisational performance at Eskom Distribution?

1.7 Significance of the study

Eskom Distribution (ED) division remains under pressure to upkeep and upscale the operational life span of some electrical infrastructure, building new substations and power lines, while ensuring the inter-connections and inter-operation ability between both old and new electrical networks. Deploying the newest technologies and strategic maintenance plans may ensure improvement in organisational performance, but at the centre of both is knowledge sharing and organisational capability. In this time of continuous technological improvements, organisations struggle to maintain their competitive advantages because knowledge within the organisations is slowly becoming a key factor for improving productivity (Rašula, Bosilj Vukšić, & Indihar Štemberger, 2012). Knowledge sharing amongst professionals is determined by their attitudes but weakly influenced by subjective norms of the organisations (Zhang, ASCE, & Fai Ng, 2013).

While most intellectual capital can be transferable, the knowledge an employee possesses cannot be easily copied, making it a challenge to an organisation should the employee leave without sharing the knowledge with their colleagues. While available research suggests the significance of using organisational capabilities for organisational performance, trivial attention has been paid to research the economic rewards of knowledge sharing. According to Arsawan, et al. (2020), knowledge sharing is a success determinant of creativity and organisational performance (Arsawan, Wirga, Rajiani, & Suryantini, 2020). Social Exchange Theory has been mostly used in the analysis of individuals interacting. The theory elaborates how social interactions are developed by the benefits achieved from the service exchange (Jahan & Woon Kim, 2021). Exchange is an action occurring between two specific individuals; it's a process of giving and taking, and the contribution of each actor should be understood (Kern & Willcocks, 2000).

An employee that has expectations about the organisation often uses his/her skills and knowledge to achieve goals; the exchange between employees and the organisation will occur because of the organisation's commitment to meet the employee's expectations (Ahmed, Khuwaja, Brohi, & Othman, 2018). Social

exchange is achieved through mutual trust, obligation, and dedication between employees and organisations. Employees who appreciate the exchange with the organisation will engage in behaviours that achieve the organisation's goals of improving performance (Zhang, et al., 2019). In the context of Eskom Distribution, no known study has been carried out to investigate the importance of organisational capability and knowledge sharing practices to improve organisational performance.

The findings from the present study, therefore, give insight into how Eskom Distribution could utilise knowledge sharing and capability resources optimally. The study is of potential benefit to both the employer and the employees. The employer will better understand the actual problems that are affecting the organisational performance due to inadequate knowledge-sharing and capability. The findings from the study may potentially give the employer a strategic direction to take when utilising resources so that performance is improved. Employees could also understand and appreciate the knowledge they need to enhance their performance. Knowledge sharing between the old and new may potentially improve employees' morale, increase trust amongst them, due to the good relationships they may have with each other.

1.8 Delimitations of the study

The present study explored and described organisational capability and knowledge sharing with respect to maintenance and improving performance. However, the study did not analyse the actual infrastructure and networks. Performance is inferred and not actually studied.

1.9 Definition of terms

The terms used in this study was derived from literature. The table below shows the key words used for this study, including the definition and the sources.

Table 1. 1 Definition of terms

Key words	Author and year	Definition
<i>Knowledge Sharing</i>	(Lin, Cheng, & Wu, 2014)	Knowledge Sharing is transferring or disseminating new knowledge from one person to another.
	(Aliakbar, Mahmood, Yusoff, & Mahmood, 2012)	Knowledge sharing is a process of obtaining experience from others.
<i>Organisational Capability</i>	(Faizal Ahmad Zaidia & Othmanb, 2015)	Organisational capabilities are the organisations' ability to exploit existing infrastructure with current knowledge and explore new opportunities with new knowledge.
	(Leiringer & Zhang, 2021)	Organisational capabilities are a combination of skills, actions, behaviours, resources, and competencies that enable the organisation in meeting its desired goals.

	(Sharaf-Addin, Omar, & Sulaiman, 2018)	Capabilities of an organisation taking to account the internal and external competencies in addressing changes of the business environment as a driver of competitive advantage.
<i>Organisational Performance</i>	(Abu-Jarad, Yusof, & Nikbin, 2010)	OP is the ability of the organisation to achieve its goals and objectives considering the economic value, effectiveness, and efficiency.
	(Ahmed & Shafiq, 2014)	OP is a comprehensive measure of quality, productivity, and consistency in the organisation.
<i>Resource-Based Theory</i>	(Madhok, 2002)	RBT Is the theory used by an organisation to manage its competitive advantage using its resources and skills.
	(Schauerte, Feiereisen, & Malter, 2021)	RBT states that the organisation develops competitive advantage using its unique and at hand available resources.

<i>Social Theory</i>	<i>Exchange</i>	(Lin, Cheng, & Wu, 2014)	SET suggests that people get involved in an exchange when there is a reward meant for them.
		(Aliakbar, Mahmood, Yusoff, & Mahmood, 2012)	SET is a two-sided rewarding process involving two or more people.

1.10 Assumptions

Organisational capabilities are resources that the organisation should have in place to deliver its mandate; those resources should be used effectively within the organisation to improve performance. Failure could result in deficient performance or low return on investment. Management should know which systems (organisational capability) to put in place including its limitations such that knowledge sharing is shared efficiently to improve organisational performance.

1.11 Research Report Structure

The report is structured as follows:

Chapter 1 discussed the purpose, goal, objectives of the present study. The chapter gave the practical and theoretical background, location, context, and the problem statement. The significance and delimitation of the study was also given.

Chapter 2 provides a systematic literature review on organisational capability, knowledge sharing and organisational performance, to formulate propositions and a conceptual research framework.

Chapter 3 describes the methodology followed in conducting the study.

Chapter 4 is data analysis and discussion of study findings.

Chapter 5 is the Interpretation of findings and the conceptual framework.

Chapter 6 Recommendations and conclusion

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORKS

2.1 Introduction

This chapter reviews literature on the concepts making up the research topic. It also discusses the theories underpinning the study. The conceptual research framework is then given.

A reliable electrical system or network is critical to the development of any state because all major infrastructure and service delivery to the people and economy rely on it (Daniel Burillo, 2018), ranging from healthcare, education, water supply, manufacturing, and agriculture. In achieving a deeper meaning of the present study concepts, a systematic review of literature on organisational capabilities, knowledge sharing, and organisational performance is undertaken. With the electricity disruptions, the state, customers, and Eskom at large could face minor inconveniences to major economic losses; even the loss of human life (Mahmoudi, El Barkany, & El Khalfi, 2014). The chapter looks at how the allocation of resources enables knowledge sharing to improve organisational performance. Propositions are then put forward based on the reviewed literature, the Resource-Based Theory, and the Social Exchange Theory.

The discussion begins with the discussion on the theoretical frameworks. This is followed by a review of literature on organisational capability (OC) from a variety of scholars, including discussions on resources used at Eskom Distribution which could be the barriers or enablers of knowledge sharing. The idea is to explore and understand how various resources could help Eskom Distribution to be economically, effectively, and efficiently performing in its day-to-day operations.

2.2 Theoretical frameworks

This section discusses the theories underpinning the study namely the Resource-based theory, Organizational capability, and the Social- exchange theory.

Resource-Based Theory (RBT)

Resource-Based theorists argue that unique resources tend to stimulate a competitive advantage for the organisation (Coff, 1997). RBT elaborates how the organisation uses its unique resources to sustain its existence in the business space (Pringle & Kroll, 1997). Resources can be created by activities within an organisation, capabilities emerge from the activities created by the organisation to fulfil a desirable goal (Brush & Artz, 1999). Pringle and Kroll (1997) and Maijor and Van Wittellstuijn (1996) agree that resources are any assets, tangible, or intangible, that are clued semi-permanently to the organisation. Examples of resources are skilled personnel, in-house knowledge of technology, equipment, training, experience, intelligence, and efficient operating procedures.

Brush and Artz (1999) suggest that resources such as computer systems and employee knowledge are invaluable in the organisation. These also include information technology systems, customer demand and high maintenance plans. Resources refer to something an organisation can draw on to meet its desired goals (Kozlenkova, Samaha, & Palmatier, 2014). Resources that are needed to provide service are composed of different degrees of credence, experience, and service qualities (Brush and Artz, 1999). Resource-Based Theory (RBT) is used as a lens to assess the organisation's capabilities. Organisations have the basic knowledge, steadily accumulated through working experience, and this becomes a source of competitive advantage (Madhok, 2002). Resource-Based Theory (RBT) appreciates the organisational mix of unique things and the application of resources (Schauerte, Feiereisen, & Malter, 2021).

Resources are valuable if they enable the organisation to develop and implement strategies that are cost-effective and can increase the organisation's revenue

(Kozlenkova, Samaha, & Palmatier, 2014). Hitt, Xu, and Carnes, (2016) state that the most critical resources in the organisation are acquired.

Resources are a set of tangible and intangible assets that the organisation uses to conceive and implement strategies (Kozlenkova, Samaha, & Palmatier, 2014). Capabilities are resource's whose purpose is to improve organisational productivity (Kozlenkova, Samaha, & Palmatier, 2014). Karedza & Govender, (2020); and Alinasab, (2022) defines capabilities as knowledge generated and skills acquired that enables the organisation to make use of their internal resources. In creating organisational capabilities, management should develop and bundle both tangible and intangible resources (Hitt, Xu, & Carnes, 2016). Organisational capabilities are a set of resources that the organisation will leverage on to gain superior performance.

Organisational Capability (OC)

The capability of an organisation is determined by putting in place principles, structures, coordination, and communication of individuals within the organisation (Zander & Kogut, 1995). Chandler (1992) states that OC is created by practiced routines in the organisation, which define the skills within the organisation and how those routines are used to coordinate decisions on the work that needs to be done. OC gives the organisation the life of its own beyond and above the human capital because individuals in the organisation come and go but OC remains an asset for the organisation (Chandler, 1992).

OC is a routine that determines the efficiency with which the organisation transforms its input into output; they represent organisational resources that are accumulated over time (Collis, 1994). OCs are the principal sources of competitive advantage putting more focus on the organisational resources (Grant R. M., 1996). Organisation capabilities are achieved through continuous learning that takes place over time, are not easily obtainable, difficult to copy, and have the potential to become the source of sustainability by improving organisational performance (Kusunoki, Notiaka, & Nagata, 1998).

Organisational capabilities indicate the various aspects of knowledge accumulated by the organisations (Sharaf-Addin, Omar, & Sulaiman, 2018). Hemmati and Hosseini, (2016) state that “organisational capabilities refer to the ability of the organisation to use assets and capital”. Organisational capabilities are activities, routines, or processes that enable the organisation to fully utilise its resources (Yang, Jiang, & Zhao, 2019). OC are recognised as the state of the organisations resources and skills assessed from the point of view of its development capacity, they are complex knowledge systems that consist of the organisational technology, managerial systems, and value systems (Durmuş-Özdemir & Abdukhoshimov, 2018; Travern, Naidoo, & Rajcoomar, 2021). Grant (1991) argues that internal resources and capabilities provide the purpose of the organisation's existence; s/he further suggests that capabilities and resources are the primary sources of organisational performance. Those capabilities represent intervening transformational competencies that reconfigure, combine, and transform the existing resources (Huang & Li, 2017; and Wu, 2010).

The quality of resources available in the organisation has a significant role in what the organisation could achieve (Grant R. , 1991). OC is a state of strategic and operational resource and competence of the organisation which enable the correct execution of activities (Poteralska, 2021). An organisation that has rare, inimitable, valuable, and non-substitutable resources and capabilities will achieve sustainability by applying value-creating strategies (Mishra, Luo, Hazen, Hassini, & Foropon, 2019; and Cheng & Shiu, 2015).

Social Exchange Theory and Knowledge Sharing

Influencing employees to contribute knowledge has become an important topic for researchers and a major constraint for organisations (Liang, Liu, & Wu, 2008). According to Social exchange theory (SET), individuals regulate their interactions with each other based on self-interest considering the costs and benefits of such an interaction (Liang, Liu, & Wu, 2008). SET seeks to explain human behaviour in an exchange process (Zhang, et al., 2018). SET enhances understanding than economic theory, when investigating human attitudes and behaviours during the

challenging time that the organisation faces to foster coping and resilience (Corteza & Johnston, 2020; and Garner, 2017).

The main goal of the exchange is to create a benefit between the organisation and the employee (Mukherjee & Bhal, 2017). St. John, Visinescu, Guynes, and Prybutok (2016) further state that “SET explains the actor’s interactions to achieve goals that they could not accomplish alone and both actors benefit from that exchange”. SET shows that mutual benefit between employees and the organisation is an essential component in the relationship at the workplace (St. John, Visinescu, Guynes, & Prybutok, 2016); considering trust, support, and solidarity as key enablers of the exchange process. Social benefits and cost are drivers of human behaviour and influence human decision making (Corteza & Johnston, 2020). Organisations need to build trust and sustain support to employees while adopting common behaviour across the board relating to handling situations that arise within the organisation (St. John, Visinescu, Guynes, & Prybutok, 2016). SET assists in providing a guide as the starting point for knowledge sharing within a team.

Appleyard (1996) defines knowledge sharing (KS) as the transfer of useful know-how or information across the entire organisation. KS enables the organisation to remain specialists in what they do, when employees are effective in complimenting each other (Wijnhoven, 1998). The organisation can build its competitive advantage through employees obtaining, organising, reusing, and transferring information amongst each other because of KS, also, people's performance can be enhanced through sharing of information (Hu & Zhao, 2016). But KS is intangible because it cannot be forced or supervised out of an employee (Kim & Mauborgne, 1998). (Hu & Zhao, 2016) argue that KS is the process of gaining information, ideas, suggestions, and skills amongst individuals in the organisations, therefore share those amongst one another. KS is getting information from one person to the other between the employees to assist the organisation to reach its desired goals and objectives.

Creation of value through knowledge is of importance for generating the path to having a competitive advantage (Wu, Lin, & Lin, 2006). Liang, Liu, and Wu, (2008)

state that organisations should encourage knowledge sharing to strengthen its employee's knowledge base and gain a competitive advantage (Liang, Liu, & Wu, 2008). But knowledge sharing is often difficult because people with knowledge believe that their knowledge is very important and valuable, as a results people that possess more knowledge are unwilling to share it (Liang, Liu, & Wu, 2008).

According to Liang, Liu, and Wu (2008), SET suggests that people will share their knowledge because of their perceived personal gain (Liang, Liu, & Wu, 2008). The people's involvement in interactions is based on benefits analysis by an individual, after which the exchange process might start based on the judgment and rewards that could be gained (Nunkooa, 2015). People will be involved in an exchange relationship due to expected benefits to be provided by others, whereby knowledge as a resource could be shared (Wang, Xiang, Yang, & Ma, 2019).

Zafirovski (2005) suggests that human beings share things based on a reward expected when an exchange occurs (Zafirovski, 2005). With this challenge that the organisation is faced with of people's unwillingness to share knowledge, Social Exchange Theory (SET) is used to evaluate the cause of such behaviour, the present study engages the challenge that is faced by Eskom Distribution division. The challenge is the lack of knowledge exchange among engineers, technicians, and management within Eskom's Operation and Maintenance Department.

Organisation Performance

The importance of organisational performance in the organisation should not be underrated because organisations exist to achieve goals and objectives. An evaluation of the organisation including individuals' performance will assist the organisation to realise its goals (Gatewood & Carroll, 1991). Organisations differ in how they perform due to different organisational structures and competitive advantages (Barnett, Greve, & Park, 1994). An organisation that presents or encourages innovative ideas can accept change and be able to work with factors causing the change in organisational performance (Hashemi & Dehghanian, 2017).

Organisations perform lots of activities to achieve their desired objectives, during the performance of those activities, the progress should be monitored. Delarue, Van Hootegeem, Procter, and Burrridge (2008) suggest that it is difficult to define performance because organisations have different objectives they want to achieve. OP is defined by (Byoonggu & Heeseok, 2003) as the degree to which an organisation achieved its business objectives. OP can be measured in two ways: by economic performance (Cost savings, profit and return on investment) and operational performance (Employee performance and customer satisfaction) (Luo, Huang, & Lu Wang, 2012). Organisational performance is seen as an indicator that reflects the economic goals of the organisation (Fuentes-Fuentes, Albacete-Saez, & Llorens-Montes, 2004). The present study looks at the physical resources and organisational resources, information technology and maintenance strategies as direct inputs to enabling knowledge sharing and organisational performance within Eskom Distribution division.

2.3 Organisational capabilities, knowledge sharing, and organisational performance

Organisational Capability (OC) are attributes that allow the organisation to effectively deal with changes in the environment where it operates and be able to handle challenges. The use of internal assets in a form of resources allocated to ensure that the organisation meets its set goals and objectives. The ability for the organisation to use its assets at its best, as other scholars have stated that capabilities are unique, rare, valuable, and non-substitutable within the organisation (Irfan, Wang, & Akhtar, 2019). For this study, Resource-based theory (RBT) is in the centre while maintenance strategies and information and communication technology infrastructure as internal resources are looked at as organisational capabilities that can enhance organisational performance through knowledge sharing within the organisation.

2.3.1 Maintenance and Maintenance Strategies as resources

Maintenance is a combination of technical and any administrative functions taken by the organisation to retain or restore the equipment to a state that it can best perform its mandate (Velmurugan & Dhingra, 2014 and Patil, Soni, Prakash, & Karwasra, 2021). (Vlado & Bogdan, 2018) State that Maintenance is set of actions which are carried out to replace, repair and service an identifiable set of equipment so that the plant continues to operate at a specified level of availability for a specifies time. Maintenance relates to all activities taken to ensure accessibility of operational equipment (Gackowiec, 2019). Maintenance of equipment is done to enhance equipment operation and keep the equipment in a working order, while preventing failures, so that the equipment delivers on its intended function ensuring safety and protection of environment (Velmurugan & Dhingra, 2014). (Chong,, Mohammed,, Abdullah, & Rahman, 2019) suggest that maintenance of equipment ensures that assets of the organisation remain in their functional condition. The main aim of maintenance in equipment is to maximize the equipment availability for production. Maintenance is done to assist with decreasing total cost by elimination of breakdown, correct defect on the equipment, minimize wastage and unwanted occurrences, also to increase safety for the environment and society (Gackowiec, 2019).

The systematic way of doing maintenance might assist the organisation to achieve substantial saving in money, material and labour as every effort is aimed towards avoiding catastrophic failure. Appropriate maintenance can prolong the life span of electrical infrastructure and assist in preventing unnecessary breakdowns that result in electrical supply cut-off. Performing maintenance requires resources that are less costly and are effective to deliver in the plan of the maintenance activities. Maintenance strategies must be developed so that adequate resources will be deployed to do the maintenance activity. Maintenance strategy is a planned way to upkeep equipment or devices (Gackowiec, 2019) which contains actions such as doing repairs, replacement, and inspection on equipment. (Dellagi & Darghouth, 2021) define maintenance strategy as a set of actions performed at failure or according to schedule to restore the equipment to its working state.

Maintenance strategy can improve the availability of production equipment and minimize unnecessary expenditure (Sianturi, Riyanto, & Maulana, 2020).

According to Pariazar, Shahrabi, Zaeri, and Parhizi, (2008); Chana & Asgarpoor, 2006); and Firdaus, Samat, & Mohamad, 2019) there are different strategies the organisation could use namely corrective maintenance, condition-based maintenance, preventive maintenance, and predictive maintenance.

- *Corrective Maintenance* – Is a strategy taken when a fault is detected or there are present signs on the equipment that it's going to fail (Zonta, et al., 2020), It is taken after monitoring the equipment's behaviour over time (Firdaus, Samat, & Mohamad, 2019). Once the equipment fails then corrective actions are required to restore the equipment to its normal operation (Yu, Zhu,, Changa, & Wang, 2019).
- *Condition-based Maintenance* – A strategy that rely on most senior personnel or subject matter expert to evaluate the health condition of a critical equipment (Baker, Nixon, Banks, Reichard, & Castelle, 2020), so that planning of maintenance can be done to prevent the occurrence of serious problems while keeping the operation of the equipment running.
- *Preventive Maintenance* – Preventive maintenance strategy has to do with the anticipation of challenges or a problem that might impact the equipment and initiate actions before the problem occurs (Mahmoudi, Barkany, & Khalfi, 2014).
- *Predictive Maintenance* – Is the strategy performed in order to improve quality and equipment reliability (Lu & Zhou, 2019), in the same breath (Zonta, et al., 2020) state that performing predictive maintenance contributes to enhancing equipment downtime, cost control and quality of production.

Maintenance is a system that requires investment and when properly done will minimise equipment life cycle or failure and save costs (Onawoga & Akiyemi, 2010). Shyjith, Ilangkumaran, and Kumanan (2008) state that maintenance system plays a key role in reducing equipment downtime, improving quality of supply, and increasing equipment performance, but also, the inadequate maintenance will result in higher levels of unplanned equipment failure, which will

impact on organisational performance, bringing extra costs for rework, repaying labour costs, and possible penalty fees from unsatisfied customers. Maintenance is done to maintain the value of the assets (Lee & Scott, 2009). Proper maintenance of equipment needs technical skills, techniques, and administrative actions so that the equipment could perform its required function without failure (Velmurugan & Dhingra, 2014). To achieve this, the defined maintenance strategy should be in place within the organisation. Velmurugan and Dhingra (2014) define maintenance strategy as a systematic approach to upkeep facilities and equipment. Maintenance strategies strive to minimise costs by improving safety and reducing system failures (Mustakerov & Borissova, 2016). To achieve a great maintenance strategy so that cost and equipment failure is minimised, knowledge sharing sits at the centre because without knowledgeable personnel, maintenance will not be as effective as is required. People come and go in the workplace but mostly, the equipment used will remain; so, to ensure continuity of maintenance, the organisation should enable knowledge sharing amongst the employees.

During the stage of deploying resources, the organisation must understand what knowledge they have and how that knowledge can be shared amongst individuals.

2.3.2 *Information and Communication Technology resource*

The introduction of ICT in the organisation is aimed at empowering employees with knowledge, while also providing necessary tools and support to their current skills set (Hendriks, 1999). ICT over the years, has been seen by scholars as value-adding in the organisation by reducing costs or services that the organisation offers (Mate, Fuerst, & Barney, 1995). Organisations that have ICT infrastructure in place get help with increasing the amount and richness of an organisation's information processing (Sabherwal & Kirs, 1994). ICT is used in the organisations to enhance the reliability of the services offered, decreasing long-term cost and decreasing errors in the organisation (Zahra, Ul Hameed, Fiaz, & Basheer, 2019); because organisation also creates their knowledge at every stage of its operations, ICT is used to collect valuable information that could be shared internally by employees.

ICTs play a key role in the organisation as it helps to build knowledge and can be utilised to measure the organisational performance (Vlado & Bogdan, 2018). ICT could bring significant advantages in promoting and strengthening organisational competitiveness by providing powerful strategic and tactical tools (Wardahni, Sagita Riantini, Latief, & Machfudiyanto, 2020 and Aziz, Nawawi, & Ariff, 2016). According to (Aziz, Nawawi, & Ariff, 2016 and Vlado & Bogdan, 2018) the role of ICT is collection of data on events occurring while the equipment is in operation, processing data to obtain information diagnostics, forecasting, planning, decision making and realisation of corrective and preventive maintenance.

ICT competency nature of the organisation includes information-processing capability that strengthens collaboration within the organisation (Irfan, Wang, & Akhtar, 2019). According to (Cai, Huang, Liu, & Liang, 2016) ICT reflects the ability of an organisation to deploy resources in support to business strategies and work processes, it is a capability considered a critical factor that enables organisations to acquire and apply knowledge. Zahra, Ul Hameed, Fiaz, and Basheer (2019) argue that taking into account the advancement of the ICT industry over the years, ICT makes the process of knowledge creation, storing, and sharing much easier. The ICT that the organisation has will enable knowledge sharing using documented management systems, emails for communication, workflow management, database engines, data mining, and knowledge portals can be created within the organisation, so that it is easily accessed by employees.

2.3.3 Proposition

Maintenance Strategy and ICTs are organisational capability resources that enhance organisational performance.

2.4 What factors related to the social exchange aspect of knowledge sharing affect individuals' knowledge sharing behaviour?

2.4.1 *Trust and knowledge sharing*

KS is described as an activity of transferring or disseminating knowledge from one person to another (Lin, Cheng, & Wu, 2014). An organisation should know how to channel knowledge for the rights usage, taking it from organisational experts to people that need it (Aliakbar, Mahmood, Yusoff, & Mahmood, 2012). Because knowledge has become an intellectual asset in the organisation (Ishrat & Rahman, 2019). Therefore, knowledge must be transferred between employees if the organisation has people that are knowledgeable within the organisation (Ishrat & Rahman, 2019).

Trust is the key factor affecting knowledge sharing. Where employees trust each other, there is a willingness to contribute to the organisation through knowledge sharing and this creates a conscious community where people work together easily (Li, 2015). Li (2015) further argues that trust can strongly influence social exchange behaviour between employees or personnel. Trust is important amongst individuals involved in any organisational process or transaction (Ouakouak & Ouedraogo, 2019). The confidence an individual has will get affected by other people's consideration of his or her needs and share knowledge (Swift & Hwang, 2013). People are less likely to share knowledge unless they assume that their actions will be the best benefit them (Lin, Cheng, & Wu, 2014). The organisation will realise its KS and the enhancement of organisational performance when it reinforces the collaborative behaviour in employees' relationships based on trust (Cheng, Yeh, & Tu, 2008).

2.4.2 *Support in Knowledge sharing*

The role of support shown by the organisation to employees is recognised as critical in attracting, motivating, and retaining employees (Lancaster & Di Milia,

2014). Employees get to conclusions about the organisation support to knowledge sharing by looking for convincing symbols, e.g., technology availability, relationships amongst the people, and actions taken (Connelly & Kelloway, 2001). The perceptions employees have about organisational support for KS are potentially necessary for the creation of positive KS culture that will enable organisational performance (Connelly & Kelloway, 2001). The organisation should design or create the workplace area and schedules that allow opportunity and time for collegial integration and knowledge sharing (Caruso, 2017). As stated by Tang, Yu, Cooke, and Chen (2017), organisational support elicits confidence, positive attitude, and KS, thus promoting employee creativity.

Organisations engage in an exchange relationship with their employees, when the organisation shows determination in supporting and valuing its employees' contribution (Addo & Dartey-Baah, 2019). When employees believe that the organisation is supporting them, they respond by performing better (Lancaster & Di Milia, 2014). Employees will not share knowledge amongst themselves if they are constrained by hierarchies within the organisation (Connelly & Kelloway, 2001). Individuals should respect people's cultures and backgrounds that influence their involvement in knowledge sharing. Employees should be supported to achieve their desired goals, without underestimating their views, it is the responsibility of the organisation to take into consideration employees' views before supporting their beliefs about knowledge sharing. Also having in mind, the motive of the support, the support should happen such that all individuals feel empowered and not disrespected with any one's actions concerning the organisational norms and culture.

2.4.3 Proposition

Trust and Support will enhance KS while improving organisational performance.

2.5 What factors could result in an enhanced organisational performance within Eskom distribution?

Organisational performance (OP) is reflected through the observation of an individual or group behaviour involved in achieving the organisational goals, performance is explained in different forms such as work safety, financial achievements, knowledge sharing, and other in-house processes that enable the organisation to prosper (Ratnayake & Markeset, 2010). OP should be measured at all times of the organisation's existence, because when measuring provides the basis for evaluating how the organisation is succeeding, also assist the organisation with the identification of strengths and weaknesses that exist in the organisation.

In sub-Saharan Africa, only 30% of the total population has access to stable electricity, making it the lowest region in the world (Real & Tovar, 2020). Having fewer economic activities because of deficient power system infrastructure and operational inefficiency of electrical distribution utilities hinder the economy (Real & Tovar, 2020). Economic growth of the country is depended on the stability of the electrical power system. Performance of the system is measured through the reliability and technical inefficiency that occurs. The main objective of the utility is to always provide sustainable and reliable electricity to the customer in an affordable manner. The system's reliability depends on many factors including environment, type of system, location, and type of equipment installed (Dumakude, Swanson, Stephen, & Davidson, 2016).

Improvement of reliability will reduce outage durations, frequency of maintenance, maintenance cost, and operational expenditure (Dumakude, Swanson, Stephen, & Davidson, 2016), hence it will improve organisational performance. To achieve reliability, Herman, Gaunt, and Tait, (2015) suggest that indices be used to measure the adequacy and interruption of electricity to customers (Herman, Gaunt, & Tait, 2015). System Average Interruption Duration Index (SAIDI) indicates the total duration that the supply was interrupted to the customer in each time and System Average Interruption Frequency Index (SAIFI) shows the number of times the supply is interrupted to the customer, which indicates the

organisational performance (Herman, Gaunt, & Tait, 2015). SAIDI shows the duration of power outages in a year and SAIFI shows the frequency of power outages over a year (Ayaburi, Bazilian, Kincer, & Moss, 2020). The SAIDI and SAIFI of Eskom Distribution will be explored. Organisations operate independently wanting to achieve their different goals; it is then the viewpoint of the present study that OP is defined as economic and operational goals that the organisation strives to achieve.

The present study looks at cost reduction and operational performance as the measured quantities to provide the actual performance of the organisation.

2.5.1 Cost reduction

Maintenance of assets in an organisation is regarded as having a tactical role for the existing organisational assets, which leads to maintenance being an expense for the organisation, therefore it's subjected to cost reduction strategies (Salonen & Deleryd, 2011). Maintenance cost constitutes a major portion of total operations, hence is central to cost reduction strategies (Zaim, Turkyilmaz, Acar, Al-Turki, & Demirel, 2012). Cost reduction can be obtained with the use of an effective maintenance strategy, which might be expensive to apply but for the good outcome of the maintenance strategy to be achieved, the cost/benefit analysis should be conducted before maintenance investment is taken (Ratnayake & Markeset, 2010). Because maintenance spending constitutes a large part of organisation's operating budget (Salonen & Deleryd, 2011). Salonen and Deleryd (2011) further suggest that the cost of maintenance can be split into direct cost and indirect cost, the direct cost consist of labour cost and spare part that is linked to maintenance activity, also not the indirect cost that might occur due to equipment failures.

With ICTs, most of the organisational functions become integrated (Matambalya & Wolf, 2001), therefore the role of ICT is to help the organisation be able to deal with new challenges. The ability to reduce costs in organisational operations through improving efficiencies gives the organisation a better way of increasing its productivity using current resources (Brown & Sturrock, 2009). Cost reduction

is important in return on investment and speed delivery of services to the customer (Kimutai & Ismael, 2016), hence cost reduction will have direct implications on organisational performance.

2.5.2 Operational Performance

Power utility organisations should have accurate information about its operational performance so that it ensures that money and resource utilisation is done wisely (Okorie, Aliyu, Jimoh, & Sani, 2015). To measure the utility performance some utilities, use outage duration, frequency of outages, system availability, and response time, those will indicate how reliable is the utility (Okorie, Aliyu, Jimoh, & Sani, 2015). Reliability and quality of energy supply to customers should be within an acceptable manner (Ahmed, Abdulla, Youssef, & Waheed, 2017). The utility reliability of supply is measured through indices SAIFI and SAIDI, SAIFI measures the average number of interruptions experienced by one customer, SAIDI measures the average duration experienced by one customer during electricity interruption (Ahmed, Abdulla, Youssef, & Waheed, 2017). It is not easy to monitor the electricity network without using ICTs to give u accurate information (Lauletta, 2017). Since outages that occur continuously affect the organisation's performance, the present study looks at the reliability of maintenance strategies and ICTs to deliver effective organisational performance.

2.5.3 Proposition

The application of well-defined organisational capabilities and knowledge sharing in the organisation will result in good performance.

2.6 Summary of Literature Review and the conceptual research framework

Maintenance strategy is mostly regarded as a cost-driving necessity, not as a competitive resource (Salonen & Deleryd, 2011). However, failure to use

maintenance strategies can lead to a higher failure probability of equipment and might provoke higher equipment replacement costs and higher penalty costs, for not meeting customer demands in time (Hinow & Mevissen, 2011).

Most organisations in this century use ICTs intensively to increase their chance of providing good service to their customers (Berawi, Miraj, Sayuti, & Berawi, 2017). ICTs create a new economy - an economy that is a critical resource that organisations should have (Matambalya & Wolf, 2001). Connelly and Kelloway (2001) state that organisations that are striving with the increase of KS create or acquire a database where employees will make their contribution using technological infrastructure that can be accessed by all employees.

Finding ways to promote culture sharing and valuable knowledge sharing among employees in the workplace is important to organisational performance (Caruso, 2017). Lack of information sharing among employees may reduce the extent of mutually beneficial exchange (Matambalya & Wolf, 2001). The key role of ICT is to enable the organisation to use, acquire, and process information as well as to reduce uncertainty in employees while increasing organisational performance. The decision for the organisation on how to measure OP should be involving employees that perform critical analysis, develop maintenance procedures, also employees that do the actual maintenance on-site (Ratnayake & Markeset, 2010).

Having reviewed literature and discussed the theories underpinning the present study, herein is the conceptual research framework that guided the study. Figure 2.1 depicts the elements that make up activities involved in improving organisational performance. Organisational Capability is a crucial phenomenon for understanding the position of the organisation in this competitive age. Organisations develop resources that shape and meant to empower people working for them, to achieve organisations objectives and goals. It is however essential for organisations to evaluate their current resources if they are still fit for purpose, and to see how they can enhance or reconfigure those resources to enable them to continue providing their services to their customers. Organisation wanting to enhance their performance take a deep dive to understand what

knowledge they should create and how that knowledge should be shared amongst individuals.

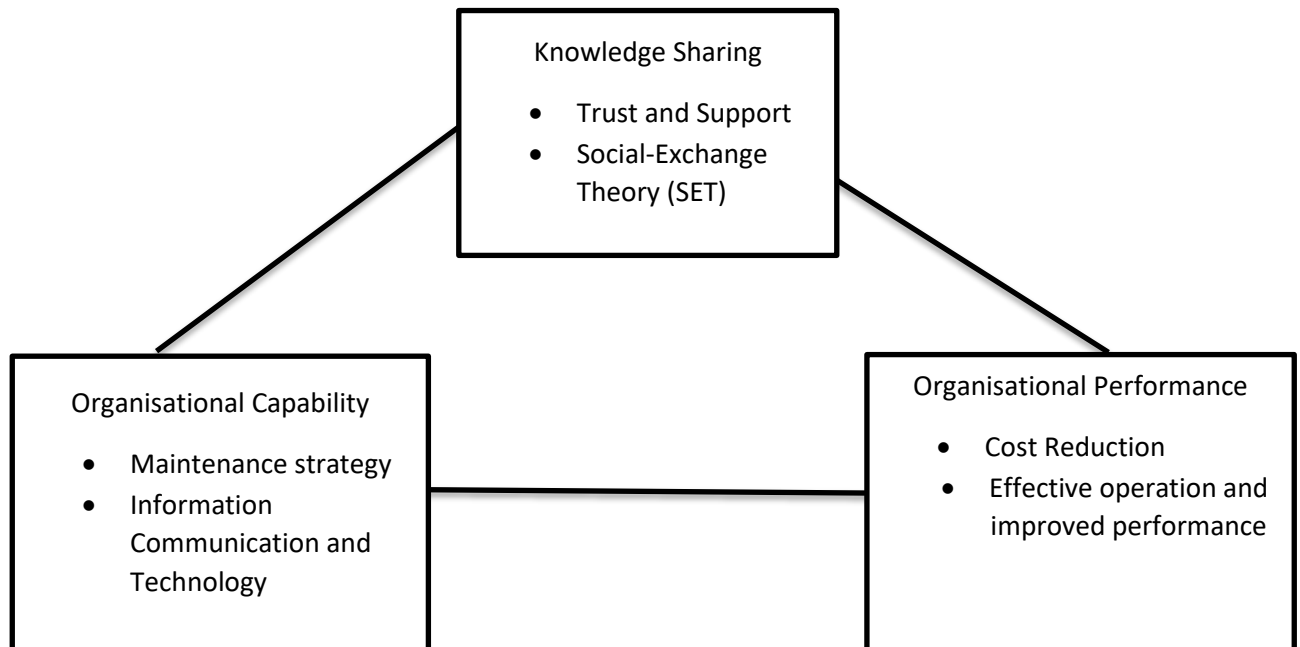


Figure 2. 1 The conceptual research framework

Resource-based theory (RBT) talks to internal resources that the organisation has and should use to stay in the competitive edge. Using RBT as a lens, maintenance strategies and the use of Information communication and technology (ICT) in Eskom Distribution division is explored as resources that could make the organisation to succeed. It is suggested in consistency table 2, below, that Maintenance Strategies and ICT as resources enhance organisational performance.

Since knowledge sharing is considered by scholars as a key element in organisational improvement, not sharing knowledge impedes organisational survival. Social-exchange theory talks to factors that drives an exchange to occur amongst employees and the organisation. Trust and Support are some of the factors that enable an exchange of information to take place in the organisation. Where the limits or causes of exchange are known the organisation will bring mediating factors to enable the organisation to improve on its performance or day to day working environment.

Proposition two on consistency table 2 below suggests that trust and support within the organisation will improve performance. The use of ICT and Maintenance Strategies allows knowledge to be shared between employees and the employer. Cost reduction and operational performance is measured to improve organisational performance. These are monitored and evaluated outcomes of organisational Capability and Knowledge Sharing within Eskom Distribution division.

Table 2. 1 Consistency table: research questions and propositions

RQ #	State Research Question or Objective	Proposition #	State Proposition or Hypothesis
1	To explore and describe the influence of organisational capabilities on organisational performance.	1	Maintenance Strategies and ICT as resources enhance organisational performance.
2	To explore and describe the influence of knowledge sharing on organisational performance.	2	Trust and support between employees and employer will enhance KS while improving organisational performance.
3	To determine ways of improving capability and knowledge sharing for an effective organisational performance.	3	Cost reduction and operational performance is measured to improve organisational performance.

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter presented the theoretical frameworks and literature foundations informing the present study. This chapter discusses the research methodology followed in conducting the present study. That is, the chapter describes the research approach, the research strategy, and the research design including data collection method, the sample, the research instrument, and the ethical considerations.

Wohlin & Runeson, (2021) posit that research methodology refers to the research activities that are put in place systematically to achieve or address research challenges and is based on justifications of choices made. The present study sought to explore and describe the influence of organisational capability and knowledge sharing, which subsequently determined ways of improving organisational capabilities and knowledge sharing for an effective and improved organisational performance.

3.2 Research approach

The present study took the inductive and qualitative research approach. Qualitative research aims to provide an in-depth and clear understanding of real-world problems and it has the view that reality is a phenomenon created by individuals (Chalmers & Cowdell, 2021). Gomes, Hoffmann, and Finkler (2021) state that qualitative research raises questions and reflections on the complexity of humans as living beings immersed in a relationship. Qualitative research is associated with interpretivism paradigm. Positivist paradigm enables the researcher to have more statistical reliance and generalisation, while on the other hand Interpretivism paradigm enables the researcher to gain in-depth information through seeking experiences and perceptions of a particular subject (Alharahsheh & Pius, 2020). Interpretivism paradigm considers the inside meaning or

perspective from research participants as valuable social knowledge (Aljahdali & Alshakhi, 2021). The present study followed the interpretivism paradigm where words gathered from individuals during interviews were used to get an understanding of the research problem within the studied organisation. Interpretivism was followed to understand individual experiences, behaviour, and perceptions. Individuals taking part in the study were chosen based on their knowledge, position, and experience within Eskom Distribution. This assisted in understanding the social interactions between employees and the employer.

3.3 Research strategy and Research design

The study aimed to explore and describe, in-depth, the real situation at Eskom Distribution division, to understand inner workings and interactions. To this point, the study adopted a Case study research strategy. Carolan, Forbat, & Smith, (2016) suggest that a case study offers a flexible research approach to enable a holistic, in-depth, and multiple perspective examination of a phenomena. A case study focuses on describing a process, individuals, or behaviour of employees in the organisation and the sequence of an event that informs their behaviour (Ponelis, 2015). Case studies are conducted when the focus is on answering “how or what”, when the behaviour of those involved in the study cannot be manipulated, and it seeks to address contextual conditions (Andersona, Leahy, DelValle, Sherman, & Tansey, 2014).

Since the aim of the study was to provide an answer to “how” and “what”, descriptive and exploratory research design was adopted. The “how or what” question is asked about a contemporary sequence of events that the investigator has no control off (Baratta, Vargas-Sánchez, & Ugolini, 2018). Exploratory and descriptive case study seeks to understand and describe the links between events that occurs in the organisation (Tetnowski, 2015). The present exploratory and descriptive study aimed to understand the beliefs and attitudes towards organisational performance by employees, and to understand the experience that individuals have about organisational capability and knowledge sharing. Exploratory and descriptive study is characterised by a high degree of flexibility. Even though it lacks a formal structure, it assists in identifying the boundaries of

the problem and it is a valuable tool that helps in understanding “what and how” is happening in the organisation. The present study adopted a case study research strategy and followed the interpretive research paradigm.

3.4 Data collection method

Barratt, Choi, & Li, (2011) identified several data collection methods and data sources ranging from structured interviews (where the interview tool remains constant), semi-structured interviews (where the interview tool is updated as more data is emerging), observations, and archival sources (such as documents, historical records, and production statistics). Data collection method used in the present study was semi-structured interviews. The main task of interviewing is to understand the meaning of what participants say (Mosera & Korstjens, 2018). Interviews allow the interviewee to express his or her personal feeling, opinions and views about the issues discussed.

The advantage of an interview is that it presents an opportunity for the interviewee to clearly explain and describe their responses, especially if questions are not understood during the interview. Interview creates the ground for any additional information to arise within the question at hand, but also makes people engage freely and friendly with regards to issues. During interviews, participants speak their minds about things, allowing you to spot if you are being told lies or if someone is pretending.

3.5 Population and sample

The population was employees, ranging from Managers, Engineers, Technicians, and Artisans who work within Eskom Distribution Maintenance and Operations department. These are employees responsible for day-to-day electrical infrastructure, operation, and maintenance. Managers were appropriate as key informants because they are responsible for creating strategy, allocating resource, and they are assumed to have more knowledge about the organisational goals or objectives. Engineers and technicians are people that

have the know-how of electrical equipment's operation and maintenance, and artisans are hands-on individuals doing maintenance of the electrical systems.

Managers set organisational goals and objectives, while engineers and technicians look at resources like technology infrastructure and maintenance strategies that can be used to enhance organisational performance. They are the most knowledgeable about the electrical equipment within the organisations. The skills, experiences, views, and opinions of artisans cannot be underrated as they possess the technical know-how, they perform the actual job in the field, and they should be able to share such knowledge amongst themselves.

3.5.1 *Sample and sampling method*

To achieve the objectives of the present study, all participants were purposively selected due to their assumed knowledge and experience. Sampling permanent and on-site employees offered a convenient and less expensive way of collecting data from study participants (Shi & Huang, 2018). Erba, Ternes, Bobkowski, Logan, and Liu (2018) suggest that how the researcher samples in terms of probability or non-probability methods, - sample demographic, social or professional individuals - are two crucial factors that can affect the study results.

The two sampling methods are probability and non-probability. Probability sample is defined by Kandola, Banner, O'Keefe-McCarthy, and Jassal (2014) as the random selection of elements from the population, where each element of the population has an equal and independent chance of being included in the sample. They further define non-probability sample as a population that is not randomly chosen but included in the study.

The present study adopted a non-probability sampling known as purposive sampling. Andrade, (2021) states "Purposive sample is the one whose characteristics are defined for a purpose that is relevant to the study." Also, one cannot look away from Etikan, Musa, & Alkassim, (2016) who claim that purposive sampling is the deliberated choice made by a researcher who assumes that participants possess a quality that might be meaningful for the research. The

selection of individuals as potential participants on the research is based on the judgement of the researcher on who could be more informative about the subject at hand (Mosera & Korstjens, 2018). For the present study, purposive sampling method was appropriate due to experience, knowledge, accessibility, and availability of potential participants.

Table 3. 1 Profile of participants

Description of participants all Based in Gauteng Province	Number to be sampled
Middle Managers	2
Line Managers	4
Engineers	4
Senior Supervisors and Technicians	4
Artisans	3
TOTAL number of respondents	17

3.6 The research instrument.

Since data collection method used was semi-structured Interviews, the research instrument was an interview schedule. Interviews allowed the interviewee to express his or her personal feeling about the issue at hand. It also provided the opportunity for the interviewee to get clarity if the question asked was not well understood (Akinyode & Khan, 2018). Lastly, interviews created a friendly and good relationship between the two on issues and questions discussed. Even though interviews are time-consuming, the quality of data collected was profound. Appendix 2 reflects the interview schedule. Interviews were face-to-face and audio recorded for data analysis purposes.

3.7 Procedure for data collection

Data collection was done through semi-structured interviews conducted face-to-face. Interview appointment was first requested from participants stating the interview reason, the proposed time and date. Estimated time for the interview was alluded to. Semi-structured questions designed from literature and theories were used to guide the interviews.

3.8 Data analysis and interpretation

Thematic data analysis method was followed to uncover and describe issues regarding structures, processes, routines, and practices. Themes can enable the researcher to create codes or a template that can enable a structured approach to data interpretation (Cassell & Bishop, 2019). (Akinyode & Khan, 2018) describe themes as expected and unexpected surprises that surfaces during the interviews. The study used thematic analysis technique to analyse the collected data. The study did not anticipate any similarities from participants' responses. However, after summarising the collected data it identified that most responses had the same wording, meaning that saturation was reached.

3.9 Limitations of the study

The study asked for approval at national level which took time. The study did not interview General Managers and CEOs due to their uncompromising schedules. This could have added more depth to the collected data, especially on views about the organisational capability, knowledge sharing and performance, strategies, and goals. Their views could have given the study an understanding of any leadership plans or policies that are currently being formulated.

Additionally, Human Resource department, responsible for creating KS and talent management policy was not available for the present study. Job profiles of technicians, Engineers were not accessible to give the study a clear

understanding of technician's roles, for example. Files on key performance areas or a yearly performance plan between management and technicians was not given; this could have given the study an idea of where the organisation is or where it wants to go as far as knowledge sharing and capabilities – including the monitoring of such.

3.10 Trustworthiness

Due to the qualitative research techniques used to analyse the data, it is of importance that the data should represent the true meaning of the feedback received from participants. Trustworthiness as seen by (Korstjens & Moser, 2018) has to do with “Can the findings be trusted?”. Trustworthiness develops from the co-construction and interpersonal contact with research participants and the subsequent data (Stewart, Gapp, & Harwood, 2017), that whole chain of evidence. In assuring that the information is valuable the study made sure that the quality of measuring the data is valid and reliable. The data and findings should meet the following criteria transferability, credibility, dependability, and confirmability. Trustworthiness portrays quality in qualitative research and shows rigorousness during research process and relevance of the research outcome (Daniel, 2019)

3.10.1 *Transferability*

Data received should be able to be applied to a comparable situation, where words from the feedback or text would be analysed to reach a conclusion. Those words formed the findings that may assist the organisation in addressing the current challenge. The process of the interview was shared with the participants, also explaining the way the questions were designed using relevant literature stating theories related to the study and the observations made when developing the research topic.

3.10.2 Credibility

Findings of the study should be relevant, dependable, and congruent reflecting that the study shows its intended reality. Several planned questions were asked to the participants, they were encouraged to provide examples to support their answers, and where need be, further questions were asked for clarity. Data collected from different individuals, at different times and at different spaces, Interviews were digitally recorded Data analysis was explained and described to participants, so that they understand how their feedback was going to be used during the analysis. This was to verify preliminary outcomes and use direct codes from participants for conclusion of the study findings.

3.10.3 Dependability

Data received was stable and authentic. Anybody should be able to audit the collected data, including documentations, and the subsequent study findings.

3.10.4 Confirmability

Can the results found be able to be understood by the next person reading them? Information presented was true and not false. The feedback and data received were analysed accordingly. The study findings are consistent such that if the participant was to be asked again about the same issue, he/she should be able to come with the same answer as before.

3.11 Ethical considerations

Ethics refer to that which is good or right in human interaction. Ethics involves three key interlinked concepts – ‘self,’ ‘good,’ and ‘other.’ Thus, one’s conduct is ethical if it gives consideration not only to that which is good for oneself, but also good for others (The Institute of Directors in Southern Africa, 2009). Conducting interviews should consider that the study is dealing with humans interchanging information between each other. Ethics look at the morality of the people participating in the study. The present study ensured that:

- Participants gave informed consent.
- No emotional and physical harm was inflicted on participants.
- Confidentiality and anonymity were reserved.
- Relevant permissions were obtained before conducting the study.
- Participation was voluntary and that participants could leave the study at any time.

3.12 Summary of the chapter

This chapter described the research methodology followed in conducting the study. It discussed the research approach, strategy, and design. Data analysis method was also discussed. The empirical evidence collected during interviews are analysed and discussed in the next chapter.

CHAPTER 4. DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents data analysis and discussion of findings. Through a meticulous analysis of the collected data, this chapter unveils the invaluable insights gained from the study. To ensure consistency and reliability across the information obtained from the semi-structured interviews, thematic analysis was deployed.

The process started with the face-to-face interviews, followed by transcription of the interviews. The transcriptions were read several times to identify initial codes and discern emerging themes. To ensure robustness and accuracy of the results, diligent review and refinement of the identified themes were conducted.

Data analysis started with description of demographic profile of the participants, granting a valuable context to the subsequent findings. The chapter gets to the core of the study by presenting the emergent themes that encapsulate the essence of the findings. To make it easier for the reader to understand, the findings are presented through a combination of the tables, charts and quotes which serve as poignant representation of the non-verbal communication observed during data collection.

4.2 Demographics of the participants

This sub-section presents the demographics profile of participants, consisting of Race, 3 whites and 15 blacks; Gender, 2 females and 15 Males; Current position, 4 Senior Supervisors, 5 Line Managers, 2 Middle Managers, 2 Senior Engineers, 2 Technician, and 2 Artisans; A total number of seventeen participants took part in the study. Semi-structured interviews were conducted until the point of saturation was reached. Participants were carefully selected based on their roles and involvement in electrical infrastructure maintenance. Because of the agreement regarding confidentiality and anonymity, participants are identified and referred to as P1, P2, P3 etc.

4.3 Discussion of findings

The purpose of the study was to explore and describe how organisational capabilities and knowledge sharing amongst employees can contribute to improving performance in the organisation, specifically at Eskom's Distribution division. The study participants were managers, supervisors, engineers, and technicians shared their experiences, views and opinions on capability and knowledge sharing with respect to systems maintenance.

The study sought to answer research questions and objectives as outlined below, identifying twelve overarching themes and eighty sub-themes. The table 4.1 below shows the list of objectives/questions around the study, it also includes the themes and sub-themes identified before and during data analysis.

Table 4. 1 List of research questions/ objectives and summary of theme

Research Questions and Objectives	Themes	Sub-Themes/ Categories
How are key Organisational Capabilities that significantly influence organisational performance and how they manifest within Eskom Distribution? To explore and describe the influence of organisational capabilities on organisational performance.	Understanding Maintenance	• Preventative Maintenance • Performance and Optimisation • Safety and Sustainability • Routine and Condition-based Maintenance • Life span and end of life
	Triggers of Maintenance	• Scheduled Maintenance • Condition-Based Maintenance • Manufacturer Collaboration • Supply Sustainability • Long-term planning • Reactive maintenance
	Effective Maintenance	• Planned maintenance tools. • Reactive maintenance tools • Assets Management Tools

	Maintenance Strategies	• Communication and Collaboration tools • Diagnostic and Testing tools • Data analysis tools • Training and Knowledge Sharing tools. • Documentation and reporting tools.
	Revised Strategies	• Importance of maintenance • Planning and strategy • Types of maintenance • Roles of experience and manufacture specifications • Condition-Based Maintenance • Challenges to maintenance • Ideal frequency vs actual frequency • Outdated plans and practices • Data analysis and decision-making • Technical Committees and safety standards

		• Responsibility and equipment maintenance • Uncertainty in strategy revisions • Contextual circumstances
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What are the perceptions and experiences of employees regarding the influence of Knowledge sharing on organisational performance? To explore and describe the influence of knowledge sharing on organisational performance	Training and Development	• Lack of training and skills development • Impact on company performance • Responsibility and Accountability • On-the-job training • Organisational changes and knowledge transfer • Training matrix and frequency • Complexity of systems
	Communication – ICT	• Perceptions of lagging technology • Fragmented systems and lack of collaboration • Dependency of human intervention • Challenges with compatibility • Emerging technologies
	Knowledge Sharing	• Important of knowledge transfer • Lack of expertise and specialists

	Trust and Support	• Inadequate data management • Utilisation of existing systems • Challenges in implementing knowledge sharing. • Need for training and development. • Importance of communication and collaboration • Confidence in systems and strategy • Insufficient resources and planning • Demotivation due to lack of support • Individual development programs and qualifications • Broken value chain and communication • Lack of learning and innovation • Tailored support approach • Confidence and trust in reports and work quality.
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		• Performance measurement indicators
Based on your observations what are the most important actions that should be taken to address the issues within the organisation	Possible solutions	• Empowering employees with accountability • Breaking down silo mentality and fostering collaboration within the organisation • Focus on discipline and maintenance

4.3.1 Key organisational capabilities that influence performance

The key organisational capabilities that influence organisational performance were placed into five core themes. These themes are the areas the study sought to address.

- Understanding maintenance
- Triggers of maintenance
- Effective maintenance
- Maintenance strategies
- Revised Strategy

Proposition 1: Maintenance Strategies and ICT as resources enhance organisational performance

Participants were asked what maintenance is in their view, why is it necessary, how is it done, and what does it involve?

4.3.2 Theme 1 - Understanding of maintenance.

The aim was to reflect on the participants' perspective on maintenance with their organisation, the importance, and the purpose of doing maintenance on equipment or apparatus. Getting a clear understanding on reasons why maintenance is undertaken is crucial in assessing its impact on the performance of the organisation. All the participants seemed to know why and what is the purpose of doing maintenance, this is outlined by the following sub-themes:

4.3.2.1 Sub-theme 1 Preventive maintenance

"In my view, maintenance can be categorised into two types: Firstly, Preventative and Secondly Reactive Maintenance. Preventative maintenance involves regular site inspections and maintenance is done according to a planned schedule. The aim is to keep the equipment as close to its original state as possible to avoid serious issues, and on the other hand reactive maintenance occurs when there is an equipment failure or the challenge on the equipment is realised, and immediate action will be taken to solve the problem. This could involve additional measures to minimise the possibility of a similar failure in the future" – P1

Researcher's comments: Maintenance is categorised into two options which is preventative and reactive maintenance, it is aimed in keeping equipment to its original state.

4.3.2.2 Sub-theme 2 Performance and optimization

"A maintenance in my own understanding it is an activity that is performed on equipment to ensure that the equipment is performing optimally. Also, as per the design of the manufacture." - P5

"I will define maintenance from a plant point of view as a process, a process that you use to refurbish and keep up to standard whatever equipment that you use daily or on your production line. If you are using the production line, then it is something that helps to sustain and make sure that whatever equipment is used can perform at optimal levels all the time and for it to improve from time to time there is some form of maintenance that must be done. Whether it be replacing all plugs or changing the oil, but it mostly done to make sure that anything that you

have is able to perform at optimal levels at all times, and you do it as well to prevent any failures that may appear due to its aging, and it being used on a daily”
- P6

Researcher’s comments: Maintenance is viewed as an activity and a process done to keep equipment working for its purpose, daily.

4.3.2.3 Sub-theme 3 Safety and Sustainability

“Maintenance is Maintaining apparatus or equipment to ensure that they function at list optimally or allowing equipment to meet the full life cycle or even beyond its life cycle. Ensuring that those apparatus work safely and does not endanger people and the environment” – P4

4.3.2.4 Sub-theme 4 Routine and condition-based maintenance

“You see, Maintenance at Eskom you get a routine maintenance and condition-based type of maintenance.” – P7

4.3.2.5 Sub-theme 5 Life Span and end of life

“The function of maintenance is to ensure the equipment reaches its end of life. Because what happens is every equipment has a life span, then what you need to do is to make sure that it reaches its life span by conducting maintenance at a prescribed time as stipulated by its original manufacture recommendations” – P10

“Maintenance is performing whatever you maintain on the equipment or whatever to ensure it reaches its designed lifespan. So, whether that means, you know, changing of oil or looking at the resistance of certain components and then cleaning it so that you ensure that it reaches its intended lifespan”- P8

Researcher’s comments

The understanding of what is maintenance was displayed by participants, explaining the types of maintenance the organisation does and what the purpose of each type was. Also, the reason for conducting maintenance is to allow the equipment to reach its end of life or lifespan.

4.3.3 Theme 2 - Triggers of maintenance

This sub-section focuses on the trigger for maintenance which has been identified as areas where maintenance processes can be optimised or strengthened by the organisation and employees. This understanding can lead to the implementation of best practices and continuously improve organisational capabilities and performance. The five sub-themes include:

4.3.3.1 Sub-theme 1 Scheduled Maintenance

“With regards to scheduled maintenance, the triggers are site or substation inspection done every month, specifically on transformers, circuit breakers and all other electrical equipment’s that are installed in the substation, based on original equipment manufacturer specifications (OEM). Inspections are conducted, and defects found are documented on inspection sheets. Then Work Coordinator capture those defects in a system (Maximo), which is then forwarded to plant department. Plant department then creates a defect clearing work orders for maintenance” - P3 highlighted.

Researcher’s comments: Maintenance is scheduled after site visits or inspections are done.

4.3.3.2 Sub-theme 2 Condition-Based maintenance

“Condition-based maintenance involves observing and analysing the state of the equipment, such as counting the number of operations or trip counter on the circuit breaker, to ascertain the optimal time to conduct maintenance. This approach ensures that maintenance tasks are executed based on the real condition of the equipment, and if necessary, it can be carried out earlier than the scheduled maintenance, taking into account the equipment’s operational demands and specification” - P4 elaborated.

4.3.3.3 Sub-theme 3 Manufacture collaboration

P5 emphasised that collaboration with equipment manufacturers to ensure optimal function of the equipment and adherence to design requirements is essential. They explained that the process starts by the working committees which

includes manufacturers and Eskom Engineers to determine and agree on how the maintenance of equipment should be undertaken, which will result on planning maintenance accordingly.

4.3.3.4 Sub-theme 4 Supply sustainability

“One other reason for doing maintenance on our equipment’s is to ensure that we sustain the supply. That is the main reason we are supplying customers, so, we want to ensure that we maintain availability of supply. Hence, we are maintaining”
– P10

4.3.3.5 Sub-theme 5 Reactive Maintenance

“We have different strategies that inform us that we need to conduct maintenance in our equipment or apparatus. So at times you do maintenance because they are triggered, which is exactly the main thing we do maintenance because we are triggered to do it, but at times because we are dealing with aging networks, you will find that as the time goes on the electrical network fails and then it needs us to go back and maintain depending on the recommendations that were made during the investigation of the course of equipment failure” – P11

Researcher’s Comments

Participants shared their understanding of what triggers maintenance within the organisation. They displayed frustration over some of the flawed processes and decision making when it comes to triggers of maintenance.

4.3.4 Theme 3 - Effective Maintenance

This sub-section focuses on identifying potential improvements and intervention that can enhance maintenance practices within the organisation. Such insights can contribute to strengthening organisational capability and positively impacting performance. The following sub-themes emerged:

4.3.4.1 Sub-theme 1 Planned maintenance tools

“However, I believe that we have been moving more towards reactive maintenance due to factors such as lack of planning and pressure from clients for shorter outages. This shift has compromised the quality of maintenance and impact organisational performance”- P1

“Each equipment from the manufacture, has a periodical maintenance routine. Which supposed to be done by someone that is accredited and authorized to perform that task” – P14.

4.3.4.2 Sub-theme 2 Asset management tools

“Maintenance is necessary to be done when we speak about the electrical infrastructure because you must remember that Electricity distributors are issued a license to operate by NERSA. So, Eskom as a distributor has as a license, when you speak of the different municipalities also have got licenses to distribute electricity and it is the legal obligation to make sure that the electrical equipment or the electrical network is safe for the environment, but it's also safe for the communities and you would see that lack of maintenance may lead to unsafe networks. And of course. If when it is not done, then you may find that you quickly move to your space where you question your operating license and safety of usage. But also, from Quality perspective we also need to make sure that we maintain the networks to make sure that. Quality of our electrical supply is also within the limits and the specifications that is also a legal requirement as well so if we fail to provide that quality then we risk losing our operating license” – P13

Researcher's comments: Maintenance is done because it's a requirement from NESRA that Eskom should supply electricity and use equipment that is safe and doesn't cause danger to people.

4.3.4.3 Sub-theme 3 Communication and Collaboration tools

“Looking at the ICT system that we have, we are working with laptops. In my environment, this is important because some of the equipment's requires laptops to communicate with. We are working with software so there are times when a manufacture will release a new software. Without an ICT equipment, we will not

be able to update the software of the equipment's on site. So, having an equipment like this, the laptop and ICT infrastructure is critical" -P5

4.3.4.4 Sub-theme 4 Documentation and reporting tools.

"Remember, we do inspections on this equipment and then you will write the all the information that you get on that equipment records will then be sent to plant department they generate maintenance plans, so we generate plans based on inspections and documents received as a report about the specific equipment" – P15. "Then we now put in the systems that we capture all that information on, yeah we capture all the information on the Maximo" – P15.

"Where the other aspects are manual where you have maintenance team going out on site and do patrols, do inspections, and draft reports. Those reports must be also fed back into the system so that information is captured" – P13

Researcher's Comments

By investing in these tools and effectively implementing them within the organisation's maintenance processes, it can improve the quality of maintenance, enhance performance, and move towards a more proactive approach rather than reactive maintenance.

4.3.5 Theme 4 - Maintenance strategies

This sub-section delves into the specific maintenance strategies employed by the organisation and seeks to uncover the rationale behind their preference. The chosen strategy can affect organisational capabilities and performance. The participants emphasized the following: The significance of maintenance in ensuring the efficient and reliable operation of equipment and assets. A focus on the need for proper planning and strategic decision-making to ensure continuous operations and asset replacement. Different maintenance approaches, including preventative maintenance, condition-based maintenance, and time-based maintenance. The experience of using equipment and adherence to manufacturer specifications play a crucial role in determining maintenance strategies. The importance of using equipment condition as a basis for maintenance. All these led to the following sub-themes.

4.3.5.1 Sub-theme 1 Importance of maintenance

“It is important to maintain our equipment because our equipment can fail if it is not maintained. You asking why are we maintaining right? It is important the type of maintenance that we are doing it’s called preventive maintenance. Why they were preventative is because we want to prevent failure or detect failure before it happens”- P5

Researcher’s Comments: Maintenance is conducted to prevent failure of equipment.

4.3.5.2 Sub-theme 2 Types of Maintenance strategies

“Different assets have different maintenance strategies. Some you have little room to do any maintenance. You will run them to fail. Some aspects. You do have flexibility and ability to do maintenance, and of course the strategy would be informed by monitoring of the network”-P13

Researcher’s Comments: Maintenance strategy is determined by looking at different assets and by monitoring the network.

“Your strategy would be your frequency based, which would come from either your OEM and then your company could look at that and be more stringent based on the frequency. You will get your condition-based maintenance, and we would have certain markers or indicators which would give you an indication of the condition of the equipment and then you maintain based on the condition. So, if you look at status code now, we have move to condition base. We will say you have done X amount of maintenance therefore now you need to replace the equipment” – P8

Researcher’s Comments: The strategy for conducting maintenance is informed by original equipment manufacturers (OEM) requirements. The organisation then aligns its plans with those requirements.

“And we can have a time-based maintenance, were we have reliability-maintenance strategy and condition-based strategy. To make an example, we a circuit breaker, this circuit breaker according to the manufacture and operational

manual it must be maintained after 6yrs. So, what we do, we align the maintenance plan with the manufacture specifications, but then as time goes on or depending on where the equipment is fitted, we look at the condition. Will look at the condition at which the circuit breaker is operating especially when the equipment start to reach its lifespan, then we recommend the type of maintenance strategy will use, so that we do not over or under maintain. Areas like industrial mines do not need the same maintenance strategy as urban areas because mine are more polluted than urban so the maintenance strategy over and above the manufacture's specifications will be influence by where the equipment is operating" P11

Researcher's comments: There are variety of strategies that Eskom looks at when it comes to maintenance, taken for different reasons including condition of the equipment.

4.3.5.3 Sub-theme 3 Challenges to maintenance

"That is where we are failing, that is our failure. Within the business, we need to have retirements plans for assets or equipment's. So, if we are saying, this equipment can run for 20yrs or so and is fully maintained, then we need to also accept that everything has an end to it. And then we move with time while the equipment it is reaching the end, which means we should have procured new things that would replace this one, and ensure that we run another plant similarly, for another 20yrs. And that strategy would then make it efficient for me" – P2

Researcher's Comments: Planning for future equipment procurements should be a strategy adopted to plan for maintenance.

"I do not think it is enough. Because when we maintain it means you must also make sure that you have got spares for what you are maintaining. However, from what I see currently, we still have old equipment's that we cannot even get the spares for now. So, it means the maintenance thereof is not of the best quality. Some way we will even skip maintenance since, we will not get spares to maintain that product. That leads to us having to replace that equipment putting new things that we can maintain when their time is due" - P2

Researcher's comments: A view of equipment life span should be taken because it will allow the organisation to plan how to replace that equipment, and source spare parts in time.

4.3.5.4 Sub-theme 4 Role of experience and OEM

"For instance, we had dog box breakers, with the specs suggesting we maintain every three years, but we had to change the maintenance time of it to yearly maintenance because they are becoming stuck. It became apparent that if you do not operate them too often, they become stuck and they tend to explode, then we had to change the regime or the strategy of maintaining those breakers based on the condition of where the breakers are installed. Where there is too much dust, for instance in mining areas, we would do them frequently, more frequent than what the OEM says? First strategy is to say we are going to do it as per the manufacturer's frequency specifications. Then there is this other strategy Reliability centred maintenance (RCM) strategy" –P4

Researcher's Comments: Maintenance should be done to equipment's in accordance with the manufacturer specifications and consider the condition they work under That should inform the organisation on which maintenance strategic should be developed.

"But you also have the manufacturers instruction as well that also forms part of the bigger strategy to say for example if the equipment needs to operate so many times, then you must do maintenance after a specific period. You know, so basically that is the remote condition monitoring. The Original Equipment Manufacture also recommends as well when to refurbish, based on the age of that specific equipment. Eskom does look at that as well, but apart from the OEM we what I call institutional knowledge which is acquired from experience and that comes from history. Eskom also formulates it its own strategy based on experience. To say this kind of an assets, require this kind of maintenance over and above the OEM specifications over and above the manual. Reports from the inspections over and above the remote conditional monitoring system" – P13

Researcher's Comment's

Overall, the participants emphasised the need for a comprehensive approach to maintenance, including planning, adhering to manufacture specifications, utilising equipment condition data and considering environmental factors to ensure efficient and reliable operations.

4.3.6 Theme 6 - Revised Strategies

This sub-section explores the organisation's approach to reviewing and updating their maintenance strategies. Regularly assessing and adapting strategies based on changing circumstances is vital for maintaining organisational capabilities and improving performance.

The following sub-themes were identified.

4.3.6.1 Sub-theme 1 Decision-making process

"We have different technical committees that sit and decide on which strategy to take. I think because our standard safety was reviewed every five years, I would assume then every five years, then the committee should decide which maintenance strategy should be taken" – P10

Researcher's Comments: The maintenance strategy is determined by a committee which sits to review it every five years.

4.3.6.2 Sub-theme 2 Uncertainty in strategy revision

"Ideally, maintenance strategy should be formally revised every five years. However, I have observed that in our organisation, these strategies have not been revisited for many years. This lack of revision means that we are still operating based on outdated plans and practices" – P1

"That the Eskom strategies they are very perfect, the challenge comes when there is no adherence to it. People will tell you that the outage did not happen see it is more of like not complying, but if you go look at the standard if you go through them, they are perfect. The problem is the behaviour, if you if you can change the

behaviour of the people and be more focused do what you supposed to do, then the whole thing will change. When I was deployed to the other department, I got the huge backlog of maintenance plans not been implemented. Then I started to look at the root cause of such, only to find out that planned outages were being counselled by unauthorized persons” -P 7

Researcher's Comments

Based on the themes identified, the organisation may need to revisit their approach to decision-making process when revising maintenance strategies. The emphasis on data analysis, safety standards and responsibility also highlight the importance of incorporating relevant and up-to-date information that informs decisions making related to maintenance strategies.

4.4 The perceptions and experiences of employees regarding the influence of Knowledge sharing on organisational performance.

This sub-section presents the perceptions and experiences of employees regarding the influence of knowledge sharing on organisational performance. These were identified based on how the organisation addresses knowledge gaps or deficiencies. Strategies for addressing knowledge deficits, such as training programs or knowledge sharing initiatives, are essential for enhancing organisational capabilities and performance, through training and skills development of personnel using Information and Communication Technology (ICT) infrastructure. The level of expertise in utilising ICT tools can impact knowledge sharing and consequently, organisational performance and the use of ICT for planning maintenance work.

Interview question identifying codes, category, and themes are presented in this section. Views expressed by participants on these themes are also quoted. The proposition that aims to answer the research question is also indicated below.

<i>Proposition 2: Trust and Support between employees and employer will enhance knowledge sharing which then improves organisational performance</i>

Participants were asked what ICT is, in their view, why is it necessary to have, how is it used, who uses it, why is it used and what it involves. They were asked what their understanding of knowledge sharing is, how is it done, why is it done and what drives knowledge sharing to occur.

4.4.1 Theme 7 - Training and Development

The main sub-themes that emerge from these statements are the lack of training and skills development, its adverse impact on the organisation performance, and the importance of accountability and responsibility in ensuring proper training knowledge sharing. Additionally, resource constraints and the need for effective on-job-training are highlighted as contributing factors to the issues faced by the organisation. The following sub themes emerged:

4.4.1.1 Sub-theme 1 Lack of training and skills development

"I think we're lagging in terms of skills, and it might be due to inadequate training coming in, and it also might be down to shortage of resources where it was so consumed with other parts of the organisation that you do not effectively focus on every single task. So, you might be doing twenty% here, 30% there, 80% there and you are not doing everything in your current job profile, so I cannot. I cannot say which one it is, it is just in my opinion it might be short of resources and business and lack of understanding. Like I say, coming from training, training interventions and upskilling people when they come into the sections to know effectively what you are doing through on-job-training and going through all necessary resource or courses and stuff they you need to go through" – P8

Researcher's Comment: There is a lack of skills development and training in the organisation.

The only way to resolve these issues is identify where the skills gap and correct it by providing training necessary training to improve their skills, where there's discipline issues, we need to ensure that discipline is taken against those individuals that are not showing to pull their weight. Put people in skills development programs, if their performance is not up to speed, will first discuss

in the Personal Appraisal stage about their situation and say your performance is this way. – P4

Training is a fundamental problem, and it is a downfall in the business When you cut costs, you should never cut on maintenance and operations, and you should never cut down on training because that is going to impact you even worse in the future when you have cut it down. – P9

Researcher's Comment: To address the skills development issue, budget should be put in place to have a skill development programme that upskills personnel.

Yes, there is a problem with training. That in in terms of that. Many of the systems are extraordinarily complex now. But you find that people only get to learn a certain, even get training on few things, our training is not good enough. Other systems that are used, the training I have attended has never been good enough. – P10

Researcher's comments: Training is lacking within the organisation. There is a significant problem, due to funds allocation or other things, when it comes to training of people.

4.4.1.3 Sub-theme 2 Responsibility and accountability

"I believe that lying exists among both leadership and employees. People may lie because they don't want to be held responsible or they expect someone else to act. There seems to be a culture of waiting for others to do things instead of taking personal accountability. For example, I've witnessed situations where broken equipment is left unattended, and no one takes the initiative to fix it. It's as if we are complacent and satisfied with mediocrity. This lack of honesty and accountability is detrimental to the company and its maintenance practices." – P1

Researcher's Comments: There is an issue of dishonesty within the organisation, which harms the maintenance plans or strategies.

"For instance, now there are boxes installed. They are sitting there, but you can't open them. I would not even say inadequate training the there is no training that was done. You know the maintenance; the O&M department took over the project

from project execution. But we never made sure that as part of the value chain all department knows about the meters. Currently you could not say who must take responsibility. Which means that that knowledge that we should have gathered, we missed that point. At the time of the project cycle is they were supposed to make sure that as they are installing as they are rolling out, there is someone from Eskom, you know, and not even one person was involved. – P6

Researcher's comments: The organisation doesn't have mechanisms to hold people accountable and responsible for their actions.

4.4.1.4 Sub-theme 3 On-job training

"You know, you must now at one stage they wanted to make an Eskom college, a university. This used to be a world class organization they had everything, it is just unfortunate that today it is what it is, but it is all because of The behaviour. You see, also remember the training, the training is not only that you must go to a course the training is also on- job training. If you see a colleague, for example, you come from CPM environment If a guy knows how to test this, really and it's new in your environment what do you do? You ask the guy to come with you and then you can do it together" - P7

Researcher's Comments

Most of the participants mentioned that training has been put aside and is no longer conducted regularly. New equipment's or new products are introduced without proper training of employees, leading to confusion and inefficiency. Inadequate training and lack of understanding contribute to low skills levels and incompetence.

Participants further explained that the absence of proper training and skills development negatively affects the organisation's overall performance, maintenance practises and operations. Importantly, cutting costs on training is seen as a significant problem, and is believed to have long-term effects.

Participants indicate that there is a culture of employees not taking personal accountability for their work, resulting in a lack of initiative and action. Also, unethical behaviour is attributed to some individuals trying to pass the blame to others rather than taking responsibility for their actions.

It is believed that on-job-training is considered essential for effective skills development and understanding complex systems. Participants emphasised that colleagues are expected to help each other through on-job-training, but this might not always be sufficient for comprehensive skills development. They have identified that shortage of resources and being consumed with other organisational aspects are seen as potential reasons for inadequate training and skills development.

4.4.2 Theme 9 - ICT – Information Communication and Technology

Participants acknowledge the importance of ICT in their organisation's operations, but they also highlight areas where improvements are needed. These improvements include better integration of systems, automation of processes, and a more proactive approach to adopting emerging technologies. There is a strong emphasis on leveraging technology to optimise maintenance management and data handling within the organisation. The sub-themes that emerged were:

4.4.2.1 Sub-theme 1 Perception of lagging technology

"I think in terms of technology, Eskom was one of those best companies that when I came in, I thought this ICT it moved already with time. But as time went on, I started realizing that we took technology that we understood back then that was good, but we didn't improve on it. And then we remain behind now what we're using as technology, it's not that efficient, or it's not sufficient to run our business. Technologies we use are telecoms, tele controls, and protection schemes. But I think we're still stuck in the old technologies". – P2

"I think we are not at the point where we adequately implement the systems? Asset health and stuff because there's a lot of innovation in the world but from my perspective Eskom is lagging in terms of implementing and adequately using ICT. Even if you look at our ICT infrastructure, you look at Maximo, there's amazing things you can do on Maximo, Not just relating to the equipment, but you know everything and we we're not using it effectively within the business" - P8

Researcher's comments: Technology evolves but currently they are still using old one although they have systems that are capable of innovation.

4.4.2.2 Sub-theme 2 Fragmented systems and lack of collaboration

“The system that we are currently using is not working. We use a lot of systems that are not collaborating to each other. There’s Maximo system and then there’s other system that the technicians are using when working on faults repair. So, it is taking longer for the plant department personnel to be able to see what has been captured on the system. So, if the organisation can check and neutralise the advanced system such that when on is on site doing inspections, the captured information should immediately update the maintenance planning system. But currently we are using a paper system where people fill the form, then go capture the information on the Desktop and that it is a longer process for us to capture defects on the system than to use just one device. When you on site you can just login then update the system immediately” – P3

Researcher’s comments: Systems do not talk to each other; therefore, the organisation must incorporate all systems.

4.4.2.3 Sub-theme 3 Dependency on the human intervention

“We got a maintenance data base which is a warehouse where which is mainly in our space, we’re using Maximo software. That we populate then it triggers us and when we need to do maintenance on those assets based on the frequency that is programmed by us. We still depend on human intervention to populate the system but if it were to go the route getting the ICT to determine maintenance plans then it would be welcomed because it will assist even to the extent. The algorithms in that software will be able to then tell us when the asset needs maintenance at a certain time based on the condition”. - P4

Researcher’s Comments: ICTs should be adopted to assist with determining maintenance on equipment so that there is less dependency in human intervention in giving information about the condition of equipment.

“My understanding is that ICT it’s the channel that we using to store information in the business, and it must have its own security measures so that they are we keep information as confidential and we also want ICT to be used by only authorized personnel. So, in Eskom we have a Hyper wave, we also have SharePoint that all the information about Eskom related information will be stored

there. However, it has limited access in terms of people who needs to look at the information meaning its controlled who get access to it. That is related for example for me HR related information will only be accessed by HR personnel, but for other departments as well they will have their own platforms but still using SharePoint. So yeah, these are the innovation in Eskom where we're now looking at how to easily do our work efficiently by using the, these technologies or platforms” – P12

Researcher’s Comments: ICT is used to store information and used to share information, but other information is limited to authorized people.

“When you come back from the field, you manually therefore also have got to punch in what you captured and using a computer to do that, you know, and you do have different applications where you capture this information”- P13

Researcher’s comments: They still depend on human beings to capture information instead of using technological tools.

4.4.2.4 Sub-theme 4 Challenges with compatibility

“But what I see is a big problem is the fact that we are improving on technology one side. But our value chain system in the business does not take into consideration the new technologies. That are there I can tell you now that the system that I'm talking about, the split metering. System it was first out rolled out in Dikolle Katlehong You know the supplier came, did presentations around told us our protective structures of meters. The project was presented it, it looked good. We were told we are going to be preventing meters from being tampered with because they are protected. The challenge therefore was that. There was no plan in terms of how we're going to maintain that infrastructure as we speak”. - P6

4.4.2.5 Sub-theme 5 Emerging technologies

“Information and communication technology obviously right now at the levels that we are at, we are mostly going digital. Where mostly in the Energy protection space of doing things, I can give an example with electricity pre-paid meters for instance, we are now moving away from old meters, we introduced split metering, but now we also moving to a new meter which is been rolled out, where you are able to control the meter in remote. Now someone sits in an office somewhere

and they can decide to switch the meter on and off. This is the type of technology that is evolving, it uses communication lines like cell phones, it uses SIM cards in some instances and the some must use systems connected to substation for remote controlling things like a router or Wi-Fi are now also being used to communicate with meters. That is the tool that allow you to communicate with meters wherever you are. You could be sitting with the laptop here and determining where a certain meter or customer is buying electricity on not” – P6

Researcher's comments

Participants acknowledge the significance of ICT within the organisation. They elaborated the importance of using it meaningfully as a tool that allows superior performance. Although issues raised were more self-inflicted by individuals not using the ICT appropriately, systems that are not integrated within the organisation causes frustration to employees.

4.4.3 Theme 10 - Knowledge Sharing

This sub-section explores how the organisation assesses knowledge and expertise of individuals involved in maintenance activities. Effective evaluation methods contribute to identifying strengths and weaknesses in the organisation and can guide efforts to improve performance. Participants recognise the need for effective knowledge sharing practices and highlight the importance of leveraging on existing systems and expertise to improve decision-making and maintenance processes within the organisation. By addressing the challenges and implementing strategies for knowledge sharing, the organisation can foster a culture of continuous learning and improvement.

The sub-themes are as follows:

4.4.3.1 Sub-theme 1 Importance of knowledge sharing.

“You pair an employee who has knowledge with an employee that does not have much knowledge, so that they can work together. The one who’s knowledge that is higher, can share the knowledge to the one who does not have” – P5

4.4.3.2 Sub-theme 2 Lack of expertise and specialists

“Yeah, first, it is one of the biggest problems is you expect a user of the system to be an expert, but you find that they do not know enough, or they do not explore it. So, they do not know enough about the system to become experts. They only know their part, so you find that users of your system cannot transfer the information very well to other people because they themselves do not know the system to the best” -P10

“I observed, the whole lot of things happening in the business, one would be that those with a knowledge of teaching others are no longer in service, or we have a few. And knowledge sharing and skill transfer is something that is becoming less and less in the business. For us to share knowledge to another, it means we need to have experts, those specialists will be able to come in and say, Guys, this is how we pull through it” – P2

Researcher’s comments: Knowledgeable people have left the organisation, resulting in less people who can share expertise., There are fewer operating procedures developed to give the remaining people the required knowledge.

4.4.3.3 Sub-theme 3 Utilisation of existing systems

“You know for me, that is the biggest, biggest challenge. I have colleagues that left the organisation because the organisation funded their studies but never placed them in proper places where they can deliver or use what they studied for at universities and can sharpen their skills sets” – P6

4.4.3.4 Sub-theme 4 Challenges in implementing knowledge sharing.

“Yeah, but I think it also comes to the willingness of the other people. I believe that any system can be learned here in Eskom then if you put effort and time, you can. But this is an attitude problem and a cultural problem most people would say that because this is not my work, I'm not interested if I can come to you and say I want to report for this, and you can give it to me then I'm done. I will never come to you and say, how do you generate that report? What does the report mean, or can you show me? So that attitude then it means that people are not interested in learning other people's functions” - P10

Researcher's Comments

The organisation needs to invest in creating a culture of knowledge sharing, where experienced employees are encouraged and rewarded for teaching others. Identifying subject matter experts and specialists and utilising their expertise in training programs and knowledge sharing initiatives is essential. The organisation should prioritise the proper utilisation of existing systems which are used for data management and decision-making tool. Employees should be encouraged to learn more about the systems they use and explore more on how it can be improved.

Formal training and on-job-training programs can help address knowledge gaps and improve the competency of employees, leading to better maintenance practices. Regular meetings and forums that facilitate information sharing, discussion of experiences, and lessons learned can promote collaboration and learning across departments and levels of expertise. Escalating issues of incompetency and ensuring standard compliance through training are important aspects of maintaining equipment performance.

4.4.4 Theme 11 - Trust and Support

This sub-section delves into the exploration and comprehension of how participants within the organisation perceive, approach, and encounter knowledge sharing. The main emphasis is on the significance of trust and support from colleagues in this process. Valuable insights were gathered from participants, shedding light on the intricate dynamics that influence knowledge sharing within the organisation. Notably, the findings highlighted the pivotal role played by trust and support in shaping individuals' attitudes and behaviours towards knowledge sharing. The sub-themes that emerged were as follows:

4.4.4.1 Sub-theme 1 Demotivation due to lack of support

"...so, if you are not performing or giving them necessary support and resources that they need to do the job, they become demotivated" – P5

"If you look at the last couple of years, what has been happening at Eskom DX There's no money for anything, so people have not been learning which is one of

the problems. The business does not want to support people. You are limited in what you can do you so people do not innovate also because the business will say you cannot go to training. Cannot do this. You cannot do that. You cannot buy the software you can, so you end up. So, you stop being innovative, you stop. Because you see that there is no support. As a result, you become demoralized, and your moral then gets affected. So, there might be an issue of people in the ground they do not even trust the systems they do not even trust leadership? The biggest issue is the morale is extremely low people that just come do one thing then go back home you know; they are not interested in their jobs, and they are not interested in innovating” - P10

Researcher’s comments: There are issues of trust and support due to lack of openness between employees and the organisation. As a result, there is low employee morale within the organisation.

4.4.4.2 Sub-theme 2 Individual development programs and qualifications

“The first problem that I see, is the whole process starts when you do an individual development program for a person. Now, if I’m leading someone and I’m sitting down and discussing with him the way they development should be undertaken, my first question is to say Why am I developing this person? I have an issue or a question that I should ask myself. that says I am developing him so that he can assist this section to function and operate better? You find people that are developing themselves. Far more advanced only than the people that are leading them. And that can become an issue, and someone is doing something that is higher than what I have. Or doing a qualification that you don’t have as a leader and that makes a leader to ask wrong question when discussing the Individual Development plan or programs. Some managers or leaders don’t want people in their sections that have higher qualifications than them, which leads r]to lack of trust and support thinking those people may compromise their positions or take those positions from them” -P6

Researcher’s comments: People development is not taken seriously, as some managers think developing people is not necessary for the organisation.

4.4.4.3 Sub-theme 3 Broken value chain and communication

“I think that value chain is slightly broken the way I think trust in the organisation has broken all parts and communication is somewhat broken as well and I think people from my opinion they weary and scared to do few things for the fear of, let’s say, being blamed by management and the other employees in the organisation” – P8

4.4.4.4 Sub-theme 4 tailored support approach

“Support cannot be approached or taken as in a blanket approach because people need different approach and support depending really on what their problem is. Some people would be having that attitude because they feel not supported because the correct equipment is not available or resources like the teams. They are not enough in in their team, so they feel constrained. They are tired, they there are so many things that are involved in them. Then you give support according to their need. If they need more training, then you arrange a formal training. If the on job is not working. More tools need to be sourced or the correct ones and then, yes. If they need more hands If you cannot appoint, there is often option of seconding resources too. To that section, to give more hands.” –P11

4.4.4.5 Sub-theme 5 Confidence and trust in reports and work quality

“What give me confidents is the level or the quality of report that I receive from the team, because you cannot always be there to check what they are doing, but then also the maintenance audits will give you that glimpse to say these people know what they are doing. Yes, it will be the quality of work also because in this department we do not only deal with maintenance, but we also deal with investigations as well, meaning when equipment fails one of the reasons why they fail is because of inadequate maintenance. If let us say the plant fails and there is a track record that when this team maintains this equipment, because that will show on maintenance history, then will start to lose trust in them” – P11

Researcher’s Comments

Participants express trust in their colleagues and believe that the suggested system and strategy will lead to positive outcomes. The lack of resources and

support, such as insufficient personnel, training, and equipment has a demotivating effect on employees. They expressed concerns about effectiveness of individual development programs and qualifications within the organisation, and potential conflicts arising from this. And notably, communication issues, limited learning opportunities, and lack of support hinder innovation and affect moral. Participants highlighted the need for a personalised approach to support, tailored to individual needs and challenges. Trust in the quality of work and reports from teams help build confidence in their abilities.

4.5 Key strategies and practices that can enhance capability and knowledge sharing within the organisation, leading to improved performance.

This section delves into the insights obtained from the experiences, perspectives, and opinions regarding strategies and practices. The proposition that aimed to answer the research question is stated below.

Proposition 3: The application of well-defined organisational capabilities and assurance that knowledge sharing occurs in the organisation will result in good performance

What is organisational performance, how is it measured and who measures it?

4.5.1 Theme 12 - Talent Management

Under this sub-theme, the participants highlight the existing flaws in the talent management process. This includes decisions being made by managers without direct knowledge of individuals' abilities or potential, a lack of discussion and development plans between managers and their subordinates, and inadequate nurturing of talent. The need for a more collaborative approach to talent management is emphasised. Participants believe that managers and their subordinates should work together to identify shortcomings, set goals, and track

progress, ensuring a focus on the overall success of the organisation. Some of their quotes are below:

“Our talent management process is flawed and lacks sincerity. When it comes to nominations and promotions, decisions are often made by a group of managers who may not have direct knowledge of the individuals’ abilities or potential. There is a lack of discussion and development plans between managers and their reports, and talent is not nurtured adequately. We need a more collaborative approach where managers and their reports work together to identify shortcomings, set goals, and track progress. The current systems are focused on individuals’ interest that the overall success of the organisation” – P1

“I always say we need to appoint the right people in the right positions. We need to give ourselves and others a chance to learn by ensuring that we are appointing the right people in the right positions. If we that, it means we will have people who can identify capabilities and be able to train staff, they will know exactly what needs to be done” – P2

Researcher’s comments:

Participants stress the importance of appointing the right people in the right positions. This involves identifying capabilities, providing necessary training, and aligning individuals’ skills with the organisational needs. Human resource department should play a role in identifying gaps within the organisation and determining the number of individuals needed to achieve organisational goals. This involves communication among Human Resources, divisional Managers, Supervisors, and staff. Participants expressed concerns about the lack of continuous communication and feedback regarding performance throughout the performance contract cycle. This lack of communication negatively affects the overall performance management process. Participants acknowledge that lack of support and resources for performing the job can lead to employee demotivation, affecting talent retention and performance. While not related to talent management, the participants discuss the importance of maintaining quality standards on work execution. Which can be relevant in the context of talent management and development.

4.5.2 Theme 13 - Organisational Performance

From the participants quotes, sub-themes related to how the organisation measure performance were derived. These sub-themes provide insights into how participants perceive and approach performance in their organisation, highlighting challenges, goals, and the importance of aligning performance matrix with organisational objectives. Those sub-themes are as follows:

4.5.2.1 Sub-theme 1 Key Performance Indicators (KPI)

The significance of the KPI's is highlighted by the participants, but there are issues of alignment and conflicting KPI's across different departments who are all participance of maintenance within the organisation. The focus on old KPI's that do not match current strategies was mentioned by P1 and P4

4.5.2.2 Sub-theme 2 Performance contracting and monitoring.

While P5 stressed that performance is measured through contracting process, where targets are set with employees and are continuously monitored.

4.5.2.3 Sub-theme 3 Cultural impact on performance

P6 mentioned that the organisation's culture can influence performance, such as neglecting equipment after installation without ongoing monitoring and that performance is associated with getting value for money spent and evaluating asset performance based on problem-solving efficiency.

4.5.2.4 Sub-theme 4 Impact on society and customer satisfaction

The effect or load shedding on performance was highlighted by P7 as that performance is linked to social impact and customer satisfaction. Load Shedding negatively affects people and reflects poorly on performance. P8 said that performance is measured by comparing actual results to expected performance.

4.5.2.5 Sub-theme 5 Measurement against expectations

Specific measurements like maintenance index are mentioned, although not perceived as perfect. Most importantly. Performance is seen by P10 as a tool to guide improvement and direction for the organisation.

Researcher's comments

Participants complained about the way performance is measured and evaluated across the organisation. Bringing dissatisfaction on how key performance indicators are developed within their space. Even though emphasis was made on the importance of performance, measuring it with the existing tools was a challenge.

4.5.3 The three most important actions that should be taken to address Eskom Distribution challenges to maintenance.

Eskom Distribution, like any organisation, faces multiple challenges related to maintenance of equipment. By highlighting the three most important actions, the research can prioritise the critical areas that significantly influence maintenance efficiency and performance. Understanding these key actions can lead to a more effective root cause analysis, helping to identify underlying problems that hinder maintenance effectiveness. From the findings, the three most important actions are as follows.

4.5.4 Breaking down silo mentality and fostering collaboration

Participants brought up the need to break down self-created barriers between departments and encourage better collaboration. This action involves promoting a sense of ownership and shared responsibility among employees, moving away from the "it's not my job" mentality. By encouraging open and transparent communication and ensuring that all departments support and complement each other in the value chain, organisations can address issues related to coordination, efficiency and achieving common goals.

As stated by participants below:

“Firstly, we need to break down self-created barriers and foster better collaboration. The saying that “it’s not my job” should be unlearned and be replaced with a sense of ownership and shared responsibility. Secondly, we should empower our employees while holding them accountable. Empowerment without accountability is meaningless. And lastly, leadership should be characterised by integrity. We need leaders who lead by example, fulfil their commitments, and are honest with their team. Open and transparent communication is essential, even if it means delivering difficult messages” – P1

*“One point that comes to mind first is silo mentality, each department thinking that they do things for themselves and forgetting that we are in a value chain where if point A in the value chain or point Z in the value chain does not support each other that kills the entire process of making things to work optimally. So, if we were to change the mentality of working in silos, we would then solve a lot of problems”
-P4*

4.5.5 Empowering employees with accountability

Participants emphasised the importance of empowering employees while holding them accountable. Empowerment without accountability was deemed meaningless. Leaders should ensure that employees understand their roles clearly, have a sense of purpose, and are motivated to strive for the organisation’s success. This action involves giving employees the necessary training and resources to perform their tasks effectively and recognising their efforts, which can improve morale and work ethics.

4.5.6 Focus on discipline, training and doing proper maintenance.

Participants stressed the significance of discipline, quality training and proper maintenance in improving overall performance. Implementing a culture of discipline involves ensuring that employees understand the importance of their roles and are accountable for their actions. Providing quality training helps to enhance employees’ skills and knowledge, leading to better job performance. Prioritising maintenance ensures that equipment is in optimal condition, reducing faults and improving efficiency eventually.

These three key actions involve promoting collaboration and open communication, empowering employees while holding them accountable, and putting more focus on discipline, training, and maintenance to address the identified issues and improve overall organisational performance.

"I could say discipline should take first place; people must be disciplined enough. To come to work knowing why they are coming to work. If people are not disciplined, you can have a process, a monitoring process also evaluate that monitoring process if it brings intended results. The needs to be a culture change in terms of how people think and process things. Yes, taking charge and accounting for all our actions so that we see the vision of the organisation. People are only sometimes limited to what they are responsible for only, and they do not care about what happens on the other side. Egos as well, you know..."-P6

4.6 Summary of findings

The reflections and insights gathered from the study shed light on the significance and purpose of maintenance activities within the organisation. Understanding the reasons behind maintenance is critical in evaluating its impact on organisational performance. It was evident that all participants had a clear understanding of what maintenance entails.

Scheduled Maintenance was highlighted as an important aspect of their maintenance approach, triggered by substation inspections every month and specific cycles of apparatus, or transformer inspections every quarter, based on OEM specification. The systematic approach to conducting inspections and documenting defects on inspection sheets, followed by defect clearing work orders, demonstrated the organisation's commitment to maintaining their equipment on optimal condition.

Moreover, participants emphasised the effectiveness of condition-based maintenance, which involves observing and analysing the actual state of equipment to determine the most appropriate time for maintenance. This approach ensures that maintenance tasks are executed based on real-time conditions, enabling the organisation to perform maintenance earlier than

scheduled if required, considering equipment operational demands and specifications.

Collaboration with equipment manufacturers emerged as another crucial factor in ensuring optimal equipment functioning and adherence to design requirements. The organisation's process of working with manufacturers to determine the best maintenance practices based on specifications and potential improvements demonstrates a proactive approach to enhancing maintenance practices.

The discussion on maintenance tools covered a range of areas, including planned maintenance, reactive maintenance, asset management, communication, collaboration, diagnostic and testing, data analysis, training, knowledge sharing, documentation, and reporting tools. By investing in and effectively implementing these tools, the organisation can improve the quality of maintenance, enhance organisational performance, and shift towards more proactive maintenance approach.

Participants' emphasis on proper planning, strategic decision-making and adherence to manufacturer specifications underscored the significance of maintenance in ensuring efficient and reliable equipment and asset operation. The organisational adoption of different maintenance approaches, such as preventative, condition-based, and time-based maintenance, reflects a comprehensive approach to maintenance.

Regularly reviewing and updating maintenance strategies emerged as a critical aspect of maintaining organisational capability and improving performance. Participants identified several sub-themes, including ideal frequency vs actual frequency, outdated plans and practices, data analysis and decision-making, technical committees and safety standards, responsibility, uncertainty in strategy revision and contextual circumstances. Based on those themes, it is evident that the organisation may need to revise its maintenance strategies more frequently to adapt to changing circumstances effectively. The findings shed light on several factors that impact knowledge sharing and highlight the importance of addressing knowledge deficits for enhanced organisational capability and performance.

One of the main themes emerged from the participants' responses is the lack of training and skills development. The absence of regular and effective programs,

especially in the context of new products or equipment introduction, has led to confusion, inefficiency, and low skill level among employees. Cutting costs on training has been identified as a significant problem with potential long-term consequences for the organisation.

Additionally, a lack of personal accountability and responsibility among employees has been observed, leading to a lack of initiative and unethical behaviour. On-job-training is seen as essential for effective skills development, but resource constrain and competing organisational aspects have hindered its effectiveness.

Regarding Information and communication technology (ICT) system, while participants acknowledge their importance in the organisation operations, there are areas for improvement. This includes better integration, and proactive adoption of emerging technologies to optimise maintenance management and data handling.

In addressing knowledge and expertise evaluation, participants recognise the need for effective knowledge sharing practices and leveraging existing systems and expertise for better decision-making and maintenance processes. However, challenges such as lack of expertise, inadequate data management, and difficulties in implementing knowledge sharing initiatives exists.

From the discussions, several actionable insights can be drawn to improve knowledge sharing and performance. These include investing in creating a culture of knowledge sharing, identifying and utilising subject matter experts and specialists in training programs and prioritising proper utilisation of existing systems for data management.

Formal training, on-job-training and regular forums for information sharing and collaboration are also recommended to bridge knowledge gaps and foster continuous learning.

In understanding the dynamics of knowledge sharing within Eskom Distribution, the significance of trust and support from colleagues has been highlighted. Employees express confidence in the suggested systems and strategy, but insufficient resources and planning, lack of support and limited learning

opportunities have been obstacles. A personalised approach to support tailored to individual needs and challenges is emphasised.

The participants' insights also shed light on existing flaws in talent management processes within the organisation. They highlighted the need for a more collaborative approach to talent management, where managers and their reports work together to identify shortcomings, set goals, and track progress, contribution to the overall success of the organisation.

Additionally, appointing the right people for the right positions is crucial, and this involves identifying capabilities, providing necessary training, and aligning individual skills with the organisational needs. Human resources (HR) play a vital role in identifying gaps and determining the required workforce to achieve organisational goals, necessitating effective communication between HR, line managers, supervisors, and staff compliment.

A recurring concern raised by the participants was the lack of continuous communication and feedback throughout the performance contract cycle, negatively impacting the overall performance management process. This lack of support and resources for employees' job performance can lead to demotivation, affecting talent retention and overall performance. Moreover, the sub-themes related to performance measurement provide valuable insights into how participants perceive and approach performance evaluation. Key Performance Indicators (KPI) are seen as significant, but issues with alignment and conflicting KPI's across departments exist, indicating the need for better coordination.

The research highlights three key actions that can significantly influence maintenance efficiency and performance within the organisation:

- Promoting collaboration and open communication: Breaking down barriers between departments and encouraging better collaboration can enhance coordination, efficiency, and the achievement of common goals. A sense of ownership and shared responsibility among employees is essential to foster a collaborative culture.
- Empowering employees with accountability: Empowering employees must go hand in hand with accountability. Clear role understanding, a sense of purpose and motivation to strive for organisational success are

important. Providing training and resources while recognising employee efforts can boost morale and work ethic.

- Prioritising discipline, training, and maintenance: Cultivating a culture of discipline ensures employees understand their roles and are accountable for their actions. Quality training enhances skills and knowledge, leading to improved job performance. Prioritising maintenance ensures equipment is in optimal condition reducing faults and enhancing efficiency.

By addressing these key actions, the organisation can tackle the identified challenges and improve overall performance and talent management processes. Implementing these measures can lead to a more effective root cause analysis, better identification of underlying problems, and enhancement of maintenance effectiveness.

CHAPTER 5. INTERPRETATION OF FINDINGS AND THE CONCEPTUAL FRAMEWORK

5.1 Introduction

The goal of this study was to explore and describe organisational capability, knowledge sharing and performance at the power utility Eskom Distribution. This chapter interprets the findings of the study, using the presented literature on chapter 2 to see if there are contradictions in literature and the present study findings. Contradictions may be attributed to context, South African being unique from the developed countries, for example. There were emerging themes which came out from the study that were not part of reviewed literature, discussed in chapter 2.

This chapter is structured into three sections which are based on the study's objectives and research questions, below. The framework conceptualised from the interpretations of findings is then presented.

- To explore and describe the influence of organisational capabilities on organisational performance. The question is what are the key organisational capabilities that significantly influence organisational performance?
- To explore and describe the influence of knowledge sharing on organisational performance. The question is what are the perceptions and experiences of employees regarding the influence of knowledge sharing on performance?
- To determine ways of improving capability and knowledge sharing for an effective organisational performance. The question is what are the key strategies and practices that can enhance capability and knowledge sharing within the organisation, leading to improved organisational performance?

In the previous chapter, data was analysed to identify themes, emerging themes, and sub-themes, using the above research objectives. The interpretations are provided in the next sections.

5.2 Interpretation of Objective 1 Finding: explore and describe the influence of organisational capabilities on organisational performance (Themes and Emerging Themes)

This section interprets finding which relates to organisational capability, where maintenance strategy is realised as a resource that the organisation could leverage on. The objective of exploring and describing the influence of organisational capability on organisations performance is discussed, answering the question which asked what are the key organisational capabilities that significantly influence performance and how do they manifest within Eskom Distribution.

The insights obtained from findings of the study, discussed on chapter 4 demonstrates that maintenance and maintenance strategy is a concept that is clearly understood within the organisation as a resource. The study finding highlighted the discussions of what is understood maintenance is in Eskom Distribution. Also bringing themes like triggers of maintenance, explaining how effective maintenance could be achieved, which maintenance strategy is currently used and finally what could lead to maintenance strategy to be revised. The following sub-section discusses maintenance as a capability.

5.2.1 Understanding Maintenance (Theme 1)

The Eskom Distribution personnel responsible for conducting maintenance on electrical equipment were asked their definition of maintenance. The rational for this question was to assess how familiar participant were with the role of maintenance within the organisation as a resource the organisation utilises to as a capability.

Literature discussing maintenance was analysed in chapter 2. Maintenance is defined by scholars in different ways, for example maintenance is a set of actions which are carried out to replace, repair and service an identifiable set of equipment so that the plant continues to operate at a specified level of availability for a specifies time (Vlado & Bogdan, 2018). Velmurugan & Dhingra,(2014) further stated that maintenance of equipment is done to enhance equipment operation

and keep the equipment in a working order, while preventing failures, so that the equipment delivers on its intended function ensuring safety and protection of environment.

Maintenance is done to assist with decreasing total cost by elimination of breakdown, correct defect on the equipment, minimize wastage and unwanted occurrences, also to increase safety for the environment and society (Gackowiec, 2019). Satria, Indrayanto, & Najmudin, (2020) states that maintenance of electrical equipment is carried out to maintain reliability, availability, performance, and ensure the lifespan of equipment. The participants were able to explain what they understand maintenance to be in electrical distribution infrastructure. Their responses are in line with the explanations that most scholars which defined maintenance. The understanding of maintenance is consistent with literature discussed on chapter 2.

5.2.2 Triggers of maintenance (Emerging Theme 2)

A clear understanding of maintenance by participants lead to the question of what therefore triggers maintenance to be done? Because an understanding of what leads to maintenance could assist the organisations to plan accordingly and prepare proper resources used for conducting maintenance.

The infrastructure or electrical equipment are subjected to degradation because of usage and other environmental factors, this degradation leads to equipment failure, which in turn result in safety issues, equipment damage, supply sustainability and unexpected equipment unavailability (de Jonge & Scarf, 2020). The participants did allude to triggers of maintenance in the power utility which are scheduled maintenance, manufacture collaborations and supply sustainability, all those triggers are monitored so that the degradation could be minimised and allow the equipment to reach its end of life.

Not much literature addressing scheduled maintenance, manufacture collaborations and supply sustainability with the power utility sector is available. But scholars have tried to talk to some aspects, for instance scheduled maintenance is done to prevent sudden equipment failure according to (Farahani & Tohidi, 2021). Scheduling maintenance allows maintenance departments to be

able to organise their resource allocation properly (Geurtsen, Didden, Adan, Atan, & Adan, 2022). Because maintenance is seen by participants as eminent in the organisation, the schedule for maintenance activities should always be considered to avoid failure of equipment or infrastructure within Eskom Distribution.

5.2.3 Effective maintenance (Emerging Theme 3)

The findings of the study suggest that effective maintenance is achieved through using different tools that are utilised to measure the maintenance performance, tools such as data analysis tool, documentation, and reporting tool, planned maintenance tool and asset management tool. Participants dwelled more in asset management and their view is supported by the assertion of (Mirhosseini & Keynia, 2021) that asset management and routine maintenance has a considerable impact on ensuring systems reliability, minimising expensive cost of failure of equipment, and preventing shutdown.

Participants also stated that it is imperative that maintenance is done effectively so that there is continuity of electricity supply to customers, which is supplied with the high degree of reliability and cost-effectiveness. Effective maintenance plans are required for tracking equipment, controlling its use, and increasing its efficiency so that it can be utilised at maximum capacity (Al Ameer, Ab Rahman, & Muhamad, 2023). The maintenance activities should be planned to use all necessary tools that the organisation has, ranging from previous documentation stating the history of assets, or available data about assets which is due for maintenance. This finding agreed with available literature.

5.2.4 Maintenance Strategies (Theme 4)

Participants displayed clear understanding of effective maintenance that the organisation does on equipment. They also brought the attention on strategies that are used to determine maintenance plans with accordance to literature on maintenance strategies as discussed on chapter 2. Gackowiec, (2019) defines maintenance strategy as a planned way to upkeep equipment or services, which contains actions such as repairs, replacement and inspection of equipment.

Various types of maintenance strategies were mentioned by participants, namely condition-based maintenance, predictive maintenance and preventive maintenance, which is also according to strategies posited by Firdaus, Samat, & Mohamad (2019). These different strategies are used to determine what type of maintenance is required for each equipment. Participants seem to understand the difference in all these strategies, which explains and expresses their practical know-how in day-to-day operations.

Some participants mentioned that “maintenance is done after the condition of the equipment is checked and reported” meaning that the strategy taken to do maintenance is informed by the condition of equipment or infrastructure. This also means that the condition-based maintenance strategy is used, as mentioned by (Baker, Nixon, Banks, Reichard, & Castelle, 2020) that condition-based strategy is informed by the health condition of equipment. Participants emphasised that this strategy is taken based on the condition or the physical state of the infrastructure.

From the study findings, the other strategy is preventive maintenance strategy which has to do with anticipating possible infrastructure failures. Preventative maintenance has to do with anticipating challenges or a problem that might impact the equipment (Mahmoudi, Barkany, & Khalfi, 2014), therefore, organisations should initiate actions before the problem occurs. Furthermore (Tiddens, Braaksma, & Tinga, 2022), suggest that preventive maintenance is based on an estimated or calculation of the current or future condition of the infrastructure. This is in line with the study findings.

Predictive maintenance strategy was alluded to by participants, which they said it's a strategy taken in guidance of the original equipment manufacture (OEM) specification. Maintenance is done after a specific duration of equipment operation, duration provided in the equipment manufacturer's manual. Lu & Zhou (2019) said predictive maintenance is performed to improve quality and equipment reliability. The study findings show that manuals are provided to sustain and improve working conditions of equipment. There ought to be an understanding of which strategy should be used, when, and how.

5.3 Interpretation of Objective 2 Findings: explore and describe the influence of knowledge sharing on organisational performance (Themes and Emerging Themes)

This section interprets findings relating to Knowledge sharing within the organisation. The objective was to explore and describe the influence of knowledge sharing on organisational performance, literature discussing knowledge sharing was elaborated on chapter 2.

Participants explained or gave their views about knowledge sharing, elaborating on impediments that causes knowledge not to be shared amongst employees and the organisation. In chapter 4 it is shown that employees feel that there is a gap that needs to be filled which could enable knowledge sharing. The participants raised issues around training and development, trust, and support amongst other things. The following sub-sections interpret the themes.

5.3.1 Knowledge sharing (Theme 1)

The findings show the importance of knowledge sharing and how to achieve it within the organisation. The understanding of what knowledge sharing is in line with the literature discussed on chapter 2. Even though they also mention challenges that causes knowledge sharing not to occur, participants showed a clear understanding of what it is and how can it be achieved. As described by (Lin, Cheng, & Wu, 2014), knowledge sharing is an activity of transferring or disseminating knowledge from one person to another.

Ishrat & Rahman, (2019) emphasised that in the organisation, knowledge must be shared or transferred between employees if the organisation has people that are knowledgeable. Participants emphasised that in line with Ishrat & Rahman (2019), knowledgeable employees should share the knowledge with junior employees more than with those who already have expertise and experience in the organisation.

5.3.2 Trust and Support (Theme 2)

The findings show that participants had different views on trust and support as an enabler of knowledge sharing. But they all shared a narrative on the significance of having trust and support for the betterment of the organisation's operations. Li (2015), states that trust is a key factor affecting knowledge sharing, where employees trust each other, there is a willingness to contribute to the organisation using their knowledge, as it creates a conscious community and enables people to work together easily.

The study findings showed that there is frustration around the lack of support within the organisation. Support is inadequate and this leads to broken value chains, communication breakdown, lack of innovation and insufficient resource and planning, as seen in chapter 4. The organisation could have a tailored support approach, then knowledge could be shared easily. Lancaster & Di Milia, (2014) said support is critical in attracting, motivating, and retaining employees. And (Tang, Yu, Cooke, & Chen, 2017) stated that organisational support elicits confidence, positive attitude and thus promoting employee's creativity. It can be drawn from literature that support is in fact a key factor to enable knowledge sharing. The lack of support affect knowledge sharing as alluded to by participants, in chapter 4.

5.3.3 Information Communication and Technology (Theme 3)

The study findings reveal an understanding of what is meant by ICT within the organisation's setup. They talk about ICT purpose and how it can be utilised to put the organisation in an advantageous position. This is in line with Cai, Huang, Liu, & Liang, (2016) who say that ICT is a critical factor that enables organisations to acquire and apply knowledge. Vlado & Bogdan, (2018) also agreed stating that ICT helps organisations to build knowledge. Participants acknowledged the aspect of ICT in enabling knowledge growth, but raised issues pertaining to the lack of collaboration within the ICT systems in the organisation. Dependency on human intervention is a challenge within the ICT space. Emerging technologies are challenges because the organisation can't keep up with technological developments.

5.3.4 Training and development (Emerging Theme4)

The study findings show that the fundamental issues that cause knowledge sharing not to be realised is the lack of training and development within the organisation. Trained workforce is a key to the development of the organisation (Khan, Bashir, Nasim, & Ahmad, 2021).

Nguyen & Duong, (2020) found that organisations increase productivity and efficiency as a result of training and development. Training and development assists the organisation by maximising or optimising resources, which then enhances morale, boosts self-esteem, and increase skills and knowledge of employees (Nguyen & Duong, 2020).

Trihapsari, Mujahidah, & Humairoh,(2021) asserts that training and development aim to improve skills and techniques for carrying out specific, detailed routine work. As recognised in literature it is important that organisations invest in training and development.

5.4 Interpretation of Objective 3 Findings: Determining ways of improving capability and knowledge sharing for an effective organisational performance

This section interprets findings on ways that are used to improve organisational performance. The objective was to determine ways to improve capability and knowledge sharing to enhance performance within the organisation.

The study findings demonstrates that organisational performance is always something that the organisation measures. The findings showed that there are variety of systems used to measure performance and monitor the employees to obtain best performing organisation. The following sub-themes are discussed:

5.4.1 Organisational Performance (Theme)

The findings demonstrates that it is important for the organisation to measure performance. Organisational performance must be measured and be aligned with the organisation's objectives. As stated by Fuentes-Fuentes, Albacete-Saez, & Llorens-Montes, (2004) organisational performance is an indicator that reflects the economic goal of the organisation.

The findings show that organisational performance is measured in cost savings, which is in line with the view of Luo, Huang, & Lu Wang, (2012) who asserted that organisational performance is measured in two folds, economic performance (cost savings, profits and return on investment) and operational performance (Employee performance).

5.4.2 Talent management(Emerging Theme)

The findings indicates that there is a lack of talent management, and that affects organisations performance. Talent management has become an increasingly popular topic that has been studied by academics (Guerra, Danvila-del-Valle, & Mendez-Suarez, 2023). Globally talent management is defined as the organisational efforts for recruiting, selecting, development and maintenance of key talented employees in strategic positions. (Tafti, Mahmoudsalehi, & Amiri, 2017) and Alziari, (2017) said that talent management places focus into people who make a disproportionate impact on the success of the organisation.

The findings suggest that there are no talent management systems in place, and as a result the organisational performance is affected. As stated by (Anand, 2011) talent drives performance and teams with the best people perform at higher level.

5.5 The conceptual framework

Informed by the empirical evidence and the interpretation of findings, the conceptual framework for organizational capability and knowledge sharing to improve performance at a power utility is provided below.

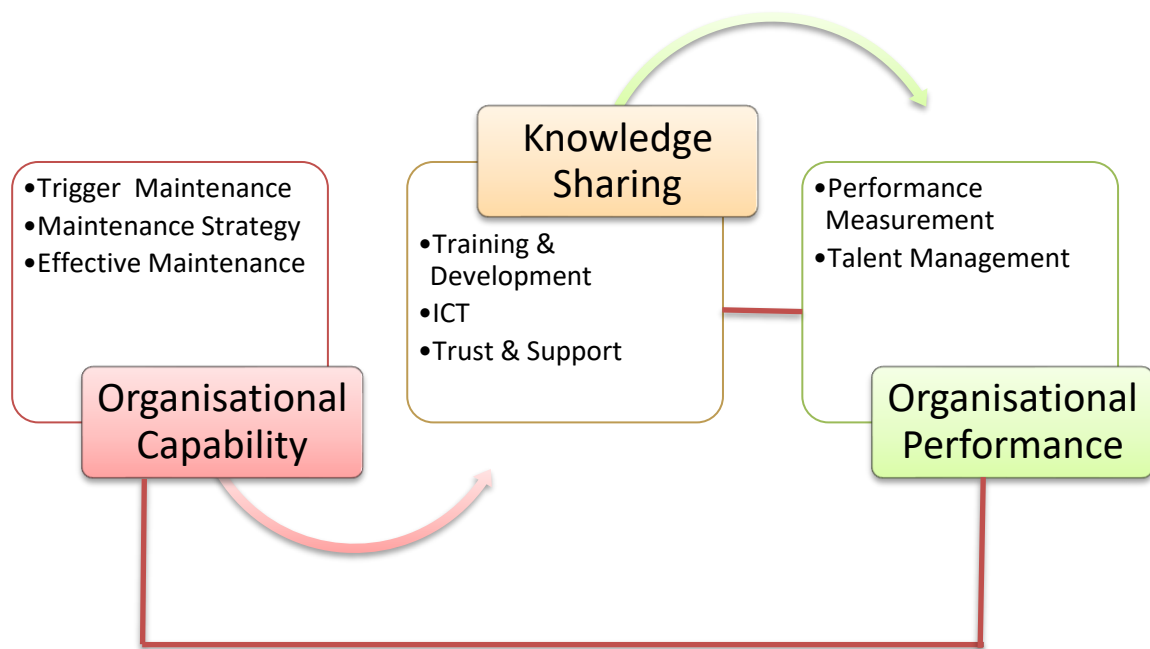


Figure 5. 1 The framework for organisational capability and knowledge sharing to improve performance, in the context of Eskom Distribution

The conceptual framework above shows factors that can influence organisational capability and knowledge sharing to improve performance. Synthesising Resource-Base theory and Social-Exchange theory elements the conceptual framework is demonstrating the relationship between Organisational Capability, Knowledge Sharing, and improved performance. The next section discusses the conceptualised framework as informed by the empirical evidence and the interpretation of findings. The discussion follows the propositions that were raised in chapter 2.

5.5.1 Proposition 1: Maintenance Strategy and ICTs are resources that when realised as organisational capability will enhance organisational performance.

Chandler (1992) states that Organisational Capability is created by practiced routines in the organisation. OC defines skills within the organisation and how routines are used to coordinate decisions on the work that needs to be done. Organisational Capabilities are recognised as the state of the organisations

resources and skills assessed from the point of view of its development capacity. They are complex knowledge systems that consist of organisational technology, managerial systems, and value systems (Durmuş-Özdemir & Abdukhoshimov, 2018; Travern, Naidoo, & Rajcoomar, 2021).

Resource-Based Theory (RBT) appreciates the organisational mix of unique things and the application of resources (Schauerte, Feiereisen, & Malter, 2021). The present study examined the heterogeneous set of organisational capability and the ability to transform internal resources for reinforcement of organisational performance. In the conceptual framework, organisational resources influence organisational capability leading to capability reinforcement which in turn influences knowledge sharing.

The study examined how resources are recognised and how they are allocated to perform maintenance of electrical distribution infrastructure. The findings pointed out that maintenance at the Eskom Distribution is conducted after a range of things are looked at, which informs decision makers, e.g., schedule, original manufacture specifications and supply sustainability. The purpose of conducting maintenance on equipment was well understood in line with literature, but at the same breath maintenance strategies were also brought in as enablers of improved performance.

Zhang & Yang, (2021) defined maintenance *“as a combination of all technical and corresponding administrative actions intended to retain in or restore it to a state in which it can perform its required function”*. A proper maintenance needs technical skills, techniques, and methods to properly utilise assets or resources (Gandhare & Akarte, 2012). Maintenance Strategy is a topic that has caught attention over the years. There are maintenance strategies available for the organisation to choose from when conducting maintenance work. Maintenance strategies include (i). Preventive Maintenance strategy (Gandhare & Akarte, (2012); (ii). Condition-based strategy Achouch, et al.,(2022); (iii). Predictive Maintenance strategy, and iv) Corrective Maintenance strategy Sielaff & Lucke, (2021))

5.5.2 Proposition 2: Trust and Support between employees and employer will enhance knowledge sharing while improving organisational performance.

Knowledge sharing is described by (Lin, Cheng, & Wu, 2014) as an activity of transferring or disseminating knowledge from one person to the other. Which could bring success when incorporated into the individuals and organisational minds by enhancing their power to learn (Salloum, Al-Emran, & Shaalan, 2018). As suggested by (Ishrat & Rahman, 2019), knowledge has become an intellectual asset in the organisation. But the lack of proper knowledge sharing between employees may results in the organisation failing to successfully implement its strategies (Davidaviciene, Majzoub, & Meidute-Kavaliauskiene, 2020). The study findings agree with the literature, realising the significance of knowledge sharing within Eskom Distribution, also alluding that there are factors that affects knowledge sharing.

Davidaviciene, Majzoub, & Meidute-Kavaliauskiene, (2020) stated some of the factors affecting knowledge sharing as Trust, ICT, and Leadership, to name a few. The study found that Trust, ICT, Leadership/Support and Training and development within the organisation are factors affecting knowledge sharing. But where those factors are closely monitored, they enable the organisation to perform better. Trivellato, Martini, & Cavenago, (2021) asserted that training and development aim to improve skills within the organisation. Training and Development is important as it allows employees to learn new skills and improve their performance. The evaluation of the current organisational factors that minimise knowledge sharing should be considered as a strategic move, so that everyone within the organisation could understand and be given the opportunity to acquire more knowledge. Training and Development programs should be prioritised, the lack of trust and support structure destroys organisation, leading to the organisation having demoralised employees. The study found that there is a willingness around employees to change their attitudes around these factors so that the improvement in the performance could be realised.

5.5.3 Proposition 3: Cost reduction and operational performance is measured to improve performance.

Ratnayake & Markeset (2010) stated that Organisational Performance is reflected through the observation of an individual or group behaviour involved in achieving the organisational goals. Performance is explained in different forms such as work safety, financial achievements, knowledge sharing, and other in-house processes that enable the organisation to prosper. Indicators of organisation performance have been mostly associated with financial performance of the organisation, employee satisfaction, organisational learning, and organisational growth (Ali et al., 2019; Pambreni et al., 2019). The study findings show that organisational performance is measured by financial returns or savings.

The study findings showed that the organisation when setting its measuring standards, does not interlink all department to aim to achieve the same goals. It showed that different department within the organisation measure performance differently as a result it harms the performance of the whole organisation. The fact that other departments raised issues of talent management as an indicator that should be measured to monitor organisation performance, it is obvious that the non-financial indicators does add value in organisational performance. It is through this reason that the study concludes that organisational capability, knowledge sharing has a direct impact on organisational performance.

5.6 Summary of the chapter

Informed by empirical evidence and literature, this chapter interpreted the study findings. A framework for organizational capability and knowledge sharing to improve performance was then conceptualised.

CHAPTER 6. RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

This chapter suggests recommendations for achieving organisational capability, knowledge sharing, and improving performance. Recommended future studies are discussed and the study concluded.

6.2 Recommendations

The study found that organisational capability is key to an improved performance, using appropriated maintenance strategies as capability to plan and do maintenance on infrastructures. Literature has explicitly discussed organisational capability as a resource. The study found that maintenance on infrastructure is triggered by original equipment manufacturer specifications, scheduled maintenance based on time and supply sustainability. The effectiveness of maintenance came out as a capability of which organisation should strive to achieve. Maintenance strategies have evolved, due to current challenges of aging infrastructure, poor maintenance and load shedding calls for new ways of conducting maintenance. This study makes a unique contribution in organisational capabilities, realising other components that influences a success of doing maintenance to improve performance. Organizational capability refers to the operational strength which is built through the integration of multiple knowledge sources and inter-related routines (Huo, Gu, & Wang, 2018).

With all the literature available the study agrees with the explanation of knowledge sharing within the organisation. The study found that trust, support, information technology and communication and training and development are key drivers for knowledge sharing and improve performance in the context of Eskom Distribution. It is imperative that the organisation produce a policy framework that incorporates knowledge sharing as a strategy to improve performance.

Knowledge sharing is a tool that should be used to exchanging ideas, experience, information, and knowledge amongst people/employees. This enables employees to achieve personal and organisational goals by complementing skills and knowledge amongst them. Knowledge sharing aim to understand human

behaviour, so in an organisation people behaviour does influence performance and need to be well monitored.

The study pointed the importance of talent management within the organisation as a factor that should be measured to look at performance. It is well said that for the organisation to achieve its cost saving goals, proper measuring instrument will have to be utilised to get correct determination of where the organisation is lacking and put mitigating action so that what is desired which is in line with the organisational goals is achieved. The organisation should put in place measuring tools that are clearly understood by all departments involved with maintaining the electricity infrastructure. For performance to be improved organisational capabilities and knowledge sharing have to be incorporated as a strategy, put more attention in non-financial activities which in turn will boost morale, improve attitudes and minimise maintenance processes, so that the organisation saves money by reducing operation cost.

6.3 Limitation of the study

The study was limited to Eskom Distribution in Gauteng, where the interviews and observations were conducted and therefore, the findings of this study cannot be generalised to other provincial offices of Eskom distribution.

The study was time constrained. Senior management was not available to participate in the study because of their tight schedules.

6.4 Suggestion for future research

The study limitation presents an opportunity for further studies to be done. This study could be done in other provinces where Eskom Distribution is responsible to conduct maintenance in electrical infrastructure. Now that the study stated factors influencing the organisational performance were identified and they could be studied further. How the relationship amongst employees impacts the organisation and how relevant are the current maintenance strategies in this time of artificial intelligence, where artificial intelligence could be used to generate strategies after collecting information from equipment's that needs to be maintained should be studied further.

6.5 Conclusion

The overall conclusion about this study, is that there are currently inadequate and a lack of resources which contribute to poor performance within Eskom Distribution division. Those inadequacies cause knowledge sharing to be impaired and effect organisational performance. The present study presented ways that could be adopted when aiming for an improved performance using resources as organisational capabilities. Triggers of maintenance should first be understood using original equipment manufacturer specifications, in other to develop effective maintenance strategies, which will improve planning and allocation of resources to enhance knowledge sharing within the organisation.

The resource-based theory posits that organisations success is depended to the internal resources (Varadarajan, 2023). Pringle & Kroll, (1997) found that resource-based theory elaborates how organisations uses their own unique resources to sustain it existence. Organisations develop competitive advantage based on a unique mix and application of resources (Schauerte, Feiereisen, & Malter, 2021). Resources are a combination of organisational assets and organisational capabilities (Schauerte, Feiereisen, & Malter, 2021). An understanding of internal resources should be a strategic view for management within the organisation, management should know which organisational capabilities are available to enhance performance.

(Durmuş-Özdemir & Abdukhoshimov, (2018); Travern, Naidoo, & Rajcoomar, (2021)) alluded that Organisational Capabilities are recognised as the state of the organisations resources and skills assessed from the point of view of its development capacity, they are complex knowledge systems that consist of the organisational technology, managerial systems, and value systems. Maintenance strategies are a capability that the organisation has to utilise for enhancing performance, the study also pointed triggers of maintenance as a resource that should be looked at when planning for maintenance, because maintenance should be conducted using original equipment manufacturer specification and take to consideration where the equipment is installed e.g. weather and air pollution around industrial areas, makes maintenance strategies to be changed accordingly, which could result in cost reduction on operating cost of the organisation

To enhance knowledge sharing the study present factors to be considered when aiming to influence employees. Having trust and providing support to employees enables good relationships when there are two parties involved in an exchange of information. According to Social Exchange Theory, individuals regulate their interactions with each other based on self-interest considering the costs and benefits of such an interaction (Liang, Liu, & Wu, 2008). SET seeks to explain human behaviour in an exchange process (Zhang, et al., 2018). Supported by (Cao, Jiang, Duan, & Peng, 2022) stating that SET focuses on an exchange behaviour between people. Arsawan, Wirga, Rajiani, & Suryantini, (2020) alluded that SET is used to explain the process of linking organisational treatment of employees to their performance. SET was used because as stated by (Corteza & Johnston, 2020) it allows a more comprehensive understanding when investigating human attitudes and behaviours. SET was fit for purpose of the study as mentioned, that SET is used to explain the influence of leadership and trust play in encouraging employees to share knowledge (Nguyen, Teo, Halvorsen, & Staples, 2020).

Knowledge plays a primary role in entities and has been acknowledged as the most relevant resource in for the organisation (Perotti, Ferraris, Candelo, & Busso, (2022) and Fischer & Doring, (2022)). Thus, knowledge is transferred to others when individuals actively perform knowledge sharing behaviour (Nguyen, Siri, & Malik, 2021). Knowledge sharing occurs when employees share unique information and collaborate with others to solve organisational problems, develop innovative ideas, implement policies, and implement procedures (Kima, Cheong, Srivastava, Yoo, & Yun, 2021). The organisation should have training and development programs which is used to share knowledge withing the organisation to improve performance. The usage of ICT infrastructure should be more considered since technology development is key to business succusses. But organisations need to have a plan on how to effectively train and develop employees using purposeful ICT product which in a long run it will reduce cost and increase performance.

It is significant for an organisation to look at their performance to see if intended objectives are attained (Rehman, Mohamed, & Ayoup, 2019). Previous studies have stated that it is critical that managers known which factors are influencing an

organisation performance (Victoria O., Olalekan U, & Ngozi Evangeline, 2021). Oyemomia, Liu, Neaga, Chen, & Nakpodia, (2019) realised that high-performing organisations continuously assess individual performance and measure progress against organisation's objectives. Organisational performance is measured in two ways financial and non-financial performance (Rehman, Mohamed, & Ayoup, 2019).

The study found that organisational performance is driven by non-financial strategic action which is talent management and plans that allows the organisation to achieve its objective. Talent management should be included in the organisation performance measurement score, because when talent is not taken to consideration, you will easily think you have adequate skills to do maintenance in equipment until your realised that the talent you had is long gone, resulting to the organisation not being able to operate optimally saving costs, minimising outage, and restoring time of electricity supply to customers. In line with literature, those non-financial activities should incorporate management and willingness or the buy-in of employees.

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APPENDIX A (Participation application)

Thabo Mothobi Mampuru

Control Plant and Maintenance (Protection Ekurhuleni)

5th Avenue Vostreskroon

Vosterskroon

Nigel

1491

Dear Colleague

I intend conducting interviews as part of a research study with the topic "Organisational Capability and, Knowledge Sharing for an Improved Performance at Eskom Distribution" under the supervision of Prof R Kekwaketswe of University of Wits. As Maintenance and Operations members, you are in an ideal position to give valuable information in your personal capacity.

The interviews will take around 1 hour and in an informal sitting. I'm trying to capture your thoughts about Organisational Capability and Knowledge sharing to improve performance and your response to generic questions for all participants will be kept confidential. Each interview will be assigned a number code to ensure that personal identification is kept confidential and is not revealed to anyone during analysis and writing up findings.

The participation is voluntary, and there will be no payment for participating in the study, however your participation will be a valuable input to the study, and it will assist in finding ways that will enable improvement in performance of Eskom Distribution.

Please if you are willing to participate state the date and time that will be advantageous to you.

For any enquiries, please contact me:

Regards

Thabo Mampuru

Cell: 082 709 1440

Tel: 011 793 9710

APPENDIX (B) Instrument

Organizational Capability

Maintenance Strategy Questions

Theme 1 Maintenance

- I. What is maintenance of equipment in your view,
- II. Why is it necessary,
- III. how is it done,
- IV. who does it and
- V. what does it involve?

Sub-theme Maintenance Strategy

- VI. What is maintenance Strategy in your view, why is it necessary, how is it done, who does it and what does it involve?
- VII. Which maintenance strategies does the organisation uses and why the preferred strategy?
- VIII. How often does the organisation revise those strategies what determines whether change in strategy should occur?
- IX. Looking at the status que of the organisation, what in your view can assist the organisation regarding maintenance?

Sub – Theme Information and Communication Technology Usage

- I. What is Information Technology in your view, why is it necessary, how is it done, who does it and what does it involve?
- II. Which technological system does the organisation use to plan work?
- III. How are personnel trained or skilled to use ICT?
- IV. Where the is knowledge deficit what action could be taken to improve that?

Resource based theory

- I. Who plans what resources should be used in performing tasks? and
- II. What assessment is used or criteria to determine the knowledge people have on doing maintenance?

Theme Knowledge Sharing

- I. What is Knowledge Sharing in your view,
- II. Why is it necessary,
- III. how is it done,
- IV. who does it and
- V. what does it involve?

Sub - Trust

- VI. In your view how knowledgeable are people dealing with maintenance of equipment?
- VII. Do those people share the knowledge amongst the team and are the measures that indicates that people are working together? What are those measures also may you please elaborate on how can the team performance be improved in your view?

Sub - Support

- VIII. How in your opinion can the organisation ensure that all people are motivated and have the same levels of competency?
- IX. Are you satisfied with the current performance within the organisation, how can we improve performance?

Theme Performance

- X. What is performance in your view, why is it necessary, how is it done, who does it and what does it involve?
- XI. In your opinion what factors that are affecting operational performance? Is the organization monitoring and evaluating those factors?
- XII. Time allocation for a specific task what in your view should be measured?
- XIII. What can the organization do to reduce cost of operations in your opinion?

APPENDIX C (Permission letters received from organisations)

Addendum:2



The Registrar

Date: 01 September 2022

Enquiries: Moses Pudikabekwa

To whom it may concern

ETHICAL CLEARANCE: PERMISSION AND SECURITY CLEARANCE TO CONDUCT A RESEARCH STUDY FOR MASTER'S IN MANAGEMENT ENERGY LEADERSHIP AT THE UNIVERSITY OF WITWATERSRAND (WITS), FOR THABO MAMPURU.

Research topic: "Organisational Capability, Knowledge Sharing and Organisational Performance at Eskom Distribution".

1. Intellectual Property Rights

All rights, title and interest in and to the Intellectual property of the experimental based research, research results and questionnaires developed by Thabo Mampuru shall remain vested with Eskom.

2. Publication Protocol

Eskom recognises that under the academic policies of the WITS University the results of research work must be publishable and agrees that the Researchers engaged in the research shall be permitted to present a symposia, at national or regional professional meetings and to publish in journals, theses or dissertations, or other methods of reporting of their own choice, results of the Research.

The WITS University may publish or allow the publication of the proprietary data of Eskom, on whatever medium, concerning the research provided that this does not affect the protection of Intellectual Property Rights. Eskom shall be given 30 (thirty) days prior written notice of any planned publication of the research to take steps necessary to protect its rights.

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ETHICAL CLEARANCE: PERMISSION AND SECURITY CLEARANCE TO CONDUCT A RESEARCH STUDY FOR MASTER'S IN MANAGEMENT ENERGY LEADERSHIP AT THE UNIVERSITY OF WITWATERSRAND (WITS), FOR THABO MAMPURU.

If, before the end of this period, Eskom so request, a copy of the planned publication shall be provided to Eskom within 30 (thirty) days after receipt of such request. Eskom may require the removal of any or all of its Confidential Information or Intellectual Property from a planned publication in order to protect its proprietary rights and interests and the Researchers will be required to comply with any such requirement prior to publication.

Eskom may object to the planned publication within 30 (thirty) days after receipt thereof. The planned publication shall be suspended until the end of this consultation period, not exceeding twelve (12) months. In the absence of any objection within the above-mentioned period, it is deemed that the Eskom agrees to the publication.

3. Copyright

Copyright in proprietary data, including the content of the questionnaire, remains vested with Eskom. The questionnaires shall be marked with the copyright notice which is as follows: "© Eskom Holdings SOC Ltd 2021."

The WITS University shall acknowledge Eskom as the copyright owner of the Intellectual property of the experimental based research, research results, and questionnaires, and if applicable, in other publications.

It must be noted that this general clearance for the use of the requested data is for a limited period only, which will be for the period 01 September 2022 to 15 March 2023.

Yours sincerely



Dr. Titus Mathe

General Manager: Research Testing and Development

Date: 2022-09-02

APPENDIX D (Participant agreement form)



PARTICIPANT CONSENT SHEET

Project Title "Organisational Capability and, Knowledge Sharing for an Improved Performance"

1. I have been given a Participant Information Sheet which explains the nature and processes involved in this study, which is attached hereto.
2. I was given time to read it, or had it read to me, in the language I best understand.
3. I was given time to ask any questions I wanted to and found any answers given to me to be reasonable and satisfactory.
4. I believe I fully understand why the study is being conducted and what the intended outcomes will be.
5. I understand that there will be no immediate benefit to me, should I agree to participate, nor will I receive any payment; conversely, participation will not cost me anything but my time.
6. I understand that, even if I initially consent to take part in the study, I may subsequently withdraw at any time and would not be required to give any reasons; if that happened, any data collected about me for the purposes of the study would immediately be destroyed, unless I give consent for it to be retained.
7. I have been given a range of contact details, listed below. If I require further information or become concerned about any aspect of this study, I am free to speak to any of these contacts.

Contact details:

Principal Investigator: Thabo Mothobi Mampuru

Cell: 082 709 1440, Email: Thabo.Mampuru@eskom.co.za

Supervisor: Prof R Kekwaletswe |

Cell: 082 685 2903

Email: Ray MK <raykekwaletswe@gmail.com>

Name of Participant: _____

Date: _____

Place: _____

Signature or mark _____



CONSENT FORM FOR AUDIO RECORDING OF STUDY PARTICIPATION

Project Title: "Organisational Capability and, Knowledge Sharing for an Improved Performance"

I hereby consent to audio recording of the interview

I understand that:

- The recording will be stored in a secure location (a locked cupboard or password protected computer) with restricted access to the researcher and the research supervisor.
- The recording will be transcribed and any information that could identify me will be removed,
- The recordings will be erased within either (a) two (2) years of the publication of the research findings, or (b) six (6) years, if no publications arise from this research
- Anyone wishing to access this information in the future will first have to obtain the approval of the Human Research Ethics Committee (Non - Medical) of the University of the Witwatersrand, Johannesburg
- Direct quotes from my interview, without any information that could identify me, may be cited in the research report or other write-ups of research.

Name of Participant: _____

Date: _____

Place: _____

Signature or mark _____

APPENDIX E (Ethics approval)

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg



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

Ethics Clearance Certificate

Ethics protocol number: WBS/EL2039693/196

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

Project title	Organisational capability, knowledge sharing and performance at Eskom Distribution
Investigator / Researcher	Mr Thabo Mothobi Mampuru
Nature of Project	MM (Energy Leadership)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentiality.
Issue Date of Certificate	2023-05-05
Expiry date	Date of submission of the project / research report
Chairperson	Dr Pius Oba ☎ +27 11 717 3976 ☎ +27 82 733 6587 ✉ pius.oba@wits.ac.za

Declaration by Researcher

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

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

Signature

10 May 2003

Date:

APPENDIX F (Qualitative Coding)

Thematic analysis framework for qualitative research involves defining clear steps and guidelines to systematically analyse and code qualitative data. Below is the coding framework.

Research Objective: To explore and describe how organisational capability (OC) and knowledge sharing (KS) influence organisational performance (OP), in the power utility company Eskom Distribution.

1. Data Preparation

- **Data Collection:** The data collection methods, such as interviews was used.
- **Data Organization:** The data was organized in the form of transcripts.

2. Familiarization with Data

- **Data immersion:** Read through the data multiple times to gain familiarity.
- **Initial notations:** Make initial notes, comments, and observations without trying to impose any themes or codes.

3. Initial coding

- **Open coding:** The thematic analysis began with open coding, identifying any meaningful units in the data, such as phrases, sentences, or paragraphs.
- **Code generation:** Thereafter I created initial codes that capture the essence of each category or theme.

4. Code review and refinement

- **Code review:** Reviewed and revised codes for clarity and accuracy.
- **Code definitions:** Developed a clear definition for each code to ensure consistency.

5. Theme identification

Pattern recognition: Looked for patterns, similarities, and relationships among codes.

Theme generation: Generated higher-level themes that encapsulate related codes. These reflected the underlying content and concepts.

6. Theme review and refinement

- **Review themes:** Examined the themes for coherence, relevance, and representation of the data.
- **Theme definitions:** Developed clear and concise definitions for each theme. Ensure themes are distinct from one another.

7. Saturation and Consistency

- **Saturation:** Determine data saturation, the point at which no new codes or themes emerge from the data.
- **Consistency:** Ensured consistency in coding by conducting reliability checks if multiple coders are involved.

8. Finalize themes and codes

- **Finalize themes:** Ensured that the themes are comprehensive and adequately represent the data.
- **Finalize Codes:** Reviewed and finalized the codes, making sure they align with the themes.

9. Reporting

- **Narrative description:** Wrote a narrative description of the themes and their interpretations, supported by quotes from the data.