Vol. 8 No. 1

May 2023

Knowledge Management Implementation Strategy for Knowledge Management Systems in Two Mobile Telecommunication Companies Namibia

Mishake Mubuyaeta
Ministry of Gender Equality, Poverty Eradication, and Social Welfare, Namibia
nsala.meshach@gmail.com

Patrick Ngulube
School of Interdisciplinary Research and Graduate Studies, University of South Africa
ngulup@unisa.ac.za; https://orcid.org/0000-0002-7676-3931

Abstract

Rationale of Study – This article presents the findings of a study on the knowledge management (KM) implementation strategy for two mobile telecommunications (MT) companies in Namibia.

Methodology – The case study used a mixed-methods approach via convergent parallel design. This permitted the concurrent gathering of quantitative and qualitative data for the study. The study used simple random sampling via probability sampling to identify 309 respondents. An online survey distributed 329 questionnaires, and 200 were received with a 60.79% response rate. A purposive sampling technique was employed for the qualitative phase; 11 participants were interviewed out of the planned 20.

Findings – The study found that neither KM implementation strategies nor a department or section dedicated to organisational KM exist, necessitating a KM implementation strategy for KMS for effective KM practices in two MT companies in Namibia. The study also identified potential barriers to KMS, such as the complexity of employee attitudes, the dearth of use of specific KMS, and the organisational KM corporate work culture.

Implications – This study's findings could expand academicians', KM researchers', and organisations' understanding of the importance of organisational KM implementation strategy for KMS to be effective and efficient in MT companies in Namibia.

Originality – This study is the first on KM implementation strategies for KMS to influence knowledge management practices in Namibia.

Keywords

Knowledge management, knowledge management strategy, knowledge management system, information communication technology

Citation: Mubuyaeta, M. & Ngulube, P. (2023). Knowledge Management Implementation Strategy for Knowledge Management Systems in Two Mobile Telecommunication Companies Namibia. *Regional Journal of Information and Knowledge Management*, 8 (1),123-151.

Published by the

Regional Institute of Information and Knowledge Management

P.O. Box 24358 – 00100 – Nairobi, Kenya

1 Introduction

Knowledge management systems (KMS) implementation for knowledge management (KM) practice requires a KM strategy. KM strategies are distinct information-system capabilities for organisational knowledge (OK) creation, transfer, and application initiatives (Ngoc Thang & Tuan, 2020; Tounkara, 2019). A knowledge management system is a kind of IT infrastructure, application system, or infrastructure that combines and incorporates processes for the contextualised processing of explicit and tacit knowledge across an organisation (Maier, 2014, p. 86). The use of technology in KM practice emphasises the critical importance of an organisation examining and developing its KM implementation strategy to ensure that organisational knowledge is effective and efficient through its KMS for successful KM practice. MT companies are technological enterprises that continue investing in information systems initiatives to create value through innovation. Hasnain (2015) and Abubakar et al. (2019) state that organisational knowledge is an essential asset for competitive advantage, and organisations' decision-making skills depend on their ability to handle information and organisational knowledge effectively.

The telecommunications industry in Africa has grown significantly since the early 19th century due to technological advances such as radio, television, and mobile phones. Colonial powers utilised telecommunication infrastructure for administrative purposes, serving their interests during the colonial period. However, there is still a digital divide between urban and rural areas, and many people need access to essential telecommunications services. Despite progress in the African telecommunications industry, significant obstacles, such as a lack of infrastructure, high tariffs, restricted competition, and regulatory barriers, still need to be overcome. This situation is no different in Namibia. Namibia has a long telecommunications industry history dating back to the colonial era. As in most African countries, Namibia's information and communication technology (ICT) outcomes are skewed and challenging to measure (Rhem, 2016). Africa experienced poor investment in ICT infrastructure during colonialism. As a result, Africa needs to catch up in ICT development and resist being enslaved to Western-style bureaucracies that are counterproductive and resistant to change (Albassam, 2021; Rhem, 2016). Following Namibia's independence in 1990, the government launched several ICT development programmes to address the legacy of colonial disparities in access and use of knowledge and ICT for development. The

Namibian government created Vision 2030, a developmental road map with several goals for honing Namibia into an industrialised KBS by 2030. One of its aspirations is to advance modern telecommunications to utilise technology for socioeconomic development.

Dei (2017) suggests that if MT companies in Namibia utilise organisational KMS, it will equip them with the resources they will likely need to salvage the favourable KM situation. Iskandar et al. (2017) and Bamigbola (2021) suggest that organisations should be quick to make decisions based on established and generate new organisational knowledge online training/learning processes, as this is a practical and valued method of resolving organisational problems. Sayyadi (2020) asserts that organisational decisions are multifaceted and demanding. For a KM system to stay ahead of the competition, it needs KM strategies. MT companies must understand consumer demands and patterns to remain competitive in an ever-changing market. An organisational KMS would help them make timely decisions and address the interests of individual employees by obtaining network-wide approval to carry out their mission (Chandna & Iusco, 2018; Ghasemi & Valmohammadi, 2018). A KM strategy connects to organisational policies and procedures to create a successful KMS for KM practice (Natek & Zwilling, 2016; Ngoc Thang & Tuan, 2020; Tounkara, 2019). The KM strategy enhances internal and external organisational knowledge and enables mobile telecommunications companies to implement new knowledge to improve performance. It uses databases, electronic reporting, and technology to create a virtual system for workers to access, send, or share information by identifying, creating, collecting, storing, and sharing employee knowledge (Özlen & Handzic, 2020). For a successful KM deployment, codification and personalisation necessitate actions cohesively integrating KM capabilities (Tounkara, 2019; Özlen & Handzic, 2020). This study is critical because the growth and responsibility of organisations in attempting to resolve organisational KM issues need to be more consistent and equal (Bolisani & Bratianu, 2018; Özlen & Handzic, 2020). Given the significance of knowledge in a knowledge-based society, this research further contributes to the SADC Vision 2050 and the 2030 Agenda for Sustainable Development, where managing knowledge is likely to be a challenge in a knowledge-based society.

2 Problem Statement

KM strategies greatly influence an organisation's success in KMS implementation for effective and efficient KM practices. This is because they enable organisations to leverage their collective organisational knowledge to drive innovation and success. KM strategies help organisations improve organisational knowledge sharing, capture, storage, identification, and process streamlining (Venkitachalam & Willmott, 2017). Knowledge management systems in companies and their significance on knowledge management implementation strategies are underlined (Chandna & Iusco, 2018; Dei, 2017; Ghasemi & Valmohammadi, 2018; Özlen & Handzic, 2020; Tounkara, 2019). These studies further demonstrated that knowledge management systems depend on organisational culture, structure, management, and technology. An assessment by the United Nations identifies knowledge management strategy as a significant contributor to implementing a new holistic and collaborative approach within an organisation (Dumitriu, 2016). A KM implementation strategy would help MT companies learn more about trends by putting their organisational knowledge and other resources to good use.

Dumitriu (2016) suggested that the KM implementation strategy helps eliminate silos. It is the most natural synergistic element across the system for every group involved in implementing MT companies. However, more information is needed to ascertain whether some MT companies in Namibia have implemented a KM strategy for KMS and how beneficial and enhanced it is to increase organisational knowledge productivity and organisational performance. KM strategies enable MT companies to remain competitive in an ever-changing telecommunications market by developing innovative products and services, maximising their resources, and ensuring all employees work towards the same objectives (Andriani et al., 2019; Dayan et al., 2017). With a KM strategy, it may be easier for MT companies to formalise KMS for KM practices and benefit from processes. A lack of the organisation's KM strategy would result in a lack of understanding of the MT companies' capabilities and an inability to respond quickly to changing telecommunications markets and opportunities. They would also need to share best practices and coordination within departments in two MT companies, including the absence of a centralised information repository as an essential part of KM practice. As part of the Doctoral research, this study explored how a KM strategy is implemented for KMS for effective and efficient KM practice and identified the various challenges MT companies face in Namibia. This study is geared towards investigating KM strategy

implementation for KMS for effective and efficient KM practice in MT companies in Namibia. The study sought to achieve the following objectives which were to:

1. establishing KM implementation strategies for organisational KMS in MT companies in Namibia;
2. examining the challenges of organisational KMS in MT companies in Namibia; and
3. proposing a framework on how to successfully implement organisational KMS in MT companies in Namibia.

3 Conceptual Framework

The study utilised Nonaka and Takeuchi's (1995) organisational knowledge conversion theory. The theory classifies socialisation, internalisation, externalisation, and combination as the four modes of interaction necessary to comprehend the implementation of KMS for KM practice in two MT companies in Namibia. MT companies could use a KM strategy to obtain a competitive advantage through implicit and explicit organisational knowledge interactions. Adesina and Ocholla (2020) contend that tacit and explicit organisational knowledge characteristics are crucial to SECI via organisational KM implementation strategies for KM practices. To enhance the SECI model, researchers further adopted the "Ba" concept to enable them to monitor and evaluate the organisational KM implementation strategy of MT companies as a tool for KMS for KM practices. This is because organisational knowledge is created in the SECI model through dualist operational means incorporated in "Ba". In light of that, the KM implementation strategy should be comprehended in the context of "Ba", such as place, space, or field, in a context that enables relationships to be formed through interactions to share information and knowledge and develop relationships to create new meaning or knowledge (Nonaka & Takeuchi, 2019). This process established an epistemological and ontological of organisational knowledge as a collective entity for the creation and situational perspectives, thereby propelling the transformation of organisational knowledge (Adesina & Ocholla, 2020). The model was utilised to comprehend how MT companies developed a strategy that generated a competitive advantage through organisational KM practice. As outlined in the KM strategy, it was presumed that changing organisational knowledge from tacit to explicit or explicit to tacit was essential for preserving organisational knowledge. The model facilitates consultative implementation of organisational KMS for KM to foster innovation, performance, and a

competitive advantage for MT companies in Namibia. Malik (2019) and Bamigbola (2021) propose that SECI processes are rooted in employee groups and can result in the creation of a new product or service. The transformation of organisational knowledge from tacit to explicit or from one form to another facilitates the preservation and accessibility of organisational knowledge in organisational KMS for individual employees. This should include all important achievements and permission to use organisational knowledge in the system (Adesina & Ocholla, 2020).

4 Literature Review

KM implementation strategies are necessary for understanding KMS for KM practices in MT companies in Namibia via personalisation and codification in conjunction with understanding the SECI model and concept of "Ba". Socialisation (tacit-tacit), externalisation (tacit-explicit), combination (explicit-explicit), and internalisation (explicit-tacit) are described as the four significant constraints of OK transformation by Chigada (2014) and Adesina and Ocholla (2020). Utilising the SECI model and Concept "Ba" to achieve its goals and discuss personalisation and codification concepts, It was believed that OK existed as an accurate description of the world, awaiting discovery and application by employees with the aid of a knowledge management implementation strategy.

Codification and personalisation are KMS-oriented KM practice methods. KMS strategies add value to an organisation's innovation by inducing employee performance-improving strategies and should not be viewed as simplistic. They are essential to direct the processes of KM practices. This means that these methods' development and validation are intended to address anticipated organisational KM issues in organisations (Bolisani & Bratianu, 2018; Özlen & Handzic, 2020). Adeinat and Abdulfatah (2019) warn that implementing an organisational KMS for the KM process has proven difficult without a strategy. The KM strategy aims to position and formalise KMS elements for KM procedures for simple adaptation and adoption throughout the organisation. Organisational KMS are crucial components of information and communications technology systems that are promoted and used to manage and control implementation (Ekambaram et al., 2018; Tounkara, 2019; Yee et al., 2019; and Ullah, 2020). Successful implementation of well-defined processes contributes to the desired effect. These KM strategy components for KM practice were construed as formal or informal references to this study. They use various systems and technologies, including electronic document

management, organisational knowledge map systems, organisational knowledge electronic portals, expert organisational knowledge worker systems, and collaborative and classification tools and instruments for KM practice (Tounkara, 2019; Ullah, 2020; Yee et al., 2019;). Organisational KMS, a specialised, operational, and environmental culture and management system, fosters and encourages continuous innovation and improvement of management decisions (Yee et al., 2019). It promotes innovation in technology, organisational culture, and environmental stewardship of the KM strategy from a business perspective. Organisations must assess the viability or implementation of KMS on these dimensions to monitor their performance and assist the organisation, managers, and KM researchers in designing and implementing effective programs (Awa et al., 2017). Dei (2017), Sayyadi (2020), Chandna and Iusco (2018) and Ullah (2020) suggest that organisations use organisational KMS to make decisions based on established organisational knowledge and generate new organisational knowledge. KMS is believed to expedite and precipitate KM processes for organisations like MT companies to reduce organisational knowledge loss and retention challenges. Understanding the multiple contexts in which MT companies in Namibia adopt and implement optimal KMS for KM is crucial for preserving their competitive advantage. The successful application of these factors demonstrates that managing organisational knowledge with the organisational KM implementation strategy for KMS is critical to any organisation's survival or competitive innovation, including MT companies in Namibia. The researchers concluded, based on the study's conceptual framework, that the influence of the quality of organisational KM implementation for KMS on the efficacy of KM practices is contingent on the SECI model's online identification, creation, capture, sharing, storage, and classification of organisational knowledge, as well as the concept of "Ba". The SECI model and "Ba" were viewed as guidelines proposing components and providing the necessary advice to comprehend individual employee behaviour, organisational and technological enablers, and barriers that impede the success of organisational KM implementation strategies in mobile telecommunications companies in Namibia.

Codification Strategy

Codification transforms tacit organisational knowledge into explicit organisational knowledge in a consumable format using a KMS approach for organisational knowledge-added decision-making in an organisation (Mohapatra et al., 2016). Ngoc Thang and Tuan (2020) and Mohapatra et al. (2016) argue that codification methods use technology, structures, and procedures to transform tacit organisational knowledge into explicit

organisational knowledge and facilitate the sharing of ideas, resources, and best practices among stakeholders to improve customer service, satisfaction, and competitiveness. Organisational knowledge codification allows for creating a repository that can be used to store and share an organisation's accumulated and gathered organisational knowledge, facilitate collaborations between internal and external stakeholders, and store and share information across multiple disciplines. It is essential to investigate codification as a strategy, including the codification of organisational knowledge in MT companies. This pertains to assessing the suitability of a company's KMS for a particular objective (Ouriques et al., 2019). Failures in KM are due to the inability to define goals and strategy before adopting an organisation's KMS (Dayan et al., 2017; Santoro et al., 2018; Dezi, 2017). Codification via a mutually planned organizational KMS makes organisational knowledge accessible via electronic storage by displaying connections between individual employees, groups, or sources. This is believed to influence and facilitate an organisation's KMS and KM practices in MT companies in Namibia.

Personalisation Strategy

Greiner et al. (2007) state that personalisation is a tacit-centred organisational KM approach focusing on tacit organisational knowledge transmission within an online social context. According to Dlamini (2020), Özlen and Handzic (2020), personalisation strategy combines institutional factors such as interactive engagement, culture, and trust with employee storytelling and considers that tacit information cannot be codified but may be shared through brainstorming sessions and one-on-one dialogues. Technology has been used for innovation because it makes it easier for organisations to discuss and interact with technical issues, clarifications, approaches, and expenditures. Personalisation enables workers to discover and categorise significant organisational knowledge, but it is costly and time-consuming. Janicot and Mignon (2012) suggest that recruiting strategies include using external professionals and emphasising organisational knowledge retention. Personalisation, in particular, involves promoting the flow of information to derive the most significant benefit from organisational knowledge developed and profit from the internal organisational knowledge exchange. MT companies must ensure that organisational knowledge developed by individuals or teams in departments can be used by other actors in other contexts, contributing to overall performance enhancement. Prior research has yet to be conducted on applying KMS strategies to two MT companies in Namibia.

Knowledge Management Systems Enablers

An organisational KM implementation strategy is an enabler for KMS-based KM practices. Yasir and Majid (2017) submit that enablers are the fundamental elements that define the effectiveness and efficiency of implementing organisational KMS. Wang and Wang (2016) suggest that KMS implementation is based on characteristics such as visible aids, adaptability/compatibility, executive support, organisational culture, and viability/advantage. This study used the four concepts of "Ba" as complementary to the SECI framework to understand knowledge management implementation enablers and barriers in two mobile telecommunication companies in Namibia. For example, the originating "Ba" provides a setting for socialisation, the dialoguing "Ba" for externalisation, the systemising "Ba" for combination, and the exercising "Ba" for internalisation, which were perceived as enablers and barriers of the KM implementation strategy. Vaz-Serra and Edwards (2020) suggest that critical success factors of a company's KMS may become significant failures if they are not effectively implemented, utilised, and audited. Elahi (2020) classifies enablers into methodology, future technologies, human capital, and organisation. MT companies need to know if their employees want and are willing to be the source of tacit organisational knowledge about the reality and effectiveness of the social network and their motivational disposition towards KMS. Cheng (2020) states that senior management, ICT implementation, and organisational cultures are essential for applying KMS. Their lack of input can lead to employee resistance to organisational knowledge sharing and retention. In light of that, employees exchange their observations, feelings, emotions, and mental models on originating "Ba". It is an ontological space because it is the world in which a person exceeds the divide between themselves and others through sympathy or empathy. Employees' initial concepts serve as the foundation for the exchange of knowledge. These ideals are the source of care, affection, trust, and loyalty (Nonaka et al., 2000; Nonaka & Takeuchi, 2019). This study investigated initiatives involving KM strategy for a successful KM practice in two Namibian MT companies from the perspective above. Ignoring these issues could hinder innovation and improve employee performance. MT companies should foster a collaborative culture to build on a new, innovative, and accepting culture that senior management should commit to driving.

5 Methodology

The study used a mixed-methods approach via a convergent parallel design to understand KM strategies applied to KMS for KM practice in MT companies in Namibia

from two perspectives. Pragmatic considerations served as the driving force behind this study's research design. This is considering the logical and empirical conclusions interconnected with reality (subjectivism and objectivism), which were sought to comprehend KM's organisational KMS implementation in Namibia's two MT companies. The mixed-methods approach was adopted to improve and strengthen issues of validity and credibility in research (Shannon-Baker, 2016). For instance, combining interviews, questionnaires, and document analysis gave depth to reasonable conclusions that would not be feasible with a single technique alone, thus improving the conclusions' validity and reliability (Okesina, 2020) in this MM study. Applying the MM approach's ontological and epistemological presuppositions was the differential application in this study (Christensen, 2020; Ngulube, 2015). In a convergent parallel design, the researcher gathers and analyses two separate (quantitative and qualitative) databases in parallel before merging or amalgamating the findings (Creswell & Clark, 2018; Creswell & Plano Clark, 2018; Miller et al., 2020; Ngulube, 2019). This study adopted the parallel sampling approach, where several quantitative and qualitative samples were drawn from the same underlying population (Creswell & Plano Clark, 2018; Hashemi & Babaii, 2013; Ngulube, 2019). Parallel sampling supports convergent or concurrent designs, while concurrent MM sampling successively uses a method concurrent to autonomous samples (Creswell & Plano Clark, 2018; Hashemi & Babaii, 2013). The researcher used different samples simultaneously and selected the populace for concurrent and independent quantitative and qualitative approaches to obtain divergence, disagreement, or similarities to organisational KM implementation strategy and challenges to KMS in two MT companies in Namibia. Creswell and Plano Clark (2018) suggest that using convergent design and selecting participants to participate in the quantitative and qualitative threads is based on including a sample of different participants. Three hundred twenty-nine questionnaires were distributed via online surveys, and 200 were received with a 60.79% response rate. While 176 questionnaires were accepted based on the extent to which the responses were complete on the KM implementation strategy for KMS, eleven of the twenty scheduled online structured interviews were conducted. Quantitative respondents were chosen using simple random selection under probability sampling, whereas qualitative respondents and materials were chosen using purposive sampling. The mixed-methods case study focused on the degree of personnel assessment. A sample of organisational knowledge employees was used to evaluate their KM implementation strategy and its impediments. Qualitative and quantitative questions were used to elicit

participants' and respondents' views of MT companies in Namibia's objectives and challenges of organisational KMS. Two professors in information and KM assessed the survey questionnaire and interview questions, and their comments were considered. Due to ethical considerations, the titles of the senior managers interviewed and their respective companies cannot be disclosed in the presentation of the findings, as these two companies compete directly in the designated field.

6 Results of the Study

Sex group of the respondents

This study used a questionnaire to determine the sex group of the respondents. Findings indicate that 135 (76.7%) were female, while 41 (23.2 %) were male. Figure 1 illustrates the respondents by sex used to investigate employees' interactions with organisational KMS implementation in select MT companies.

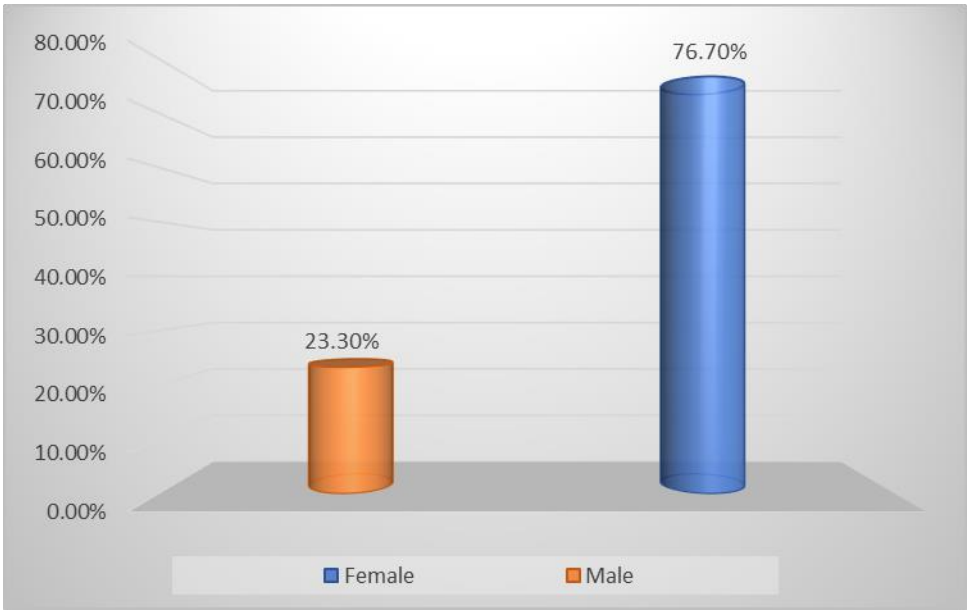

Figure 1: Respondents by Sex Group (n=176)

Qualification of respondents

The study sought to establish the academic or professional credentials of quantitative respondents. Figure 2 shows that (62%) held a Bachelor of Arts degree, followed by those with a master's degree (22%) and those with a post-secondary credential (1.15%). This shows that quantitative respondents had the required organisational knowledge about their level of qualifications to respond to the online survey.

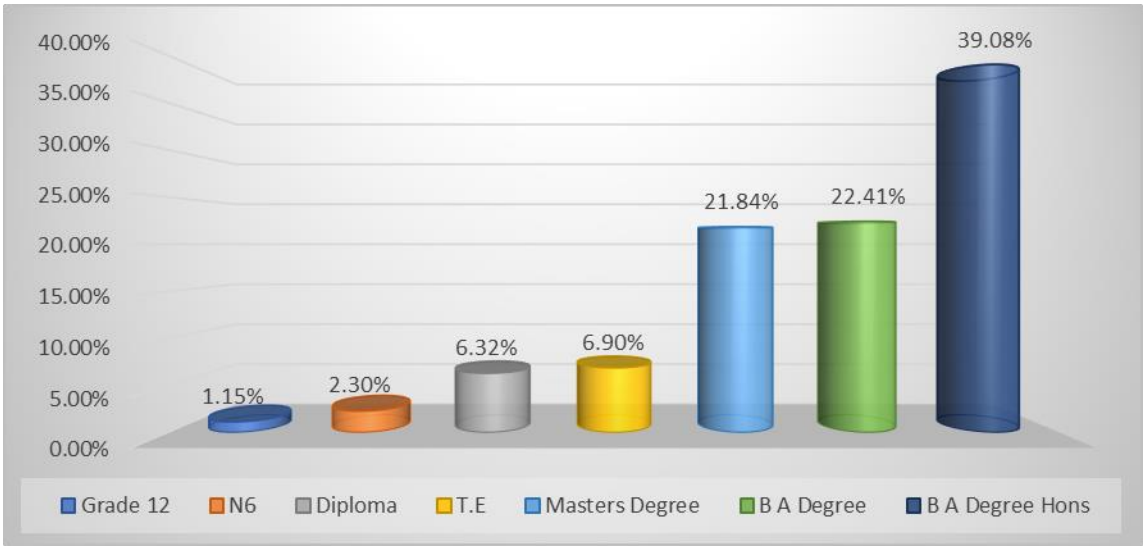

Figure 2: Respondents per qualifications(n=176)

Understanding of organisational knowledge

The study sought to find out the understanding of organisational knowledge from quantitative respondents and qualitative participants. Findings show that organisational knowledge in two MT companies in Namibia centres on both tacit and explicit organisational knowledge. A combined 137 (77.8%) strongly agreed and agreed that organisational knowledge was a part of their competitive advantage, compared to 39 (22.2%) who strongly disagreed and disagreed. In a follow-up question, quantitative respondents and qualitative participants in two MT companies in Namibia summed up organisational knowledge that: "organisational knowledge is in the mind of employees, learned, meaning, gathered, solving problems, possession, experience, skills and used within MT companies." Regarding qualitative findings, the following selected responses were received:

Participant 1 defined organisational knowledge as:

> "The information in the mind, gained and utilised inside my organisation, including skills, experience, and simulation. What I know is the result of a collaboration of work experience, teamwork, and field-specific education."

Participant 2, who defined organisational knowledge as:

> "…familiarity with a person's knowledge obtained via practice and instruction."

Participant 3 lamented that organisational knowledge is:

> "Specialised knowledge of electronic installation in relation to various installed systems pertaining to fault detection in relation to particular systems in order to carry out the necessary tasks in the correct manner."

Participant 4 said that organisational knowledge is:

> "…the basic talent that helps me do my job well, solve problems at work, and participate in group activities."

Participant 6 defined organisational knowledge as:

> "…the knowledge and abilities a person or employee possess that enable him or her to fulfil organisational responsibilities, such as promptly addressing system faults."

It is also essential to note that qualitative findings showed that organisational knowledge has a specialised context.

Knowledge management implementation strategies

The study further sought to establish if two MT companies in Namibia had an organisational KM implementation strategy for KMS. Findings shown in Figure 3 show that 94.3% of two MT companies in Namibia had no strategy for organisational KM, particularly for organisational KMS, compared to 1.7% and 3.98% of yes and did not know of the availability of KM strategy.

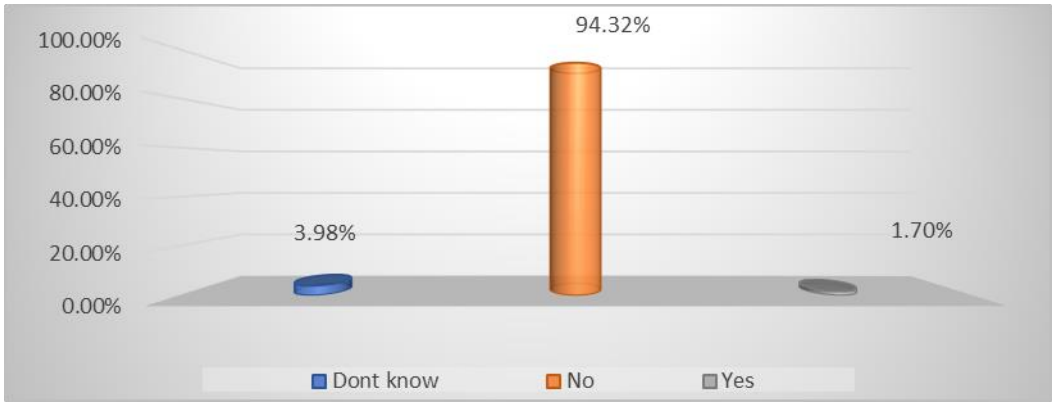

Figure 3: Strategy on organisational KMS (n=176)

Results showed no KM strategy or department in MT companies in Namibia. The following are some qualitatively selected responses to the availability of KM strategies in two MT companies in Namibia:

Participant 1 remarked,	"There is no KMS strategy, but we have thoughts on how to apply it to information systems, especially."
Participant 2 stated,	"I am unaware of any KM policy, but if one does exist, it should be included in our ICT policy. Please, find out from them."
Participant 3 pointed out;	"Our ICT policy obviously has some guidelines on how to manage information or data. Is it not that ICT assists with information management?"
Participant 4 said that;	"Our information technology policy I believe should have a component of an information systems programme that is focused on improving technical needs for data management and measuring and improving the information management system."
Participant 5 noted that;	"Our organisation has begun establishing techniques not only to collect information but also assure the capture of information while others are living in the organisation and storing it in databases."
Participant 6 said that;	"We have a knowledge management policy, but it is currently being updated to match new techniques of information sharing in our organisation. However, we do not have a department or role dedicated to knowledge management."
Participant 7 said;	"We do not have it; I have not seen it elsewhere; I know of other policies ICT amongst others."
Participant 8 remarked that;	"I can assure you that there is no knowledge management plan in this organisation."
Participant 11 remarked that;	"Our knowledge management strategy is not yet fully developed but let me say that we have in place methods of document management."

In addition, the findings in Figure 2 revealed that 140 (79.5%) MT companies lack an organisational KM department, with 75 (42.6%) respondents between the ages of 22 and 35 with two to five years of work experience believing that collaborative corporate issues should be an essential element of an organisation's KM strategy. Findings further show that 58 (33%) respondents with 11–15 years of experience believed that an organisation's KMS and KM practices should be well-defined and that a lack of awareness of the outcomes of a type of KM undermines the development of the KM strategy.

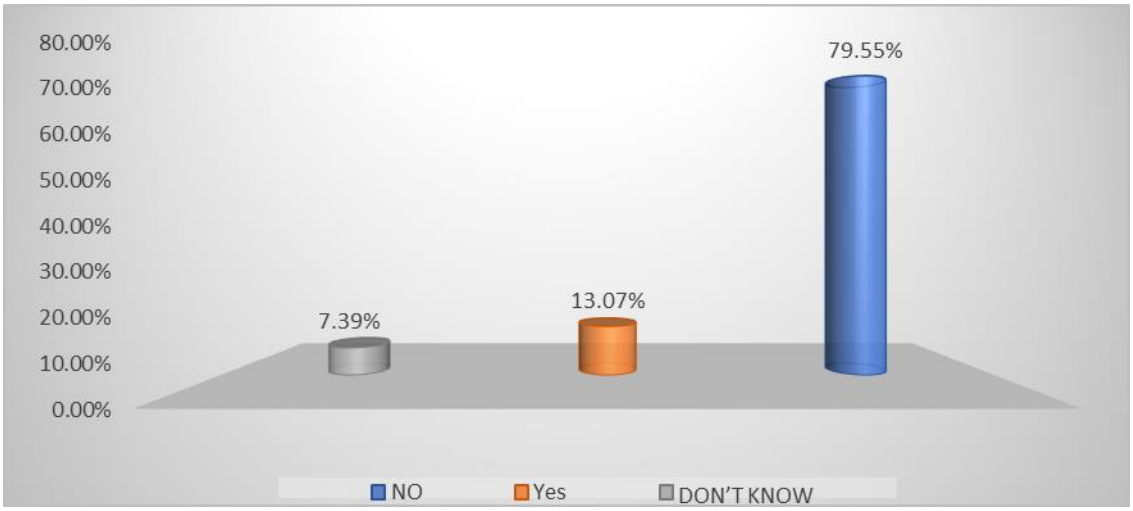

Figure 4: Organisational KM Department (n=176).

Findings highlight the importance of the human resources department is essential for developing a KM strategy for KM practice, with an essential section to introduce the process. The following are qualitatively selected responses from two MT companies in Namibia regarding their KM departments:

Participant 1 averred:

> "I understand the importance of having a KM department or section as I read through what knowledge management is; this could help in setting up a beneficial knowledge management layout where needed information will be structured and available, but currently, our organisation does not have such a department or section. We are just beginning to set it up but finishing it will take some time."

Participant 2 claimed:

> "You know, those of us who work with executives need a better understanding of the day-to-day operations of the critical KM department when setting it up, which is why we need it (it looks like most of us do not know what to benefit from). We require training on the significance of KM strategy because the management, storage, and access to information are still essential to this industry."

Participant 3 emphasised:

> "Firstly, our capacity to respond effectively to shifting telecommunications market conditions relies heavily on the technology and information available. With a department that oversees information or knowledge management, we will

have a better way to access that essential information using technology. Second, setting it up rests with the assistance of the HR department, which I recommend doing because doing so will ensure that it functions properly."

Participant 4 postulated that:

"In my view, we have made such a significant investment in software solutions; in this age of technology, we should invest in knowledge management. I see how information technology and human resources can help this department or the whole organisation grow. Because of this, KM and technology must make it easier for us to get the information we need by making it easier to do multiple things at once."

Participant 5 pointed out:

"We do not have a department; therefore, I think creating one would be a good idea. The department will help spread a culture where employees are valued for their ability to learn new things and show their creativity by using the new information to make products or other things."

Participant 6 indicated:

"To my understanding, this company does not have a knowledge management division, and there is no knowledge management position either. A lot is riding on the success of technologies in this organisation which I believe that they have the potential to disseminate information and knowledge for the benefit of the organisation itself with the assistance of the human resources department. For the time being, you are here for data indicative of the potential impact of the knowledge and information it contains."

Participant 7 lamented:

"I know the importance of knowledge management, but unfortunately, we need a dedicated division. Our organisation needs a dedicated department like others. However, some departments, such as IT, have a set procedure for running or handling information. Is it time to get things done? HR should assist in that aspect."

Participant 8 stated:

> "Let me say that the department of human resources management plays a vital role in establishing the department, just as they do for other departments. They may need to be made aware of knowledge management or its significance. This explains why we do not have it because they do not see the need for it."

Participant 9 elaborated:

> "In all honesty, we do not have it (a knowledge management department or manager, for that matter). However, we sometimes consider information and knowledge management a critical and proactive step in ICT. As a result, we must work hard to stay current on information, and this work should be overseen by the department in charge of knowledge management, which will be established soon by HR."

Participant 10 emphasised:

> "In my opinion, the best way to begin connecting the dots in knowledge management (KM) areas is to involve the HR department in this organisation. Because there is no department or section for knowledge management, but only one for ICT and cyber security. These departments deal with information, data, and knowledge management issues."

Knowledge management systems enablers and barriers

The study sought to underpin organisational KMS enablers for two MT companies in Namibia. The study identified barriers and enablers to KMSs, such as employee attitude complexity, lack of specific system use, and a positive organisational KM corporate work culture. The following qualitative responses were obtained:

Participant 1 expressed concern about full participation in organisational KMS, stating,

> "There is a great deal of flexibility in how each person is virtually involved in exchanging information, but not to the greatest extent."

Participant 2 commented further that,

> "Not all workers feel confident or have the initiative to provide input to upper management's concerns. However, we will keep at it until we have created a culture where sharing ideas and information freely is the norm rather than the exception. You will find that the level of expertise of a departing employee is not replaced."

Participant 3 stated that:

> "One may comprehend why or how other employees may consider their experience sufficient for progress in the organisation, clueless to the fact that thoughts or ideas sharing are essential for innovation."

Participant 7 mentioned that:

> "It was plain to see that COVID-19 was responsible for a noticeable shift in one worker's approach to using technological resources and data". Participant 9 said, "They (employees) did stress the need for us supervisors in the organisation to realise the value of web-based technologies. It sets a precedent and inspires workers."

Participant 8 exclaims that:

> "I have learned that it is crucial that we select a senior official as information or knowledge management champion, encourage employee use of online technology, and recognise accomplishments. I believe this will significantly impact the objectives of IT training and how employees approach their work, including formulating a knowledge management plan."

Participant 11 said:

> "Even though we have modern technology, particularly for integrating it into the workplace, I have seen that long-term collaboration requires reinforcers."

Findings show that the prevalence of support for the implementation of organisational KMS is perceived as necessary, with 133 (64.2%) strongly agreeing and agreeing that it requires support, 42 (23.8%) strongly disagreeing and disagreeing that it requires support, and 2 (1.1%) neutral. Quantitative findings further revealed that KMS, particularly ICT, benefits MT companies and enables processes such as receiving, retrieving, searching for, and transmitting information. All senior management agreed that organisational KMS was the responsibility of managers and subordinates, and divisional engagement contributed to its success. Qualitative findings show that ten (90.9%) recognised the critical role of training on ICT for organisational KMS in enhancing employee performance. These findings, corroborated with quantitative responses, showed that 138 employees (78.4%) preferred online training, including simulation skills, as critical to improving their overall performance, while 38 (21.4%) were neutral. The study further reveals that organisational KMS is an essential enabler for KM practices; Findings show

that 137 (77.8%) reported a lack of motivation, and two MT companies lacked a structural reward system and had low employee involvement. Figure 4 shows Findings that 50% of quantitative respondents in two MT companies said that implementing KMS using communication tools for collaboration functionalities and allowing online chat was average, 33% thought it was good, 11.46% thought it was poor, and 6% said it did not apply.

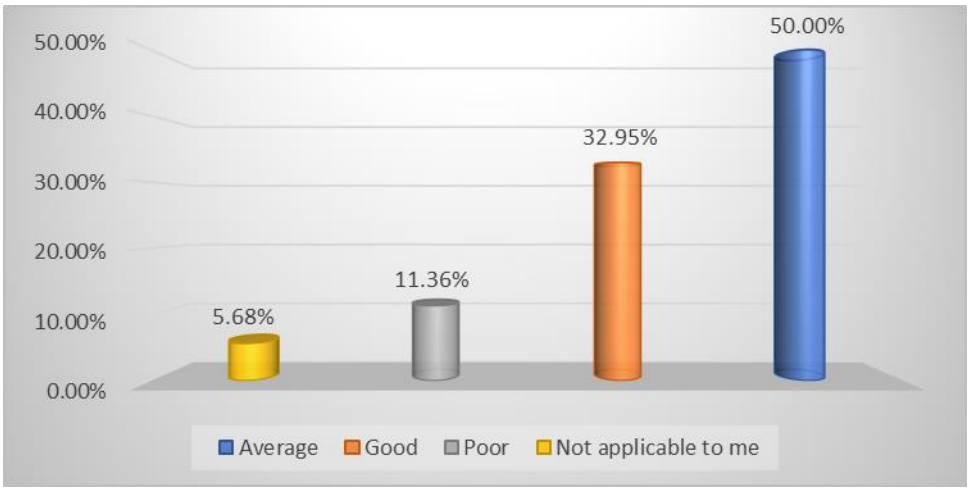

Figure 5: KMS on informal collaboration functionalities(n=176)

Findings show that Senior management in two MT companies recognised that current internet connections were available to all employees. However, improvements are needed in incentives, rewards, and appreciation to encourage employees to use the organisation's KMS to gain access to organisational knowledge repositories. The architecture for information sharing facilitates employee collaboration and aids in managing documents, folders, emails, and agendas, but a willingness to share information or expertise must be enhanced. Findings further show low levels of online contact between top managers and workers at the bottom of the hierarchy and limited divisional collaboration. Eight-nine (50.5%) of the quantitative respondents strongly agreed that the implemented online organisational knowledge classification supports the organisational KMS. In comparison, 67 (38.1%) strongly disagreed, and 20 (11.4%) were neutral. One hundred and fifty-two (86.4%) of the quantitative respondents strongly agreed or agreed that two MT companies had implemented KMS that focused on online meetings. While 9.1% strongly disagreed or disagreed, and 4.55% were neutral. Their responses are illustrated in Figure 5. Notably, 117 (66.5%) strongly agreed and agreed that two MT companies had implemented an organisational KMS via discussion forums for KM practice. In comparison, 49 (27.8%) and 10 (6%) were neutral.

Findings demonstrate the advantages of organisational culture as the most important facilitator of KMS implementation and should be emphasised during the early stages to facilitate enhanced interpersonal interaction. The following responses were received, commenting on the trustworthiness and performance of enhanced technology that facilitates employee access to documentation and online discussions:

Qualitative Participant 2 commented that:

> "Organisations with well-defined project procedures and extensive project knowledge improve the likelihood of ICT or organisational KMS implementation success."

Participant 4 pointed out that:

> "We are often assisted with our projects through the sharing of information, the establishment of guidelines, the provision of necessary training in the field of execution, the centralization of interaction, and the assignment of tasks to line departments. In most situations, I feel this has helped us. Of course, there is still an opportunity for development."

However, qualitative Participant 8 claims that:

> "In our ICT policies, there are obviously some guidelines on what you can share and what not to."

Participant 3 commented:

> "In today's competitive environment, it has been observed that principles of information exchange do not emerge as anticipated in the workplace. It turns out that employees must be incentivised to be proficient in information interchange."

Participant 6 admitted that:

> "Employees need to get to know each other in order to create the essential trust. Thus, we always arrange certain events that allow employees to engage in after-work or social outings on the occasional take a break. We learned that it is an excellent opportunity for us to spend time around each other in more informal or social settings."

Participant 7 said that:

> "Despite our encouragement to connect and participate in online sessions focused on organisational activities, it looks as if they are interested but hesitant to contribute the bulk of what they have learned."

Participant 9 commented that*:*

> "We need to avoid making errors of presuming that they lack relevant expertise or ideas just because they are lower in command. That does not work for us. In our company, how much experience one has in their area of expertise is irrelevant. What is vital here is always a pair of thoughts and the accumulation of peer opinions. We learned that asking may feel awkward at first, but it becomes clear quickly that asking for or giving feedback is a good way for everyone to work together."

Participant 10 asserted that:

> "I have seen a rising issue in an organisation's workplace, where employees tend to withhold and hoard information from others but are more candid with their supervisor on a one-on-one."

Findings show that 137 (78.8%) strongly agreed or agreed that well-implemented (consulted) or timely advised organisational KMS initiatives improve employee efficiency by reusing existing skills and organisational knowledge. Qualitative responses hint at the importance of developing effective methods for capturing and documenting organisational knowledge, increasing accessibility, incentivising employees to share, reuse, and apply organisational knowledge, and aligning KM with objectives and strategy. However, 89 (50.5%) of the quantitative respondents strongly agreed or agreed that a lack of awareness of the benefits of KMS, technology, and a culture of information sharing, as well as a lack of strategy on information and KM, are obstacles to the success of an organisation's KMS for KM practice. Figure 6 shows that 117 (66.5%) respondents strongly disagreed or disagreed that organisational KMS and their associated practices were clearly defined, whereas 59 (33.5%) respondents strongly agreed and agreed.

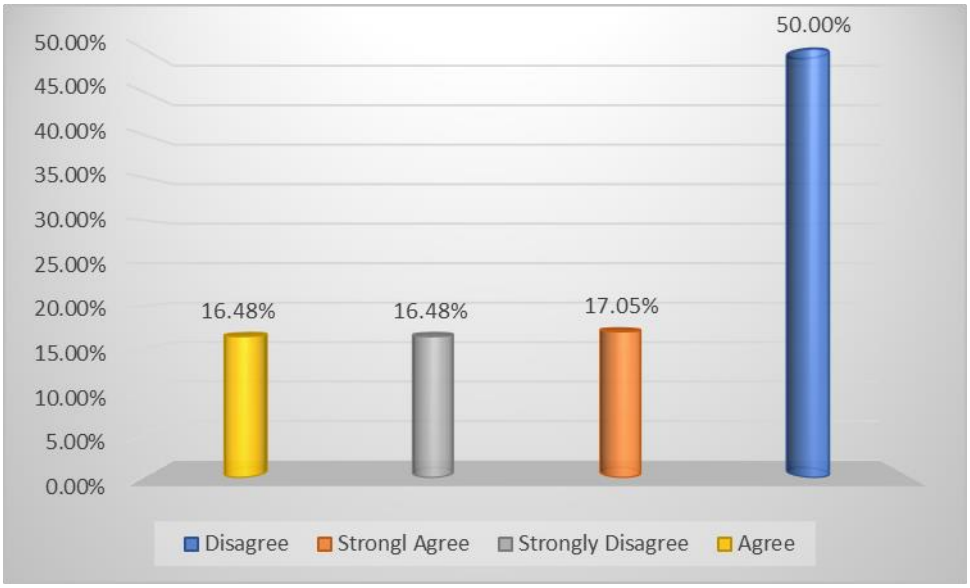

Figure 6: KMS clearly defined (n=176)

Findings show that 121 (68.8%) strongly agreed and agreed that two MT companies in Namibia had high-speed or advanced computer systems. In contrast, fifty-five (31.2%) stated that two MT companies lacked high-speed information systems. Findings further show that 141 (80.1%) management teams lack the necessary support for an organisational KMS; additionally, 21 % stated that managers were committed to and still created a socially supportive framework for organisational knowledge exchange via symposiums, seminars, and discussions, compared to 44% who strongly agreed and agreed that management teams did not generate a collective supportive framework. Qualitative findings show that senior management in MT companies in Namibia supports their subordinates with time, technology, and resources to enable effective and efficient KMS for KM practice, despite high computer systems, limited rewards for active users, and difficulty managing shared management in MT companies in Namibia.

7 Discussion of Findings

The study's primary findings indicate that MT companies in Namibia require an organisational KM implementation strategy due to the absence of a KM strategy, department, or section and the presence of KM challenges. These findings speak to Tounkara (2019), Ouriques et al. (2019), Ngoc Thang and Tuan (2020), and Wasinda, Kiplang'at, and Chebon (2019), who state that organisations often do poorly with KMS due to a lack of a strategy that emphasises the value of personalisation and codification as KM strategies. It is evident from the study that MT companies need formal KM processes and tools to ingest and leverage knowledge to address organisational-related

KM problems. Dumitriu (2016) emphasises the significance of an organisation's KM readiness structure, the need for a strategic vision that incorporates KM, assessing KM's impact, and the adverse effects of ignoring an organisation's KM demands. Ricardo (2020) suggests developing a system-level program on knowledge management approach that assists with facilitating and directing both the internal and external flow of knowledge. This will assist in eliminating obstacles caused by the absence of a KM implementation strategy. Two MT companies should make room for KMS management standards in their overall strategy, as effective knowledge management practices are necessary to implement KMS successfully. A KM strategy will facilitate the identification of formal and informal platforms that meet MT companies' requirements and foster an environment that enables collaborative knowledge capture, sharing, and application. To gain a competitive advantage, MT companies in Namibia must identify the essential organisational characteristics of knowledge management systems for efficient and effective KM practice.

The study further found that a lack of structural reward systems, management support, ICT (KMS), low employee involvement, limited collaboration about KM implementation, organisational culture, trustworthiness, consultation, and incentives are enablers and barriers to organisational KMS. These issues impede the successful implementation of KM in MT companies in Namibia. To contain such challenges for successfully implementing KMS, Inkinen et al. (2015), Andriani et al. (2019) suggest that KM as the design, execution, and maintenance of the organisation’s knowledge-based-assets are essential. MT companies must be inventive and implement innovative KM practices founded on a strategy that permits an increase in employee awareness, enhances corporate decision-making, and obtains a competitive edge. In addition to the significance of the KM strategy for KM practice, the most crucial information is that KM practice via KMS is restricted to a subset of MT companies in Namibia, and KMS deployment should be prioritised. According to Basten et al. (2017), the technology used to administer tacit and explicit organisational knowledge should be determined by the organisation's current knowledge. Punpukdee (2020) suggests that organisational KMS should include communication systems to cultivate credibility, support, and positive regard for exchanging knowledge about background diversity. Nouri et al. (2013) identified leadership as an essential component of the personalisation strategy and technology required to achieve this goal. MT companies in Namibia should implement a KM that enables innovative KMS to effect change. Utilising information technology,

employees can acquire, retain, and share organisational knowledge through online interpersonal interaction. To ensure the benefits of KM, MT companies should implement formal KMS, codification, and personalisation initiatives. Standard KMS must be enhanced (Andriani et al., 2019; Basten et al., 2017), whereas frameworks may be necessary for tacit organisational knowledge management.

8 Conclusion

This study found that Namibia's two MT companies needed an organisational KM implementation strategy for KMS to facilitate formal and informal KM practices. Senior management better understood KM, and tacit and explicit's approval would guide or enhance their operations in particular knowledge management practices. It is still being determined whether KM should be housed in the Human Resource Development department or within the department itself. This study contributes to advancing research into practice and understanding KM strategy's significance for KM practice from a pluralistic perspective. The mixed methods approach is a practical way to understand KM because it looks at how organisational knowledge strategies affect a formal KMS implementation strategy to make KM practices more effective and efficient. It concludes that MT companies must involve users during the design process to successfully adopt and adapt codification and personalisation strategies for KMS implementation for effective and efficient knowledge management practices.

9 Recommendations

The researchers recommend adopting an approach to multidimensional KM based on the SECI framework and the "Ba" concept. The focus should be on leveraging tacit and explicit contexts to inspire innovation and online social systems for effective and efficient organisational KMS for KM practice. Formal and informal adaptations of codification and personalisation methodologies for the effective use of organisational knowledge to stimulate innovation and competitive advantage overlap, with codification occurring more frequently than personalisation and the two practices complementing one another in only a few instances.

Proposed Framework

This study aimed to develop a framework to optimise the successful implementation of an organisational KMS strategy for MT companies in Namibia. This study demonstrates the potential of utilising KM implementation strategies as a potent method for efficient and effective KMS implementation and successful KM practices. MT companies in

Namibia (and elsewhere), as well as managers and KM policymakers, can support and implement KMS aimed at effective KM practices using the proposed implementation framework, a practical methodology. The framework contributes to a better comprehension of implementing knowledge management systems through problem-solving methods and spurs employee creativity and efficiency in KM practices. Contemporary knowledge trends in a knowledge-based society and 4IR necessitate implementing knowledge management systems for knowledge management practices. New KMS designs and applications incorporate practical understanding with organisational knowledge through the influence of "Ba". Disclosing the role of senior managers and employee participation in constructing organisational knowledge via knowledge management systems as a continuum of KM domains has important practical implications for KM theory and researchers. Figure 7 depicts the proposed framework, emphasising crucial measures for incorporating employee consultation throughout the organisational knowledge-based growth processes. Individual employees' organisational knowledge will be categorised through personalisation and codification. The knowledge management system will be advanced using ICTS infrastructure for efficient organisational knowledge sharing, transfer, dissemination, and acquisition with a strong emphasis (in red) on senior management, culture, structure, and ICT.

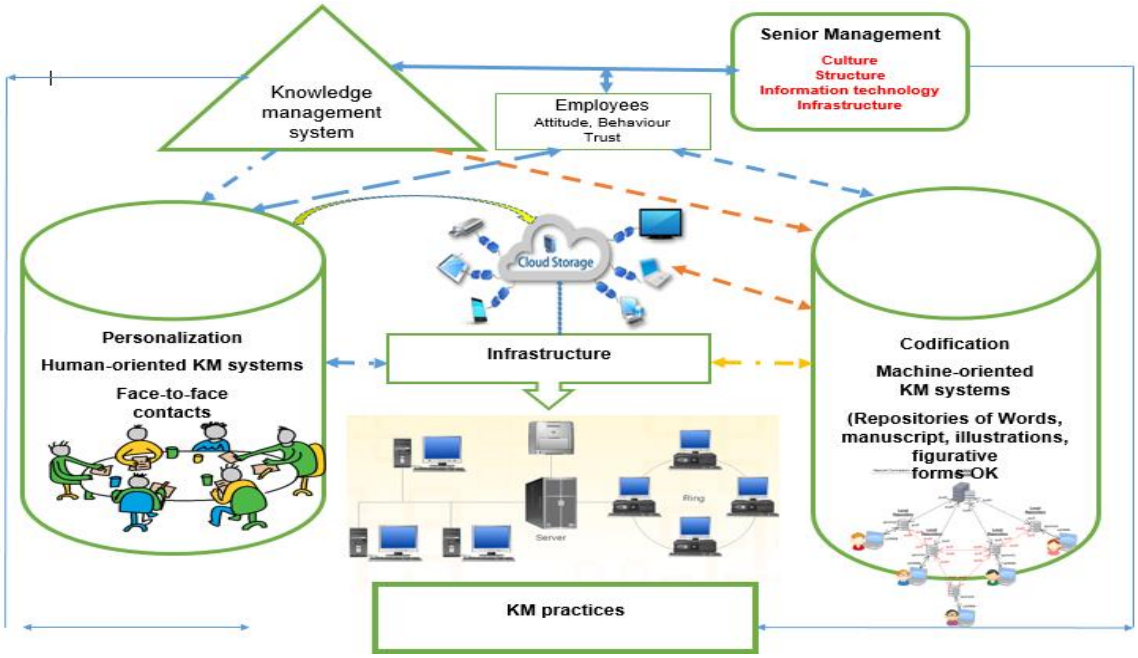

Figure 7: Framework for implementation of KMS (Researchers, 2022)

Elements in Figure 7 are interconnected to form the requisite connection or relationship between them and are considered a cohesive framework. These elements, or factors, are described below.

Senior Management

Under this proposed framework, for MT companies' KMS to be successfully implemented, management must exert influence and support in developing a favourable culture, structure, and technology.

Organisational culture: foster positive norms, values, and beliefs to regulate employee behaviour and attitude in relation to the organisation's KMS and KM practices. To encourage employees to adopt or utilise the system, increasing awareness, comprehension, motivation, benefits, and resources is necessary.

Organisational structure: prioritises collaboration on KMS development and using formal and informal structures to establish networks between departments and employees for effective KM practice. This section reengineers the conventional consultation structure into a hybrid structure that considers KMS components for KM practices.

Technology: At this stage, management consults with users to determine the types of technology required for KMS for KM practice. Technology is directed in relation to organisational knowledge processing, storage, collaboration, communication technologies, and systems that look at organisational repositories, databases, warehouses, intranets, and the Internet.

Knowledge Management System Strategy

This study recommends that MT companies adopt and adapt pragmatism or a hybrid organisational KM strategy (personalisation and codification) for KM practices.

1. Personalisation will be implemented in employees' face-to-face contact as outlined per organisational culture and structure between members of the (online) community of practice. This will depend on the organisation's services offered and the problem concerning controlling tacit organisational knowledge.
2. Codification involves turning captured, created and acquired shared organisational knowledge into an organisational repository, database, and warehouse and controlling retrieval of organisational knowledge through memory transformation.

Employee

Under this phase, the framework outlines the overlap of employee consultation contacts, developing KM strategy, and technology infrastructure to foster positive behaviour and attitude towards the organisational KMS. Departmental encouragement will be used to build teams and encourage recognition, online communities, training, and learning to address the acquisition, creation, sharing, identification, and classification of organisational knowledge.

10 Limitation

Using a concurrent research design, this study was limited to the knowledge management implementation strategy for knowledge management systems in two mobile telecommunications companies in Namibia. It did not include other telecommunications companies in Namibia or other parts of Africa. In addition, data collection was restricted to two MT companies, Mobile Telecommunication Company Namibia and Telecom Namibia, as well as other companies; a mixed-methods research design would provide additional insights and conclusions. In light of this, other Namibian companies and African nations would create an exclusive environment for a future study with insightful findings using exploratory or explanatory sequential designs.

References

Abubakar, A. M., Elrehail, H., Alatailat, M. A., & Elçi, A. (2019). Knowledge management, decision-making style, and organizational performance. *Journal of Innovation & Knowledge*, *4*(2), 104-114. https://doi.org/10.1016/j.jik.2017.07.003

Adeinat, I. M., & Abdulfatah, F. H. (2019). Organizational culture and knowledge management processes: Case study in a public university. *VINE Journal of Information and Knowledge Management Systems*, *49*(1), 35-53. https://doi.org/10.1108/vjikms-05-2018-0041

Adesina, A. O., & Ocholla, D. N. (2020). The SECI model in knowledge management practices. *Mousaion: South African Journal of Information Studies*, *37*(3). https://doi.org/10.25159/2663-659x/6557

Andriani, M., Samadhi, T. A., Siswanto, J., & Suryadi, K. (2019). Knowledge management strategy: An organisational development approach. *Business Process Management Journal*, *25*(7), 1474-1490. https://doi.org/10.1108/bpmj-07-2018-0191

Awa, H. O., Ukoha, O., & Igwe, S. R. (2017). Revisiting technology-organization-environment (T-O-E) theory for enriched applicability. *The Bottom Line*, *30*(01), 2-22. https://doi.org/10.1108/bl-12-2016-0044

Bamigbola, A. A., (2021). Web 3.0 Tools and Knowledge Conversion by Distance Learners. Regional Journal of Information and Knowledge Management, 6 (2),21-35.

Basten, D., Schneider, L., & Pankratz, O. (2017). Codification, personalisation, or in between? Exploring knowledge characteristics to guide knowledge management system design. *Journal of Information & Knowledge Management*, *16*(04), 1750037. https://doi.org/10.1142/s021964921750037x

Bolisani, E., & Bratianu, C. (2018). *Emergent knowledge strategies: Strategic thinking in knowledge management*. Springer.

Chandna, V., & Iusco, A. (2018). Knowledge Management Systems for urban water sustainability: Lessons for developing nations. *Handbook of Knowledge Management for Sustainable Water Systems*, 61-78. (n.d.).

Cheng, E. C. (2020). Knowledge management for improving school strategic planning. *Educational Management Administration & Leadership*, *49*(5), 824–840. https://doi.org/10.1177/1741143220918255

Chigada, J. (2014). The role of knowledge management in enhancing organisational performance in selected banks in South Africa [Doctoral dissertation]. https://uir.unisa.ac.za/handle/10500/14332

Christensen, J. H. (2020). Enhancing mixed methods pragmatism with systems theory: Perspectives from educational research. Systems Research and Behavioral Science, 39(1), 104-115. https://doi.org/10.1002/sres.2751

Creswell, J. W., & Clark, V. L. (2018). *Designing and conducting mixed methods research*. 3rd ed. SAGE.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Dayan, R., Heisig, P., & Matos, F. (2017). Knowledge management as a factor for the formulation and implementation of organization strategy. *Journal of Knowledge Management*, *21*(2), 308-329. https://doi.org/10.1108/jkm-02-2016-0068

Dei, D. J. (2017). *Assessing knowledge management systems implementation in Ghanaian Universities* [Doctoral dissertation]. https://uir.unisa.ac.za/handle/10500/22747

Dlamini, P. N. (2020). Use of information and communication technologies tools to capture, store, and disseminate indigenous knowledge: a literature review. In Indigenous Studies: Breakthroughs in Research and Practice, edited by Khosrow-Pour, M. Hershey PA: IGI Global: pp. 325–347.

Dumitriu, P. (2016). Knowledge management. The United Nations as a Knowledge System, pp. 161–189. https://doi.org/10.4324/9781315666174-11

Ekambaram, A., Sørensen, A. Ø., Bull-Berg, H., & Olsson, N. O. (2018). The role of big data and knowledge management in improving projects and project-based organizations. *Procedia Computer Science*, *138*, 851-858. https://doi.org/10.1016/j.procs.2018.10.111

Elahi, N. (2020). Barriers and Enablers to Knowledge Management in the Pakistani Hospitality Industry: An Application of Fuzzy Delphi Method. In *Accelerating knowledge sharing, creativity, and innovation through business tourism* (pp. 188-204). IGI Global. DOI: 10.4018/978-1-7998-3142-6

Ghasemi, B., & Valmohammadi, C. (2018). Developing a measurement instrument of knowledge management implementation in the Iranian oil industry. *Kybernetes*, *47*(10), 1874-1905. https://doi.org/10.1108/k-01-2018-0006

Greiner, M. E., Böhmann, T., & Krcmar, H. (2007). A strategy for knowledge management. Journal of knowledge management, 11(6), 3-15. (n.d.).

Hasnain, S. S. (2015). Organisational knowledge: The Panacea to NGO-operations. *Procedia - Social and Behavioral Sciences*, *195*, 197-201. https://doi.org/10.1016/j.sbspro.2015.06.350

Inkinen, H. T., Kianto, A., & Vanhala, M. (2015). Knowledge management practices and innovation performance in Finland. *Baltic Journal of Management*, *10*(4), 432-455. https://doi.org/10.1108/bjm-10-2014-0178

Iskandar, K., Jambak, M. I., Kosala, R., & Prabowo, H. (2017). Current issue on knowledge management system for future research: A systematic literature review. *Procedia Computer Science*, *116*, 68-80. https://doi.org/10.1016/j.procs.2017.10.011

Janicot, C., & Mignon, S. (2012). Knowledge codification in audit and consulting firms: A conceptual and empirical approach. *Knowledge Management Research & Practice*, *10*(1), 4-15. https://doi.org/10.1057/kmrp.2011.38

Maier, R. (2014). *Knowledge management systems*. Springer.

Malik, RF. (2019). Knowledge Transfer Model for Private Higher Education Knowledge Management System. In 2019 International Conference on Informatics, Multimedia, Cyber and Information System, pp. 191–194 [Paper presentation].

Miller, M. J., Morris, M. A., Magnusson, D. M., Putnam, K., Cook, P. F., Schenkman, M. L., & Christiansen, C. L. (2020). Psychosocial factors influence physical activity after Dysvascular amputation: A convergent mixed-methods study. *PM&R*, *13*(7), 737-745. https://doi.org/10.1002/pmrj.12466

Mohapatra, S., Agrawal, A., & Satpathy, A. (2016). *Designing knowledge management-enabled business strategies: A top-down approach*. Springer.

Natek, S., & Zwilling, M. (2016) Knowledge management systems support SECI model of knowledge-creating process. *In Joint International Conference (pp. 1123-1131)* [Paper presentation].

Ngoc Thang, N., & Anh Tuan, P. (2020). Knowledge acquisition, knowledge management strategy and innovation: An empirical study of Vietnamese firms. *Cogent Business & Management*, *7*(1), 1786314. https://doi.org/10.1080/23311975.2020.1786314

Ngulube, P. (2015). Trends in research methodological procedures used in knowledge management studies. African Journal of Library, Archives and Information Science, 25(2), 125–143.

Ngulube, P. (2019). Mapping methodological issues in knowledge management research, 2009–2014. *International Journal of Knowledge Management*, *15*(1), 85–100. https://doi.org/10.4018/ijkm.2019010106

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford University Press.

Nonaka, I., & Takeuchi, H. (2019). *The wise company: How companies create continuous innovation*. Oxford University Press.

Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, BA and leadership: A unified model of dynamic knowledge creation. *Long Range Planning*, *33*(1), 5-34. https://doi.org/10.1016/s0024-6301(99)00115-6

Nouri, R., Moshabaki, A., Raissi, S., & Javadinia, Y. (2013). The influence of the personalization and codification strategies on successful knowledge management case study: National Iranian oil company. *Research Journal of Applied Sciences, Engineering and Technology*, *6*(6), 989-996. https://doi.org/10.19026/rjaset.6.4003

Okesina, M. (2020). A critical review of the relationship between paradigm, methodology, design and method in research. Journal of Research and Method in Education, 10(3), 58–68. DOI:10.9790/7388-1003015768

Ouriques, R. A., Wnuk, K., Gorschek, T., & Svensson, R. B. (2019). Knowledge management strategies and processes in Agile software development: A systematic literature review. *International Journal of Software Engineering and Knowledge Engineering*, *29*(03), 345–380. https://doi.org/10.1142/s0218194019500153

Özlen, M. K., & Handzic, M. (2020). Ambidextrous organisations from the perspective of employed knowledge management strategies: Evidence from Turkey. *Journal of Information & Knowledge Management*, *19*(02), 2050003. https://doi.org/10.1142/s0219649220500033

Punpukdee, A. (2020). Innovative knowledge productivity in community of practice in public hospitals of Thailand: A model comparison approach. *Journal of Contemporary Issues and Thought*, *10*, 54-64. https://doi.org/10.37134/jcit.vol10.6.2020

Rhem, A. J. (2016). *Knowledge management in practice*. CRC Press.

Ricardo, M. A. (2020). Knowledge management and the 2030 agenda for sustainable development in the United Nations context. Ciencias Administrativas, (17), 077. https://doi.org/10.24215/23143738e077

Santoro, G., Vrontis, D., Thrassou, A., & Dezi, L. (2018). The Internet of things: Building a knowledge management system for open innovation and knowledge management capacity. *Technological Forecasting and Social Change*, *136*, 347-354. https://doi.org/10.1016/j.techfore.2017.02.034

Sayyadi, G. M. (2020). Transformational Leadership, Information Technology, Knowledge Management, Firm Performance: How Are They Linked?. The Journal of Values-Based Leadership, 13(2), 17.

Shannon-Baker, P. (2016). Making paradigms meaningful in mixed methods research. Journal of Mixed Methods Research, 10(4), 319–334. https://doi.org/10.1177/1558689815575861

Tounkara, T. (2019). A framework to analyze knowledge management system adoption through the lens of organisational culture. (n.d.). *Artificial Intelligence for Engineering Design, Analysis and Manufacturing 33(2), 226–237*.

Ullah, A. S. (2020). What is knowledge in industry 4.0? *Authorea*. https://doi.org/10.22541/au.157979737.75283895

United Nations. (2015, October 21). Transforming our World: The 2030 Agenda for Sustainable Development. https://www.unfpa.org/resources/transforming-our-world-2030-agenda-sustainable-development. https://sustainabledevelopment.un.org/content/documents/

Vaz-Serra, P., & Edwards, P. (2020). Addressing the knowledge management "nightmare" for construction companies. *Construction Innovation*, *21*(2), 300–320. https://doi.org/10.1108/ci-02-2019-0013

Venkitachalam, K., & Willmott, H. (2017). Strategic knowledge management—Insights and pitfalls. *International Journal of Information Management*, *37*(4), 313-316. https://doi.org/10.1016/j.ijinfomgt.2017.02.002

Wang, Y., & Wang, Y. (2016). Determinants of firms' knowledge management system implementation: An empirical study. *Computers in Human Behavior*, *64*, 829-842. https://doi.org/10.1016/j.chb.2016.07.055

Wasinda, J. A., Kiplang'at, J., & Chebon, P. (2019). Knowledge Management among Savings and Credit Cooperatives (SACCOS) in Nairobi City County, Kenya. *Regional Journal of Information and Knowledge Management, 4 (1),1-10*.

Yasir, M., & Majid, A. (2017). Impact of knowledge management enablers on knowledge sharing. *World Journal of Entrepreneurship, Management and Sustainable Development*, *13*(1), 16-33. https://doi.org/10.1108/wjemsd-02-2016-0010

Yee, Y. M., Tan, C. L., & Thurasamy, R. (2019). Back to basics: Building a knowledge management system. *Strategic Direction*, *35*(2), 1-3. https://doi.org/10.1108/sd-07-2018-0163