

The Role of Knowledge Management Enablers in a South African Transport Agency

Ike Hlongwane¹ and Kamogelo Molekwa²

¹The Department of Information science, University of South Africa (UNISA), Pretoria, South Africa

²City of Tshwane (CoT) Metropolitan municipality, Pretoria, South Africa

Hlongik@unisa.ac.za

Kamogelom@tshwane.gov.za

Abstract: Many organisations are exploring the field of knowledge management to improve and sustain their competitiveness and competitive edge over their rivals. Knowledge Management (KM) can be referred to set of processes and activities to change organisations' knowledge processing pattern, and organisations need to focus on management of knowledge for obtaining optimum results and efficiency to draw various benefits towards gaining competitive advantage. There are several enablers of KM that have a bearing on the success of KM in an organisation. Enablers of KM can be defined as factors that positively influence the success of KM activities to implement changes or are conducive to effective KM to take place in organisations. However, not all organisations are affected by these factors the same way. Most of these factors are associated with the organisation within which KM processes are carried out. A qualitative study was conducted in one of the government transport agencies, which has recently embarked on KM initiatives to find out which KM enablers played a key role in the successful implementation of KM activities in the transport agency and how this played a role (impact). The study used the Knowledge Management Capability Assessment Tool (KM CAT) theory to assess the role of KM enablers in the transport agency. The data were collected by purposefully interviewing senior officials/managers in the agency's KM directorate. The results showed that several factors played a positive role in the success of KM activities in the transport agency. The study recommends a holistic approach to KM with less emphasis on a single aspect or a few factors presumed to have a positive influence on or are important in creating a conducive environment for the successful implementation of KM in organisations. There is limited literature or research on the use of KM strategies in South African transport industry. Therefore, this study is worth sharing with scholars, practitioners, and policymakers to contribute to the scientific dialogue of KM in all sectors, including the transport industry, to create an enabling environment for the successful implementation of KM activities.

Keywords: Knowledge, Knowledge Management, Knowledge Management Enablers, Government Transport Agency, Knowledge Management Capability Assessment Tool (KM CAT), Holistic Approach

1. Introduction

Many organisations are exploring the field of knowledge management (KM) to improve and sustain their competitiveness and competitive edge over their rivals (Kumar, Singh & Haleem, 2014). KM may be referred to set of processes and activities to change an organisation's knowledge processing pattern (Joseph & Elroy, 2005), and organisations need to focus on the management of knowledge for obtaining optimum results and efficiency (Wong, 2005) to draw various benefits towards gaining competitive advantage (King, 2001; Ofek & Sarvary, 2001). Much literature has defined KM, but Davenport (1994) postulates KM as "the process of capturing, developing, sharing, and effectively using organizational knowledge." Later, Duhon (1998) provided another definition: "KM is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets". According to Gloet and Terziovski (2004), KM is the interpretation of experience and how to access that knowledge and proficiency, which produce new competencies, empower superior routine, boost innovation, and increase customer satisfaction. Thus, knowledge is considered a valuable asset for organisations, critical for achieving long-term sustainable competitive advantage. As a result, many organisations are making efforts toward the implementation of KM initiatives, recognising that their competitive advantage depends on their ability to effectively collect, capture, retain, store, transfer and share knowledge. Although companies are increasingly competing based on their ability to effectively manage knowledge, there are still numerous challenges for organisations that intend to implement a KM system. Thus, for a successful implementation of KM in organisations, it is crucial to understand which factors are critical in creating an enabling environment for the successful implementation of KM processes and lead to competitive advantage (Onofre & Teixeira, 2022). Although there are many studies related to enablers of KM in organisations, few have been explored within the context of the transport industry in a developing country like South Africa.

As a developing country, South Africa is witnessing fast population growth, which drives up the travel demand. Many of the country's citizens continue to rely on public transport to get to work, school, healthcare, recreation and tourism sites. To manage an innovative, rapid rail transport system in the country, an agency was formed as

a public-private partnership (PPP) project to provide a more affordable and accessible transport system to alleviate traffic congestion, while also providing a reliable and quick mode of public transport. In the intervening process, a wealth of skills and technical knowledge, particularly in the management of the protracted design and construction review process and the legal and environmental compliance processes, are organically produced. Today, organisations are increasingly dynamic, ever changing and continuously re-inventing themselves to achieve sustainable competitive advantage to an extent that what works for one organisation may not necessarily work for others with the same degree of impact.

This paper provides an overview of a qualitative study conducted in one of the government transport agencies in South Africa. The purpose of the study was to answer the following research questions:

- What are key enablers of KM systems?
- Which KM enablers played a key role in the successful implementation of KM activities in the transport agency?
- How do these KM enablers interact with each other for the successful implementation of KM initiative.

For practical purposes, this study used the Knowledge Management Capability Assessment Tool (KM CAT) theory to assess the role of KM enablers in the transport agency. The data were collected by purposefully interviewing senior officials/managers in the agency's KM directorate. A thematic approach was used to analyse the data to obtain the results.

The results showed that several factors played a positive role in the success of KM activities in the transport agency. The study recommends a holistic approach to KM with less emphasis on a single aspect or a few factors presumed to have a positive influence on or are important in creating an environment that is conducive to the successful implementation of KM in organisations.

Given that there is limited literature or research on the use of KM strategies in the South African transport industry, this study is worth sharing with scholars, practitioners, and policymakers to contribute to the scientific dialogue of KM in all sectors including the transport industry to create an enabling environment for the successful implementation of KM activities.

2. Knowledge Management Capability Assessment Tool

To assess knowledge management maturity in the organisation, the study used the KM CAT. The KM CAT is divided into four major sections, each of which is subdivided into subcategories assess as follows:

- Strategy (objectives, business case and budgets)
- People (resources, governance structure and roles, change management and communication)
- Process (knowledge flow process, KM approaches and measurement)
- Content and information technology (content management and IT processes and tools)

The KM CAT is best suited for reviewing procedures, recognising intellectual assets in an organisation. According to APQC (2022), the KM CAT helps an organisation assess its capabilities and maturity in KM and focus its KM investments on producing the highest return on value. Thus, the use of KM CAT gave the researcher a broad perspective when assessing the role of KM enablers in the transport agency for improved efficiency, increased productivity and enhanced organisational performance.

3. Overview of KM Initiative in the South African Transport Agency

The agency's KM strategy (2016) was firmly established by the South African transport Act, (Act No. 5 of 2006). Section 5(e) and (f) of the Act requires the agency to establish and operate information and management systems for transport projects in the Gauteng province, and liaise and exchange information with institutions, authorities or professional bodies regarding rail matters in South Africa or in other countries. As part of the Gauteng province, the agency is required to support and contribute to the implementation of the Gauteng 25-year Integrated Transport Master Plan (ITMP25). Given the mandate of the agency and public transport development imperatives for the province, a KM strategy is critical for the organisation. Tremendous efforts have been made on electronic document control and management, particularly during the development phase of the transport projects in Gauteng province.

4. Literature Review

Knowledge is a vital resource for having a sustainable competitive advantage (Manesh, Pellegrini, Marzi & Dabic, 2020). Two types of knowledge can be distinguished, namely tacit knowledge and explicit knowledge. According to Powell (2023), tacit knowledge, is often difficult to share or articulate. This is because this type of knowledge resides in human minds. It is often acquired through personal experiences, intuition and expertise. One of the primary challenges with tacit knowledge in an organisation is that, due to its intangible and often subconscious nature, it has proven to be to transfer and share tacit knowledge throughout the organisation (Chen, Nunes, Ragsdell & An (2018). On the other hand, explicit knowledge can be easily communicated and shared. Due to its tangible nature, explicit knowledge can be communicated through perceptible channels such as documents or computer programs, or in a personal context such as verbalisation to knowledge workers through networking competence (Fryczynska & Ciecierski, 2020). Tacit knowledge is generally accepted as expertise that exists solely in the minds of individuals and is intangible, while explicit knowledge is the know-what aspect of knowledge, which is tangible and exists outside the human mind. Therefore, tacit and explicit knowledge can be seen not as two distinct knowledge typologies (Gamble, 2020), but as two sides of the same coin. This further was initially alluded to by Panahi, Watson and Partridge (2016), stating that “there exists many cases of a middle ground between them.”

KM is defined in many ways because it has been increasingly evolving and integrating business strategies, processes and goals. Zvobgo, Chivivi and Marufu (2015) define KM as the systematic process for organisations to create, identify, capture, obtain, secure, share, and control knowledge. However, Yee, Tan and Thurasamy (2019) define KM as the systematic management of an organisation’s knowledge assets for the purpose of creating value and meeting tactical and strategic requirements. It consists of the processes, strategies and systems that sustain and enhance the creation, storage and sharing of knowledge. It is evident in the literature that KM plays a strategic role for the survival, competitiveness and profitability of the organisation (Omotayo, 2015; Clark, 2020).

5. Knowledge Management Enablers

KM enablers are the operational or service settings in an organisation that are accountable for the success of a KM initiative and treated as the mechanism or factors for facilitating knowledge creation, sharing, application and protection within the organisation (Yang, Marlow & Luc, 2009). In the literature, several critical enablers in successfully implementing effective KM initiatives and techniques in organisations are explored. Some of the key KM enablers identified from previous studies consist of organisational culture, organisational structure, management support, leadership, strategy, champion support, design of KM strategy, performance and evaluation, training and technologies (Boamah et al., 2022); Gupta, Singh, Kamble & Ruchi Mishra, 2022; Aldhaferi & Ahmad, 2024); Dang, Wipulanusat, Nuaklong & Witchayangkoon, 2024); Shehzad, Zhang, Dost, Ahmad & Alam, 2024). These KM enablers are the key focus in many studies on KM processes across several and diverse industries or fields such as education, health, libraries, engineering, construction, among others.

In another study by Menon and Suresh (2021), rewards and recognition and employee empowerment were among the highest driving force behind KM. However, management support was found to be the most crucial KM enabler. In addition, teamwork, reward structure, learning, collaboration and employee empowerment (Atapattu & Huybers, 2021; Osupile & Makambe, 2021), are motivational antecedents of KM engagement and sharing. Furthermore, knowledge-oriented leadership, environmental uncertainty (Sahibzada, Latif & Xu, 2022), organisational climate (Farooq Sahibzada, Thomas, Sumbal and Malik (2023) and trust have a significant impact on KM processes.

Another study by Iftikhar and Lions (2022) sought to identify the different KM enablers at different levels of the organisation. The found that, at individual level, interpersonal relationships and social interactions are knowledge-sharing enablers. In contrast, the study found that well-defined objectives were found to be team level enablers; while at organisational level, appropriate knowledge sharing requires organisation to design their structures adequately to be consistent with both the environment and the necessary level of interaction among employees. Pham, Lokuge, Nguyen and Adamopoulos (2024) conducted a study to explore KM enablers for blockchain-enabled food supply chain implementations. The study found external enablers, including regulation and market competition, and internal enablers, such as people, organisational learning, strategy and leadership, culture, information technology, organisational infrastructure, processes and activities.

6. Methodology

To address the main research question, this qualitative study used a case study research design because a case study enabled the researcher to conduct an in-depth study of the KM process in the agency. The case study research design enabled the researcher to explain the complex situations where important factors could be lost or not described completely enough in a generalised method. This study used semi-structured interviews to gain an understanding of how the loss of knowledge (tacit) affected this South African government agency, rather than acquiring a more superficial overview.

The researcher purposefully selected senior management involved in the agency's KM directorate. The interview guide was prepared to help the researcher to comprehensively cover identified topics relevant to the study objectives. Each participant was allocated one and a half hours for the interview.

The interviews were conducted using the Microsoft Teams app, which is a virtual platform the researcher deemed fit to use due to the Covid-19 pandemic. The interviews were recorded with the consent of the participants.

Owing to the semi-structured nature of the interviews, participants were encouraged to elaborate on the subject and provide as much information as they could. Apart from the interviews, internal documents of the agency, such as the KM policy and strategy plan, were used to achieve data triangulation to enrich the data collected.

The collected data were analysed using Atlas.ti version 9 according to a thematic approach, in which the data were aligned to the study themes, and a coding procedure was followed.

7. Profile of the Participants

The study initially targeted 10 senior managers in the KM directorate who were actively involved in the agency's KM projects and processes. These included the executive manager of KM, five KM specialists, a senior records officer, a registry officer, a senior manager for reputation and a senior manager in stakeholder relations. Owing to the Covid-19 pandemic, four employees were unavailable because of ill health and death. Finally, six senior managers in the KM directorate with the relevant knowledge and experience in KM programmes and processes of the agency were interviewed.

8. Discussion of the Findings

8.1 Key Enablers Of Knowledge Management System

The study results revealed that several factors play a critical role as KM enablers in the implementation of a KM system in the transport agency in South Africa just like in any organisation throughout the world. The general view of the participants in the South African transport agency, was that these KM enablers include, but are not limited to, organisational culture, organisational structure, management support, champion support, design of KM strategy, performance and evaluation, training and technologies. In addition, the participants also indicated that policies, organisational philosophy, business innovation, business procedure and populace also affect the KM strategy in the transport agency.

8.2 Role of KM Enablers in the Successful Implementation of KM Activities in the Transport Agency

Most participants noted that, in different measures or degree, several KM enablers positively influence or are conducive to effective KM in agency. The support of top management is crucial for providing necessary resources, communicating the importance of developing the KM system. Senior management in the transport agency was also credited for giving essential directions for successfully integrating the KM system in the transport agency. The participants also indicated that it was important to develop suitable strategies with the active participation of all stakeholders from various departments in the transport agency to align the strategies with organisational goals and objectives. Regarding organisational culture, most participants in the transport agency were of the view that a knowledge-friendly culture encourages and embraces better ways of knowledge sharing, it helps adopt new tools and techniques. Apart from creating awareness and knowledge of KM theory and practice, the view of most participants was that top management should also focus on the provision of the necessary information and communication technology (ICT) and training. Training provides skill and expertise to human resources of how KM operates and functions. On the other hand, technology is usually seen as the enabler of KM practice. The all-encompassing view of the participants was that advanced ICT infrastructure was needed to promote KM through improved knowledge sharing. In addition, the participants indicated that KM

policy provides a context of rules and methods to guide how the KM system is implemented in the transport agency.

8.3 Interaction of KM Enablers for the Successful Implementation of KM Initiative

The study revealed that collaboration and coordination between and among the various KM enablers were crucial for organisational performance, survival, profitability and competitiveness. The results strongly suggest that all the KM enablers in the organisation should be harnessed to create value by aligning with the overall organisational strategy, goals and objective. This is because the results showed that several factors, and not just one factor or enabler, played a positive role in the success of KM activities in the transport agency. A holistic approach to KM practice is important in creating an environment that is conducive to the successful implementation of the KM initiative in organisations.

9. Conclusion

This study showed that there are several key KM enablers that positively influence or are conducive to effective KM to take place in organisations, which include, but are not limited to, organisational culture, organisational structure, management support, champion support, design of KM strategy, performance and evaluation, training and technologies. Individually, each of these KM enablers plays a vital role. However, organisations should strive to holistically harness and coordinate all the KM enables systematically to accomplish organisational functions, operate and succeed in the current global knowledge-based economy.

References

- Aldhaheeri, S.M. and Ahmad, S.Z. (2024), The influence of transformational leadership on organizational performance and knowledge management capability, *International Journal of Productivity and Performance Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJPPM-10-2022-0532>
- American productivity and quality center (APQC). 2022 Knowledge Management capability assessment tool (KM CAT). <https://www.apqc.org/what-we-do/benchmarking/assessment-survey/knowledge-management-capability-assessment-tool> (Accessed 15 February 2024)
- Atapattu, M.M. and Huybers, T. (2021), Motivational antecedents, employee engagement and knowledge management performance, *Journal of Knowledge Management*, 26 (3): 528-547. <https://doi.org/10.1108/JKM-12-2020-0898>
- Bitkowska, A. (2015). The orientation of business process management toward the creation of knowledge in enterprises. *Human Factors and Ergonomics In Manufacturing*. <https://doi.org/10.1002/hfm.20533>. (Accessed 15 February 2024).
- Boamah, F.A., Zhang, J., Wen, D., Sherani, M., Hayat, A. and Horbanenko, O. (2022), Enablers of knowledge management: practical research-based in the construction industry, *International Journal of Innovation Science*, 14 (1):121-137. <https://doi.org/10.1108/IJIS-09-2020-0142>
- Dang, C.N., Wipulanusat, W., Nuaklong, P. and Witchayangkoon, B. (2024), Exploring the relationships between knowledge management enablers, employee innovativeness and market development performance in A/E/C firms: a developing country perspective, *Construction Innovation*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/CI-02-2023-0022>
- Chen, H., Nunes, M.B., Ragsdell, G. and An, X. (2018), Extrinsic and intrinsic motivation for experience grounded tacit knowledge sharing in Chinese software organisations, *Journal of Knowledge Management*, 22 (2): 478-498.
- Clark, S. (2020). The state of knowledge management in 2020. <https://www.reworked.co/knowledge-findability/the-state-ofknowledge-management-in-2020/>. (Accessed 15 February 2024)
- Farooq Sahibzada, U., Thomas, A., Sumbal, M.S.U.K. and Malik, M. (2023), Nexus of knowledge management and organisational performance: a cross-country study of China and Pakistan higher educational institutes, *Kybernetes*, 52 (12): 6348-6378. <https://doi.org/10.1108/K-08-2021-0768>
- Fryczynska, M. and Ciecierski, C. (2020), Networking competence and its impact on the employability of knowledge workers, *Journal of Organisational Change Management*, 33 (2): 349-365.
- Gamble, J.R. (2020), Tacit vs explicit knowledge as antecedents for organizational change, *Journal of Organisational Change Management*, 33 (6): 1123-1141. <https://0-doi-org.oasis.unisa.ac.za/10.1108/JOCM-04-2020-0121>
- Gupta, A, Singh, R.K, Kamble, S, and Mishra, R (2022) Knowledge management in industry 4.0 environment for sustainable competitive advantage: a strategic framework, *Knowledge Management Research & Practice*, 20 (6): 878-892, DOI: 10.1080/14778238.2022.2144512
- Iftikhar, R. and Lions, C. (2022), Interorganizational knowledge sharing barriers and enablers: the case of Peshawar Bus Rapid Transit project, *International Journal of Managing Projects in Business*, 15 (5): 769-792. <https://doi.org/10.1108/IJMPB-11-2021-0313>
- GMA KM strategy, 2016/17-2018/19 FY. <https://gma.gautrain.co.za/about/pages/knowledge-sharing.html>. (Accessed 4 March 2024).
- Manesh, M. F., Pellegrini, M. M., Marzi, G., and Dabic, M. (2020). Knowledge management in the fourth industrial revolution: Mapping the literature and scoping future avenues. *IEEE Transactions on Engineering Management*.

- Menon, S. and Suresh, M. (2021), Enablers of workforce agility in engineering educational institutions, *Journal of Applied Research in Higher Education*, 13 (2): 504-539. <https://doi.org/10.1108/JARHE-12-2019-0304>
- Onofre, I., and Teixeira, L., 2022. Critical Factors for a Successful Knowledge Management Implementation: A Systematic Literature Review. *The Electronic Journal of Knowledge Management*, 20 (2): 93-109.
- Omotayo, F. O. (2015). Knowledge management as an important tool in organisational management: A review of literature. *Library Philosophy and Practice (e-journal)*, 1-23.
- Osupile, K. and Makambe, U. (2021), The nexus between organisational culture and knowledge sharing in a government department in Botswana, *International Journal of Public Sector Management*, 34 (2): 118-136. <https://doi.org/10.1108/IJPSM-06-2020-0149>
- Panahi, S., Watson, J. and Partridge, H. (2016), Conceptualising social media support for tacit knowledge sharing: physicians' perspectives and experiences, *Journal of Knowledge Management*, 20 (2): 344-363.
- Pham, C.M., Lokuge, S., Nguyen, T.-T. and Adamopoulos, A. (2024), Exploring knowledge management enablers for blockchain-enabled food supply chain implementations, *Journal of Knowledge Management*, 28 (1): 210-231. <https://doi.org/10.1108/JKM-07-2022-0586>
- Powell, B.C. (2023), Sharing intractably tacit knowledge: the case for nepotistic selection, *Development and Learning in Organizations*, 37(5):11-13. <https://doi.org/10.1108/DLO-08-2022-0154>
- Republic of South Africa. 2006. Department of Transport: National Land Transport Transition Act 5. Government Printer. Pretoria.
- Sahibzada, U.F., Latif, K.F. and Xu, Y. (2022), Symmetric and asymmetric modeling of knowledge management enablers to knowledge management processes and knowledge worker productivity in higher education institutes, *Journal of Enterprise Information Management*, 35 (3): 729-756. <https://doi.org/10.1108/JEIM-08-2020-0346>
- Shehzad, M.U., Zhang, J., Dost, M., Ahmad, M.S. and Alam, S. (2024), Knowledge management enablers and knowledge management processes: a direct and configurational approach to stimulate green innovation, *European Journal of Innovation Management*, 27 (1):123-152. <https://doi.org/10.1108/EJIM-02-2022-0076>
- Yee, Y.M., Tan, C.L. and Thurasamy, R. (2019), Back to basics: building a knowledge management system, *Strategic Direction*, 35(2):1-3. <https://0-doi-org.oasis.unisa.ac.za/10.1108/SD-07-2018-0163>
- Zvobgo, C., Chivivi, O. O., and Marufu, B. (2015). Knowledge management as a survival strategy to enhance competitive advantage in the Zimbabwean tourism and hospitality industry. *European Journal of Business and Management*, 62-72.