Enterprise Development & Microfinance, 36:1, 206–227

Incorporating Knowledge Management within the Construction Industry of the Mauritian Economy : A Qualitative Approach

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Abstract: *The construction industry plays a critical role in Mauritius's economic development, contributing significantly to GDP and employment. Despite its importance, the sector faces persistent challenges such as project delays, cost overruns, inefficiencies, and limited collaboration among stakeholders. Knowledge Management (KM) has emerged globally as a strategic approach to address these issues by enabling systematic creation, sharing, and application of knowledge within organizations. This study investigates the current state of KM practices in the Mauritian construction industry, identifies barriers to effective implementation, and explores the potential benefits of integrating KM strategies to enhance project outcomes. A qualitative research design was employed, involving semi-structured interviews with ten project managers equally drawn from public and private sectors. These interviews were complemented by secondary data sources, including industry reports and relevant literature. Findings indicate that while KM is recognized as strategically important, its application remains fragmented. Private sector firms demonstrate informal, innovation-driven KM practices, often relying on tacit knowledge and ad hoc processes, whereas public institutions emphasize formal, document-centered systems with limited mechanisms for reflection or reuse. Barriers to effective KM adoption include cultural resistance, knowledge hoarding, bureaucratic rigidity, technological constraints, and limited training. Based on these insights, a "Mauritian Construction KM Framework" is proposed, encompassing five interconnected pillars: leadership and governance, knowledge culture, technology and infrastructure, process and practice, and learning and continuous improvement. Short-term, medium-term, and long-term actions are outlined to enhance KM literacy, institutionalize practices, and integrate digital tools such as Building Information Modelling (BIM) to support knowledge sharing and decision-making. The adoption of this framework is expected to strengthen collaboration, improve efficiency, reduce errors, and foster a culture of continuous learning and innovation within the Mauritian construction sector. This research provides both practical and theoretical contributions, offering actionable strategies for policymakers, industry professionals, and organizations seeking to leverage KM as a strategic enabler for sustainable development and competitive advantage.*

Keywords: Knowledge Management. Km Framework and Construction sector

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Introduction

With an average GDP contribution of 4942.13 MUR million between 2006 and 2024 (Statistics Mauritius, 2024) and employment of 43,000 people annually between 2020 and 2024 (Statistics Mauritius, 2024), the construction sector is vital to Mauritius' economic growth. However, the industry confronts a number of difficulties, including fragmentation, inefficiency, and a lack of productive cooperation among different stakeholders, which can lead to project delays, cost overruns, and less than ideal results (Competition Commission of Mauritius, 2018). By facilitating the methodical development, exchange, and use of knowledge inside organisations, knowledge management (KM) has become a useful instrument to address these problems. KM techniques can improve decision-making, project delivery, and competitiveness in the Mauritius construction sector. According to Ramchurn et al. (2024), knowledge management entails managing both explicit knowledge, which is formal and written, and tacit knowledge, which is based on human experience. Businesses in Mauritius can close knowledge gaps, lower risks, and boost productivity by incorporating KM techniques into building operations. Because of its project-based nature, the construction sector stands to gain a great deal from the incorporation of KM techniques that foster cooperation, creativity, and a culture of continuous learning (Chan & Chan, 2020).

Motivation

The necessity to improve the performance of the Mauritius construction industry in the face of international competition and the quick development of technology is the driving force behind this study. Although infrastructure development is expanding in Mauritius, there are still issues including project delays, budget overruns, and ineffective information management. The integration of KM in the construction industry is viewed as a viable way to boost productivity and encourage innovation as the nation seeks to modernise and diversify its economy (Jayantha & Anura, 2022). Additionally, construction projects frequently involve a number of stakeholders, and unproductive decision-making and poor communication are caused by a lack of organised knowledge-sharing systems (Competition Commission of Mauritius, 2018). This research is motivated by the need to explore how KM can address these challenges and contribute to the sustainable growth of the sector.

Research Problem

Particularly in developing nations like Mauritius, where it makes a substantial contribution to GDP, employment, and infrastructure development, the construction industry is vital to economic growth. Despite its significance, the construction sector still faces a number of difficulties, including delays, cost overruns, and inefficiencies. These issues are frequently caused by a lack of cooperation, poor communication, and insufficient knowledge management among various stakeholders (Competition Commission of Mauritius, 2018). In construction projects, knowledge is frequently underutilised or poorly managed, while being a crucial asset for project success. The construction business has a culture of "project-based work," which means that knowledge is typically soloed within individual projects rather than disseminated across the organisation, according to a prior research by Jashapara (2004). Early studies highlighted how technology might help overcome KM obstacles. Additionally, Disterer (2013) and Edwards et al. (2003) talked about how technology, such as databases and collaborative platforms, could make it easier to capture and share explicit knowledge.

However, recent studies have shown that the usage of digital tools such as Building Information Modelling (BIM) in knowledge management is growing. According to Akinci (2020), BIM aids in knowledge visualisation, and including real-time data can facilitate decision-making across project stages. In contemporary research, the use of cloud-based platforms and artificial intelligence (AI) to analyse massive data for predictive insights has gained prominence. AI can assist in managing tacit knowledge by examining trends and patterns from previous initiatives, according to Ibrahim et al. (2022). Using KM activities to promote cooperation among many stakeholders is a current topic. According to Li et al. (2021), collaborations between academic institutions and construction corporations are opening up new avenues for knowledge transfer, particularly in intricate and cutting-edge projects. The role of KM in promoting sustainability is a more recent perspective in construction-related KM research. From this angle, Hosseini et al. (2020) talked about how sharing best practices for sustainable construction methods is made possible by efficient knowledge management, which can lead to greener building practices.

Although KM techniques have been shown to improve project outcomes worldwide, there is little research and practical application of KM techniques in the Mauritius construction industry. By improving decision-making, encouraging

innovation, and fostering collaboration between the various actors involved in construction projects, KM, which entails capturing, sharing, and applying knowledge across an organisation, has the potential to address many of the industry's ongoing challenges (Tan et al., 2020). However, cultural reluctance to share knowledge, a lack of technology infrastructure, inadequate training, and organisational fragmentation are major obstacles to the adoption of KM techniques in Mauritius' construction sector (Tan et al., 202019).

Furthermore, the unique difficulties and requirements of the Mauritian context have not been thoroughly examined, despite the fact that international best practices in KM have shown their potential to maximise project efficiency and lower risks in building projects. According to Tan et al. (202019), the underutilisation of KM strategies is a result of the sector's fragmented nature, reliance on traditional practices, and limited integration of modern technology. In order to improve project performance, creativity, and teamwork, it is necessary to look into how KM can be successfully incorporated into the Mauritius construction industry.

By examining the state of KM practices in the Mauritius construction sector, identifying obstacles to KM integration, and suggesting solutions, this study seeks to close this gap (Tan et al., 2020). Gaining an understanding of KM's function and possible effects in the Mauritius environment will yield insightful information that may influence industrial practices, legislation, and future advancements in the field.

Aim of the Study

The primary aim of this study is to investigate the integration of Knowledge Management in the Mauritian construction sector and assess its potential to improve project outcomes, enhance collaboration, and foster a culture of continuous learning and innovation. This research seeks to explore how KM practices, tools, and technologies can be adapted to the unique context of the Mauritian construction industry.

Objectives of the Study

The specific objectives of the study are as follows:

- To assess the current state of knowledge management practices in the Mauritian construction industry.
- To identify the barriers and challenges faced by the construction sector in integrating KM practices.
- To examine the potential benefits of KM integration for project performance, efficiency, and stakeholder collaboration.
- To recommend strategies and frameworks for the effective adoption of KM in Mauritian construction companies.
- To evaluate the role of digital tools and technologies (e.g., Building Information Modelling, cloud-based systems) in enhancing KM practices.

Research Questions

- The study aims to answer the following key research questions:
- What is the current state of knowledge management practices in the Mauritian construction sector?
- What are the key barriers to integrating KM practices in the Mauritian construction industry?
- How can the adoption of KM practices improve project delivery, efficiency, and stakeholder collaboration in the construction sector?
- What strategies and frameworks can be developed to facilitate the integration of KM practices in construction organizations in Mauritius?
- How the digital tools could play in supporting KM practices within the construction sector in Mauritius?

Rationale for the Study

Malaysia's construction sector has always had to deal with issues such complicated project conditions, short deadlines, financial limitations, and a dispersed workforce. As a result, it has been acknowledged that improving performance, lowering errors, and promoting innovation all depend on the industry's ability to handle knowledge effectively. The Malaysian

government started giving knowledge management in the construction sector top priority in the early 2000s, especially through programs like the Malaysian Construction Industry Master Plan (CIMP 2006-2015). In order to improve productivity and competitiveness, this strategy emphasised the necessity of implementing integrated knowledge-sharing platforms. The growth of KM practices has been greatly aided by Malaysia's Construction Industry growth Board (CIDB), particularly in large-scale projects and the public sector.

Large construction firms and government organisations in Malaysia have started implementing formal KM frameworks to record, preserve, and distribute knowledge from finished projects. Real-time collaboration, information flow, and project updates among stakeholders are made possible by tools like Building Information Modelling (BIM) and Project Management Information Systems (PMIS), which are becoming essential to the knowledge-sharing process. Because BIM can hold specific design information, project dates, and cost data, it is becoming recognised as a major force behind knowledge management in the construction industry. Sulaiman (2020) asserts that BIM improves project coordination by centralising data, facilitating more efficient collaboration, and reducing mistakes, delays, and cost overruns. In a similar vein, Mauritius' construction sector is a major force behind economic expansion, helping to build infrastructure and create jobs. Lessons learnt, best practices, technical know-how, and risk mitigation techniques are just a few examples of the important knowledge that is frequently retained within certain teams or projects and is rarely disseminated throughout the business. The construction industry's capacity to continuously develop and adjust to new difficulties is hampered by this lack of effective KM.

Justification for the Study

The need for improved project management and operational effectiveness in the Mauritius construction sector justifies this study. Integrating KM can offer a methodical approach to managing the enormous amounts of information generated throughout a project's lifecycle, given the construction industry's rapid expansion, which is marked by more complicated projects and increased customer expectations. Additionally, each project in Mauritius's fragmented construction industry involves a number of contractors, subcontractors, consultants, and clients. This fragmentation can be overcome by effective KM systems, which can also enhance collaboration and guarantee that important knowledge is shared and used to prevent expensive errors. Additionally, implementing KM methods will strengthen the nation's competitive advantage in the international construction market given the government's emphasis on infrastructure development and the significance of the construction industry to the national economy. Policymakers, construction firms, and industry experts will benefit from this study's understanding of the significance of KM and practical suggestions for its successful integration.

Materials and Methods

This section offers a thorough examination of the current body of literature pertaining to the selected subject.

Introduction

The process of generating, disseminating, using, and maintaining an organization's knowledge and information is known as knowledge management, or KM. It entails a collection of methods, approaches, and resources designed to increase the efficient use of knowledge to boost organisational performance. To support decision-making, innovation, and problem-solving within an organisation, the process involves gathering, storing, and sharing both explicit knowledge (codified information such as reports and documents) and tacit knowledge (personal, experiential knowledge that is more difficult to document) (Davenport & Prusak, 2023). Technological developments like artificial intelligence (AI) and big data analytics, which are increasingly incorporated into KM systems to promote knowledge sharing and organisational learning, have increased the significance of KM (Alavi & Leidner, 2022). A key component of models such as Nonaka and Takeuchi's (2022) SECI (Socialisation, Externalisation, Combination, and Internalisation) model is the idea that knowledge creation is a dynamic and interactive process combining individual collaboration and socialisation. Furthermore, KM's emphasis has expanded to highlight how organisational culture promotes knowledge-sharing behaviours and the necessity of flexible systems that can adapt to the constantly shifting knowledge landscape in modern corporate settings (Hansen et al., 2023). In this way, knowledge management (KM) encompasses not just technological solutions but also the development of a knowledge-driven culture that motivates staff members to successfully share and apply their expertise. The methodical

process of locating, gathering, disseminating, and applying knowledge to enhance organisational performance and decision-making is known as knowledge management, or KM.

Knowledge management and Construction sector

KM in the construction sector entails managing both explicit knowledge, which is recorded and readily transferable, and tacit knowledge, which is individualised and experience-based (Nonaka & Takeuchi, 1995). Because the construction industry is project-based, KM is very important. Each project generates a great deal of knowledge that, when correctly collected and shared, may greatly increase efficiency, lower risks, and foster innovation. In order to promote cooperation among stakeholders, make it easier to share lessons learnt, and enhance resource management, knowledge management (KM) in the construction industry uses a range of techniques, technologies, and tactics (Zeng et al., 2015). Despite its potential advantages, organisational, technological, and cultural constraints sometimes impede the integration of KM in construction projects. Therefore, understanding the theoretical concepts and frameworks behind KM, as well as its application to project management, is essential for the successful adoption of KM practices in the construction sector.

Theoretical Concepts of Knowledge Management

Two key theoretical concepts underpin Knowledge Management, and these provide a foundation for its application in the construction industry. The following theories and models are particularly relevant to the integration of KM in construction:

The SECI Model of Knowledge Management

Ikujiro Nonaka and Hirotaka Takeuchi created the SECI (Socialisation, Externalisation, Combination, and Internalisation) model in 1995. It serves as a fundamental framework for KM. It outlines the four main processes that organisations use to generate, disseminate, and apply knowledge:

- **Socialization**: The sharing of tacit knowledge through direct interaction, observation, or shared experiences. In this process, individuals learn by doing, collaborating, and engaging in informal exchanges.
- **Externalization**: The process of articulating tacit knowledge into explicit knowledge, such as written documents, models, or frameworks. This is crucial for transferring personal knowledge into a form that others can understand and use.
- **Combination**: The process of combining different pieces of explicit knowledge, often through documentation, reports, or databases, to create new knowledge. This phase often involves technology tools to facilitate knowledge aggregation.
- **Internalization**: The process by which explicit knowledge becomes tacit knowledge through learning, practice, and experience. This occurs when individuals apply shared knowledge and integrate it into their actions and decision-making.

Application of the SECI Model in the Construction Industry

Effective knowledge management is essential in the construction sector to handle issues including high risks, tight schedules, and complicated projects. By improving the creation, sharing, and use of information across the project lifecycle, the SECI model (Figure 1) can be utilised to enhance team collaboration, innovation, and project outcomes.

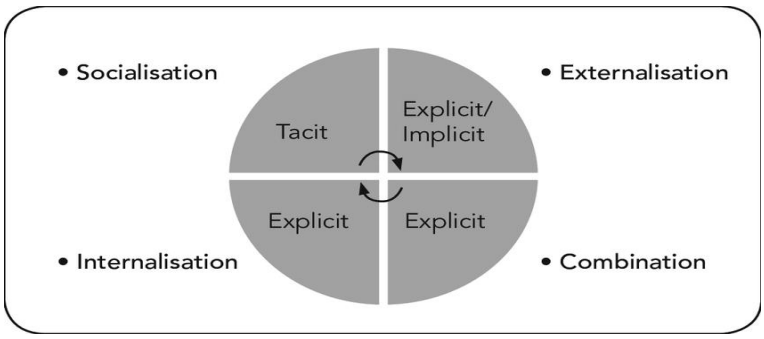

Figure 1: The SECI Model

Source: Ikujiro Nonaka and Hirotaka Takeuchi in 1995

- **Socialization** in construction can take place through on-site interactions, mentoring, and team collaboration, where workers and experts share hands-on, tacit knowledge about construction methods, safety practices, or problem-solving strategies.
- **Externalization** can occur when tacit knowledge from experienced workers is codified into standard operating procedures, project manuals, or design guidelines. This explicit knowledge helps ensure that lessons learned are accessible to all stakeholders.
- **Combination** involves aggregating explicit knowledge from various project reports, design documents, or industry standards to create comprehensive databases or knowledge repositories that all team members can access and contribute to, fostering best practices.
- **Internalization** happens when new construction techniques or safety protocols are learned through practice and incorporated into workers' routines, thus turning explicit knowledge into new tacit knowledge that influences day-to-day activities.

Construction organisations can improve decision-making, decrease errors, and improve knowledge-sharing methods by implementing the SECI model. Recent research has demonstrated how digital platforms and technologies, like cloud-based knowledge management systems and Building Information Modelling (BIM), can help the SECI process in the construction industry (Wang & Zhang, 2024).

Demerest Model of Knowledge Management

The Demerest Model of Knowledge Management focuses on understanding the integration of tacit and explicit knowledge to create value and enhance organizational learning. This model highlights that knowledge management should not only focus on managing information but also on leveraging the organizational capabilities that exist in the form of both individual and collective knowledge.The model can be understood through the following key components:

- **Tacit Knowledge**: Knowledge that is personal, subjective, and based on experience. It includes insights, intuitions, and know-how, which are difficult to formalize and communicate.
- **Explicit Knowledge**: Knowledge that is codified and documented, such as reports, manuals, and databases. This is easier to share, store, and communicate across the organization.
- **Knowledge Integration**: The Demerest model emphasizes the importance of integrating both tacit and explicit knowledge. By creating processes that facilitate the sharing of tacit knowledge and converting it into explicit forms, organizations can achieve better synergy and innovation.
- **Knowledge Application**: Applying both forms of knowledge to solve problems, improve processes, and create value is a crucial aspect of the Demerest model. The model stresses the importance of fostering a culture that allows for continuous learning and adaptability.

Application of the Demerest Model in the Construction Industry

In the construction industry, the **Demerest Model** can significantly enhance project outcomes by enabling the effective management of knowledge, particularly in complex projects that require coordination between multiple stakeholders.

- **Tacit Knowledge Sharing**: Experienced workers and engineers frequently possess tacit knowledge in the construction industry, particularly in areas like risk management, safety procedures, and construction

practices. Transferring this vital knowledge throughout the workforce is made possible by putting in place mechanisms that promote knowledge exchange, such cross-disciplinary team meetings or mentorship programs.

- **Codification of Knowledge**: Standard operating procedures, rules, and project documentation are essential in the very process-driven construction business. It is possible to guarantee consistency and quality throughout projects by transforming implicit information into explicit forms, such as process manuals, design templates, or safety standards.
- **Knowledge Integration**: Construction projects can benefit from more creative and efficient problem-solving by combining explicit knowledge from design and engineering with implicit knowledge from workers. For instance, engineers and project managers might use employee suggestions from practical experience to improve designs or modify project tactics.
- **Application of Knowledge**: Applying this comprehensive information to enhance project performance is the ultimate objective. In the construction industry, this could entail implementing cutting-edge techniques or streamlining processes using common knowledge. The Demerest model's focus on knowledge application is essential for improving construction projects' sustainability, safety, and operational effectiveness. According to recent research, using knowledge management frameworks like the Demerest model in the construction sector can enhance teamwork, cut down on project delays, and better handle the complexity of large-scale building projects (Jones & Thomas, 2024).

Knowledge Management and Project Management

Project management (PM) and knowledge management (KM) are closely related disciplines since they both seek to enhance organisational performance, decision-making, and efficiency. Effective knowledge management allows organisations to improve project outcomes by guaranteeing that vital information is available, data-driven choices are made, and lessons learnt are utilised throughout the project lifecycle.

Relationship between Knowledge Management and Project Management

- **Knowledge Creation**: Teams produce both explicit (codified, documented information) and tacit (experiential, personal insights) knowledge during projects. While project management incorporates such information into the planning and execution of projects, knowledge management (KM) facilitates the generation of new knowledge through collaboration, brainstorming, and research (Schiuma & Viscusi, 2023).
- **Knowledge Sharing**: Ensuring that teams and stakeholders share knowledge is a key component of knowledge management in project management. Project managers provide settings in which information is openly shared among team members, departments, and outside partners. Tools, knowledge repositories, and communities of practice facilitate knowledge exchange, which improves project outcomes (Ipe, 2022).
- **Knowledge Application**: Knowledge is applied to make informed decisions, solve problems, and mitigate risks. KM systems ensure project managers have access to relevant knowledge at the right time, improving decision-making and reducing errors (Goh, 2024).
- **Continuous Improvement**: A culture of continuous improvement is promoted by incorporating KM into PM. Organisations develop and enhance their project management capabilities by methodically documenting lessons learnt and implementing them in subsequent projects (Cummings & Worley, 2023).

Key KM Practices in Project Management

- **Documentation**: Storing project-related knowledge in accessible formats like project management software, knowledge bases, or shared drives ensures knowledge retention and easy access for team members (Björk & Mikkelsen, 2022).
- **Communities of Practice**: These groups, composed of individuals with shared expertise or interests, foster collaboration and knowledge sharing, providing a space for discussing challenges and solutions (Kuhn & O'Leary, 2023).
- **Lessons Learned**: Capturing and applying lessons learned is vital for continuous improvement. Post-project reviews and retrospectives help ensure that knowledge is transferred across projects (Moynihan et al., 2023).

- **Collaboration Tools**: The use of digital collaboration platforms (e.g., Slack, Microsoft Teams, Asana) enhances communication and knowledge sharing across teams, enabling real-time updates and access to critical project information (Sharma & Chugh, 2024).

Application in the Construction Industry

Knowledge management (KM) and project management (PM) integration has become a key tactic in the construction sector for improving project performance and maintaining long-term organisational competitiveness. Because they involve numerous stakeholders, dynamic surroundings, changing technologies, and a high degree of uncertainty, construction projects are by nature complicated. To enable project planning, execution, and control, these features necessitate efficient knowledge sharing and methodical knowledge management. By allowing construction companies to gather, store, and share both explicit and tacit information across teams and project phases, knowledge management (KM) greatly enhances a number of aspects of project success.

Risk management is one important area where KM brings benefit. Project managers are better able to foresee possible risks, put proactive mitigation techniques into place, and improve safety procedures by utilising prior project data, lessons learnt, and institutional memory. According to Liu et al. (2023), companies may allocate resources more efficiently, lower the risk of project overruns, and improve safety results by methodically managing project knowledge. Furthermore, a key component of incorporating knowledge management (KM) into building practice is the application of Building Information Modelling (BIM). In order to facilitate real-time project information sharing and guarantee that best practices are integrated throughout the project lifecycle, BIM offers a centralised, collaborative platform that unifies knowledge from multiple disciplines, including architecture, engineering, and construction management (Chen & Xie, 2023). Through BIM, stakeholders gain visibility into design choices, construction sequencing, and maintenance strategies, and promoting transparency.

Additionally, KM systems facilitate supply chain coordination, which is crucial in the construction industry where prompt procurement and logistical synchronisation are crucial. Project delays and cost inefficiencies can be decreased by using these technologies to better track supplier performance, document procurement plans, and improve communication between contractors, subcontractors, and vendors (Zhang & Zhang, 2024). KM's role in regulatory compliance and quality control is equally significant. Organisations can guarantee consistency in execution and adherence to regulatory frameworks by institutionalising quality standards, safety processes, and compliance audits in centralised knowledge repositories. According to Mansouri and Tofangchiha (2023), these systems function as reference tools for training and ongoing improvement in addition to supporting quality assurance. Overall, by guaranteeing that pertinent knowledge is easily accessible and successfully utilised throughout the project, the convergence of KM and PM improves decision-making procedures, fosters innovation, and simplifies problem-solving. KM is a key component in promoting organisational learning and maintaining project excellence in a profession as dynamic and complex as construction, where the prompt application of expert knowledge can be the difference between project success and failure. Construction companies can adapt more quickly to project needs and promote a culture of ongoing learning and operational effectiveness by integrating KM techniques into project management.

Overview of Construction Industry in Mauritius

An economy's growth is frequently sparked by the building industry. The industry significantly contributes to economic expansion, job creation, and revenue production in Mauritius. For the year 2017, its estimated GDP contribution was 7.5%. It should be mentioned that the construction industry's GDP share has been falling since 2011, from 6.6% in 2011 to 3.7% in 2016. However, Statistics Mauritius projected a growth rate of 7.5% for 2017 and 9.5% for 2018 following the construction sector's negative growth from 2011 to 2015 and no growth in 2016. The GDP from construction in Mauritius rose from 9515 MUR million in the second quarter of 2024 to 11140 MUR million in the third. From 2006 to 2024, the GDP from construction in Mauritius averaged 4942.13 MUR million; it peaked in the third quarter of 2024 at 11140.00 MUR million and fell to a record low of 586.00 MUR million in the second quarter of 2020 (Statistics Mauritius, 2024).

Through the Construction Industry Development Board (CIDB), which functions under the auspices of the Ministry of Public Infrastructure and Land Transport, the government of Mauritius primarily regulates the construction sector. Act 3.2 of the Construction Industry Development Board. The CIDB is in charge of encouraging the growth and advancement of the construction sector. The CIDB Act of 2008 established this statutory body. The CIDB's primary responsibilities include developing standard forms of construction agreements and contracts, standardising and improving construction materials and

techniques, regulating and registering providers of construction works and construction services, and periodically publishing indicative schedules of rates for construction works.

Mauritius Standard Bureau

Established by the Mauritius Standards Bureau Act of 1993, the Mauritius Standards Bureau (MSB) is a corporate entity tasked with guaranteeing the standardisation, quality control, testing, and metrology of building materials. As a guardian of the national measurement standards, it also provides calibration services. The MSB established the "Building and Construction Standard Committee," a technical committee tasked with creating industry-wide standards. MSB runs a national management system certification program (ISO 9001, ISO 14001, ISO/IEC 27001, ISO 22000, and HACCP) as well as a certification marking scheme for products. MSB is a member of the International Organization for Standardization (ISO), an affiliate member of the International Electro technical Commission (IEC) and a member of the African Organisation for Standardisation (ARSO).

Difficulties in the Construction Sector in Mauritius

A number of obstacles prevent Mauritius's building industry from efficiently contributing to the nation's economic growth and development (Competition Commission of Mauritius, 2018). These challenges, which vary from resource usage inefficiencies to project delays, are a reflection of both the industry's structural problems and more general socioeconomic influences. Among the major obstacles are:

- **Project Delays and Cost Overruns**

Project delays and cost overruns are among the most common problems in Mauritius' construction sector. These difficulties are frequently ascribed to weak project management, poor planning, and unanticipated construction-related issues. Logistical problems, unforeseen site circumstances, insufficient procurement procedures, and delays in acquiring required permits or approvals are just a few of the causes of delays. Another major problem is cost overruns, which are caused by inadequate planning, workforce shortages, resource mismanagement, and material cost inflation. In addition to affecting project schedules, these budgetary problems and delays also erode investor trust and raise project costs overall, which lowers the sector's overall productivity (Competition Commission of Mauritius, 2018).

- **Fragmentation and Lack of Coordination**

The fragmented structure of the construction sector in Mauritius is typified by the numerous stakeholders involved in various project phases. Architects, contractors, subcontractors, engineers, and suppliers are some of these stakeholders. Inadequate communication, miscommunication, and inefficiencies are frequently caused by a lack of a cohesive strategy to project execution. The industry's fragmented structure makes it challenging to efficiently coordinate operations, which leads to inconsistent standards, redundant work, and a failure to learn from previous projects. This issue is made worse by the lack of a centralised platform for cooperation and knowledge exchange, which causes delays and poor quality because each participant works independently. (Mauritius Competition Commission, 2018).

- **Poor Adoption of Technology and Innovation**

The adoption of contemporary innovations and technology that could boost productivity, cut expenses, and improve project quality has been sluggish in the Mauritius construction sector (Sharma & Chugh, 2024). Although the construction industry has been transformed in many areas of the world by technical innovations like Building Information Modelling (BIM), project management software, and sophisticated construction processes, their adoption in Mauritius is still relatively low. Ineffective communication, data management, and resource allocation result from many construction companies' continued reliance on antiquated project management and execution techniques. The industry's capacity to optimise procedures, lower errors, and enhance project execution is hampered by a lack of technological investment.

- **Regulatory and Bureaucratic Challenges**

There are many rules and approval procedures that apply to construction projects in Mauritius, which might cause delays and inefficiencies. It can take a while and be difficult to get the required permissions and approvals from local authorities. Additionally, the regulatory environment can occasionally be ambiguous or inconsistently implemented, which makes it challenging for construction companies to comply with the law. The project's overall budget may be burdened by

additional expenses, regulatory compliance problems, and delays in project beginning due to bureaucratic obstacles. These difficulties frequently deter investment and make it more difficult for the industry to react swiftly to market demands (Tan and Chimay J. Anumba, 2019).

- **Sustainability and Environmental Concerns**

The Mauritius building sector has been under growing pressure in recent years to address environmental and sustainability issues. However, incorporating sustainable techniques into building projects is hampered by a number of factors. The high upfront expenditures of adopting green technologies, a lack of knowledge about sustainable building practices, and a lack of training in ecologically friendly building approaches are some of these obstacles (Sharma & Chugh, 2024). Construction projects have an adverse effect on the environment due to the industry's excessive reliance on non-renewable resources like steel and cement as well as its limited adoption of energy-efficient designs. Environmental problems are also made worse by improper waste management procedures during construction and the disposal of construction debris.

- **Limited Knowledge Sharing and Poor Knowledge Management Practices**

One crucial aspect that is still lacking in the Mauritius construction industry is knowledge management (KM). Although the industry produces a great deal of knowledge throughout the course of a project, a large portion of this knowledge is not efficiently recorded or disseminated among teams or projects (Chen & Xie, 2023). Since there is no set method for recording best practices, technical know-how, or lessons learnt, knowledge sharing is typically informal. This results in inefficiencies, the recurrence of previous errors, and a lost chance for ongoing development. Furthermore, this issue is made worse by the absence of efficient KM systems and digital platforms for knowledge exchange, which keeps the industry from profiting from the combined expertise of its professionals (Chen & Xie, 2023).

- **Financial Constraints and Access to Capital**

For many construction companies in Mauritius, especially smaller ones, obtaining funding continues to be a major obstacle. Small and medium-sized businesses may find it difficult to obtain the finance required for construction projects, which sometimes need for large upfront investments. The sector's inefficiencies are further exacerbated by these companies' limited capacity to invest in project management tools, skilled workers, and innovative technologies (Santos & Taneja, 2024). The industry is frequently left behind in terms of global building trends because of its reliance on conventional techniques and its incapacity to adopt creative solutions because of budgetary constraints (Santos & Taneja, 2024).

Conceptual Framework for Knowledge Management in the Mauritian Construction Sector

The conceptual framework (Figure 2) for integrating Knowledge Management in the Mauritian construction industry involves several interconnected elements. These elements help identify how KM practices can be tailored to the specific needs and context of the sector. The framework encompasses:

1. **KM Processes and Tools:**
   - Knowledge Capture: Creating systems to capture both tacit and explicit knowledge through interviews, meetings, and documentation. Tools such as document management systems and knowledge databases can facilitate this.
   - Knowledge Sharing: Promoting collaboration through meetings, workshops, and collaborative platforms such as Building Information Modelling (BIM) and cloud-based systems.
   - Knowledge Application: Ensuring that knowledge is applied to future projects through lessons learned databases, decision-support tools, and continuous learning platforms.
2. **Stakeholders:** The involvement of key stakeholders is essential to the success of KM integration. These stakeholders include project managers, engineers, contractors, subcontractors, consultants, and clients. Creating a knowledge-sharing culture among these diverse groups is a critical part of the KM integration process.
3. **Technological Support:** Digital tools, including BIM, project management software, and cloud platforms, are essential for the effective integration of KM. These technologies support real-time knowledge sharing, collaboration, and documentation management throughout the project lifecycle.
4. **Barriers to KM Integration:**
   - Cultural Barriers: Resistance to sharing knowledge due to competition and the lack of trust among project stakeholders.

- Technological Barriers: The challenge of integrating KM tools with existing construction management software and systems.
- Organizational Barriers: Limited resources or insufficient training in KM practices

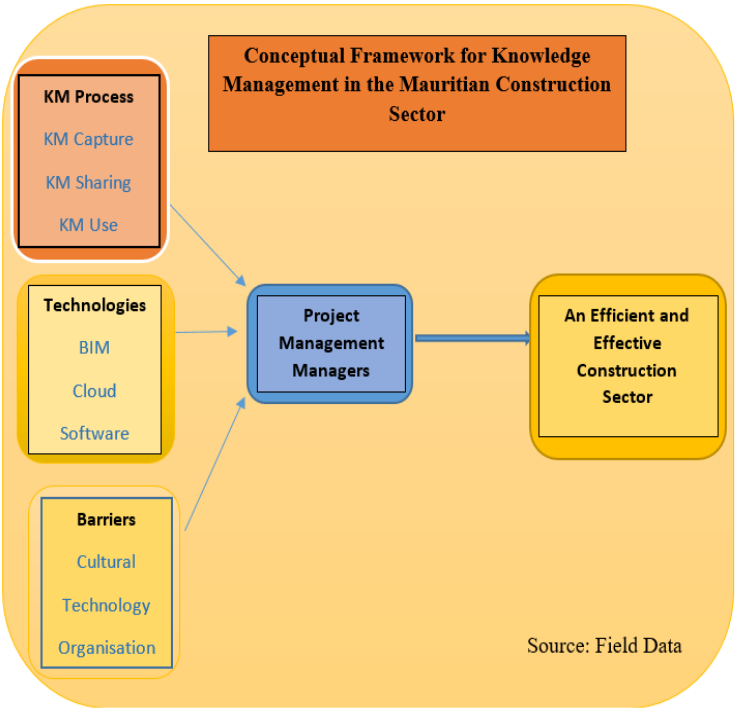

Figure 2: Conceptual Framework

Research Gap

Research Gap in Knowledge Management in the Construction Industry for the Mauritian Economy

A major contributor to jobs, infrastructure development, and foreign investment, Mauritius's construction sector is essential to the nation's economic expansion. However, the building industry in Mauritius suffers difficulties with efficiency, knowledge transfer, and project execution, much like in many other nations. There is still a significant study gap on the application and integration of knowledge management (KM) in the Mauritius construction industry, despite the growing significance of KM in enhancing organisational performance and project success. Finding and filling these gaps can lead to improved long-term sustainability, more effective project management, and better resource utilisation.

Tacit knowledge, or the skills, perceptions, and experience of professionals and employees, is extremely valuable in building projects. However, this information is frequently not successfully captured, shared, or transferred due to the absence of established KM systems. Research on the effective sharing of tacit knowledge across project teams, subcontractors, and stakeholders in the construction sector is scarce in Mauritius, especially when it comes to experienced workers and engineers. For construction projects to be more efficient, research on methods and techniques to improve tacit knowledge transfer is essential (Santos & Taneja, 2024). Many Mauritian construction organisations, particularly smaller and medium-sized enterprises (SMEs), lack formal Knowledge Management Systems (KMS), despite the fact that large-scale construction firms may use basic knowledge management technologies. There is a significant research gap in exploring how the implementation of KMS could benefit these firms, leading to more efficient project management, faster decision-making, and improved quality control. Research into how these systems can be tailored to the specific needs of Mauritian construction businesses is essential (Sharma & Chugh, 2024).

The way knowledge is gathered, stored, and disseminated in the construction industry has been completely transformed by the use of Building Information Modelling (BIM) and other digital tools. Nevertheless, the Mauritian setting has not yet fully utilised these digital technologies. Research on the integration of BIM and other digital knowledge-sharing platforms into construction projects in Mauritius to enhance coordination, cooperation, and knowledge flow among

architects, engineers, contractors, and clients is lacking. Research is required to determine how these technologies might assist local businesses in managing and using knowledge more effectively, particularly in complicated and larger-scale projects (Chen & Xie, 2023). Effective knowledge exchange is frequently hampered by cultural differences in Mauritius, a heterogeneous community with a wide range of ethnic and professional backgrounds. The exchange of knowledge may be hampered by older professionals' opposition to change or the absence of a collaborative culture in some construction companies. To investigate these cultural hurdles and learn how to provide solutions, more research is required. Improving knowledge management procedures in Mauritian construction companies requires examining organisational cultures that support or obstruct information sharing (Zhao et al., 2023). High staff turnover is a problem in Mauritius' construction sector, especially for trained workers and project managers. When workers depart, this leads to a loss of important information and experience. Research in Mauritius could explore strategies for better knowledge retention, including mentoring programs, documentation practices, and the use of knowledge management tools that can capture and preserve knowledge even when employees leave or retire. This area remains under-researched in the Mauritian context (Liu et al., 2023).

Methodology for Conducting Research

Introduction

The research methodology, which describes the strategy and techniques used to look into the study problem, is the main topic of Chapter 3. In order to guarantee the validity and trustworthiness of the study's conclusions, this chapter describes the research design, data gathering methods, sampling strategy, and analysis tools. The selected approach seeks to successfully address the research questions and offer solid insights into the subject being studied. It also covers the reasoning behind choosing particular techniques, such as surveys, interviews, qualitative or quantitative methodologies, or case studies, depending on the type of research challenge.

Research Design

This study's research strategy is set up to fully address the research problem using a qualitative approach. The study embraces a pragmatic research philosophy, acknowledging the importance of employing a variety of methods to better comprehend complicated phenomena. Through interviews or case studies, qualitative research is used to investigate the underlying motives, perspectives, and experiences of participants, offering deep, comprehensive insights into the research issue. In order to generate hypotheses and insights that can guide future, more focused studies, an exploratory research design is also used, with the goal of investigating novel or understudied areas within the subject matter.

Population and Sampling

The study is to investigate the management, transfer, and application of information in construction projects as well as the effects of managerial practices, organisational culture, and technology tools on knowledge retention and sharing. The population will be divided into a number of important groups, such as senior project managers, site engineers, and operational staff, all of whom contribute to the information flow within a project setting, in order to guarantee a thorough representation of viewpoints. This focused approach is in line with Sharma's (2024) results, which highlight the significance of including different stakeholders in the research of knowledge management in construction contexts since each function affects how knowledge is accessible and used. Additionally, consultants offering professional construction services are required by the CIDB Act to register with CIDB.

Sampling

The sampling process for this study is designed to ensure the selection of participants who can provide relevant and insightful data on knowledge management practices in the Mauritian construction industry. The sampling frame is shown below:

Table 1: Sampling Frame

Sampling frame	Private	Respondent	Public	Respondent
Project Manager	**1**	P1	1	**P6**
Architecture	**1**	P2	1	**P7**
Site Engineering	**1**	P3	1	**P8**
Quantity Surveying	**1**	P4	1	**P9**
Structural Manager	**1**	P5	1	**P10**
Total	**5**	**5**	**5**	

Source: Field Data

These people were chosen because they have first-hand experience managing and exchanging knowledge within project teams, as well as direct involvement in decision-making processes. Ten construction-caliber candidates will be chosen equally from the public and private sectors.Purposive sampling, which the study uses, enables the intentional selection of people with particular knowledge or skill pertinent to the study's goals. This approach is suitable since it allows the researcher to concentrate on people who are most likely to offer deep, insightful information on the procedures, difficulties, and effects of knowledge management in the construction industry (Creswell, 2021). By using these sampling methods, the study aims to gather detailed and representative data on the effectiveness and challenges of knowledge management in the Mauritian construction industry, ensuring that the findings are both relevant and reflective of the sector's dynamics.

Data Collection

Semi-structured interviews will be used to gather the primary data for this study. This approach was chosen due to its adaptability, which enables the researcher to thoroughly examine participants' perspectives and experiences while offering a set of essential questions to guarantee consistency throughout interviews. Depending on participant availability and preferences, the interviews may take place in person or online. The purpose of the interview questions is to obtain information on a number of important topics, including:

1.The current state of KM practices within the construction industry in Mauritius.

2.The challenges faced by professionals when trying to integrate KM into construction projects.

3.The perceived benefits and potential impact of KM on project delivery and collaboration.

4.The role of digital tools and technologies in supporting KM.

5.Recommendations for improving KM integration within the industry.

In addition to the interviews, secondary data will be gathered from existing literature, industry reports, and organizational documents related to KM practices in construction. This secondary data will help contextualize the findings from the interviews and provide additional depth to the research.

Data Analysis

Atlas.TI software, a potent qualitative data analysis tool that enables methodical coding and categorisation of interview responses, will be used to examine the data gathered from the semi-structured interviews. It will make it easier to find important themes, patterns, and trends in the data, enabling a thorough grasp of the advantages and difficulties of KM integration in the Mauritius construction industry. ATLAS.ti, a qualitative data analysis program made to make organising and interpreting textual data easier, will be used in this study's methodical and exacting qualitative data analysis process.

Methodological Discussion

The qualitative approach utilized in this research was suitable for examining the intricate and context-dependent characteristics of knowledge management practices within the Mauritian construction sector. Semi-structured interviews facilitated the gathering of detailed insights from experts in both public and private sectors, providing a thorough understanding of practical challenges and methods in the real world. The purposive sampling method guaranteed that participants had pertinent experience and knowledge, thus improving the credibility of the results.

Results

Comparative Analysis

There are clear trends in the acceptance, comprehension, and integration of knowledge management (KM) in Mauritius' governmental and private construction industries. Due to cultural, structural, and technological variations, the implementation depth differs significantly even if both sectors recognise its strategic relevance. While public institutions tend to identify KM more with accountability, continuity, and procedural control, private enterprises typically approach it from an innovation and performance standpoint.

1. Professional Orientation and Experience

With nine to twenty-two years of experience in their respective domains, participants from both the public and commercial sectors demonstrated significant professional maturity. Professionals in the private sector, including P1 (Project Manager, 18 years) and P2 (Architect, 14 years), reported innovative and competitive work cultures. P1 highlighted that "many professionals see knowledge as personal capital," exposing a culture in which professional authority is equated with knowledge. In a similar vein, P2 noted that "architectural firms often operate in competitive environments where personal creativity and expertise are highly valued," implying that expertise is seen as a differentiator.

On the other hand, individuals from the public sector, such P6 (a 22-year-old project manager) and P7 (a 15-year-old architect), demonstrated a culture that prioritised administrative continuity and bureaucratic conformity. The hierarchical structure of public institutions is demonstrated by P6's observation that "knowledge tends to flow vertically, from higher authorities down, with minimal cross-departmental sharing." P7 also stated that "procedural rigidity prioritises accountability and compliance over collaboration," demonstrating that procedural control rather than creativity frequently shapes experience in public organisations. These results support the claims made by Egbu (2018) and Hislop et al. (2018) that rigid hierarchies in public sector systems tend to stifle innovation and open communication.

2. Existing Knowledge Management Practices

Though the private sector exhibits a little higher degree of adaptation, KM techniques are often informal and unstructured in both sectors. Lessons are "occasionally discussed during team meetings," but they are rarely systematically recorded, according to P1, who characterised knowledge management in his company as "largely informal and ad hoc." The "most meaningful knowledge exchange occurs verbally during site discussions," according to P3 (Site Engineer, Private), suggesting a dependence on tacit knowledge transfer. This is consistent with Nonaka and Takeuchi's (1995) hypothesis of tacit-to-tacit transmission, which limits organisational development by allowing learning to happen through contact but going unrecorded.

On the other hand, respondents from the public sector, like P6 and P7, highlighted formalised yet inflexible systems that were focused on reporting and paperwork. "Knowledge management is formalised and document-driven, relying on reports, audits, and compliance documentation," according to P6. P7 also noted that "reports are archived but rarely revisited for future projects." In line with Davenport and Prusak's (2000) observation that bureaucratic organisations often "collect data without converting it into actionable knowledge," these statements demonstrate how public institutions prioritise structured reporting but frequently lack mechanisms for reflection and reuse.

3. Knowledge Management Tools and Technologies

A huge disparity occurs between the technology ecosystems of the two sectors. Private sector enterprises use a variety of digital technologies such as AutoCAD, Revit, Excel, and cloud platforms like Google Drive or Dropbox. According to P2 (Architect), "AutoCAD and Revit are used for design work, but the adoption of BIM remains limited due to cost and lack of training." Similarly, P1 stated, "we rely on emails, Excel, and shared folders..." BIM is recognised as transformative but not yet fully adopted." These statements demonstrate an awareness of contemporary knowledge management tools but a lack of institutional commitment to their implementation, which is indicative of what Love et al. (2020) refer to as the "digital hesitancy" that small and medium-sized businesses in developing economies.

The application of KM technologies is still conservative and dispersed in the public sector. While P8 stated that "restricted access to digital repositories delays collaboration between teams," P6 affirmed that "staff rely mainly on shared drives and email for speed and convenience." Additionally, P10 noted that "BIM is rarely applied, mainly due to budgetary constraints and lack of training." In line with findings by Arayici et al. (2017), who contend that public institutions in

emerging contexts frequently lag in digital transformation due to systemic inertia, this suggests that resource constraints and bureaucratic procurement procedures impede technological adoption in public construction.

4. Barriers to Knowledge Management Implementation

Despite having different origins, both sectors face complex obstacles. Participants identified issues with time, technology, and culture in the private sector. "Time pressure is the most significant barrier... documentation is often viewed as an administrative formality," according to P3 (Site Engineer). Digital KM adoption is hampered by "high costs and reluctance to change established workflows," according to P5 (Structural Engineer), and "professionals' preference for knowledge hoarding due to personal or competitive reasons," according to P1. These answers support the claim made by Carrillo et al. (2013) that cooperation and long-term knowledge retention are hindered by the fragmented and competitive character of the construction sector.

In contrast, public sector constraints are mostly organizational and procedural. P6 described “bureaucratic hierarchies and rigid processes that inhibit the smooth flow of information,” while P7 emphasized that “resistance is culturally rooted in bureaucracy.” Similarly, P9 noted that “limited collaboration between departments prevents collective learning.” These observations are consistent with Hislop et al. (2018), who identified hierarchical control as a major impediment to KM effectiveness in public organizations. Furthermore, P3 clarified that "some individuals avoid sharing knowledge due to fear of being blamed for mistakes." This psychological resistance highlights Connelly et al. (2012)'s concept of knowledge hiding, which occurs when people purposefully withhold knowledge to protect personal reputation. Both sectors reported fear of accountability as a recurrent issue.

5. Perceived Benefits of Knowledge Management

Despite obstacles, respondents in both industries strongly believed that knowledge management (KM) could improve learning and performance. Benefits in the private sector are defined around error reduction, efficiency, and innovation. While P4 pointed out that it would "improve efficiency and accuracy in financial management," P1 emphasised that "KM could enhance communication, reduce errors, and streamline project planning." "KM promotes collaboration between engineers, architects, and contractors and reduces trial-and-error approaches," according to P5. These observations support the claim made by Alavi and Leidner (2001) that good knowledge management fosters organisational learning and ongoing development.

Participants focused on institutional memory, continuity, and transparency in the public sector. While P9 stated that "effective KM enhances transparency in financial processes and promotes cross-departmental learning," P6 noted that "KM ensures continuity and transparency in public projects, especially amid staff rotations." "KM enhances structural safety and durability by making past experiences available," according to P10. These viewpoints highlight KM's governance-focused function in the public sphere, supporting Wiig's (2004) assertion that public organisations prioritise KM more for institutional memory and accountability than for innovation.

6. Discussion and Implications

The comparison shows that although both industries acknowledge the strategic importance of knowledge management, their methods are nonetheless disjointed. Although it lacks formal procedures for long-term knowledge retention, the private sector exhibits flexibility and agility. In contrast, the public sector keeps organised records but is unable to transform data into organisational learning. Participants' perspectives, ranging from P1's "knowledge hoarding culture" to P7's "hierarchical rigidity," together depict a system limited by both structural and cultural inertia. When these results are compared to Jennex and Olfman's (2016) knowledge management success paradigm, it is clear that the Mauritian construction sector needs a well-rounded approach that incorporates leadership commitment, technological prowess, and cultural openness. To strengthen KM maturity, private firms should institutionalize documentation processes and promote incentives for knowledge sharing, while public institutions must decentralize information flows and invest in digital platforms. Cross-sector collaboration, through joint knowledge repositories or inter-agency KM frameworks, could serve as a catalyst for national-level learning and innovation.

Network Analysis

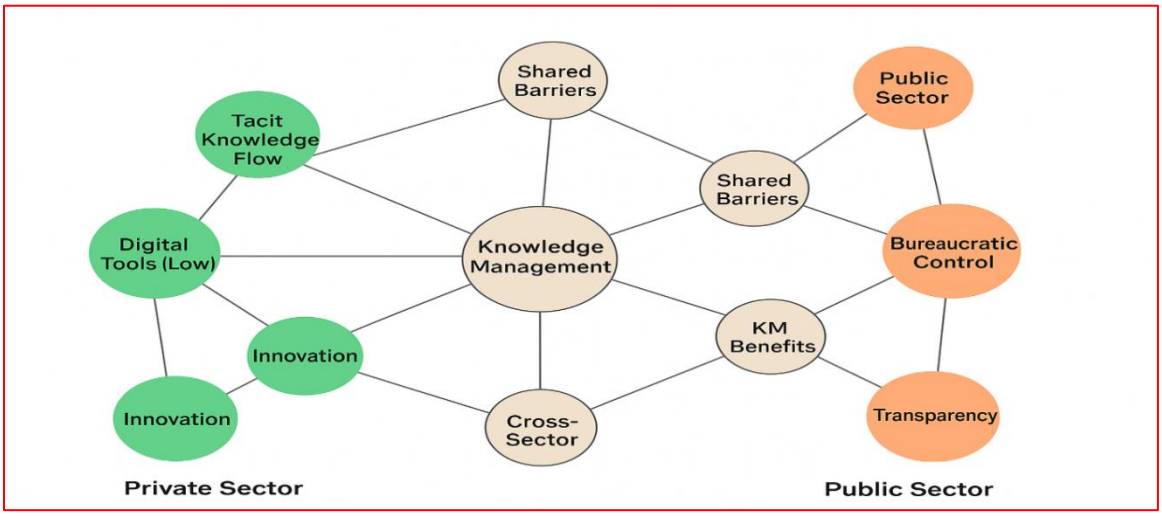

Figure 3 : Network Analysis

The neutral tone of the beige "Knowledge Management" node at the heart of the network indicates a unifying, cross-cutting construct that mediates both sectoral perspectives. The colour beige emphasises KM's function as the shared strategic resource around which cultural, technological, and procedural factors revolve by visually framing it as the integrative hub connecting the orange (public) and green (private) clusters.

The private sector cluster is depicted in green, a colour that symbolises expansion, flexibility, and creativity; this graphically supports the idea that private companies function in a dynamic, experience-driven setting. Green nodes like Innovation, Digital Tools (Low), and Tacit Knowledge Flow show that learning is mostly iterative and interpersonal, with a moderate adoption of technology indicating potential rather than completely institutionalised capabilities. The colour therefore highlights the private sector's strengths in creativity and its need to mature KM structures.

Orange, a colour linked to institutional visibility and caution, is used to depict the public sector cluster, which appropriately reflects the sector's focus on governance. Orange nodes, such as Bureaucratic Control and Transparency, highlight formal processes, accountability, and archival practice; the colour choice conveys the sector's stabilising role as well as the cautious limitations—rigidity and hierarchy—that impede quick knowledge sharing and innovative problem-solving.

Additionally beige, cross-sector nodes visually represent their bridging role and complement the centre KM node. This shared beige colour scheme for nodes like KM Benefits and Shared Barriers illustrates the areas where public and private issues coincide: shared incentives (efficiency, institutional memory) and hurdles (fear of responsibility, siloing). The neutral ground for possible cooperation and shared knowledge management systems is suggested by the beige connection pieces.

The colour relationships on the chart—green on the left, orange on the right, and beige in the center—create an asymmetry that conveys the structural differences of the network: a vertically structured, caution-marked orange cluster and a horizontally connected, growth-oriented green cluster, both connected to a neutral beige core. These colour cues make it visually evident that the main barriers to unified knowledge management are bureaucratic rigidity (strong orange–beige control) and technical inertia (weak green–beige connectivity). When combined, the green, orange, and beige colour combination visually represents a strategic narrative: use a beige-centered KM platform to integrate the public sector's orange capabilities in continuity and accountability with the private sector's green inclination for innovation. The colours therefore not only identify clusters but also guide the recommended approach—use the beige central platform to broker green innovation and orange governance into an integrated national KM capability.

Proposed Framework for Effective KM Adoption in the Mauritian Construction Sector

Based on findings and global KM models (Nonaka & Takeuchi, 1995; Dalkir, 2017; Jennex & Olfman, 2016), a **"Mauritian Construction KM Framework"** is proposed.

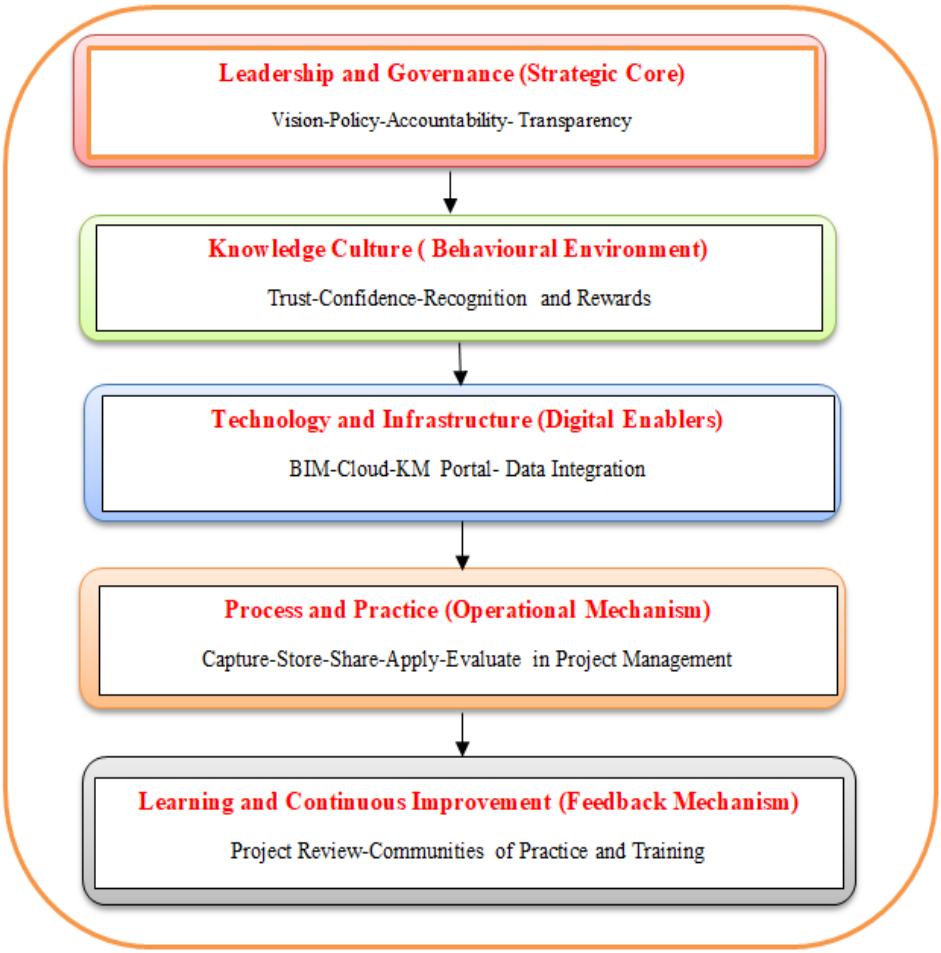

Figure 4: Mauritian Construction KM Framework

Source: Field Data

Leadership and Governance (Strategic Core)

Strong leadership and governance, which create the strategic basis for KM adoption, are at the top of the framework. A clear KM vision that is in line with national construction and digital transformation policies is ensured by leadership commitment. To maintain KM implementation, governance structures should set up monitoring systems, assign resources, and specify accountability procedures. In this pillar, leadership fosters a culture of trust and engagement by acting as the anchor that links organisational intent to operational reality.

Knowledge Culture (Behavioural Environment)

Creating an organisational culture that encourages information exchange and reciprocal learning is the second pillar. This entails fostering cooperation, trust, and systems of recognition that value transparency over rivalry. In the Mauritian setting, where both public and private enterprises demonstrate inclinations towards knowledge hoarding and vertical communication, cultural transformation is essential. Through team-building, peer mentorship, and collaborative platforms, the culture pillar transforms individual expertise into collective corporate wisdom.

Technology and Infrastructure (Digital Enablers)

The framework's enabling foundation is technology. Building information modelling (BIM), cloud-based repositories, and knowledge portals can all be integrated to efficiently store, retrieve, and distribute information across projects. Digital technologies promote continuity between project phases, minimise effort duplication, and enable real-time collaboration. Adopting affordable and easily available digital tools is essential to closing gaps between public and private practices in Mauritius' building industry.

Process and Practice (Operational Mechanisms)

The functional centre of knowledge management operations is represented by this pillar. It integrates the conventional KM cycle—capture, store, share, apply, and evaluate—into routine project management procedures. Every step guarantees that construction information, design ideas, and lessons learnt are methodically recorded and used. Organisations can transition from ad hoc information sharing to organised, repeatable learning practices by institutionalising KM processes through databases, reporting formats, and review systems.

Learning and Continuous Improvement (Feedback Mechanism)

The last pillar focusses on performance enhancement and adaptive learning. Organisations transform experience into useful knowledge through ongoing training, communities of practice, and post-project reviews. By ensuring that knowledge produced from one project informs subsequent endeavours, this iterative feedback loop ends the knowledge management cycle. It builds a self-sustaining learning ecosystem over time that improves national construction standards and professional ability.

Integrative Dynamics

Each of the five pillars supports the others. Vision and policy are set by leadership; participation is shaped by culture; technology facilitates execution; procedures guarantee a methodical flow; and learning guarantees renewal. A loop of strategic renewal is created by the cyclical interaction between "Learning and Continuous Improvement" and "Leadership and Governance," guaranteeing that lessons from practice continuously improve policies and leadership choices.

Strategic Implicatio

A coordinated, technology-enabled learning system is what the Mauritian Construction KM Framework advocates for replacing dispersed, individual-driven knowledge practices. By encouraging innovation, openness, and institutional memory in the public and commercial construction industries, its adoption can put Mauritius in a position to increase project efficiency, accountability, and national competitiveness. The figure below illustrates this:

Conclusion

Research indicates that knowledge management is viewed as a vital strategic role in the Mauritian construction sector; however, its implementation varies and is disjointed between the public and private sectors. The analysis revealed a disparity between the private sector's informal, experiential methods of KM and the public sector's rigid method based on documentation, yet both groups are lacking effective methods of integrating and/or reusing knowledge. Barriers to implementing KM included organizational constraints, technological limitations, and cultural resistance, which have thus hindered companies' ability to adopt KM practices. The study, however, illustrates that by using effective KM practices, project efficiencies, collaborative work, decision-making, and innovative solutions can be enhanced. A proposed KM framework of integrated leadership, culture, technology, processes, and continuous learning provides a systematic process for removing KM implementation barriers. Ultimately, an integrated and technology-enabled KM strategy will be necessary for enhancing project performance and enhancing the long-term competitiveness and sustainability of the Mauritian construction industry.

Acknowledgment

At the University of Utara in Malaysia, I began working on the project "Incorporating Knowledge Management within the Construction Industry of the Mauritian Economy (A Qualitative Approach)" in September 2025. I conducted primary research for this topic under the guidance of Prof. Dr. Nasrun Nawi. I owe him and Dr. Jinot Belle of the Open University of Mauritius a great deal for deepening my knowledge of the field of knowledge management. I want to express my gratitude to my family for their unwavering love and support, which means the world to me. I am grateful to Universiti Utara Malaysia for giving me the platform I needed to complete this research paper.

Ethical considerations

Ethical issues like fairness, plagiarism, accurate information representation, honesty, confidentiality, support, privacy, respect for respondents' privacy, professionalism, and alerting participants to potential study complications will all be taken into account before the survey is conducted. The participants gave their consent throughout the process, and precautions were taken to protect their privacy. The different facets of the investigation were explained to the participants. Before the

questionnaires were distributed, participants were also made aware of the importance of giving thoughtful and original answers. Throughout the study, great care was taken to make sure that participants were contacted in a way that reduced the possibility of inflicting them bodily or psychological harm. This was achieved by employing language that was both harmless and polite, while avoiding any kind of coercion, discrimination, or unfair treatment. The researcher took measures to ensure that his own thoughts on the subject did not impact either the responses or the final results. The selection of the interview sample population for this study was based on its significance to the research subject matter, rather than its accessibility. I confirm that I have obtained all consent required by the applicable law to publish any personal details or images of patients, research subjects, or other individuals used.

Conflict of Interest

The author declares no conflicts of interest.

Funding

The researcher solely provided financial support for the conduct of the research and/or preparation of the article. The researcher professionally worked on the design; in the collection, analysis, and interpretation of data; in the writing of the report; and in the decision to submit the paper for publication.

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