



DEVELOPING A CONCEPTUAL MODEL FOR ORGANISATIONAL MEMORY:  
A BUSINESS INTELLIGENCE APPROACH TO CUSTOM SOLUTIONS BY  
INTELLIGENCE

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ASIA PACIFIC UNIVERSITY OF TECHNOLOGY & INNOVATION (APU)  
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To My Ohana  
Who guide me true through changing tides

## ABSTRACT

Itelligence is a medium sized IT business solutions company specialising in Oracle NetSuite ERP custom solutions. Due to the lack of a structured organisational memory, the support and development teams repeatedly resolve the same issues and rebuild solutions, which results in wasted effort, inconsistent outcomes, and increased vulnerability to knowledge volatility when individuals leave the organisation. This project employed a qualitative case study approach to develop a conceptual organisational memory model for Itelligence's operational context. The research assessed the significance of organisational memory, examined existing models and identified knowledge elements. A conceptual model was then developed through the synthesis of the findings to support capture, retention, reuse and governance of knowledge across different Itelligence workflows. The proposed model aims to optimise organisational performance and decision-making at Itelligence. Moreover, the model also offers guidance for other small and mis-sized IT consultancies. Consequently, by strengthening knowledge-driven innovation and promoting resilient organisational practices, the project contributed to Sustainable Development Goal 9 (Industry, Innovation and Infrastructure).

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## LIST OF ABBREVIATIONS

OM	Organisational Memory
ERP	Enterprise Resource Planning
SME	Small and Medium-sized Enterprise
CP1	Capstone Project 1
CP2	Capstone Project 2
BI	Business Intelligence
KM	Knowledge Management
OMIS	Organisational Memory Information System
AI	Artificial Intelligence
ICT	Information and Communication Technology
HPWS	High-Performance Work Systems
PSS	Product–Service Systems
RQ	Research Question
SLR	Systematic Literature Review
TMC	Transactive Memory Capability
CMI	Contextual Memory Intelligence
Ba	Shared Knowledge Creation Space

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This chapter presents an overview of the research project, which proposes a conceptual organisational memory model for Itelligence, a medium sized IT business solutions company specialising in Oracle NetSuite ERP custom solutions. It begins by describing the context of the project and the reason as to why organisational memory (OM) has become a primary concern for Itelligence. The following sections will discuss the main problem and establish the background and academic grounding. Followed by the aim, objectives, and research questions.

The chapter goes on to elaborate on the importance of the project, identifying its contribution to both practice and academic literature and clarifying the overall project scope. Following this outline, the chapter provides the practical challenges experienced by Itelligence and gradually builds a rationale for the design of a conceptual model of OM.

To accomplish this, the introduction has two functions. First, it forms a link between organisational challenges and issues discussed in the literature as well as the motivation for the project. Secondly, it provides the direction for Capstone Project 1 and Capstone Project 2, linking objectives to the structure of the project. The subsequent sections on each of these parts in detail.

### 1.2 Problem Identification

Itelligence is a well-known and proficient medium sized IT business solutions consultancy in Mauritius. Unfortunately, due to the lack of structured organisational memory operations are continuously impeded. For instance, unlike businesses that are systematically documenting and reusing knowledge, Itelligence depends heavily on the expertise of its individual staff members. Itelligence's continued reliance on individuals rather than institutional memory biases outcomes and inhibits its capacity to deliver consistent services.

The lack of an OM model to capture and reuse knowledge has led to several operational difficulties. Staff often repeat effort by resolving similar queries or rebuilding the same component for a solution without reference to past solutions. As a consequence, there is a

wastage of valuable resources, slow response times, and an inconsistency in service quality. Moreover, Itelligence stands to lose valuable knowledge and expertise without the implementation of an OM model. If individuals leave or transition into another position, this will further worsen Itelligence's efficiency and continuity.

From a research perspective, this problem also mirrors a gap in the literature reviewed in Chapter 3. OM is widely acknowledged as an important factor in performance, yet most frameworks are developed for large organisations. This excludes small and mid-sized IT consultancies and does not address their circumstances. Current approaches often separate customer support and development workflows, with little to no guidance on how their knowledge might be captured and reused in a practical model. As Koivisto & Taipalus (2025) point out, even large IT organisations encounter persistent challenges with documentation and cooperation, implying that the same issues are likely to be more notable in smaller firms with fewer resources.

### **1.3 Background**

OM refers to the ways in which businesses store, retain and reuse the knowledge they have generated through their operations. It guarantees that all useful information and solutions from past experiences are kept safe, as a result they can be employed if any similar problems were to occur. By preventing knowledge from being lost or forgotten, OM helps reduce any duplication of effort and helps maintain consistency across teams and projects of a business.

In knowledge intensive industries, such as IT and ERP consultancy, OM plays an especially significant role, as staff in these environments are frequently faced with recurring problems and tasks that require similar solutions. Without a system to capture, store, and reuse knowledge, teams are vulnerable to solving the same problems or recreating multiple instances of the same project component. This means wasting valuable time and resources. It also causes businesses to deliver inconsistent services and delayed responses to clients' issues.

Itelligence is the perfect case in point. Individuals in support and development teams need to work repeatedly on the same client issue or reinvent the same solution component for a similar project. Currently, Itelligence does not have a formal process to capture and utilise repetitive knowledge across teams.

Various research underscores the potential of OM in resolving these issues. Several studies show that effective knowledge sharing, and organisational learning can strengthen performance, innovation, and competitiveness within a business (Cheng et al., 2024; Danko & Crhová, 2024). Similarly, even though knowledge sharing improves performance in ERP settings, there are still few practical ways to integrate it directly into day-to-day solution development (Muhammad Ramdani & Hady Siti Hadijah, 2020). However, many existing knowledge management and OM systems fail in practice due to limited user adoption, outdated content, or poor usability (Reddy et al., 2022). Furthermore, while OM is widely studied, few practical models are available that cater to the requirements of small and mid-sized ERP consultancies.

Accordingly, the situation at Itelligence demonstrates a real business problem as well as a gap in the literature. Through emphasising the importance of OM in Itelligence, it lays the foundation for the development of a conceptual model with a theoretical foundation and practical relevance for companies that operate in comparable environments.

#### **1.4 Aim, Objectives and Research Questions**

The overarching aim of this research is to develop a conceptual organisational memory model for Itelligence. To achieve this aim, four objectives have been set, each supported by two research questions that provide direction and focus.

Objective 1: To evaluate the significance of organisational memory for enhancing organisational performance and knowledge reuse.

- RQ1.1: What organisational outcomes, such as efficiency, consistency, and innovation, are associated with effective organisational memory?
- RQ1.2: How does organisational memory facilitate knowledge reuse across support and development teams in mid-sized ERP consultancies?

Objective 2: To examine existing organisational memory models in both academic literature and industry practice.

- RQ2.1: What types of organisational memory models currently exist that are relevant to SMEs and IT service contexts?

- RQ2.2: What limitations constrain the applicability of these models to an ERP consultancy such as Itelligence?

Objective 3: To identify the knowledge elements that should be captured to support effective business decision-making.

- RQ3.1: Which knowledge elements are most critical for Itelligence?
- RQ3.2: How should these elements be structured to ensure accessibility, reusability, and support for organisational decision-making?

Objective 4 (CP2): To design a conceptual organisational memory model tailored to the context of Itelligence.

- RQ4.1: What are the essential components and relationships that should be incorporated into the conceptual organisational memory model?
- RQ4.2: How can the model be integrated with existing workflows and business intelligence capabilities to enhance organisational decision-making?

## 1.5 Significance of the Project

The project is important in terms of an academic and a practical perspective. From an academic viewpoint, it contributes to organisational memory and knowledge management literature by addressing an environment that has received little attention. As most organisational memory are studied in large organisations, relatively few models address the needs of small and mid-sized IT consultancies. By focusing on Itelligence, the research contributes to the academic understanding of how organizational memory can be utilised and structured within an IT ERP consultancy environment. It also contributes to how organisational memory can be conceptualised to systematically capture and reuse knowledge generated in both customer support and development contexts.

From a practical perspective, the project is directly relevant to Itelligence. The development of a conceptual organizational model provides a structured approach to capture and reuse their solutions. Hence, reducing their current duplication of work, improving their efficiency in responding to queries and ensuring consistency in their service delivery. Additionally, a structured approach would help prevent any risk of knowledge loss when experienced employees leave or take on new roles within Itelligence, improving continuity and reliability in

their operations. By promoting knowledge reuse, the model would enable informed decision-making and improve Intelligence's ability to respond effectively to client needs.

Moreover, the results of the case study are applicable to other companies with similar problems. Numerous mid-size IT consultancies have a hard time retaining and reusing organizational knowledge especially when it is associated with individuals rather than the organisation. The conceptual model that will be proposed for this project may also serve as a reference point for organisations outside of Intelligence and can guide them on how to deal with similar issues.

## **1.6 Scope of the Project**

The case study of this project is Intelligence, a medium sized IT business solutions company specialising in Oracle NetSuite ERP custom solutions. The company's support and development teams, an essential aspect of the organisational memory investigation, are specifically targeted by the project.

The development of an operational software prototype or system will not take place during this project. Rather the result is a conceptual model of an organisational memory which illustrates how knowledge can be systematically captured, stored and reused to support Intelligence in its decision-making.

The scope of CP1 is limited to Objective 1, which is to understand the importance of organisational memory. This involves examining both published academic and industry literature in a systematic manner.

For CP2, the scope will be extended to cover Objectives 2, 3 and 4. As therefore, the project will involve reviewing existing models of organisational memory to identify knowledge elements that are essential to Intelligence and designing the final conceptual model. CP2 will make use of both secondary data, such as further reviewing models, frameworks and best practices, and primary data collected from staff using questionnaires and possibly interviews. This procedure will make sure that the final model reflects both established knowledge and the operational realities of Intelligence.

There are several limits to the project. Firstly, it only focuses on the workflows of the support and development teams within Intelligence. Secondly, the project adopts a single case study

approach which limits how the findings can be applied to other contexts. Nevertheless, the conceptual model is expected to provide insights that other similar consultants will be able to modify and adopt.

## CHAPTER 2

### METHODOLOGY

#### 2.1 Introduction

This chapter describes how the project was conducted in order to achieve its aims and objectives. The project is structured as a qualitative case study, which is appropriate for examining a single organisation in detail and for developing a conceptual model that reflects both theory and practice.

The project methodology has two phases, Capstone Project 1 (CP1) and Capstone Project 2 (CP2). CP1 which mainly deals with the first objective and is supported by secondary research. A systematic literature review is conducted to help understand and evaluate the significance of OM which lays the foundation for the rest of the project. CP2 builds on CP1 by addressing the remaining objectives. It includes a literature review of existing OM models, knowledge elements, and a collection of primary data from Itelligence staff for the purpose of validating and refining these elements within the organisation's context. The results from these steps were then consolidated to design the final conceptual organisational memory model.

The approach of splitting the methodology into two was suitable as it allowed the project to clearly establish a strong understanding from existing studies before incorporating the insights from the case organisation Itelligence. The integration of both secondary and primary data guarantees the model is academically relevant while also meeting the practical needs of Itelligence.

The following sections detail the research approach and design, the phases of the project, data collection, analysis methods, ethical considerations and the tools employed to support the project.

#### 2.2 Project Approach and Design

This project takes a qualitative research approach. This approach is fitting as the project focuses on an in-depth examination of organisational memory and development of a conceptual model within the context of Itelligence. It also enables the project to capture meanings, trends and

insights that are essential to understanding how organisational memory can be structured and applied.

Given that the aim is to create a conceptual model that is based on the realities of Intelligence and still informed by the broader literature available, the project is designed as a single case study. With this qualitative approach, the case study design is appropriate to the aim of the project, as it allows for a thorough investigation of organisational memory within the specific context of Intelligence.

The approach and design provided the flexibility to use secondary data, through systematic literature reviews, and primary data, through engagement with Intelligence staff during Capstone Project 2. While the use of a single case study does not list the generalisability of findings, it improves the depth and contextual relevance of the analysis conducted. The qualitative case study approach provided a solid cohesive foundation for addressing the objectives and their corresponding research questions for producing a conceptual model for organisational memory.

## **2.3 Project Phases**

### **2.3.1 Phase 1 (Capstone Project 1 - Objective 1)**

The first phase focused on evaluating the significance of organisational memory. A systematic review of secondary sources from published academic and industry literature was conducted for this purpose. The review examined the ways in which organisational memory enhances efficiency, consistency and reuse of knowledge in an organisation. This phase laid the groundwork for the entire project.

### **2.3.2 Phase 2 (Capstone Project 2 - Objective 2)**

The second phase involved a literature review on the existing organisational memory models. This review compared and critiqued different approaches in order to evaluate their applicability to small and mid-sized IT consultancies. The result of this phase provided a clearer understanding of the models that informed the development of the conceptual model for Intelligence.

### **2.3.3 Phase 3 (Capstone Project 2 - Objective 3)**

The third phase combined a literature review with primary data collection. The literature was used to identify common knowledge elements associated with organisational memory models. The elements identified for these methods were validated and refined with input from Itelligence. This input was collected through semi-structured interviews with various participants at Itelligence. This step ensured that the knowledge elements in the conceptual model were supported by evidence.

#### **2.3.4 Phase 4 (Capstone Project 2 - Objective 4)**

The final phase was the culmination of the previous phases, to design the conceptual organisational memory model. The model was developed using the diagramming tool Draw.io. It was used to illustrate how organisational memory can be captured, retained and reused within the case organisation Itelligence.

### **2.4 Data Collection Methods**

Data for this project were collected from both secondary and primary sources. Secondary data was collected in both Capstone Project 1 and in Capstone Project 2 from available and relevant literature. The primary data was collected in Capstone Project 2 to validate the findings within Itelligence.

#### **2.4.1 Secondary Data**

Secondary data is collected from academic and industry literature to address Objectives 1, 2, and part of Objectives 3. The literature was retrieved from databases including Research Gate, Science Direct, IEEE Explore and Google Scholar. The search terms used included “organisational memory,” “knowledge management,” “knowledge reuse,” “ERP,” and “SMEs.”. The secondary data collection mainly concentrated on recent literature, published during 2015-2025, written in English and relevant to organisational memory and knowledge management. Duplicate records, non-peer-reviewed materials, and articles not in the scope were excluded. Mendeley was used to manage the selected literature and store references. Insights from the literature were captured in a literature matrix. Furthermore, insights from the literature are also annotated in a pdf reader, Skim.

#### **2.4.2 Primary Data**

During Objective 3 of CP2, primary data was gathered to verify and adjust the knowledge elements identified through the literature. The data for this research was collected from semi

structured interviews with relevant staff at Itelligence to provide depth. Participants are selected based on their involvement in knowledge-intensive work. The interview took place on Google Meet. Questions were designed to validate the relevance of knowledge elements identified from the literature and to capture any additional insights.

## **2.5 Data Analysis Strategy**

The data analysis strategy for the project combined the findings from the secondary and primary data collection. A theme driven approach was used so that the analysis remains closely aligned with the project objectives, while also allowing new patterns to be revealed.

### **2.5.1 Secondary Data**

For Objectives 1, 2, and part of Objective 3, academic and industry literature was reviewed thematically. The main themes were guided by the objectives: the significance of organisational memory (Obj. 1), existing organizational memory models (Obj.2 ) and knowledge elements for decision making (Obj. 3). For each theme, there were sub themes that were identified during the literature review. Thematic synthesis was then applied to the selected references that were organised in Mendeley and detailed in the literature review matrix. Grouping insights into themes and sub themes and enabling the comparison across multiple studies.

### **2.5.2 Primary Data**

Primary data is in Objective 3 to validate the knowledge elements drawn from the existing literature. Semi-structured interview transcripts were collected and stored. Responses were categorised into the same themes and sub-themes as established knowledge elements, which enables the direct comparison between the academic findings and staff perspectives.

### **2.5.3 Integration and Model Development**

The results of the secondary and primary analyses were integrated in Objective 4 to design the conceptual organisational memory model. Areas that aligned and differed between the literature and organisational input were identified, and the most relevant elements were synthesised into the model. The final deliverable model is visualised using Draw.io to demonstrate how organisational memory can be captured, retained and reused within the case organisation, Itelligence.

## 2.6 Ethical Consideration

Ethical considerations are an important part of this project and are applied differently across Capstone Project 1 and Capstone Project 2.

For Capstone Project 1, the report relies entirely on secondary data from published academic and industry literature. Since this information is publicly available and does not involve human participants, there are no ethical concerns.

For Capstone Project 2, primary data will be collected from staff at Itelligence. An ethics form was submitted and approved by the project supervisor and secondary marker in line with Asia Pacific University (APU) requirements. The individuals in this project were participating voluntarily and had the right to withdraw at any time. To maintain anonymity and confidentiality of the subjects, all personal identifiers have been removed, and the findings are reported in aggregate only. In addition, direct quotes were anonymized and data was stored safely for academic purposes only.

By adhering to these procedures, the rights and confidentiality of subjects who participated in the study were protected, while all research activities were consistent with the ethical standards as expected by APU.

## 2.7 Tools and Platforms

The project leveraged a wide range of digital tools that helped ensure data collection, organisation and analysis were done in a systematic and reliable way. These tools also supported the presentation of findings and the design of the final deliverable, which is the conceptual organisational model. Each tool was selected for its suitability to the task and convenience. Together, they provided a solid framework for managing both the secondary and primary data. A summary of the main tools and their application are presented in Table 1

Table 1: Digital Tools and Resources Utilised in the Project

Purpose	Tool(s)	Application in the Project
Reference Management	Mendeley	Store and organise literature, tag papers by theme, manage citations systematically.

Data Organisation	Excel/Pages/Skim	Develop literature review insights; record study details (author, year, findings); manage survey data exports.
Survey Distribution	Google Forms	Design and distribute staff questionnaires; collect responses efficiently.
Interview Platform	Google Meet	Conduct semi-structured interviews with support and development staff.
Model Design and Visualisation	Draw.io	Design and present the conceptual OM model clearly and professionally.

## 2.8 Project Plan

This project took place from Monday, 16 June 2025, to Sunday, 25 January 2026, spanning both CP1 and CP2. The timeline covers all activities from the initial literature review to the final submission of the capstone report.

The schedule was arranged in continuous weeks so that the subsequent tasks would be performed after the prior ones while maintaining selective overlap wherever necessary. This plan allowed for steady progress without unnecessary delays all while showing important due dates.

The project was divided into ten milestones each representing a unique phase of work corresponding to the objectives defined.

- M1 – Literature Review (Objective 1): Initial scanning of literature, thematic coding, and drafting of the systematic review addressing the significance of organisational memory.
- M2 – Methodology & Project Plan: Drafting the research methodology, project phases, and tools, and integrating the project plan.

- M3 – CP1 Report: Compilation, revision, and polishing of Chapters 1–3, culminating in the submission of CP1 on 26 September 2025.
- M4 – CP1 Presentation: Preparation and delivery of the CP1 oral presentation on 15 October 2025.
- M5 – Review of Organisational Memory Models (Objective 2): Literature review of existing models and frameworks relevant to SMEs and IT consultancies.
- M6 – Knowledge Elements & Data Collection (Objective 3): Identification of knowledge elements, piloting the questionnaire, distributing it, conducting interviews and collecting data.
- M7 – Data Analysis: Thematic coding of responses and cross-referencing with existing literature to validate and refine findings.
- M8 – Conceptual Model Design (Objective 4): Drafting of the conceptual organisational memory model and evaluation of its structure and relevance.
- M9 – Final Report Integration: Incorporating CP1 chapters and CP2 outputs into a single cohesive document, drafting the conclusion, and completing final edits.
- M10 – CP2 Presentation: Preparation and delivery of the CP2 presentation, aligned with the final report submission on 25 January 2026.

As shown in Figure 1 the Gantt chart shows a timeline which is broken down into the start and end dates of several tasks, where tasks are coloured depending on the milestone. The major deadlines to note are CP1 submission, CP1 Presentation, and CP2 submission and presentation.

The plan provided a rational, incremental progression between the two phases of the capstone while permitting alterations and feedback. To maintain uniformity, the Capstone Project 1 and Capstone Project 2 deliverables are compiled into one report. This also ensures that Itelligence's conceptual model is both academically valid and practically relevant. It also guarantees that the conceptual model is academically sound and practically useful for Itelligence.

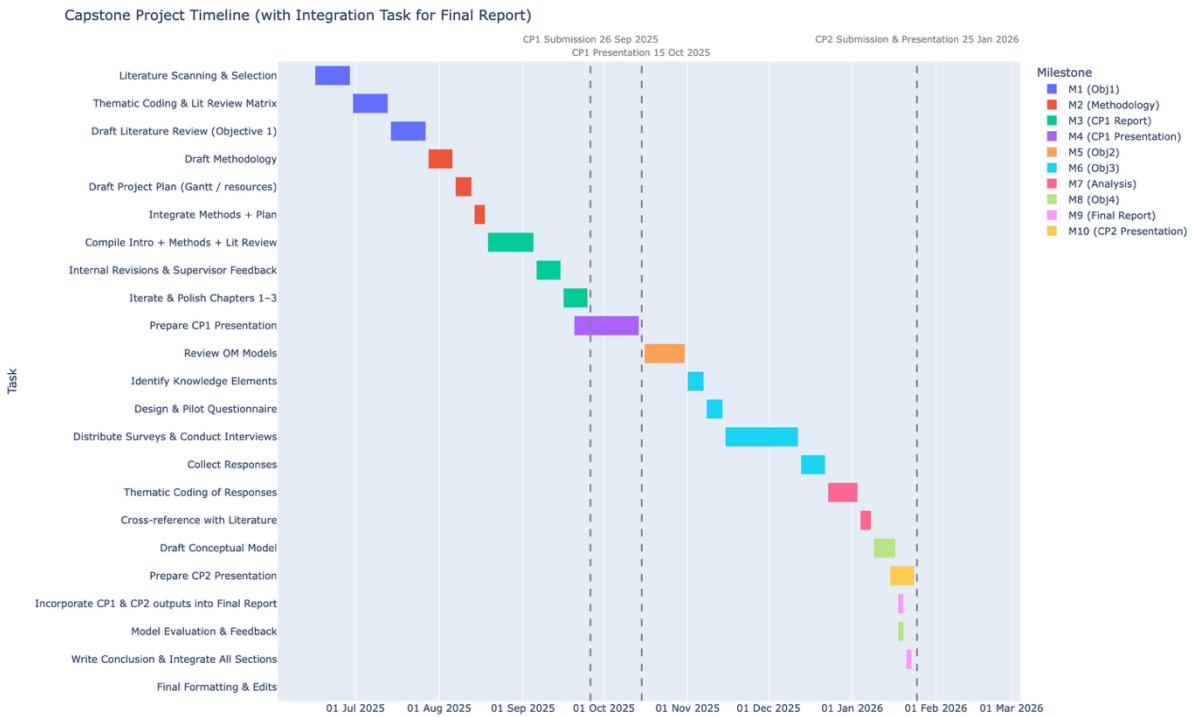


Figure 1: Gantt Chart of Capstone Project Phases and Deliverables

## 2.9 Summary

The methodological outline used in the project has been explained in this chapter. This study employs a qualitative case study approach to examine organisational memory for Itelligence in detail. The Capstone project is split into two stages: Capstone project 1 and Capstone project 2. Capstone Project 1 aims to report the findings from secondary literature to describe the significance of organisational memory, whereas Capstone Project 2 aims to conduct further analysis of existing models and primary data collection to develop a final conceptual model.

The methodology incorporates secondary information from academic literature and industry studies with primary information from Itelligence staff. The data is systematically managed and analysed using appropriate digital tools and ethical approval has already been obtained for the collection of primary data. As a result, the academic as well as the practical relevance of research findings enables the development of a conceptual organisational memory model for Itelligence.

## CHAPTER 3

### LITERATURE REVIEW: SIGNIFICANCE OF OM

#### 3.1 Introduction

This chapter addresses Objective 1 of the study, to evaluate the significance of Organisational Memory (OM) for enhancing organisational performance and knowledge reuse. To achieve the objective, the literature review considers two research questions.

RQ1.1: What organisational outcomes, such as efficiency, consistency, and innovation, are associated with effective organisational memory?

RQ1.2: How does organisational memory facilitate knowledge reuse across support and development teams in mid-sized ERP consultancies?

OM is a part of Knowledge Management that focuses on capturing, storing and reusing a company's knowledge. Due to a lack of research on OM specifically for SMEs like Itelligence, this review also takes insights from the broader scope of Knowledge Management. We will look at four key areas, (1) how OM improves daily operations, (2) its role in building a competitive advantage, (3) how it supports reusing knowledge for better decisions, and (4) the common challenges companies face. By exploring these themes, this review will create a balanced foundation that will inform the building of a custom OM model for a company like Itelligence

#### 3.2 Operational Performance

Operational performance is an organization's ability to deliver their services efficiently, reliably and responsively. Organisational memory (OM) is a key contributor to this as it reduces duplication of effort, which enforces standardisation and enables a much faster response to clients' needs. Efficiency, productivity, consistency, quality and responsiveness to customer requirements are all essential aspects of organisational performance. The literature presented here discusses the advantages and disadvantages of OM in different contexts.

One of the most prevalent operational gains from OM comes from efficiency. When knowledge from past experiences is stored and made readily available, employees will spend less time repeating work or searching for solutions that already exist. In the Omani telecommunications

sector, Gharib et al. (2025) discovers that managerial, technical and cultural memory had a significant positive effect on employee performance, which explains over half of the variance in outcomes. Their findings suggest that OM improves efficiency by providing employees access to past solutions, which in turn reduces wasted effort and shortens the completion times for tasks. However, Gharib et al. (2025) also noted that when staff engaged in knowledge withholding, these benefits were significantly diminished. This resulted in a persistent duplication of work and inefficiency when individuals chose not to share critical insights and past experiences.

Further evidence of OM's efficiency gains can be seen in technology driven contexts. After investigating Chinese technology firms, Cui (2025) found that AI-driven knowledge sharing and dynamic knowledge management capabilities significantly enhanced productivity and profitability. In these firms, automated tools are used to support employees by promptly retrieving the relevant knowledge needed. This allows them to put more time into solving a problem rather than repetitive tasks. This illustrates that OM has the potential to improve an organisation's speed and results, especially when enabled by advanced systems incorporating AI. Nonetheless, Cui (2025) does mention that tools alone are insufficient. Organisational culture and employee willingness to engage with these systems and tools, remain crucial to ensuring that OM translates into real productivity improvements.

In addition to its efficiency, OM also contributes to consistency by ensuring that standards and processes are applied reliably. According to Gharib & Allil (2024), cultural and technical memory facilitated the impact of high-performance work systems on employee outcomes. These results demonstrated that when practical and technical knowledge are embedded into memory structures outputs were standardised reinforcing continuity in service delivery. Despite these results, the effect was not all positive. Gharib & Allil (2024) found that when managerial memory, is focused on strict adherence to rules, it had an adverse effect on performance. This possibly means that although memory can improve quality, rigid forms of it can limit adaptability, leading to inefficiencies when certain problems arise.

Research on SMEs demonstrates similar dynamics. According to Kmieciak (2019) who explored Polish SMEs, OM stored in databases improves innovation and customer satisfaction by giving employees prompt access to reliable knowledge. However, Kmieciak (2019) also warned that businesses risk falling into a "competency trap" when they rely too heavily on past

experiences and solutions. In these situations, firms may provide services of a certain quality regularly, but their flexibility and imagination remain constrained. This combined literature demonstrates how OM supports quality and consistency but only when it is updated regularly and balanced against the need for flexibility.

OM also has a significantly impact on responsiveness. The ability to address client queries promptly is often linked to whether employees can access relevant organisational knowledge. In SMEs, Kmiecik (2019) reported that employees with access to updated knowledge databases resolved customer problems faster, resulting in higher satisfaction. Consequently, OM demonstrated not only how it increased the speed of delivery but also how it improved a customer's experience.

Cui (2025) work in the technology sector substantiates this finding describing how AI-enabled knowledge and sharing firms' responsiveness to the ever-changing market conditions, allowed them to adapt their service in real time. Nevertheless, both Cui (2025) and Kmiecik (2019) determined that responsiveness is conditional on updated knowledge. If memory systems are not actively updated, they are at risk of slowing decision-making rather than improving it. It shows that the contribution of OM to responsiveness, although significant, is at the discretion of continued maintenance and an up-to-date organisational memory.

The literature reviewed confirms that OM provides substantial operational improvement across various industries. It optimises efficiency by reducing duplications, improving consistency through shared routines, and increases responsiveness by making knowledge readily available. However, these benefits are subject to various conditions. Risks such as knowledge withholding, strict managerial memory, and outdated databases can have adverse effects on OM's value and can even limit its performance. For organisations such as Itelligence, the literature and evidence it presents suggest that building a strong foundation of cultural and technical memory is crucial to reduce rework, deliver reliable services, and respond quickly to clients. Furthermore, managers must stay aware of over reliance on rigid policies or obsolete knowledge, ensuring that organisational memory remains both accessible and flexible.

### **3.3 Strategic Significance of Organisational Memory**

The strategic implications of OM can influence several factors: operational performance, innovation, capability building, and long-term competitiveness. OM is a store of knowledge

that allows organisations to plan strategically by using their past knowledge and support both continuity and flexibility. In knowledge intensive organisations such as IT businesses, OM is more than a tool that helps increase efficiency; it could also possibly become a resource that can determine long term results. The literature shows that OM leads to innovation, continuous improvement, and competitive capabilities. This allows for flexible strategic decision making, but it is context dependent on the business environments.

OM plays an important role in fostering innovation, which supports competitive advantage. Cristache et al. (2025) explains that knowledge creation, integration, implementation, and sharing, all have positive influences on innovation performance, where integration and sharing are the strongest factors. This is further supported by Achmad & Wiratmadja (2025) as they demonstrate that KM fosters green innovation which improves organisational performance and competitive advantage. Furthermore, Migdadi (2022) provides a multifaceted perspective on knowledge management processes. They state that knowledge management processes positively affect innovation capability, but their direct impact on organisational performance is contingent upon innovation. Innovation capability serves as the means through which memory and knowledge practices are translated into performance gains. Therefore, the literature demonstrates that OM's strategic value is reliant on its ability to act as a bridge to innovation. Without this mediating function, OM is reduced to an inert repository rather than a source of competitive advantage.

OM also contributes to competitive advantage, as it facilitates the creation of unique, non-replicable capabilities. According to Maclean et al. (2023), organisational learning dimensions such as acquisition, distribution, and interpretation, positively influenced strategy and performance in Ghanaian SMEs. However, they also note that OM measured in their study was not significant in predicting outcomes, calling into question how OM is conceptualized and operationalised in practice. In contrast, Wang (2023) describes that both declarative and process OM have significant positive influence on innovation performance in Chinese private enterprises, with absorptive capacity amplifying these effects. These findings indicate that OM contributes strategically only when it is integrated with learning processes and when organisations have the capacity to absorb and apply stored knowledge

The strategic role of OM is also evident in decision making and adaptation. Kling et al. (2025) examine how SMEs can convert data into strategic knowledge assets, outlining three phases:

recognizing the value of data, creating capabilities, and integrating it into strategy and culture. Kling et al. (2025) mentions that OM acts as a key enabler of organisational resilience in dynamic situations by connecting deliberate strategies with flexible, adaptive reactions. Under these conditions, memory enables organisations to utilise past experiences while maintaining the flexibility to respond to new challenges. Nonetheless, Kling et al. (2025) also stress that to reduce the risk of path dependence, OM needs to be continuously updated. Therefore, the strategic significance of OM lies in its ability to support both stability and adaptation, allowing organisations to navigate uncertainty.

Across the literature, OM stands out as a strategic resource that guides innovation, capability building and adaptive strategy. However, its effectiveness is reliant on innovation capability, absorptive processes, and updated knowledge systems. If these conditions are not present OM risks becoming irrelevant. For Itelligence, this indicates that they should not only aim to reduce duplication but also try to frame OM as a strategic enabler to push innovation and competitiveness. By integrating cultural and technical memory into their current processes while also allowing flexibility Itelligence can transform OM into a long-term advantage.

### **3.4 Knowledge Reuse and Decision Making**

Knowledge reuse is one of the core functions of OM. It allows users to refer to lessons, solutions, and data from past experiences that can be applied to their current problems. By keeping the relevant information stored and ensuring it is not forgotten, OM allows organizations to prevent duplication, reduce errors, and respond more efficiently to challenges they may face. In knowledge intensive firms, OM not only improves operational efficiency but also the quality and speed of their decision making. Conversely, it is important to note that when knowledge is fragmented, outdated, or poorly kept, it can limit the decision-making process. The literature illustrates the role of OM in enabling decision making and the circumstances that limit its effectiveness.

Research conducted by Abubakar et al. (2019) reveals that the style of decision making in an organisation determines the relationship between knowledge management and organisational performance. According to the study, a rational and systematic approach to decision-making such as evaluating alternatives, and careful appraisal, improves the impact of knowledge creation. Conversely, intuitive decision making enables organisations to approach complex or uncertain environments with flexibility. Therefore, effective OM systems must be flexible to

accommodate both decision-making styles, since each relies on knowledge management in different ways. Complementing this, Barros et al. (2015) examine the use of Organisational Memory Information Systems (OMIS). According to their research, decision-making, problem solving, and quality improvement can benefit from technological systems by retaining and sharing knowledge. They stress that the systems alone are not enough. The sharing of knowledge should be encouraged within organisational culture, otherwise OMIS may not lead to meaningful insights. Taken together, these studies demonstrate that the worth of OM in decision making is dependent on the relationship between human decision-making styles and technological infrastructure.

Applied research provides empirical evidence of OM's contribution to decision-making. For example, Francisco Bernardino & do Rocio Strauhs (2024), analysed public administration in Southern Brazil and discovered OM practices such as record keeping and document repositories supported transparency, accountability, and sustainability. Subsequently, they also found that their processes were conducted informally and only in part, which resulted in inefficiencies and duplication of effort. The lack of structured reuse was compared to "organisational Alzheimer's," where forgetting leads to reinventing. Similarly, Xin & Ojanen (2022) researched knowledge reuse across the product service system lifecycle. They found that while the likes of intranets and social media supported knowledge reuse, the sharing of tacit knowledge remained dependent on person-to-person relations. It was also noted that individual ability, motivation and absorptive capacity have a significant influence on knowledge reuse and decision making. To elaborate on this perspective, Assoufi et al. (2024) performed a large-scale review on knowledge management (KM) and decision-making. It was concluded that KM helps businesses identify issues, analyse solutions, and access insights more rapidly. They also recognised AI, cloud systems, and knowledge graphs, and other information and communication technologies (ICTs) as important enablers for KM driven decision support.

Across the literature it is evident OM plays an important role in effective decision-making, as it ensures past experiences and knowledge are systematically reused to guide current choices organisations may face. It supports decision-making through formal knowledge management processes, technological systems, and structured practices, while also providing flexibility through different decision-making styles and the exchange of tacit knowledge. Yet, they also highlight several limitations. Such limitations include, informal or fragmented reuse processes, cultural barriers, an over-reliance on person-to-person knowledge transfer, and the risk of

outdated information. Regarding Intelligence, this means an ideal OM system must have both accessible technical mechanisms such as repositories and knowledge platforms, as well as cultural standards that encourage sharing of knowledge and reuse. By incorporating OM into processes and frequently updating it, Intelligence can turn past knowledge into a reliable source of guidance for high-quality decision-making.

### **3.5 Challenges and Limitations of Organisational Memory**

As seen across the previous themes, although OM can improve efficiency, innovations, and decision making it also faces a series of persistent challenges. These challenges are seen across cultural, structural, technological, and systemic dimensions which if ignored, can result in OM becoming a static archive rather than a dynamic resource. Hence, it is essential to understand the barriers, particularly in relation to SMEs and knowledge intensive firms, where constraints in resources and culture may increase their effects.

The first challenge faced comes from the cultural and behavioural dimension of knowledge sharing. Employees who usually generate ideas tend to withhold knowledge for their own benefit instead of collectively. This behavioural tendency is accredited by Marzo et al. (2025) to the effect of managerial philosophies such as the “self-made” mindset, which can encourage knowledge creation but also prevent knowledge being shared. Bahadori Jahromi et al. (2024) also corroborate these barriers in organisational learning contexts, where managerial attitudes, weak communication, and resistance to training hinder knowledge sharing. Chua et al. (2023) substantiate these findings by demonstrating how a lack of trust and low motivation prevent individuals from sharing knowledge, even when there are systems in place to encourage it. These studies demonstrate that cultural resistance and individual incentives are barriers that sabotage the promise of OM’s collective benefit.

Another challenge stems from structural and resource limitations particularly in SMEs. According to Durst et al. (2023), many SMEs lack comprehensive knowledge management (KM) strategies and are instead relying on fragmented, ad-hoc practices. This is a result of limited resources and short term managerial focus that overlook the long-term value of KM. In addition, Bahadori Jahromi et al. (2024) also identify insufficient financial support, excessive bureaucracy, and internal competition as contributors that restrict organisational learning and the systematic reuse of knowledge. Together, these studies demonstrate that the effectiveness

of OM may collapse under the weight of daily operation without stable strategies and resources. As a consequence, firms are more reliant on individual memory than on OM.

An additional challenge that renders the OM less effective is technological barriers. There is a common belief that digital platforms are solutions for knowledge storage and sharing.; However, this depends on its usability, integration, and widespread adoption in an organisation. According to Durst et al. (2023), a significant number of SMEs hesitate to adopt advanced systems not only due to resource constraints but also due to uncertainty related to their long-term value. Developing this idea, Bahadori Jahromi et al. (2024) note that poorly documented software systems and obsolete IT infrastructure significantly inhibit systematic knowledge capture. In addition, Chua et al. (2023) found that bad user experience, limited training, and inadequate technical support play a major part in discouraging employees from using knowledge-sharing technologies. The literature demonstrates that the knowledge contained in OM systems may not be used optimally unless it is supported at a cultural level and a user-friendly interface is provided. Otherwise, it could lead to knowledge being scattered and inaccessible.

Finally, the literature also emphasizes the systemic risk that OM poses if its knowledge becomes obsolete. As per Durst et al. (2023) there are risks such as knowledge leakage, staff turnover and the interconnected nature of knowledge management activities which makes it harder for SMEs to retain knowledge. However, the greatest concern comes from memory that can be easily lost and get stuck in old practices the company can't break out of. Chua et al. (2023) stated that the power dynamics and poor incentives create path dependence. This keeps organisations trapped in the "we've always done it this way" mindset. Thus, the very system that is meant to retain knowledge can result in "competency traps," hindering innovation and adaptation. This highlights the unconditional need of a dynamic OM process which is updated regularly and continuously reviewed to maintain relevance.

In conjunction, the literature shows that the management of OM is not easy. The organisation's success depends, to a large extent, on the context of the company. This context includes aspects such as company culture, available resources and technology. For Intelligence, this is especially important. Relying on individual experts makes it vulnerable if those experts leave. Therefore, any efforts to capture knowledge could have adverse effects without additional concern of building a culture of sharing, flexible management styles, and investing in user friendly

systems. Hence, building an effective OM model for Itelligence requires more than just capturing information: it must also encourage trust, align incentives, secure ongoing resources, and ensure that what is “remembered” is constantly updated and relevant. Only once these requirements are all this is achieved, then OM can become a true long -term asset rather than a liability.

### **3.6 Summary and Future Research**

The literature shows that OM is an important enabler of a company’s performance. It makes daily operations not only more effective but also consistent and responsive .Moreover, it stimulates innovation and competitiveness within the company. It facilitates better decision making by reusing past knowledge systematically. In regards to objective 1, the results confirm that the redundant tasks, quality of service, and the flow of knowledge across different teams can be controlled with OM.

Nevertheless, the literature review does also reveal various challenges such as employee resistance, knowledge withholding, poor documentation habits, limited resources, and old technology. The aforementioned challenges show that OM is not a panacea that will automatically produce results. A supportive culture, proper investment, and constant updates are also required to keep the OM relevant.

A major gap in the existing literature is the lack of research on OM in SMEs like Itelligence. Most of the studies are derived from broader KM studies, so the specific memory needs of smaller organisations in direct relation to OM are not always captured. Another gap is the lack of practical models that combine technology with the cultural shifts that are needed, and evidence which can show how OM can connect different workflows of different teams.

A successful OM system must be more than a simple database for Itelligence. It should promote sharing proactively and become part of the day-to-day work of the organisation and be an ongoing process. By creating a tailored model that addresses these needs, Itelligence will be able to convert its collective knowledge from a static archive into a dynamic asset for long-term growth.

## CHAPTER 4

### EXISTING ORGANISATIONAL MEMORY MODELS

#### 4.1 Introduction

This chapter addresses the second objective of this project, which is to examine existing organisational memory (OM) models from both academic literature and industry practice. Building on the previous chapter, which established the significance of organisational memory, the review is guided by two research questions to achieve the second objective.

RQ2.1: What types of organisational memory models currently exist that are relevant to SMEs and IT service contexts?

RQ2.2: What limitations constrain the applicability of these models to an ERP consultancy such as Itelligence?

By reviewing models that range from established structural retention mechanisms to more recent decision and context focused approaches, this chapter highlights a gap between existing theory and the day-to-day realities of resource-constrained, project-based consulting firms such as Itelligence.

#### 4.2 Structural Organisational Memory Models

One of the most popular and widely cited models of organisational memory is attributed to the framework proposed by Walsh & Ungson (1991). Rather than treating OM as a single repository, they approached organisational memory as being stored across five internal “retention facilities”: individuals, culture, transformations (such as procedures and routines), structures (roles and hierarchies), and ecology (the physical setting). In addition, the framework recognises an external archive which is made up of former employees, clients, competitors and other records. The memory in this proposed model is shaped by how information is acquired and retrieved, where retrieval can be either automatic through routine or deliberate through controlled search (Walsh & Ungson, 1991).

For an SME ERP consultancy like Itelligence, this model is strong for its ability to clearly map where knowledge is held. This makes it easier to identify potential areas where knowledge may be lost, especially by identifying the heavy reliance on the individual bin, which becomes a

high risk during staff turnover. However, the model also has significant limitations in a modern IT context. The ecology bin which is based on the physical layout of the office is less applicable for consultancies which function in a virtual or client-site environment. Furthermore, Walsh & Ungson (1991) caution that organisational memory can be shaped by power and politics, allowing dominant actors to preserve outdated practices and stifle innovation. In IT environments where systems change constantly, and business rules change frequently, particularly in the AI era, this type of rigidity can slow adaptation. In general, the model clearly explains the location within memory, but it gives limited insight into how dynamic technical reasoning is retained and changed in a fast-moving SME.

#### **4.3 System-Centric Organisational Memory Models**

Wijnhoven's Organisational Memory Information Systems (OMIS) model moves from a static structure to system development. Through a contingency lens at OMIS, they discussed that the design of OMIS depends on the level of knowledge codification (tacit vs. explicit) and the maturity of an organisation's infrastructure. Wijnhoven (1999) proposes multiple development scenarios for different organisational functions. Suggesting such rigid IT-led systems are suitable for highly codified tasks and for exploratory or creative problem solving user-driven networks are better suited.

The validation of hybrid development paths is especially relevant to ERP consultancies since technical assets and consulting insights are separate scenarios. Nonetheless, the use of OMIS within an SME context still poses difficulties. Wijnhoven (1999) maintains that effective OMIS for distributed teams requires high media richness and stable infrastructure, which many SMEs may not possess. When organisations do not have a stable infrastructure they are often prone to failure due to the complex nature of certain IT solutions. This leads to organisations' reliance on basic, improvisational methods. In addition, having multiple development scenarios simultaneously creates a heavy demand on resources. Furthermore, the model places emphasis on the risk of organisational inertia, where established systems become hard to change. This can prevent an ERP consultancy from pivoting, which is crucial due to the nature of IT, which constantly needs to be updated to new software versions and changing client requirements.

#### **4.4 Transactive Memory Capability**

The Transactive Memory Capability (TMC) model reiterates the importance of human interaction in OM, unlike OMIS. According to the TMC model, memory is considered a shared

repository of expert knowledge rather than a repository of solely information (Feng & Madni, 2024). This method does not necessitate individuals knowing everything, rather knowing “who” within the organisation has the necessary knowledge. According to Feng & Madni (2024), social media and collaboration tools help individuals articulate memory and persistently follow who has what knowledge.

The nature of consulting is one which requires collaboration to solve problems, TMC reflects that collaborative approach. It enables cognitive offloading allowing consultants to concentrate on problem-solving rather than memorising technical details. However, there are still significant limitations of the model with respect to ERP consultancies. As noted by Feng & Madni (2024), TMC models require high levels of trust, repeated interaction, and stable teams. As a result, a shared expertise directory becomes less useful in environments with high staff turnover and short project cycles. Furthermore, reliance on informal exchange between staff may be insufficient to capture the detailed technical logic required for ERP solutions.

#### **4.5 Volatile Organisational Memory**

To face the challenges of project-based work, Volatile Organisational Memory was proposed by Versiani et al. (2024). The model emphasises the connection between temporary project teams and permanent organisational structures. Additionally, Versiani et al. (2024) underlined an important recursive relationship between feed-forward flows and feedback flows. Feed forward flows are where individual learning is transferred to the organisation, and feedback flows are where organisational knowledge shapes individuals' actions. A specific shared space termed Ba by Versiani et al. (2024) that promotes trust and interaction is the core of this process and leads to the development of knowledge.

This model is relevant to ERP consultancies as knowledge tends to be lost once a project is completed. Time pressure and client deadlines are identified as impediments to the institutionalisation of the lessons learnt. As a result, lessons often remain at the individual level, and are not formally coded into organisational knowledge. However, the solutions that it offers are difficult for SMEs to sustain. Allocating time and space for Ba (reflection) takes away from time spent on a project. Moreover, Versiani et al. (2024) cautioned that hierarchical decision-making can inhibit feed-forward learning. For SMEs that follow such hierarchies this is a significant risk. Although the model has identified volatility as a problem, the behavioural

changes that are required are difficult to implement effectively without a strong technical infrastructure.

#### **4.6 Contextual Memory Intelligence**

Recent studies related to OM now emphasise the rationale and context behind decisions. According to the Contextual Memory Intelligence (CMI) model proposed by Wedel (2025), memory is viewed as an active and evolving resource. The model attempts to capture the reasoning for decisions, not just the output from the model. The Insight Layer is a core component that captures context and connects insights. To prevent knowledge from becoming outdated due to changing business rules or systems, it continually checks for 'insight drift'.

Focusing on capturing rationale is especially useful for ERP consultancies. It ensures that they retain reasoning to understand they did something. Without this context, subsequent changes may face "cognitive friction" as the reasoning is unclear. Nevertheless, the CMI model also comes with its own practical difficulties. According to Wedel (2025), the architecture depends on complex components such as vector databases and retrieval-augmented systems, which may be unrealistic for an SME to implement and maintain. In addition, participatory governance is needed to actively review and update the memory. In a fast-paced consultancy, the burden associated with governance could be seen as a deadweight that may lead to system abandonment.

#### **4.7 Comparative Evaluation**

These models collectively illustrate the different approaches and nature of OM including structural, system-based, socio-cognitive, project-focused approaches, and contextual approach. Regarding RQ2.1 it is evident that there are various relevant OM models that can be applied to SMEs and IT businesses. Nonetheless, existing models are inadequate to address the specific needs of an SME ERP consultancy by itself.

OMIS and CMI effectively detail the mechanisms for handling knowledge but assume that clients possess an adequate level of infrastructure, governance and resources which SMEs do not have. The Walsh & Ungson's model has a simpler structure that is easily adopted, however it is static and fails to capture the dynamics found in ERP & IT environments. In the same manner, although socio-cognitive and project-based models are right in emphasising human

interaction, they usually prove impractical as a result of their reliance on stable team structures and dedicated time for reflection.

Most of the models fail to capture the ‘why’ behind decisions. They discuss where knowledge is stored and who holds it, but few engage with the ‘why’, which is the decision rationale. While CMI does emphasise rationale, its cost of implementation may outweigh the benefits for smaller businesses. Consequently, it is evident that a lighter conceptual approach is required to capture contextual reasoning without excessive technical or administrative burden.

# CHAPTER 5

## CRITICAL KNOWLEDGE ELEMENTS

### 5.1 Introduction

This chapter addresses the third objective of this project, which is to identify the knowledge elements that should be captured to support effective business decision-making. Having examined existing OM models and discussing their limitations when applied to SME ERP consultancies, this chapter seeks to clarify the knowledge elements required to design Itelligence's conceptual OM model. To achieve this objective, the chapter is guided by two research questions.

RQ3.1: Which knowledge elements are most critical for Itelligence?

RQ3.2: How should these elements be structured to ensure accessibility, reusability, and support for organisational decision-making?

The identification for these elements is informed from multiple factors, such as the literature review, the models discussed in chapter 4, and the confirmed operational needs of Itelligence's management, particularly the need for reusable solutions, and structured handling of client support queries

### 5.2 Identification of Critical Knowledge Elements

Based on the research conducted, six specific knowledge elements have been identified as critical for Itelligence. These elements were selected as they directly address the operational risks of knowledge volatility, staff turnover, and the loss of decision context.

Table 2: Identified Knowledge Elements

Knowledge Elements	Definition	Business Value (Decision Support)
1. Decision Rationale	The explicit "why" behind a configuration or code choice, including rejected alternatives.	Prevents "reinventing the wheel" and reduces technical debt during upgrades.

2. Reusable Solution Components	Code snippets, scripts, or standard configurations from past projects.	Reduces duplication of effort and ensures consistent service delivery.
3. Support Resolutions	Documented fixes for recurring client queries and errors.	Increases response speed and reduces dependency on individual memory.
4. Expertise Directory	A dynamic map of "who knows what" rather than just documents.	Facilitates rapid problem-solving by locating tacit knowledge holders.
5. Project "Feed-Forward" Insights	Lessons learned and obstacles encountered during implementation projects.	Transfers temporary project knowledge into permanent organisational memory.
6. Client Context & Drift Indicators	Metadata on client environment (e.g., software version) to track relevance.	Identifies when stored solutions become obsolete due to updates (Insight Drift).

### 5.2.1 Decision Rationale

Decision rationale explains the process behind why certain solutions are chosen over others. This is especially relevant when there are multiple ERP solutions and configurations that can be used, but only one is selected based on project specific constraints. Without context, consultants can face cognitive friction when editing legacy code which could result in accidental errors.

### 5.2.2 Reusable Solution Components

Reusable solution components refer to technical assets that are often recreated during projects such as code, scripts, workflows, and configurations. At Itelligence, informal storage by developers leaves assets at risk of loss whenever there is change of staff or a project ends. By capturing these assets, we transfer knowledge from vulnerable individual storage to secure organisational storage. As a result, decision-making will change from building redundant solutions to determining the most suitable existing solution for the situation

### **5.2.3 Support Resolutions**

Support resolutions are documented solutions that are captured. They facilitate easy access to available resolutions for recurring client issues and errors that occur on a daily basis during customer support. These resolutions are essential for scalability as they allow for faster turnaround time towards solving a client's issues and does not rely on an individual. By validating and addressing client issues using the support resolutions in the organisation's storage, it reduces dependence on transactive memory. This allows staff to improve and maintain their consistency while also reducing response times.

### **5.2.4 Expertise Directory**

In IT and ERP consultancies, the pace of change and the vast quantity of tacit knowledge mean it is unlikely to document all knowledge. To address this problem the expertise directory acts as a map to tacit knowledge. This facilitates fast resolutions of problems, as consultants are able to quickly identify the appropriate expert to contact especially when documentation is incomplete or unavailable. Furthermore, it provides a direct response to the social and people-based gaps, without being dependent on informal networks among staff.

### **5.2.5 Project “Feed-Forward” Insights**

Project feed-forward insights capture the lessons learned, constraints encountered, and effective approaches during projects. When a project is concluded or a team is disbanded, insights are often lost. By capturing this knowledge, temporary project experiences can inform future work and organisation strategies. The knowledge captured as project feed-forward insights helps solve the problem of knowledge volatility by transferring it into permanent organisational memory.

### **5.2.6 Client Context & Drift Indicators**

The client context and drift indicators monitor information such as software versions, customisations, and industry-specific requirements. Consequently, they signal when stored solutions may become obsolete. In ERP environments, with more frequent client updates, this element is important for governance to determine what is relevant and effective. Client context and drift indicators serve as a convenient alternative instead of complex AI monitoring systems. They identify obsolete knowledge so the organisation can make an informed decision about maintaining, reviewing, or replacing an existing solution.

### **5.3 Role of Knowledge Elements in ERP Decision-Making**

The knowledge elements discussed are more than just passive records; they also actively contribute to decision-making at a business and technical level.

In regard to support decisions for daily operations, support resolutions and expertise directory serve as the main guide for decision making. Staff are enabled to make decisions such as whether an issue can be resolved using an existing solution or escalated. This reduces response time for issues and provides a consistent client experience.

For project and configuration decisions, reusable solution components and decision rationale advise the technical decisions related to ERP projects. Due to the similar nature of projects, this allows developers to determine which template best suits the project and understand the implications of modifying the code or configurations. This reduces any risk of breaking any code or system features.

Strategic and operational decisions, project feed-forward insights and client context provide assistance at the management level; supporting planning, pricing and risk assessment based on previous lessons learned to improve project methodologies and risk assessment. Drift Indicators contribute to governance decisions by determining when the knowledge base is depreciating and requires updates.

### **5.4 Knowledge Lifecycle and Structure**

A logical structure is needed to ensure the knowledge elements are accessible and reusable. This deters them from being dumped into a flat repository.

The knowledge elements are organised into three functional categories.

1. Support Knowledge: Reactive assets like fixes and FAQs.
2. Development Knowledge: Proactive, constructive assets like scripts and templates.
3. Decision/Governance Knowledge: Strategic assets like rationale, project insights, and client context.

Through this structure, we can effectively filter what can be coded and what is tacit. The formal repository will capture reusable components and support resolutions as technical assets. Experience based or complex knowledge, will be managed through the expertise directory

which understands that some knowledge will always remain tacit and that it is best accessed by contacting the relevant expert.

In addition, accessibility is governed by: Context (client version), Rationale (reasoning behind this decision), Owner (link to subject matter expert), and Status (current or obsolete). To access the information, there are two mechanisms: automatic and controlled retrieval. Automatic retrieval is employed for standard operations where standard solutions can be pulled from Support Resolutions. Controlled retrieval is used for complex or higher risk issues where a careful approach is required. Controlled retrieval requires a review of the rationale behind the decision, along with the context of the client.

## **5.5 Practical Feasibility**

The highlighted knowledge elements are designed to be realistic for an SME with limited resources. Instead of resource-heavy systems like AI-powered "Insight Layers" or parallel OMIS scenarios, the model considers what is the most important knowledge for Intelligence and captures it.

- Workflow integration: Continuously captures knowledge by transforming existing documentation, including configurations and resolutions, into reusable assets without any administrative burden.
- Operational efficiency: Facilitates more rapid and consistent service delivery through a focus on reusable content that reduces duplication while supporting Intelligence's goals.
- Minimised maintenance: The use of simple metadata-driven markers enables the identification of stale content, allowing small teams to maintain the knowledge base without complex infrastructure.

## **5.6 Summary**

This chapter identifies and discusses six critical knowledge elements essential to supporting Intelligence's decision-making. Through emphasising the need for rationale behind decisions, reusable components, support resolutions, expertise mapping, project insights, and client context, the gaps discovered in Chapter 4 are addressed. This helps avoid falling into complex structural models. Furthermore, through the logical structuring of the elements along with

supporting metadata, the model can connect volatile individual memory with stable organisational memory. As a result, Chapter 6 sets a foundation for consolidating the elements into a conceptual OM model for Intelligence.

# CHAPTER 6

## CONCEPTUAL ORGANISATIONAL MEMORY MODEL

### 6.1 Introduction

This chapter covers the fourth objective of this project, to design a conceptual organisational memory model for Itelligence. Based on the critical assessments of existing models presented in Chapter 4 and on the identified knowledge elements described in Chapter 5, this chapter proposes a single conceptual OM model.

This chapter seeks to develop a conceptual model which is reflective of Itelligence's realities by adapting the insights and practical requirements. The proposed model seeks to solve problems of knowledge volatility, loss of decision rationale, and safe reuse of technical solutions within Itelligence's project-based environment. To achieve this objective, the chapter is guided by two research questions.

RQ4.1: What are the essential components and relationships that should be incorporated into the conceptual organisational memory model?

RQ4.2: How can the model be integrated with existing workflows and business intelligence capabilities to enhance organisational decision-making?

### 6.2 Design Approach

The conceptual model is designed by critically evaluating existing models in Chapter 4 and knowledge elements in Chapter 5. By adapting and using established models, a practical foundation is created that aligns with the realities of Itelligence as an SME ERP consultancy, avoiding the need for a new theoretical model.

#### 6.2.1 Foundational Structure and Strategy

Walsh & Ungson's (1991) approach to OM as a distributed system forms the foundation of the conceptual OM model, with OMIS's development approach providing complementary strategies for managing distributed knowledge.

Walsh & Ungson's (1991) model is used to address where knowledge resides. It recognises that knowledge is distributed throughout the people and an organisation's documents, and not solely

in a single repository. Within Intelligence, technical knowledge exists as documented solutions and scripts, while consulting knowledge resides with the people, making this approach well suited to Intelligence. In addition, The Walsh & Ungson's (1991) model clearly shows where knowledge is created, retained, and most vulnerable to loss.

The model also draws from OMIS as it recognises that different knowledge should be managed with different approaches. It employs formal processes to codify assets (e.g. reusable solution components), while allowing flexible, user-driven connections for tacit consulting knowledge. The design adopts existing tools from Intelligence, instead of complex systems outside their scope, according to OMIS infrastructure maturity guidance.

However, despite providing a strong foundation for understanding where memory resides and its structure, it falls short in its aims. It fails at addressing the rapid technological changes and project-based knowledge loss inherent in an ER consulting's dynamic environment like Intelligence. It specifically fails to address knowledge degradation, as platforms evolve, and insight loss, when projects conclude. These limitations motivated the inclusion of additional supporting models.

### **6.2.2 Supporting Models**

To overcome the limitations of the foundational structure, additional concepts such as volatile memory, transactive memory, and context-centric memory are applied.

Firstly, to prevent memory from being kept and lost within short term project teams, insights from volatile memory are introduced. They include an explicit feed-forward learning mechanism that ensures lessons learnt from projects are not lost after they conclude and are transferred into permanent OM.

Secondly, as it is unrealistic to fully document all knowledge, the principles of transactive memory systems are applied. This is supported by the inclusion of the expertise directory mentioned in Chapter 5. Since not all knowledge can be codified, effective decision making can also be made by quickly identifying the appropriate expert.

Finally, decision rationale and context drift are emphasised and informed by context-centric memory. By clearly distinguishing between the reasoning behind decisions and the technical

assets, the model can prevent reusing outdated or inappropriate solutions as ERP platforms evolve.

By incorporating these additional concepts to the foundation established by Walsh & Ungson's (1991) and OMIS we create a practical and decision-focused organisational memory model suitable for Itelligence.

### **6.3 Overview of the Conceptual Model**

The proposed conceptual organisational memory model comprises five layers. These layers transform OM from a passive repository to an active cycle of knowledge creation, use, and stabilisation. The five layers are given as follows.

1. Work and Decision Context
2. Knowledge Capture and Enrichment
3. Organisational Memory Core
4. Knowledge Retrieval and Use
5. Learning, Governance, and Stabilisation

Each layer performs a specific role in ensuring knowledge generated from Itelligence's project and activities are captured, retained, reused, and maintained during its lifecycle.

Figure 2 presents the conceptual organisational memory model proposed for Itelligence. The diagram visualises the flow of knowledge from operational work through capture, retention, retrieval, and governance processes. It also reveals knowledge management approaches and feedback mechanisms.

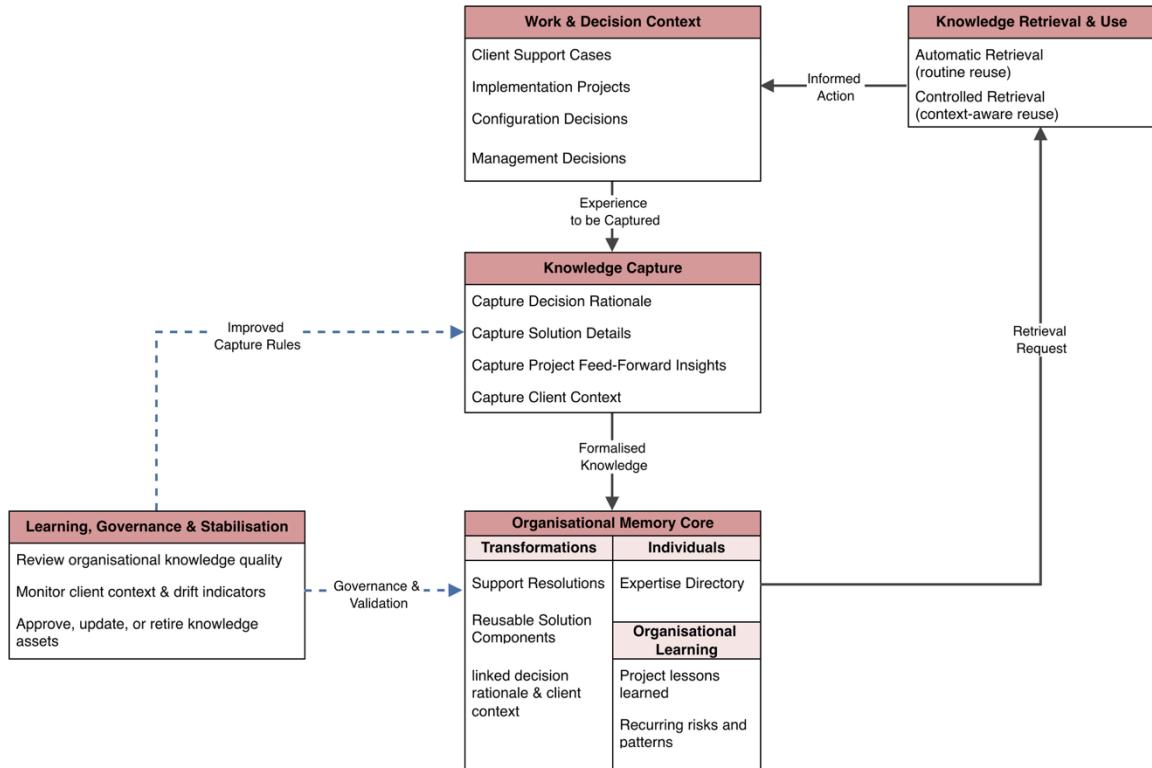


Figure 2: Conceptual Organisational Memory Model for Intelligence

## 6.4 Components and Relationships of the Model

This section explains each layer of the conceptual OM model and the relationships that link them, addressing RQ4.1.

### 6.4.1 Layer 1: Work and Decision Context

The work and decision context layer describes the operational reality of Itelligence. This is where management decisions are made, and where client support cases, implementation projects, and configurations are conducted. It corresponds to what Walsh & Ungson's (1991) describe as the decision environment and acts as the main stimulus for new knowledge to be created.

The role of this layer is to provide the shared social and mental space where staff encounter problems and create solutions. It is the point at which both knowledge is applied and created. Decisions made in this layer may involve retrieving existing OM or may generate new experiences that need to be captured. To facilitate meaningful knowledge capture in layer 2, this layer supplies the required contextual information such as client version, industry, and

project constraints. This same contextual information captured is later used to effectively retrieve OM through layer 4.

#### **6.4.2 Layer 2: Knowledge Capture and Enrichment**

The knowledge capture and enrichment layer's main purpose is to reduce volatile OM, where knowledge is stuck with individual staff. To achieve this, the layer immediately captures the outcomes from Layer 1 into OM.

The layer distinguishes between what was decided, such as technical assets or configurations, and why it was decided in the form of decision rationale. This distinction is important for safe reuse of solutions, as it helps prevent the recreation of existing solutions for similar problems.

The layer performs these capture functions.

- Decision Rationale: Documenting why a particular solution or configuration was chosen.
- Solution Details: Including technical assets, configurations, and implementation steps.
- Project Feed-forward insights: Lessons learned and issues encountered during implementation projects.
- Client Context: System version, industry constraints, and project-specific conditions.

#### **6.4.3 Layer 3: Organisational Memory Core**

The Organisational Memory Core layer acts as the main retention facility for the conceptual OM model. Following the identified knowledge elements in Chapter 5, it organises Intelligence's knowledge captured in Layer 2 into three repositories: transformations, individuals and structure and organisational learning.

1. Transformations: Stores codified knowledge assets such as reusable solution components and support resolutions. These assets are linked to their associated decision rationale and client context, ensuring that reuse is informed.
2. Individuals and Structure: Support access to tacit knowledge through an expertise directory. Rather than trying to document all knowledge, this repository maps expertise to individual owners rather than documenting it, enabling quick access to insight.

3. Organisational Learning: Stores collective insights that exceed a single technical asset. These are project risks and lessons learned which can influence future planning, governance, and methodological improvement.

#### **6.4.4 Layer 4: Knowledge Retrieval and Use**

The knowledge retrieval and use layer, enables access to stored knowledge in Layer 3 to inform decisions and actions in Layer 1. Following Walsh & Ungson's (1991), the model supports both automatic and controlled retrieval of OM.

- Automatic Retrieval: Handles common situations like recurring support issues, enabling quick reuse of approved solutions and standard procedures.
- Controlled Retrieval: Manages complex decisions pertaining to components, configurations and upgrades of solutions. Comprehensive analysis of the rationale for decisions, information on the client and consultation with experts, protects against incorrect application and reduces errors.

#### **6.4.5 Layer 5: Learning, Governance, and Stabilisation**

The OM system relies on the learning, governance and stabilisation layer to govern and stabilise it over time. As knowledge that is stored over time becomes stale this mechanism helps to prevent that.

The client context and drift indicators associated with stored knowledge are monitored to prevent solutions from becoming obsolete as the organisation grows. The governance process comprises three activities: knowledge quality review, update approval, and retirement of the asset. In the case that gaps or failures are identified by this layer, feedback loops reflect on capture practices appropriately.

These mechanisms ensure organisational memory remains reliable, current, and consistent with the Itelligence environment.

### **6.5 Integration with Existing Workflows and BI Capabilities**

To ensure the conceptual model is feasible for Itelligence, it needs to integrate with their current workflows instead of relying on a separate system to enable the model.

### **6.5.1 Workflow Integration**

OM is enabled by the conceptual model by incorporating capture and retrieval points into Business Intelligence's existing project delivery cycle and support activities.

The support workflow operates in the work and decision context layer. It starts with a check to see whether the current client's issue already has a resolution. If a resolution exists it is retrieved and the consultant uses it to solve the clients issue. However, if no resolution exists the consultant is required to categorise and record the resolution with the transformation repository within the OM core. This approach facilitates quick responses through reusing existing knowledge while ensuring that any new or refined knowledge is captured appropriately.

Throughout the project workflow, decision rationale is captured directly alongside technical configurations to provide context. While working on a project consultants can retrieve reusable components available in the transformation repository. If they identify potentially reusable components, they are verified by project leads and formally captured in the transformation repository. Furthermore, when a project is completed a structured feed-forward review is conducted to capture the lessons and recurring issue for the organisational learning repository. This ensures that both the technical assets and project knowledge are retained beyond the lifespan of project teams.

### **6.5.2 Enabling Business Intelligence and Governance**

The ability to capture knowledge and metadata enables Business Intelligence to act as a governance tool and thus expands the application of OM beyond storage. By using the asset metadata like versions and implementation conditions we can calculate the drift indicator. This helps the BI dashboards to proactively highlight knowledge becoming obsolete or incompatible.

The model also contains a list of recognised experts in the expertise directory, who authored captured assets within the model. By analysing the expertise directory, it is possible to pinpoint where knowledge is concentrated. Accordingly, management can see where staff are overextended and where its reliance on an individual staff member is excessive. These insights directly inform decision-making regarding training, succession planning, and resourcing.

### 6.5.3 Conceptual Tool Enablement

Although the technical implementation is not part of this project's scope, the conceptual OM model is intended to be compatible with the software and tools currently used by Itelligence.

- Oracle NetSuite: The principal environment for implementation and support activities. It produces knowledge stimuli and captures events to store organisational memory.
- Google Workspace: Facilitates informal exchange and collaborative drafting. It captures preliminary feed-forward insights and ensures knowledge is accessible before formal encoding.
- Git Repositories: Houses reusable solution components. Version control ensures a robust trail, linking technical modifications directly to their decision rationale.
- Google Cloud Platform: Consolidates structured assets, such as transformation records, learning outputs, and expertise mapping. It can also support governance functions, such as drift monitoring, without interfering with operational systems.

## 6.6 Summary

The conceptual organisational memory model designed for Itelligence is expounded in the chapter. Based on Walsh & Ungson (1991), it also draws on volatile organisational memory, transactive memory systems, and decision-centric approaches to address two key challenges: the volatility of knowledge and the loss of decision rationale. Through proper retrieval of knowledge, this model enables safe reuse and a more consistent workflow. In addition, structuring the model as layers for explicit capturing, retention, retrieval, and governance mechanisms provides a realistic and pragmatic approach to support organisational decision-making. However, despite specifying the design, basic structure and technological enablers, a possible implementation strategy for a functioning model remains a subject for the future.

## Chapter 7

### CONCLUSION, IMPLICATIONS & RECOMMENDATIONS

#### 7.1 Conclusion

The main aim of this project was to develop a conceptual organisational memory model that reflects the operational realities of Itelligence, an SME providing IT business solutions through ERP services. Itelligence was selected as the case study because it is an organisation that frequently faces problems in knowledge volatility, fragmented decision-making, and project-based work inefficiencies. This project found that while the existing models provide a good reference point, they do not take into account all the constraints and operational requirements of a consultancy SME like Itelligence.

An extensive literature review on knowledge management and organisational memory identified shortcomings in existing models. In particular, it was observed that some of these models are unable to retain records of the rationale for decisions made. Similarly, they cannot effectively manage the loss of project-based knowledge. In addition, such models are impractical to implement in resource-constrained environments. By examining these gaps and the knowledge elements most relevant for Itelligence, this project produces a conceptual model to connect theory to practice. The actual design builds on the strategic principles of OMIS and Walsh and Ungson as well as the governance and stabilisation mechanisms appropriate to the operational context of Itelligence.

This initiative shows that the organisational memory of an ERP consultancy should not be seen as a mere database, but as a lifecycle, one that needs to be managed. The knowledge contained in such a lifecycle requires capture, reuse, and validation over time. Nevertheless, the proposed model, as stated, is only conceptual and does not refer to its technical implementation. Rather it offers a structured and realistic model which can actually support Itelligence to reduce knowledge loss, to enhance reuse of solutions and to make safe and informed decisions.

## 7.1 Implications

Organisational memory has typically been treated as a by-product of daily operations, however this project implores the necessity of its management as a model. By separating operational systems from organisational memory, systems like NetSuite can effectively facilitate day-to-day operations. This enables an appropriate handling of knowledge using a system built for reuse and decision-making. It also decreases staff dependency and curtails loss of knowledge, when a project is completed or when consultants resign.

The model further suggests that it is unnecessary for organisational memory to capture all knowledge. In the case of the Itelligence SME context, a combination of codified assets and access to tacit knowledge is most appropriate. Governance mechanisms allow knowledge to be reused safely as system and customer requirements change. In turn, allowing organisations flexibility without the demands of the complex model's resources.

The implications of this project are particularly pertinent for other SME IT businesses which operate in a project based and knowledge intensive setting similar to Itelligence. These organisations face similar challenges of high staff turnover rates, repetitive troubleshooting, and loss of knowledge. This entails the transferability and utilisation of the organisational memory approach in other situational contexts within businesses.

Moreover, this project holds significance in the context of current digital transformation and new AI enabled systems, where organisational memory is becoming increasingly substantial (Nakash & Bolisani, 2025). As organisations rely more on automated tools and intelligent systems, it is critical to ensure knowledge-based decision making remains transparent. This entails preventing the loss of rationale, contact and governance around decision making, which is granted through an organisational memory approach.

## 7.1 Recommendations

To Itelligence, several recommendations are proposed based on findings of the project and proposed conceptual OM model. This project embodies a conceptual model design disregarding the implementation of said design, in consequence all recommendations are implementation oriented.

1. Prioritise the capture of reusable solution components and support resolutions, as these provide immediate value by reducing duplication and improving service efficiency.
2. Capture brief explanations of why key configuration and code decisions are made to preserve context and reduce risk during future upgrades.
3. Maintain a simple map of “who knows what” rather than attempting full documentation of all consulting knowledge.
4. Introduce basic review practices such as version tagging and periodic checks to prevent knowledge from becoming outdated.
5. Any adoption of the model should build on current tools (e.g. Git repositories and cloud platforms) and be introduced gradually to avoid disrupting daily operations.

In the future, the conceptual model may be validated through staff feedback during a limited period of use within Itelligence. Therefore, the model can also be refined through practical implementation if resources permit, or its relevance may be assessed in contexts similar to Itelligence.

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