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Decomposing knowledge in knowledge management: a case of consulting firms

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Résumé – Le processus de gestion des connaissances (GC) d'une organisation comprend la capture, le partage et l'utilisation efficace des connaissances. Dans les cabinets de conseil, la GC joue un rôle essentiel dans le partage et l'utilisation efficaces et efficaces des connaissances et de l'expertise des consultants pour fournir des services de conseil de haute qualité aux clients. De plus, la GC décompose souvent les connaissances en divers types ou catégories pour mieux les comprendre et les organiser. Les auteurs de cette étude ont proposé une analyse approfondie de la décomposition des connaissances, et un modèle de GC pour les sociétés de conseil a été affiné et proposé.

Abstract – An organization's knowledge management (KM) process includes capturing, sharing, and effectively using knowledge. In consulting firms, KM plays a critical role in effectively and efficiently sharing and utilizing consultants' knowledge and expertise in delivering high-quality consulting services to clients. Moreover, KM often breaks down knowledge into various types or categories to better understand and organize it. The authors of this study proposed an in-depth analysis of the decomposition of knowledge, and a KM model for consulting firms was refined and proposed.

Mots clés – gestion des connaissances, cabinets de conseil, décomposition des connaissances.

Keywords – knowledge management, consulting firms, decomposing knowledge.

1 INTRODUCTION

Due to the advancement of science and the growth of knowledge, expertise is now diversified into dozens of fields. Hence, it is easier to become an expert in any field, especially in such modern fields as data science, and plenty of sources and institutions help us speed up the learning process. However, it is better to mention that people become knowledgeable faster, not competent or expert. Experience makes the difference between an expert and a knowledgeable person (Council, 2000). In the book "How People Learn," the authors claim that an expert is a person who can make a decision once encountering a problem (Council, 2000).

Concerning the complexity of knowledge and expertise, knowledge management seems to be a vital process in any organization. That is why scholars often call knowledge an intellectual asset for organizations (Abeysekera, 2021; Sarvary, 1999). The aim of knowledge management (KM) is to stimulate decision-making, problem-solving, and innovation within an organization by capturing, organizing, sharing, and utilizing knowledge (Mas-Machuca & Martínez Costa, 2012). KM includes a range of practices and technologies that organizations can use to manage their knowledge assets.

Consulting firms present an exciting context for KM. Many scholarly sources affirm consulting firms as a profession of knowledge-seller (Apostolou & Mentzas, 1999; Dunford, 2000). In consulting firms, KM is critical to efficiently sharing and leveraging the consultants' expertise and knowledge to provide high-quality consulting services. These practices include establishing and maintaining a centralized knowledge repository, fostering an environment of knowledge sharing and collaboration, and offering training and resources to help consultants improve their skills. To aid in the storage and sharing of knowledge, consulting firms may also rely on KM technologies and tools, such as databases, collaboration software, and artificial intelligence. Effective knowledge management leads to increased efficiency, better decision-making, and a competitive advantage for consulting firms (Mirafzal et al., 2023b).

In light of these arguments, the authors found the importance of KM systems in consulting firms. While implementing a KMS, it is crucial to consider the foundations and definitions to achieve high performance. Therefore, in this study, the authors first try to bring a concrete definition of the term "knowledge." In doing so, the authors argue decomposing of knowledge in KM and complete two previous studies done by the authors

(Mirafzal et al., 2023b, 2023a) by providing an investigation in a case study. Therefore, the following section discusses decomposing knowledge in the history of knowledge management, followed by a brief review of the two previous studies in the third section. In the fourth section, the authors discuss the methodology of this study. Section five debates the case study and examines the results. A plain debate of different research scopes concludes this study in the last section.

2 DECOMPOSING THE TERM « KNOWLEDGE »

The term « knowledge » is often a vague term to be discussed. Scholars have always proposed defining data and information before defining and explaining knowledge. In this section, the authors provided a proper definition of data, information, and knowledge that makes knowledge management even more understandable for the readers. In order to provide such a unique, at the same time comprehensive, state of meaning to the claimed words, the authors studied the state-of-the-art and interpreted their understanding.

Although several articles and authors define the above terms in different statements, they have a common argument :

« knowledge is derived from information, and information is derived from data. »

A considerable ambiguity, however, surrounds the question of whether knowledge or data came first (Tuomi, 1999). Tuomi (1999) believes that there is no such fact that raw data existed first. To have an agreement with readers, the authors consider the existence of raw data before knowledge.

Nevertheless, the authors define data as a raw material for any organization. Data itself has no usage and brings no value to the organization. Notably, data is vital to organizations, the same as raw materials for industries (Davenport & Prusak, 1998). Davenport and Prusak (1998) describe data as « structured records of transactions » that agrees with the above statement argued by the authors.

On the other hand, information is the contextualized version of data which is usually, as scholars mostly agree on, in the context of documents and tries to give us a message (Abeysekera, 2021; Davenport & Prusak, 1998). Information itself does not bring any insight and can not help people to make better decisions or predict the future.

Before going to the following term – knowledge – it is well suggested to distinguish the difference between knowledge and competency. Therefore, the authors defined each term separately. According to Oxford Dictionary, knowledge comes from an Old English compound based on *cnāwan*, which equals verbs acknowledge and recognize. Therefore, the authors distinguish knowledge as extracting contextualized information through years of experience in order to know, recognize or acknowledge something (Alavi & Leidner, 2001). However, on the other hand, competency means using knowledge to take action and make a decision appropriately. To conclude, in this study and in general in knowledge management, whenever the term « knowledge » shows up, the authors consider both knowledge and competency together.

Knowledge is often decomposed or classified into several categories for better understanding and organization. Some common ways of decomposing knowledge include:

2.1 Tacit vs. explicit knowledge

Knowledge is an intangible asset or resource to organizations. However, when intangibility comes to mind, people often think it refers to the tacit knowledge possessed by employees in their minds. Explicit knowledge is also an intangible asset for organizations that exist in documents. Therefore, tacit vs.

explicit knowledge is one of the first classifications of knowledge (Nonaka, 1994; Polanyi, 1966). In most of the studies, tacit knowledge argued as challenging to be express or codify.

On the contrary, explicit knowledge is easily accessible and codable (Nonaka, 1994). One of the most famous studies on tacit and explicit knowledge was done by Nonaka and Takeuchi (1995). The authors proposed a knowledge-creation model that explains the transformation of knowledge.

2.2 Personal vs. collective knowledge

Personal knowledge refers to knowledge unique to an individual, while collective knowledge refers to knowledge that a group or organization shares. In knowledge management, knowledge engineers try to enhance employees' personal knowledge by providing knowledge resources to them, and they try to enhance organizational knowledge by sharing knowledge within the organization (Davenport & Prusak, 1998).

2.3 Structured vs. unstructured knowledge

Structured knowledge refers to knowledge that is well-organized and easy to access, such as knowledge documents in a knowledge database. Unstructured knowledge refers to knowledge that is more difficult to access, such as knowledge in unorganized documents or conversations.

2.4 Declarative, procedural, causal, conditional, and relational knowledge

Alavi and Leidner (2001) discussed these five classes of knowledge as declarative (know-about), procedural (know-how), causal (know-why), conditional (know-when), and relational (know-with) in their article. Declarative knowledge refers to knowledge about facts and concepts, while procedural knowledge refers to performing a task or process. Procedural knowledge describes how to accomplish something or a task and is usually acquired through experience and practice.

Causal knowledge refers to knowledge that describes the underlying reasons or causes for a particular phenomenon or event. Knowledge of the conditions of taking particular actions or making certain decisions is conditional knowledge. Understanding relationships between entities or concepts are known as relational knowledge (Zack, 1998).

2.5 Domain-specific vs. generic knowledge

Domain-specific knowledge refers to knowledge specific to a particular field or industry, while generic knowledge refers to knowledge more widely applicable across different domains (Alavi & Leidner, 2001).

2.6 Theoretical vs. Practical knowledge

Finally, the last classification found in the literature is theoretical vs. practical knowledge. Theoretical knowledge comes from episteme, which refers to knowledge extracted in theoretical and analytical studies. Practical knowledge is derived from phronesis, which means knowing how to act in a practical situation in a given second (Van de Ven & Johnson, 2006).

3 A BRIEF RECALL OF TWO PREVIOUS STUDIES

In this section, the authors debate two previous studies, which let this study be realized. In the first study, the authors proposed a knowledge management model (see Figure 1) inspired by Nonaka's knowledge creation model (Mirafzal et al., 2023b). In order to undertake this study, the authors researched the history of knowledge management systems and studies in consulting firms' scholars. However, claimed the authors, since the

proposed model covers all knowledge creation transformation by Nonaka, this KM model could also be applied to other industries. In this study, the authors considered KM activities in four stages: 1) obtaining knowledge, 2) storing and sharing knowledge, 3) responding to knowledge, and 4) (re)generating knowledge. Also, the authors proposed some data collection activities in the KMS design phase.

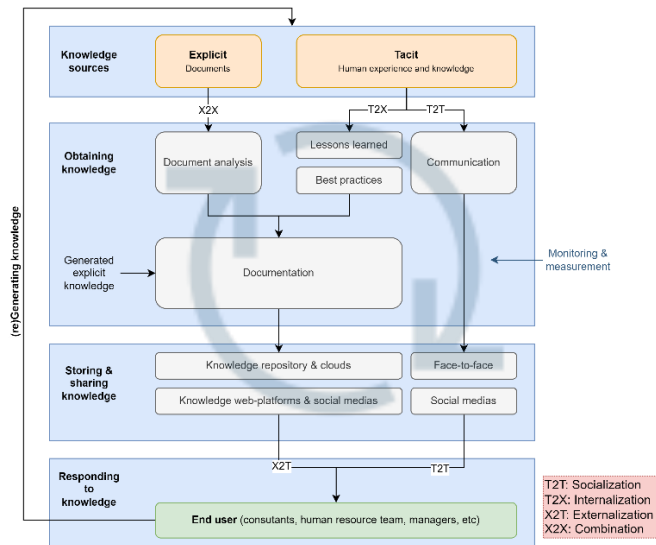


Figure 1. KM model proposed by (Mirafzal et al., 2023b)

In the second study, the authors investigated a case study (a French consulting firm) in order to dive into practical knowledge management (Mirafzal et al., 2023a). Interviewing was the primary approach for this investigation. According to the authors, they managed to interview twenty-two people in the case company, where twelve consultants were interviewed. Interviewees were very well scattered, from junior consultants to senior ones.

The authors first expressed the positive and negative experiences (considering KM activities) to find what is missing in the company and what is empowering their KMS. They continued by exploring consultants' desires and what they need during missions. Moreover, finally, the authors discussed knowledge leveling (decomposition) as a vital debate before designing a KMS. The authors proposed their knowledge decomposition by classifying it into 1) global knowledge, 2) semi-detailed knowledge, and 3) detailed knowledge. Furthermore, the authors presented how each KM activity could satisfy a person's knowledge level of a subject (see Figure 2).

As mentioned earlier, the authors tried to combine the knowledge decomposition proposed in the second study with

the KM model discussed in the first study. Then, the authors tried to investigate the case company to analyze how accurately this model fits with the KM activities in the case company and whether any activity is missing to be proposed to the case company.

4 CASE STUDY AND METHODOLOGY

4.1 Case study

This study aimed to investigate a consulting firm in order to 1) compare the reality of a small-sized consulting firm with the knowledge extracted from the scholars and 2) to be able to propose new activities if they existed. Therefore, the authors investigated a community in a consulting firm called ABC. ABC has been providing data-driven and business intelligence solutions for over twenty years.

4.2 Methodology

ABC always tries to provide all KM practices to its consultants in order to augment their knowledge and, as a result, their performance during missions. They settled down different platforms and applications to achieve these objectives. Three central platforms that help consultants the most are 1) an online cloud to store documents and work in teams, 2) an online platform to act as an intranet, and 3) a social media application that helps accelerate communications. The authors analyzed all the ABC knowledge management activities within mentioned platforms to extract needed knowledge.

The authors put all interactions in a community under microscopes to analyze every action that helped consultants augment their knowledge. The authors demonstrated the results in the following section. It is worth mentioning that the authors only examined the interaction within the last three months.

5 RESULTS

The authors demonstrated the result of their investigation in the case company in this section. First, the authors argued some new activities and insights found during their investigation. Second, some propositions debate how to make a balance between different activities or improve the KM system. Finally, the authors discussed why knowledge decomposition is essential to consider.

5.1 New KM activities to propose

The authors observed that the ABC consulting firm focuses on training its consultants. One activity that mainly seemed practical was based on this mindset. The ABC consulting firm provides several courses for different methods and tools to their

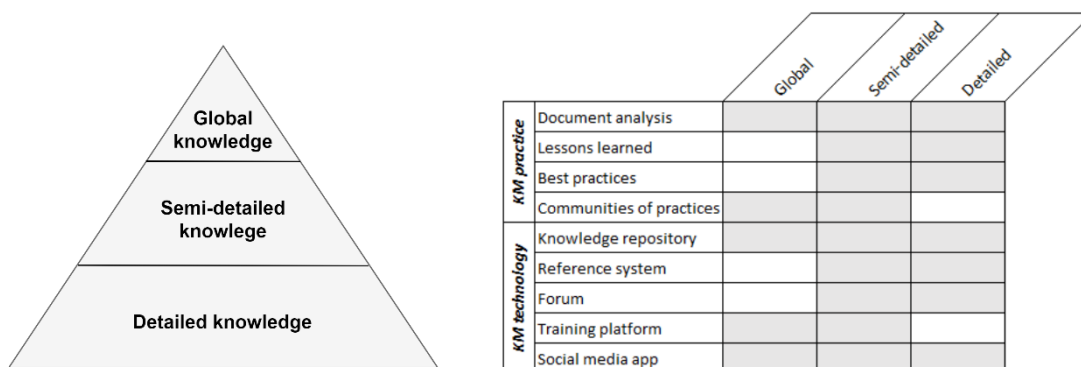


Figure 2. (a) The proposition of classification of knowledge (deepness levels of knowledge), (b) How KM practices and technologies cover different knowledge levels (Mirafzal et al., 2023a)

consultants, but they also successfully create a sharing culture during these courses. For each course, some volunteer consultants who previously participated in the course prepare a document to share their acquired knowledge and helpful notes. The authors believe this activity could be considered a best practice for consulting firms as they always provide several educational courses to their consultants.

Another activity that the authors believe is worth mentioning is called coaching. Once when there is a small problem to solve by a consultant, she would ask the relevant community to find a more competent consultant who can coach her in solving the problem and finding the issue. Idea sharing is the last helpful activity to share knowledge that the authors found during their investigation. Consultants constantly share their newly acquired ideas about different problems' solutions or new tools in the related community.

5.2 Suggestions

The authors also investigated the frequency of activities in the ABC consulting company. In Figure 3 below, the authors first demonstrated how the proposed knowledge decomposition (Figure 2) is integrated into the proposed KM model (Figure 1).

Arrows in black represent knowledge-creation transformations that authors found in the literature, and arrows in red represent new activities and knowledge-creation transformations found during the authors' investigation of the case company. Second, the authors examined different knowledge levels for each tacit and explicit knowledge and their associated transformation activity to understand whether all knowledge levels are being transformed. Figure 4 shows an example of the ABC consulting firm. As shown in Figure 4, ABC consulting firms provide strong knowledge creation for their global and semi-detailed tacit knowledge. However, it is highly recommended that they add to their activities to acquire more detailed tacit knowledge and, generally, all levels of explicit knowledge (arrows show the provided transformation, and in percentages, the amount of KM activity performed during the investigation can be seen).

5.3 Importance of decomposing "knowledge"

The authors believe that decomposing knowledge is helpful before tackling knowledge management. As a matter of fact, knowledge engineers might think that they consider several activities to transform tacit/explicit knowledge into one another. However, as shown in this study in Figure 4, they may miss

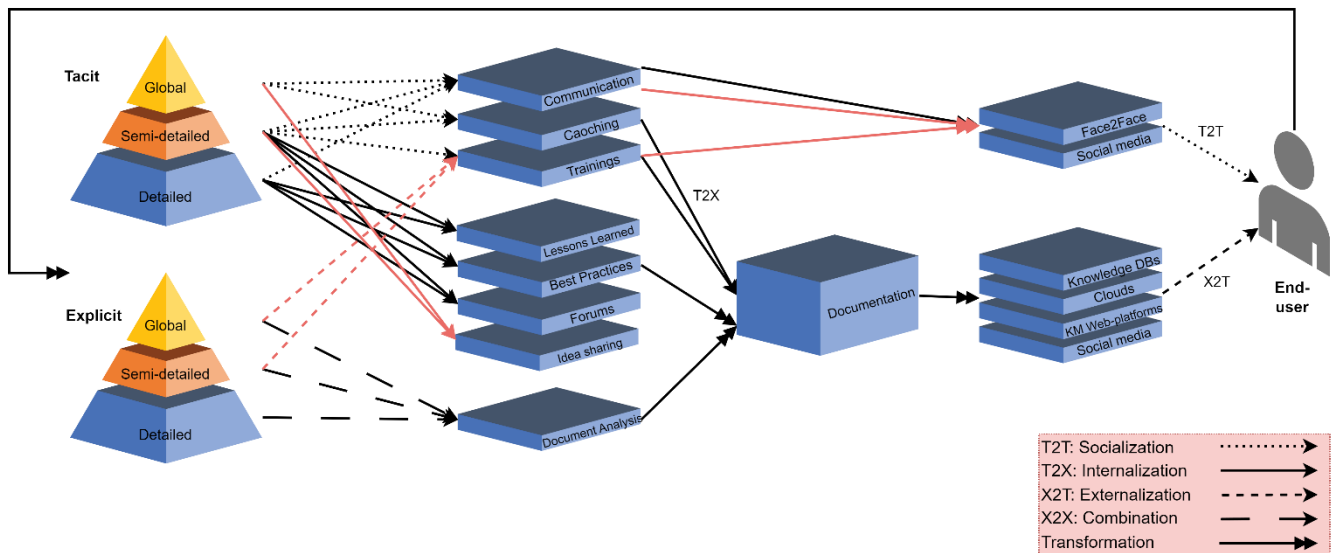


Figure 3. Integration of two previous proposed model by the authors

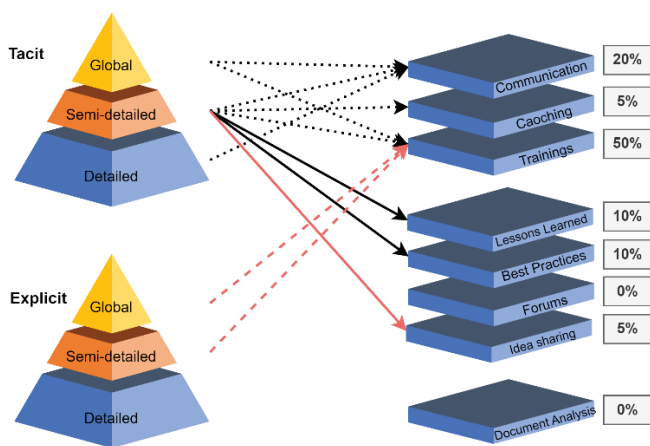


Figure 4. Transformations in the case study

implementing enough activities to transform all types of decomposed knowledge. They do not consider how much tacit or explicit knowledge is being collected. For example, detailed explicit knowledge is collected in the case study, but the focus is on semi-detailed and general knowledge. However, detailed tacit knowledge has a significantly higher impact on consultants' daily tasks.

6 CONCLUSION

Knowledge management has become increasingly important to enterprises since becoming an expert has become more rapid due to advancements in technology and education. Moreover, consulting firms are called knowledge sellers; therefore, knowledge is a vital asset to them. In this article, the authors first argued the importance of KM in consulting firms. They continued by showing the importance of decomposing knowledge and considering it during KM activities.

The authors integrated their previous two studies (Mirafzal et al., 2023a, 2023b) and investigated its usage in a consulting company as a case study. During this investigation, the authors shed light on innovative activities already in practice in the case

study. Also, the authors debated and demonstrated why decomposing knowledge is essential in an actual case study. Moreover, the authors added more knowledge-creation activities to their KM model that was driven by scientific articles.

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