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Knowledge and its utilization

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## Theses guidelines

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- Types of knowledge and its utilization
- How knowledge and its utilization work between human and artificial intelligence
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In Pardubice September 1, 2023

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## **ANNOTATION**

*This thesis investigates the concept of knowledge, including its various types and applications, and its relationship to organizational competitiveness. It begins by evaluating key knowledge theories. A questionnaire was then designed and deployed within a financial sector case study to analyse the practical impact of knowledge management on competitiveness. Based on the data analysis, the thesis presents key findings and actionable recommendations for improving organizational competitiveness.*

## **KEYWORDS**

*knowledge, utilization, assessment, competitiveness, use case, questionnaire.*

## **NÁZEV**

*Znalost a její využívání*

## **ANOTACE**

*Tato práce se zabývá konceptem znalostí, jejich různými typy a aplikacemi, a jejich vztahem ke konkurenceschopnosti organizací. Úvodem hodnotí klíčové teorie znalostí. Poté byl v rámci případové studie z finančního sektoru navržen a realizován dotazník, který analyzuje praktický dopad řízení znalostí na konkurenceschopnost. Na základě provedené analýzy dat práce prezentuje klíčová zjištění a konkrétní doporučení pro zvýšení konkurenceschopnosti organizací.*

## **KLÍČOVÁ SLOVA**

*znalost, využití, hodnocení, konkurenceschopnost, případ užití, dotazník.*

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## List of abbreviations

AI	Artificial Intelligence
ML	Machine Learning
ROI	Return on Investment

## INTRODUCTION

In the rapidly evolving landscape of the 21st century, the concept of knowledge has become more critical than ever. The understanding and effective utilization of knowledge play pivotal roles in shaping the dynamics of societies, economies, and technological advancements. It is the cornerstone upon which innovation, problem-solving, and decision-making are built. Knowledge is not merely the accumulation of facts and data; it is the transformative power that emerges when information is assimilated, understood, and applied effectively. In its essence, knowledge represents the human capacity to interpret, synthesize, and create meaning from information, thus enabling individuals and organizations to navigate complex challenges and capitalize on opportunities (Hunt, 2003).

Knowledge utilization, in turn, refers to the pragmatic application of this acquired knowledge to address real-world issues and drive progress. Knowledge is not a monolithic entity but rather a rich tapestry of different forms (Zagzebski, 2017). It can be categorized into explicit knowledge, which is codified and easy to transfer, and tacit knowledge, which is deeply ingrained in individuals' experiences and often challenging to articulate. Furthermore, knowledge can be further subcategorized into various domains, including scientific knowledge, practical know-how, and cultural wisdom. The utilization of knowledge is equally diverse, extending from solving everyday problems to fuelling innovation and improving decision-making (Backer, 1991).

Understanding the degree of these distinctions is crucial for devising effective strategies for knowledge management and utilization in diverse settings. Diverse theories exist that attempt to explain the nature and acquisition of knowledge (Zaltman, 1979). Knowledge has emerged as a key driver of competitiveness in the modern era (Omotayo, 2015). Knowledge has also played a pivotal role in businesses, companies, be it start-up or already established once, it has also been a significant contributor in the pursuit of sustainability, and this can be attributed to how well knowledge can be managed (Chopra et al., 2021). As Artificial Intelligence (AI) continues to advance, understanding the intersection between human and AI in knowledge is imperative (Chamunyonga et al., 2020). Human intelligence, with its cognitive capabilities, emotional understanding, and adaptability, interacts with knowledge in ways that are profoundly complex. Simultaneously, AI, powered by advanced algorithms and data processing, is transforming the very nature of knowledge management and application. The

very essence of knowledge is intricate and multifaceted. Understanding what constitutes knowledge and how it is utilized forms the foundational aspect of this thesis.

**The aim of this thesis** is to summarize the basic views on the concept of knowledge, its types, and purposes and present an assessment of knowledge theories and their impact on competitiveness. To achieve this aim, the thesis is guided by several specific objectives:

- Provide a comprehensive definition of knowledge and explore practical applications.
- Identify and analyse various knowledge types and their practical use.
- Explore how knowledge is utilized between humans and AI.
- Assess the relationship between knowledge management practices and organizational competitiveness.
- Analyse how knowledge utilization influences innovation, productivity, market share, and compliance.
- Identify challenges and propose solutions to improve knowledge management practices.
- Examine sector-specific insights and derive actionable recommendations.

To achieve its objectives, this thesis begins by establishing a theoretical foundation. It explores the definition and historical development of knowledge, alongside its practical application and associated challenges within organizational contexts. Subsequently, the thesis delves into the various classifications of knowledge, including tacit and explicit, procedural and declarative, intuitive and experimental. It then examines the interplay of knowledge and its utilization between humans and AI. This section further analyses selected knowledge theories and their influence on competitiveness and decision-making. In the third chapter, the thesis shifts to an empirical approach, assessing knowledge theories and practices through a financial sector case study. This involves developing a questionnaire, collecting, and analysing data. The resulting findings are presented in the following chapter, and the thesis concludes with a summary of key insights and recommendations.

# 1 THEORETICAL BACKGROUND

## 1.1 DEFINITION AND HISTORY OF KNOWLEDGE

Knowledge has been the subject of philosophical inquiry for centuries and has undergone a profound evolution throughout history. Its definition and understanding have evolved through various philosophical traditions, cultural epochs, and intellectual movements. This evolution is marked by shifting philosophical paradigms, cultural developments, and advancements in science and technology (Alavi and Leidner, 2001).

A belief that is true and well-founded is frequently used to characterize knowledge (Hunt, 2003). Numerous individuals and institutions fail to openly recognize the significance of knowledge, unlike their more visible financial and tangible assets. This is because knowledge is an intangible resource that cannot be immediately observed (Sveiby, 1997). According to Sveiby (1997), knowledge lacks "*a generally accepted definition and a measurement standard*" because of which it is invisible.

Sveiby (1997) distinguishes between the observable performance or action and the behavioural potential, which cannot be immediately witnessed, to make the crucial distinction between the two as he defines knowledge as "*a capacity to act*". Conventionally, beliefs that are true and are supported by evidence are knowledge (Hunt, 2003).

The roots of the concept of knowledge can be traced back to ancient Greek philosophy (Rich, 1997), where prominent philosophers contemplated the nature of knowledge and its acquisition. Two notable figures in this context are Plato and Aristotle (Hartnack, 2001). For Plato, knowledge was not mere opinion but a justified true belief – an idea that laid the groundwork for centuries of epistemological inquiry (Rich, 1997). Aristotle, Plato's student, took a more empirical approach. He emphasized the importance of experience and observation in gaining knowledge. His classification of knowledge into theoretical, practical, and productive forms set the stage for diverse philosophical explorations (Rich, 1997).

The concept of knowledge evolved during the medieval period, particularly within the context of Scholasticism which influenced the understanding of knowledge as it pertained to theological and philosophical matters (Ross, 2003). The Renaissance era was marked by a shift from reliance on authority to a more experiential and evidence-based approach to knowledge (Cañizares-Esguerra, 2004). John Locke introduced the idea of the *tabula rasa*, suggesting that the human mind is a blank slate upon which experience writes. This notion emphasized the role

of sensory experience in shaping knowledge. Locke's work influenced the development of empiricism, which continued to play a significant role in the evolution of epistemological thought (Thach and Thuy, 2021).

The 19th and 20th centuries saw challenges to traditional notions of knowledge. Friedrich Nietzsche questioned the objectivity of knowledge, asserting that it was influenced by power structures and perspectives (Mencken, 2003). Immanuel Kant, in his "*Critique of Pure Reason*", offered a complex synthesis of rationalism and empiricism. He argued that while sensory experience contributes to knowledge, the mind imposes certain categories and concepts upon that experience. This nuanced perspective added depth to the understanding of knowledge (O'Sullivan, 2017).

In the latter half of the 20th century, postmodern philosophy challenged traditional epistemological notions. Figures like Michel Foucault and Jacques Derrida questioned the objectivity of knowledge. Foucault's work emphasized the role of power structures in shaping knowledge (Mayes, 2015), while Derrida's deconstructionist approach questioned the stability of meaning itself (Derrida, 2005). These postmodern critiques brought attention to the complexities of language, representation, and the ways in which knowledge is constructed. The work of neuroscientists and philosophers like Daniel Dennett and Patricia Churchland then explores the neural basis of knowledge acquisition, memory, and consciousness (Mandik, 2017b). These interdisciplinary approaches bridge the gap between traditional philosophy and empirical science, offering insights into the cognitive processes that underlie knowledge.

In the interconnected and globalized world, the concept of knowledge has taken on a more universal dimension. Cultural relativism challenges the idea of a single, universal knowledge system. Indigenous knowledge and diverse cultural perspectives are increasingly recognized as valuable contributors to a pluralistic understanding of knowledge (Ardichvili et al., 2006). The information age, marked by the advent of the internet, AI, and big data, has transformed how knowledge is acquired and shared. The democratization of information raises questions about the reliability, authenticity, and ethical implications of knowledge in the digital era. The concept of knowledge management has gained prominence in organizational and technological contexts, emphasizing the need to effectively organize and utilize vast amounts of data and information (Hislop et al., 2018).

## **1.2 UTILIZATION OF KNOWLEDGE**

The utilization of knowledge is the practical application or use of information, facts, or expertise that individuals or organizations have acquired. It involves taking what is known and putting it to practical use to achieve specific goals or address various challenges. Knowledge utilization is a crucial aspect of learning, problem-solving, decision-making, innovation, and the improvement of processes and outcomes in both individual and organizational contexts (Backer, 1991).

Knowledge utilization encompasses both theoretical and practical understandings of daily life, as well as more abstract disciplines of human endeavour such as philosophy (Hodgetts et al., 2020). Memory plays a crucial role in retaining and recalling past experiences, contributing to the reservoir of knowledge that individuals draw upon in their daily lives. Memory is the repository of past experiences and knowledge. Decision-making, a fundamental cognitive process, involves the assessment and application of knowledge (Wang and Ruhe, 2007). In this regard, education, formal and informal, significantly influences the utilization of knowledge (Hood, 2002). Both contribute to the formation of an individual's cognitive toolkit, influencing how they navigate and make sense of the world (Andersen, 2017).

In everyday life, knowledge is often shared and distributed within social groups. Social dynamics impact knowledge utilization through processes like communication, collaboration, and the construction of shared meaning. Language serves as a medium of communication for knowledge sharing (Ouakouak and Ouedraogo, 2019). Language enables individuals to articulate and convey their knowledge to others, facilitating the transmission of ideas, practices, and experiences. Shared meaning is crucial for effective communication and the establishment of a common ground for knowledge utilization (Andersen, 2017).

### **1.2.1 Knowledge in organizational contexts**

In organizational contexts, the utilization of knowledge takes on strategic dimensions. It involves the systematic creation, capture, distribution, and application of knowledge to achieve organizational goals and objectives. Knowledge management refers to the structured processes and practices that organizations use to manage and leverage their knowledge assets. Knowledge management strategies involve various activities, such as creating, storing, retrieving, sharing, and applying knowledge (Hislop et al., 2018). Its primary goal is to enhance organizational efficiency, innovation, and competitiveness. Knowledge creation involves the development of new knowledge or the modification and refinement of existing knowledge. It often occurs

through research and development activities, problem-solving, and innovation efforts. Knowledge capture focuses on identifying, capturing, and documenting organizational knowledge. This can involve the use of knowledge repositories, databases, and information systems to ensure that knowledge is preserved and accessible (Bergeron, 2003).

Knowledge distribution includes processes for sharing knowledge throughout the organization. This can take the form of training programs, mentorship, intranet systems, and other communication tools. A culture that encourages open communication, collaboration, and a willingness to share information fosters effective knowledge sharing (Ouakouak and Ouedraogo, 2019). In such organizations, individuals are more likely to share their knowledge, seek input from colleagues, and engage in collective problem-solving. Knowledge application refers to how organizational knowledge is used. This involves decision-making processes, problem-solving, product development, and other activities that draw upon the organization's collective knowledge (Hislop et al., 2018).

The advent of technology has transformed how organizations acquire, store, and disseminate knowledge. Information systems, collaborative platforms, and data analytics tools enhance the efficiency of knowledge management. Information systems enable organizations to capture and store knowledge in digital formats. This facilitates easy access and retrieval of information, reducing the risk of knowledge loss due to employee turnover. Collaborative platforms support knowledge sharing and communication among employees. These platforms can include intranet sites, social collaboration tools, and project management software. Data analytics tools offer organizations the ability to extract valuable insights from large datasets. These insights inform decision-making and strategic planning (Chopra et al., 2021; Vaccaro et al., 2008).

Knowledge is seen as the most critical resource of an organization in the emerging knowledge-based society with knowledge management being a key area in the idea of organizational knowledge (Omotayo, 2015). An organization's competitive advantage stems primarily from its internal expertise. Similarly, researchers such as Earl (2001) argue that knowledge is a source whose refinement and repetition generate wealth, and that knowledge management is the enabler that converts information from a critical input to a useful industrial output.

Organizational knowledge, derived from collective or individual experiences, serves as a strategically vital resource. It ultimately contributes to creating a competitive edge for organizations. In explaining its role in an organization, Tsoukas and Vladimirou (2001) claim that organizational knowledge is “*the capability members of the organization have developed*

*to draw distinctions in the process of carrying out their work, in particular concrete contexts, by enacting sets of generalizations whose application depends on historically evolved collective understanding”.*

At the forefront of innovation, universities and businesses stand as the "*knowledge engines*" driving transformations in goods and services through their ideas and research (Leydesdorff and Meyer, 2008). An organization's knowledge base, arguably, forms its most strategic resource, empowering intelligent decision-making, forecasting, planning, and even intuitive judgment (Nonaka and Takeuchi, 2007). Financial muscle, market share, technology, and other traditional assets pale in comparison to the power of a robust knowledge foundation (Brynjolfsson and McAfee, 2014).

Knowledge permeates every facet of organizational performance, serving as the lifeblood of operations (Grant, 1996). From ingrained traditions and culture to cutting-edge technology, efficient systems, and established procedures, everything rests upon a bedrock of knowledge and expertise (Nonaka, 2009). Empowered employees, equipped with the right knowledge, become the driving force behind improved products and services, ultimately leading to superior customer satisfaction (Teece, 1998).

Three key reasons underpin the crucial role of knowledge management within organizations: 1) **strategic decision-making**: knowledge empowers informed choices, guiding organizations towards sound strategies and futureproofing against uncertainties (Teece, 1998; Wang and Ruhe, 2007), 2) **environmental adaptation**: in a world of constant flux, knowledge helps organizations navigate external changes and adapt their operations accordingly (Nonaka and Takeuchi, 2007), and 3) **knowledge creation**: continuous generation and innovation are vital for sustained success as effective knowledge management fosters an environment where new ideas blossom (Wang and Ruhe, 2007; Wang and Wang, 2012).

As organizations acknowledge the immense power of knowledge, knowledge management has surged to the forefront of managerial concerns (Alavi and Leidner, 2001). Today, knowledge assets and knowledge-sharing are recognized as indispensable tools for gaining competitive advantages (Azeem et al., 2021; Vidic, 2022). Consequently, organizations have embraced their identities as "*knowledge-intensive organizations*" actively integrating knowledge management strategies across all functional areas and actions (Nakash and Bouhnik, 2022; Tervonen and Ojanen, 2015).

## 1.2.2 Challenges in knowledge utilization

Despite the potential benefits, organizations face challenges in effectively utilizing knowledge. Recognizing and addressing these challenges is essential for optimizing knowledge utilization. These challenges include issues such as existence of knowledge silos, resistance to change from employees, ways of knowledge usages etc. (Tervonen and Ojanen, 2015). The challenges can be distinguished for examples by the process phases as can be seen in Table 1.

*Table 1: Challenges of sustainability knowledge utilization in different process phases. Source: Tervonen and Ojanen (2015).*

Process phase	Challenges knowledge
Knowledge acquisition	<ul style="list-style-type: none"> <li>- Identifying sustainability knowledge.</li> <li>- Planning, target setting, and contradictory objectives.</li> <li>- Limited economic resources and the prioritization of the resources.</li> <li>- The quality of the information and data collection.</li> <li>- Lack of (established) meters et al. challenges of measurement.</li> </ul>
Documentation	<ul style="list-style-type: none"> <li>- Varying documentation and communication practices, legislation.</li> <li>- Motivation of the employee, time management and organizational culture.</li> <li>- The reliability of the information, openness, and information sensitivity.</li> <li>- Data comparability and connectivity of the measures.</li> </ul>
Knowledge transmission	<ul style="list-style-type: none"> <li>- Understanding of the sustainability information</li> <li>- Comparing and connecting the information pieces from different data sources and measures.</li> <li>- Management of networks and supply chains, understanding of the effects.</li> <li>- Relationships between stakeholders.</li> </ul>
Informal release	<ul style="list-style-type: none"> <li>- Insufficient methods for knowledge analysis and assessment purposes.</li> <li>- Communication and understanding of the information.</li> <li>- Organizational characteristics and level of expertise.</li> </ul>
Receiver perception	<ul style="list-style-type: none"> <li>- Motivation and level of expertise.</li> <li>- Cultural differences.</li> <li>- Conflicting objectives.</li> </ul>
Decision-making	<ul style="list-style-type: none"> <li>- Sustainability value determination.</li> <li>- Linking knowledge into business decisions and strategic management.</li> <li>- Conflicting objectives</li> <li>- Challenges of time and resources</li> <li>- The price and the risk of the change</li> </ul>

### **1.3 TYPES OF KNOWLEDGE AND THEIR UTILIZATION**

Knowledge is a multifaceted concept that can be categorized in various ways. Understanding these types of knowledge is essential for organizations aiming to harness their knowledge assets effectively.

#### **1.3.1 Tacit and explicit knowledge**

Tacit knowledge is deeply rooted in personal experience and is often challenging to articulate. This type of knowledge is intuitive, and based on insights, beliefs, and practices that individuals have internalized over time. It is subjective and personal, residing in an individual's mind and difficult to transfer directly to others (Smith, 2001). In contrast, explicit knowledge is formal and codified. It can be easily communicated and shared through language, writing, or other explicit forms. This knowledge is objective and can be structured in a way that makes it accessible to others (Chilton and Bloodgood, 2008; Smith, 2001).

Tacit and explicit knowledge play distinctive roles in decision-making processes. Tacit knowledge, rooted in experience and intuition, often guides quick decisions in complex or uncertain situations where explicit information may be lacking. Explicit knowledge, on the other hand, is crucial for making informed decisions based on established facts and guidelines (Smith, 2001). Tacit knowledge is often instrumental in creative problem-solving. It allows individuals to draw on their unique insights and experiences to generate innovative solutions. Explicit knowledge, meanwhile, provides a framework for systematic problem-solving by applying established principles and methodologies (Chilton and Bloodgood, 2008).

Tacit and explicit knowledge are integral components of an individual's intellectual capital and organizational knowledge management. Organizations that effectively manage both tacit and explicit knowledge create environments conducive to continuous learning. Tacit knowledge, often held by experienced employees, is shared through mentorship and collaborative practices. Explicit knowledge, on the other hand, is documented and disseminated through training programs and knowledge repositories (Bergeron, 2003; Smith, 2001). Recognizing the characteristics of each and understanding how they complement each other is essential for fostering innovation, effective decision-making, and continuous learning within individuals and organizations (Chilton and Bloodgood, 2008).

### **1.3.2 Procedural and declarative knowledge**

#### **Procedural knowledge**

Procedural knowledge, sometimes known as "*know-how*" refers to the practical capacity to do tasks and abilities competently using task instructions. This dynamic form of knowledge drives action and performance, allowing people to handle tasks, solve difficulties, and carry out specified actions with ease. Learning is the key aspect of the implementation of procedural knowledge (Fayol, 1994). Nowadays, transferring procedural knowledge between humans and machines is an important topic explored in knowledge management (De Giorgio et al., 2020).

#### **Declarative knowledge**

Declarative knowledge, on the other hand, is concerned with "*knowing that*" and it includes facts, information, and descriptions of how things are. It focuses on the "*what*" rather than the "*how*" laying the groundwork for organizational understanding and decision-making. Declarative knowledge evolves primarily through verbal communication but may also evolve through repeated practices as non-declarative knowledge. This explicit type of information is easily transmitted through language, finding a home in manuals, databases, and training materials. It enables employees to connect the dots, analyse circumstances, and make informed decisions (Kump et al., 2015).

#### **Procedural and declarative knowledge in organizations**

Knowledge is crucial in the complex ecosystem of any successful organization. Its effective utilization is the driving force behind performance, innovation, and competitive advantage. While procedural and declarative knowledge appear to be diametrically opposed, they play inextricably linked roles in organizational performance.

Procedural knowledge develops the capacity to do activities and abilities with ease. Consider it muscle memory developed by experience and repetition. This dynamic form drives action and performance, allowing people to undertake tasks, solve difficulties, and carry out specified actions with ease. Declarative knowledge, on the other hand, serves as the foundation for organizational thinking and decision-making, defining the essence of what makes up an organization's landscape (Argote, 2013; Eraut, 2004). Effective knowledge management relies on a balanced approach that promotes both procedural and declarative information sharing. Capturing the tacit skills buried in procedural knowledge is critical, which frequently necessitates storytelling, mentorship, and communities of practice (Katuscáková and Katuscák,

2013). Conversely, easily available declarative knowledge in databases requires translation into practical application via training and skill development programs (Webster, 2016).

Organizations may create a robust knowledge ecosystem by understanding and cultivating both procedural and declarative knowledge. This rich atmosphere empowers people, fosters innovation, and propels them toward long-term success. Organizations that adopt a balanced approach to knowledge management realize the full potential of their intellectual capital, securing their position as leaders in the ever-changing landscape of the information age (Argote, 2013; Bergeron, 2003).

### **1.3.3 Intuitive and experiential knowledge**

#### **Intuitive knowledge**

Intuition, sometimes known as "*knowing without knowing*" represents the ability to understand or make decisions without using conscious reasoning (Goldberg, 2006). It occurs as flashes of insight or hunches that appear to lack a solid intellectual foundation. However, intuitiveness is the result of a powerful combination of past experiences, tacit knowledge gained over time, and an intrinsic ability to recognize patterns (Chudnoff, 2013). This internal compass is critical to leaders' decision-making, especially in terms of strategy, team dynamics, and organizational culture. Experienced leaders improve their intuitive competence over time, allowing them to draw on a vast reservoir of implicit information and gut feelings while negotiating complex circumstances (Kahneman and Klein, 2009). While intuition is frequently regarded as an innate capacity, it may be developed and strengthened through intentional meditation on prior experiences and paying close attention to one's internal clues in various situations (Dane and Pratt, 2007). Finally, combining intuition and critical analysis promotes a more complex and thorough approach to problem solving and decision-making (Chudnoff, 2013).

#### **Experiential knowledge**

Experience acts as the crucible in which theoretical information is transformed into practical understanding. It provides an important context for processing information, allowing people to understand how abstract ideas transfer into the intricacies of real-world situations (Eraut, 2004). Individuals gain invaluable tacit knowledge from varied experiences, which includes implicit abilities, know-how, and unsaid insights that are difficult to codify in written language. However, the process of filtering of experiences enables individuals to fix them as experiential knowledge (Blume, 2017). This accumulation of experiential knowledge alters a person's cognitive landscape, increasing adaptability and flexibility in novel settings. Individuals with

a wide range of experiences become skilled at applying learned lessons to new difficulties, demonstrating the transformative power of experiential learning in supporting long-term development (Blume, 2017; Eraut, 2004).

### **Organizational learning**

Within organizations, employees' cumulative experiences serve as a massive source of organizational knowledge. Developing a culture of continual learning and knowledge sharing is critical to tapping into this treasure of experiential wisdom (Argote, 2013; Eraut, 2004; Kump et al., 2015). Implementing processes for capturing and organizing experience information, such as post-project debriefs and knowledge repositories, ensures that key lessons are not forgotten and are easily accessible to others. Furthermore, designing mentorship programs and knowledge-sharing efforts makes it easier to transfer experiences. Organizations can realize their full potential for continuous improvement and innovation by actively using the learnings embedded in their workers' experiences (Eraut, 2004; Nonaka and Takeuchi, 2007; Wang and Wang, 2012).

#### **1.3.4 Other classifications of knowledge**

Aside from the above-mentioned types of knowledge, numerous frameworks seek to classify the enormous geography of human thinking. Fritz Machlup (1980) made a notable attempt to identify five major forms of knowledge (Machlup, 1980):

- Practical knowledge: is essential for daily activities and professional responsibilities, and it includes skills and talents that are directly related to one's job or chosen field.
- Intellectual knowledge: is motivated by a desire for understanding and curiosity, which leads to the exploration of facts, ideas, and abstract concepts.
- Small talk knowledge: is mostly utilized for social engagement and entertainment, and includes trivia, current events, and hilarious anecdotes.
- Spiritual knowledge: is linked to religious beliefs and practices, which provide meaning and purpose in life.
- Unwanted knowledge: information gained unintentionally and frequently judged irrelevant to one's interests, which is easily forgotten owing to a lack of purpose or application.

This classification emphasises the diverse nature of knowledge, which includes not just practical skills but also intellectual interests, social participation, and personal values.

However, Machlup's structure just scrapes the surface. Moving beyond standard classifications, Kuhn and Vessuri (2016) advocate for new ideas of knowledge, questioning the mainstream Eurocentric view of what genuine knowledge is. They advocate for understanding and appreciating multiple epistemologies, including (Kuhn and Vessuri, 2016):

- Indigenous knowledge: This knowledge, which is based on local community traditions and practices, embodies a thorough grasp of the environment, sustainable practices, and cultural heritage.
- Feminist Knowledge: Feminist epistemologies, which emphasize the importance of lived experiences and social context, criticize power structures and advocate for knowledge production that foreground underrepresented perspectives.
- Subaltern knowledge: Drawing on the experiences of oppressed people, this category emphasizes the significance of viewing knowledge production through the prism of power dynamics and social inequities.

Accepting these diverse views broadens our notion of knowledge beyond practical abilities or abstract concepts. It recognizes the influence of environment, lived experiences, and power dynamics on how we know and what constitutes true knowledge. This awareness is critical in today's increasingly interconnected world, where recognizing and respecting other views encourages deeper understanding, promotes inclusivity, and inspires cross-cultural discourse.

## **2 HOW KNOWLEDGE AND ITS UTILIZATION WORK**

### **2.1 KNOWLEDGE AND HUMANS**

Human intelligence is the multifaceted and intricate phenomenon involving the acquisition, application, and utilization of knowledge (Mandik, 2017a). It is shaped by various cognitive processes and learning mechanisms, making it a dynamic and adaptable trait (Byrne, 2017). Human intelligence is a complex interplay of cognitive processes. These processes include (Byrne, 2017; Mandik, 2017a):

- Perception – how we gather information from the world through our senses.
- Attention – the ability to focus on specific information while ignoring distractions.
- Memory – the ability to encode, store, and retrieve information.
- Language – the system of communication used to express thoughts and ideas.
- Problem-solving – the ability to identify and solve problems effectively.
- Reasoning – the ability to use logic and evidence to draw conclusions.

Cognitive psychology studies how humans acquire, store, process, and use information through perception, memory, language, and problem-solving (Mandik, 2017a). Learning is central to human intelligence. It is a process through which humans acquire knowledge and adapt to their environment. There are different learning mechanisms (Byrne, 2017; Mandik, 2017a):

- Associative learning – forming connections between stimuli and responses, such as in classical conditioning (Pavlov's dogs) and operant conditioning (Skinner's box).
- Cognitive learning – understanding and processing information through observation, imitation, and insight, like a child learning to ride a bike by watching others and experimenting.
- Social learning – acquiring knowledge and behaviours through interaction with others, where observational learning (e.g., learning by watching others) and social reinforcement (e.g., receiving praise for desired behaviour) play crucial roles.
- Experience-based learning – learning from personal experiences, successes, and failures, which helps individuals make better decisions and avoid repeating mistakes.

### **2.2 KNOWLEDGE AND ARTIFICIAL INTELLIGENCE**

The replication of human intelligence is what AI is all about. It can only replicate, replace, extend, or expand a portion of human intelligence now. It utilizes various Machine Learning (ML) algorithms to process and apply knowledge. ML is a subset of AI that focuses on

developing algorithms that can learn and improve from data (Mahesh, 2020). AI systems, powered by ML, can assist, or even automate decision-making in various domains. They can analyse large datasets, identify patterns, and make predictions. It is used in finance, healthcare, supply chain management, and more for optimizing decisions (Chamunyonga et al., 2020).

Collaboration and synergy between human and AI are at the forefront of technological advancements, promising to enhance human capabilities and revolutionize various aspects of life. This collaboration involves human and AI partnership. Human-AI partnerships (collaborations) represent the fusion of human and AI in a complementary manner. Generative AI can automate manual and repetitive tasks, freeing up human resources for more complex and creative tasks. In fields like manufacturing, routine data entry, and customer support, AI can significantly improve efficiency (Ramchurn et al., 2021).

The integration of AI into human activities raises important ethical concerns that need to be addressed. Recognizing and mitigating bias is crucial to ensure fairness in decision-making processes. The collection and processing of personal data by AI systems pose privacy concerns. It is vital to establish strict regulations and practices to safeguard individuals' private information. As AI systems become more integrated into various industries, they also become potential targets for malicious actors. Ensuring the security of AI systems is essential to prevent unauthorized access or manipulation (Rhem, 2021).

## **2.3 KNOWLEDGE THEORIES**

Various knowledge theories function as maps and compasses, providing distinct perspectives on its nature, acquisition, and use. These are the most important ones:

### **1. Foundational frameworks:**

*Rationalism* emphasizes reason and logic as the torchbearers of knowledge. Descartes, Leibniz, and Spinoza believed that natural mental abilities might access universal truths without relying primarily on the senses (Donagan, 1970).

*Empiricism*: In contrast, Locke, Berkeley, and Hume emphasize sensory experience. They argue that knowledge comes from observing and engaging with the world, without prior beliefs clouding our senses (Donagan, 1970).

*Skepticism*: Pyrrho and Montaigne cast doubt on the possibility of acquiring true knowledge. They emphasize the limitations of our senses and thinking, asking us to exercise caution when making absolute statements (Donagan, 1970).

These foundational theories establish the platform for future research, with each highlighting a different part of the knowledge acquisition process.

## **2. Epistemological crossroads:**

*Justified true belief* theory extensively discusses idea contends that knowing necessitates both correct belief and reason for that belief. However, the "*Gettier problem*" puts a wrench in the works, demonstrating instances in which someone may hold a correct belief for the wrong reasons, raising concerns about this theory sufficiency as the sole criterion for knowledge (Gettier, 1963).

*Social epistemology*: Changing the focus, this theory investigates the function of social variables and communities in shaping and verifying knowledge. It highlights the collaborative character of knowledge formation, implying that social interactions and common understanding are critical in defining what constitutes "true" (Longino, 1990).

These epistemological theories address the nature of truth and justification, providing many perspectives on how to separate actual knowledge from mere belief.

## **3. Organizational labyrinths:**

*Resource-based view*: In the fast-paced marketplace of ideas, information becomes a valuable asset. Resource-Based View proponents, such as Grant (1991), say that businesses acquire a competitive advantage by owning, acquiring, and strategically employing valuable knowledge resources that are rare, unique, and non-substitutable.

*Knowledge-based views*: Nonaka and Takeuchi (2007) go a step farther, describing businesses as "*knowledge-creating companies*". They stress the continual processes of knowledge generation, conversion (explicit to tacit and vice versa), and utilization as the driving forces behind innovation and success.

*Social network theory* proposes that knowledge, like pollen borne by the wind, thrives in networks. This theory, as advocated by Borgatti and Cross (2003), emphasizes the role of external and internal knowledge networks in knowledge acquisition, diffusion, and innovation. Developing strong links with external knowledge sources and cultivating lively internal knowledge flows are critical to corporate success.

These organizational theories lead us through the complicated landscape of knowledge management within businesses, demonstrating how knowledge can be exploited to gain a lasting competitive advantage.

#### **4. Beyond the standard map:**

The labyrinth of knowledge extends beyond these core theories. Feminist epistemology challenges the male-dominated construction of knowledge, advocating for diverse perspectives and valuing marginalized voices (Hartsock, 2017). Decolonial epistemology critiques Western dominance in knowledge production and calls for recognition of Indigenous and non-Western knowledge systems (Smith, 2021). These critical perspectives broaden our understanding of knowledge, reminding us that its production and validation are inherently social and power-laden processes.

It can be concluded that no single theory holds the ultimate key. Combining different perspectives and constantly updating our map allows us to navigate the ever-evolving landscape of knowledge with greater understanding and appreciation for its multifaceted nature.

##### **2.3.1 Knowledge theories and their influence on competitiveness**

This relates to understanding and applying theories about how information is gained, managed, and employed, as well as how these theories affect the competitive advantages of individuals, organizations, and society. Knowledge is an asset in today's information-driven society, and theories regarding its development, transmission, and application can help an organization gain a competitive advantage. Organizations may improve their competitiveness in the global landscape by examining and adopting these knowledge theories, which stimulate innovation, make informed decisions, and adapt to changing environments (Jasinskas et al., 2015; Rahimli, 2012).

In today's knowledge-driven economy, organizations are trying to establish and maintain a competitive advantage must comprehend and leverage knowledge. Various knowledge theories provide important insights into the nature, development, and flow of knowledge, with implications for how they should strategically manage their knowledge assets. Knowledge theories can impact competitiveness as follows:

##### **1. Resource-based view:**

According to this view, an organization's competitive advantage is derived from its distinctive and valued resources, including knowledge resources (Grant, 1991). Organizations can gain a sustainable competitive advantage by having knowledge resources that are valuable, rare, unique, and non-substitutable (Vidic, 2022).

Resource-based view promotes knowledge management strategies that make it easier to create, acquire, defend, and leverage knowledge to generate these valuable, rare, inimitable, and non-substitutable knowledge resources. Investing in staff training and information sharing platforms, for example, can boost knowledge production and dissemination within an organization, giving it a competitive advantage (Vidic, 2022).

## **2. Knowledge-based view:**

The knowledge-based view improves on the resource-based view by stressing knowledge as the key source of competitive advantage (Nonaka and Takeuchi, 2007). It contends that organizational knowledge production, conversion, and utilization are critical for innovation, responsiveness, and adaptation in a changing context. It focuses on (Nonaka and Takeuchi, 2007):

- Knowledge creation entails creating new knowledge through individual creativity, teamwork, and the integration of internal and external information.
- Knowledge conversion is the process of transforming explicit knowledge into tacit knowledge (know-how), allowing it to be applied and innovated upon.
- Knowledge utilization entails effectively utilizing knowledge to improve operations, create new products, and increase consumer value.

Organizations that follow knowledge-based view principles aggressively support information sharing, cross-functional collaboration, and continuous learning to boost knowledge production and application, resulting in a competitive advantage in contexts that require ongoing innovation and agility.

## **3. Social network theory:**

Social network theory highlights the importance of social networks and interactions in knowledge acquisition, diffusion, and invention (Borgatti and Cross, 2003). Research indicates that organizations get a competitive advantage by establishing strong linkages with external information sources. Collaborating with universities, research institutes, and other external partners to gain new knowledge and expertise. It is recommended to 1) develop internal knowledge networks by creating strong connections and communication channels among staff within and across departments to allow information sharing and cooperation and 2) leverage network positions by strategically establishing themselves within knowledge networks to have access to vital information and resources (Borgatti and Cross, 2003; Tervonen and Ojanen, 2015).

Organizations that use social network theory principles invest in developing external relationships, cultivating internal knowledge networks, and identifying key persons and groups within their networks to enhance knowledge flow and cooperation, boosting their ability to adapt and compete in dynamic landscapes (Tervonen and Ojanen, 2015).

These are just three major knowledge theories that have important consequences for organizational competitiveness. The nature of the industry, competitive landscape, and corporate culture all influence the best method to take. Understanding and using the ideas of these and other knowledge theories, on the other hand, can help firms manage their knowledge assets more effectively, enabling innovation, adaptation, and, eventually, a sustainable competitive advantage.

### **2.3.2 Knowledge theories and decision-making processes**

The way how the knowledge is conceptualized and gained can be different between knowledge theories, but all these theories provide inputs for the knowledge management and are important for decision-making processes. According to Nicolas (2004), how the knowledge management supports decision-making processes in the organization is affected by a knowledge management system implemented. Considering the specific points of the decision-making process, the organization can select the most appropriate knowledge management system.

Mahrinasari et al. (2021) emphasized the importance of decision-making models developed to choose the most suitable knowledge management model and respective practices. They also provided several guidelines that reflect the link between these concepts.

### **3 ASSESSMENT OF KNOWLEDGE THEORIES**

#### **3.1 RESEARCH METHODOLOGY AND DESIGN**

To achieve the objectives stated in the introduction section, i.e., (1) *analyse how knowledge utilization influences innovation, productivity, market share, and compliance*, (2) *identify challenges and propose solutions to improve knowledge management practices*, and (3) *examine sector-specific insights and derive actionable recommendations*, the following methodological steps were performed: 1) identify the most suitable criteria and discuss their importance in the context of a defined use case, 2) developing a questionnaire, 3) distributing the questionnaire to relevant respondents, 4) collecting and cleaning the data manually, 5) process data, and 6) interpreting the results in the context of organizational competitiveness and performance.

In the thesis, the literature review was done to build a theoretical framework and identify key criteria for assessing knowledge management practices by researching and gathering research papers using keywords like “knowledge management in finance”, “organizational competitiveness”, and “knowledge utilization” on open resources from Google Scholar, ScienceDirect, SpringerLink, and Directory of Open Access Repositories. The most suitable criteria resulted from resources such as Andreeva and Kianto (2012), Perez and de Pablos (2003), Robinson et al., (2006), Sedziuviene and Vveinhardt (2010), and Yu et al. (2022). The identified criteria were discussed in the context of a use case *of knowledge management and utilization to increase competitiveness in organizations (finance sector)* and to clarify their importance in corporate responsibility, to improve the organisation by managing both hard physical (tangible) and soft knowledge (intangible) assets.

A structured questionnaire was developed to collect primary data from employees in financial institutions to evaluate the knowledge management and utilization and their impact on competitiveness and organisation performance. A primary data collection method was chosen to ensure the originality of data and relevance to the specific research questions (Bryman, 2016). It involves gathering information directly from its source (employees that have been in the financial space/financial organisations), and it is viewed as being more reliable and up to date. The questionnaire was created using Google Forms, which simplified distribution and data collection from respondents.

*Questionnaire description:* The questionnaire aims to examine how financial institutions manage and apply knowledge to enhance their competitiveness. By collecting responses from professionals within banks, insurance companies, investment firms, and other financial entities, the questionnaire aims to get data from the employees that would uncover the impact of knowledge management on various organizational outcomes.

The questionnaire comprises multiple sections, each targeting specific aspects of knowledge management:

- **Demographic information:** Included questions on respondents' job roles, organization types (banks, insurance companies, investment firms), and years of experience to provide context.
- **Understanding of knowledge management:** Assessed awareness and application of knowledge management with options like "clear definition and understanding" or "no clear understanding".
- **Knowledge management practices:** Identified practices such as training, knowledge-sharing meetings, internal databases, and mentoring, allowing multiple selections.
- **Effectiveness of knowledge utilization:** Measured perceived impacts on outcomes like customer service, compliance, productivity, and innovation using a 5-point Likert scale (1 = Very Ineffective to 5 = Very Effective).
- **Challenges in knowledge management:** Explored barriers such as lack of training, resistance to sharing, limited technology, and budget constraints via multiple-choice questions.
- **Any comments:** Seeks participant opinions on potential enhancements, such as improving access to knowledge resources, creating centralized knowledge repositories, fostering teamwork, and leveraging technology for faster knowledge sharing.

The questionnaire utilizes a combination of multiple-choice questions, Likert scale ratings to capture perceptions and attitudes effectively – respondents rated their agreement with various statements, and open-ended questions to capture both quantitative and qualitative data. This mixed-method approach ensures a comprehensive understanding of the current state and potential improvements in knowledge management practices.

A purposive sampling approach was used to target respondents with experience in financial institutions, this maximized reach and diversity within the sample. The questionnaire was distributed via:

- **Professional networks:** To contacts and associations in the financial sector.
- **Snowball sampling:** Respondents were asked to forward the questionnaire to colleagues.

Initially, 25 responses were collected through Google Forms. A manual cleaning process ensured data quality and relevance:

- **Completeness check**
- **Consistency verification:** Answers were checked for logical consistency (e.g., job role matching organization type).
- **Exclusion of non-financial sectors:** Responses from unrelated sectors (e.g., health) were excluded, reducing the sample to 19.

The final dataset included:

- **Banks:** 16 respondents
- **Insurance companies:** 1 respondent
- **Investment firms:** 2 respondents

This refined dataset focused exclusively on financial institutions.

The cleaned data were organized and structured using Microsoft Word and Excel, facilitating analysis, and understanding. Average scores were calculated using Microsoft Excel to summarize key characteristics of the data (Field, 2020). Microsoft Excel was used in creating tables to display descriptive statistics of the data collected. Descriptive analysis was carried out using pie charts and columns which are ideal for visually representing the distribution of categorical data, making it easy to grasp proportions and compare different categories (Field, 2020). Informed consent was obtained from all participants, and data privacy was protected throughout the research process.

### **3.2 CRITERIA AND THEIR DESCRIPTION IN THE CONTEXT OF USE CASE**

**Use Case:** Leveraging knowledge to enhance organizational competitiveness in the financial services sector. The financial services sector operates in a dynamic and rapidly evolving landscape shaped by shifting customer expectations, complex regulatory requirements, and rapid technological advancements. Effective knowledge management is crucial not only for meeting external customer demands but also for empowering employees internally. By

enhancing innovation, achieving financial sustainability, fostering user engagement, and unlocking market potential, knowledge management serves as a cornerstone for organizational competitiveness. This use case examines the application of knowledge management practices across three key organizational contexts: banks, insurance companies, and investment firms.

Knowledge management plays a crucial role in the financial services sector, benefiting banks, insurance companies, and investment firms. For banks, knowledge management enhances regulatory compliance and customer experience externally while improving employee training and operational efficiency internally. Insurance companies leverage knowledge management for product innovation, risk management, and employee enablement. Investment firms utilize knowledge management for real-time market insights, collaborative decision-making, and employee training. Common knowledge management strategies include centralized knowledge repositories, collaboration platforms, organizational learning, and social learning. The resulting benefits include improved employee productivity, operational efficiency, enhanced customer engagement, innovation, market expansion, and stronger regulatory compliance, ultimately increasing competitiveness within the financial industry.

**Innovation** in knowledge management within financial services is driven by novel practices like AI-powered fraud detection and predictive analytics for underwriting (Sedziuviene and Vveinhardt, 2010). Successful innovation also involves unique solutions, such as cross-functional collaboration platforms (Villalba de Kokkonen, 2024), and the potential for disruption, like blockchain-based trading processes (Kumar et al., 2024; Yu et al., 2022;). These innovative knowledge management practices are essential for maintaining competitiveness in the dynamic financial sector.

**Financial sustainability** of knowledge management practices is crucial and relies on a strong cost-benefit analysis, demonstrating clear returns on investment from initiatives like automated claims processing (Sedziuviene and Vveinhardt, 2010). Long-term Return on Investment (ROI), including sustained competitive advantage, is a key factor (Lee et al., 2020; Sedziuviene and Vveinhardt, 2010), as is the efficient allocation of resources, such as utilizing cloud-based systems for scalability and cost reduction (Alvarenga et al., 2020). Balancing costs with benefits is essential for the long-term viability of knowledge management.

**User engagement** is vital for effective knowledge management systems. This requires securing stakeholder buy-in through clear communication and pilot programs (Riege and Lindsay, 2006), ensuring ease of use through intuitive platforms and training (Alavi and Leidner, 2001), and

providing incentives and motivation, such as gamification and performance recognition, to encourage active participation and knowledge sharing (Di Vaio et al., 2021). Without active engagement, knowledge management initiatives will struggle to succeed.

**Market potential** is significantly enhanced by effective knowledge management practices. Scalability and replication of successful initiatives across departments and regions are important (Ibrahim et al., 2022), as is the ability to reach a wider target audience and penetrate new markets with tailored products and services. Knowledge management also strengthens competitive positioning by improving service personalization and operational efficiency, leading to a stronger market presence (Sedziuviene and Vveinhardt, 2010).

**Scalability** of knowledge management systems ensures their long-term effectiveness. This includes adaptability to integrate emerging technologies like AI and blockchain (Kumar et al., 2024; Yu et al., 2022), as well as sustainability and maintenance through robust platforms, regular updates, and user support (Di Vaio et al., 2021). Scalable systems ensure continuous improvement and remain effective as organizations and markets evolve.

### 3.3 FINDINGS

This section details the findings derived from an analysis of the questionnaire responses. An example of a dataset can be found in Appendix 1.

#### Q1-Q4: Demographic and Organizational Information

- Email, Name, Position/Title, Organization Name: These provided context but are not analysed quantitatively beyond filtering for financial institutions.
- Type of Financial Institution: Banks: 16 respondents, Insurance companies: 1 respondent, Investment firms: 2 respondents, Non-financial sectors (e.g., health, oil, mining) were excluded, reducing the total from 25 to 19.

#### Q5: Years of Experience

Table 2 shows counted respondents per experience category and sector. Most respondents (84.2%) have less than 5 years of experience, with banks evenly split between less than 2 years and 2-5 years. The insurance respondent has 2-5 years, and investment firms have one in each of the lower and higher experience categories.

*Table 2: Workforce experience distribution by sector. Source: Own data analysis and processing.*

<b>Years of Experience</b>	<b>Banks</b>	<b>Insurance</b>	<b>Investment Firms</b>	<b>Total</b>
Less than 2 years	7	0	1	8
2-5 years	7	1	0	8
5-10 years	2	0	1	3
Over 10 years	0	0	0	0

**Q6:** How would you describe knowledge management in your organization?

Table 3 shows awareness and application of knowledge management in the organization. Most banks (81.25%) and the insurance company (100%) report a clear understanding of knowledge management. Investment firms are split, with one clear and one basic understanding. Only one bank lacks clarity, suggesting a generally strong foundation in knowledge management definitions.

*Table 3: Knowledge management understanding by sector. Source: Own data analysis and processing.*

<b>Sector</b>	<b>Clear Definition</b>	<b>Basic Understanding</b>	<b>No Clear Understanding</b>	<b>Total</b>
Banks	13	2	1	16
Insurance Companies	1	0	0	1
Investment Firms	1	1	0	2

**Q7:** How would you describe knowledge utilization in your organization?

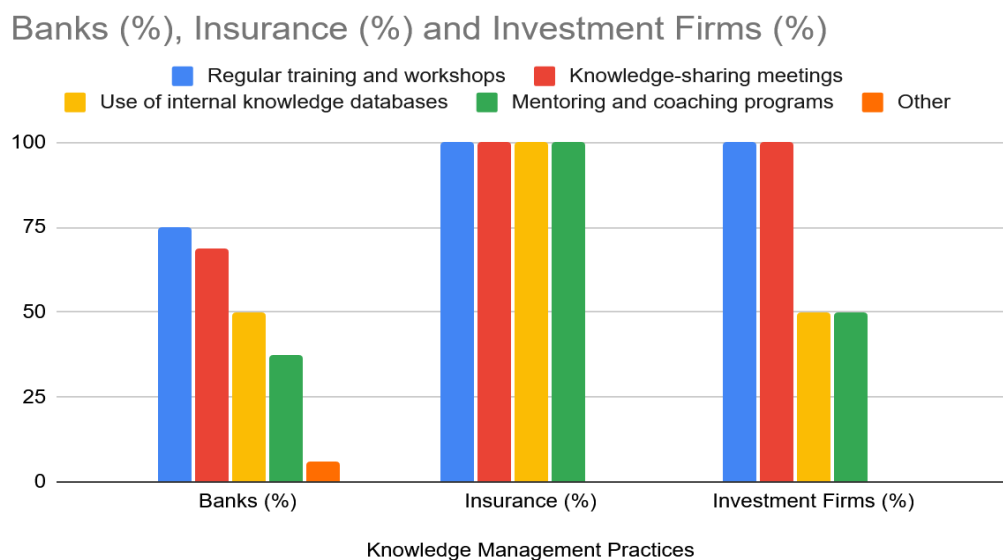
Table 4 presents knowledge utilization in organizations. The majority (89.5%) across all sectors report consistent knowledge application, with only two banks indicating inconsistency. This suggests effective use of knowledge in decision-making and problem-solving.

*Table 4:* Knowledge utilization in organizations. Source: Own data analysis and processing.

Sector	Consistently Applied	Sometimes Applied	Rarely Applied	Total
Banks	14	2	0	16
Insurance Companies	1	0	0	1
Investment Firms	2	0	0	2

**Q8:** Which knowledge management practices are used in your organization?

Figure 1 presents the findings of how knowledge management practices are used in the organization. Respondents were asked to select all that apply. Training and meetings are the most common practices. The insurance company uses all four main practices, while banks and investment firms vary. Banks least adopt mentoring, and only one bank selected “Other”.



*Figure 1:* A comparative bar chart of the average scores (in percentage) of all sectors of their knowledge management practices. Source: own processing.

**Q9:** How do you rate the effectiveness of your organization’s knowledge utilization practices?

Table 5 shows perceived effectiveness of knowledge management measured on a scale: Very effective (5), Effective (4), Neutral (3), Ineffective (2), Very ineffective (1). Insurance scores highest (5.0), followed by investment firms (4.5) and banks (4.19). Most banks rate effectiveness as very effective or effective, indicating strong perceived utility.

*Table 5:* Perceived effectiveness of knowledge management. Source: Own data analysis and processing.

Sector	Average Score
Banks	4.19
Insurance Companies	5.00
Investment Firms	4.50

**Q10:** Knowledge management practices have improved customer service and compliance.

Table 6 presents impact of knowledge management on customer service and compliance measured on a scale: Strongly agree (5), Agree (4), Neutral (3), Disagree (2), Strongly disagree (1). High agreement across all sectors, with insurance at 5.0, banks at 4.44 (93.75% agree/strongly agree), and investment firms at 4.5, suggesting knowledge management enhances service and compliance.

*Table 6:* Impact of knowledge management on customer service and compliance. Source: Own data analysis and processing.

Sector	Average Score
Banks	4.44
Insurance Companies	5.00
Investment Firms	4.50

**Q11:** Knowledge utilization has helped increase productivity in my organization.

Table 7 shows knowledge utilization contribution to organizations, using the same scale as the previous question. Insurance leads (5.0), followed by investment firms (4.5) and banks (4.19). Most banks (81.25%) agree or strongly agree, indicating productivity gains from knowledge utilization.

*Table 7: Knowledge utilization contribution to organizations. Source: Own data analysis and processing.*

Sector	Average Score
Banks	4.19
Insurance Companies	5.00
Investment Firms	4.50

**Q12:** Knowledge management and utilization have contributed to innovation in my organization.

Table 8 presents knowledge management and utilization contribution to organizations, using the same scale as the previous question. Insurance scores 5.0, investment firms 4.5, and banks 4.06. One bank disagrees, but 81.25% of banks agree or strongly agree, showing a positive link to innovation.

*Table 8: Knowledge management and utilization contribution to organizations. Source: Own data analysis and processing.*

Sector	Average Score
Banks	4.06
Insurance Companies	5.00
Investment Firms	4.50

**Q13:** Can you describe a time when applying knowledge led to significant positive results?

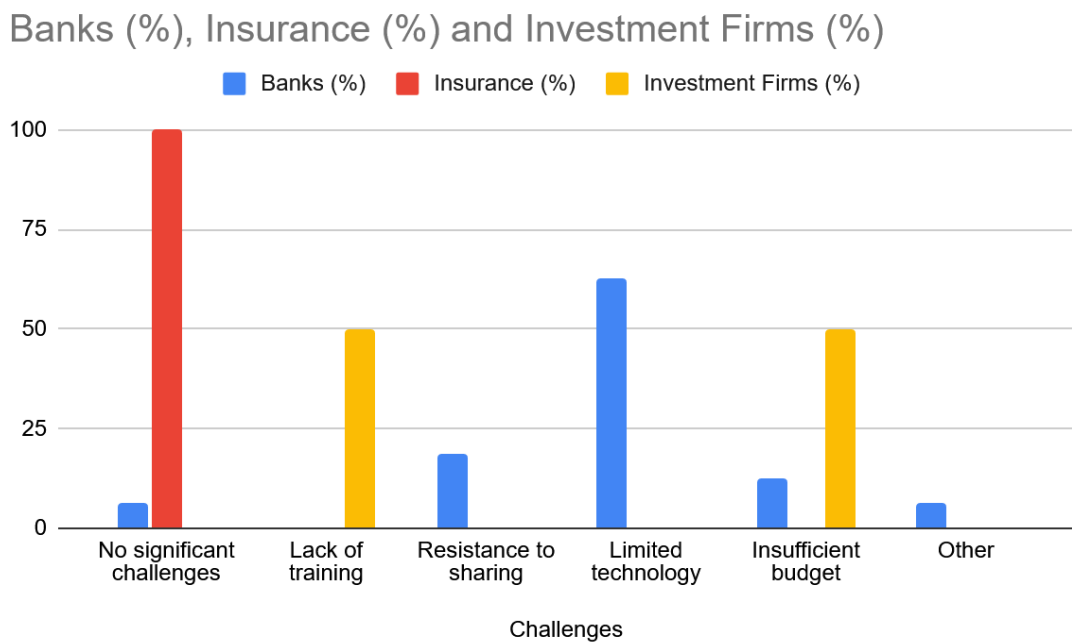
For Banks, it was found that “Identified and addressed an inefficient reporting process” (Ecobank) – Improved efficiency and client satisfaction; “Used experience to manage ATM issues” (Eco Bank) – Enhanced customer handling; “Created a tailored investment plan” (GCB Bank) – Increased revenue and trust; “Analysed customer behaviour for predictive scheduling” (Cal Bank) – Optimized staffing; Other examples include report preparation, crisis management, and account preparation.

For Insurance Companies, it was found that “At the peak season” (Uniqa) – Suggests efficiency during high-demand periods. For Investment Firms, the responses included “Implemented project management software” (SSNIT) – Improved project outcomes and “Solve complex problems” (Lead Leap) – Enhanced problem-solving capabilities. Responses highlight

efficiency, customer satisfaction, innovation, and revenue gains, reinforcing quantitative findings.

**Q14:** Challenges in implementing effective knowledge management and utilization.

Figure 2 presents challenges in implementing effective knowledge management and utilization. Respondents were asked to select all that apply. Limited technology is the top challenge for banks (62.5%), followed by resistance to sharing (18.75%). Insurance reports no challenges, while investment firms cite lack of training and insufficient budget (50% each).



*Figure 2:* A comparative bar chart showing the challenges faced by the different sectors in implementing knowledge management and utilization. Source: own processing.

**Q15:** My organization effectively uses knowledge to make informed decisions and adapt to market changes.

Figure 3 presents how organizations effectively use knowledge to make informed decisions and adapt to market changes. Insurance scores 5.0, banks 4.31 (87.5% agree/strongly agree), and investment firms 4.0, indicating effective market adaptation; investment firms lag slightly.

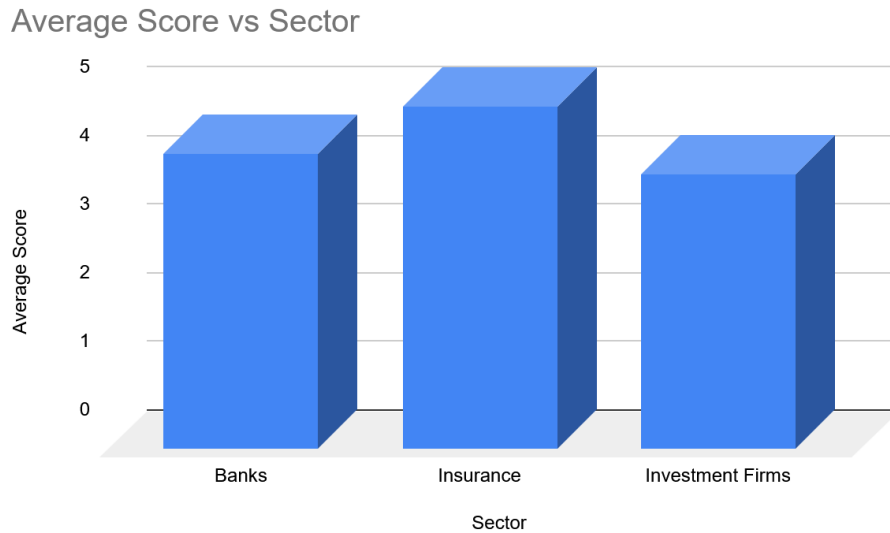


Figure 3: A column chart showing the effective use of knowledge in organizations. Source: own processing.

**Q16:** How much do you agree with these ideas for improving knowledge management and use in your organization?

Figure 4 presents the level of agreement with ideas for improving knowledge management and use in organizations. All sectors show strong agreement (averages  $\geq 4.0$ ) except for investment firms on access, portal, and meetings (4.0). “Using technology” scores highest overall, suggesting broad support for tech-based improvements.

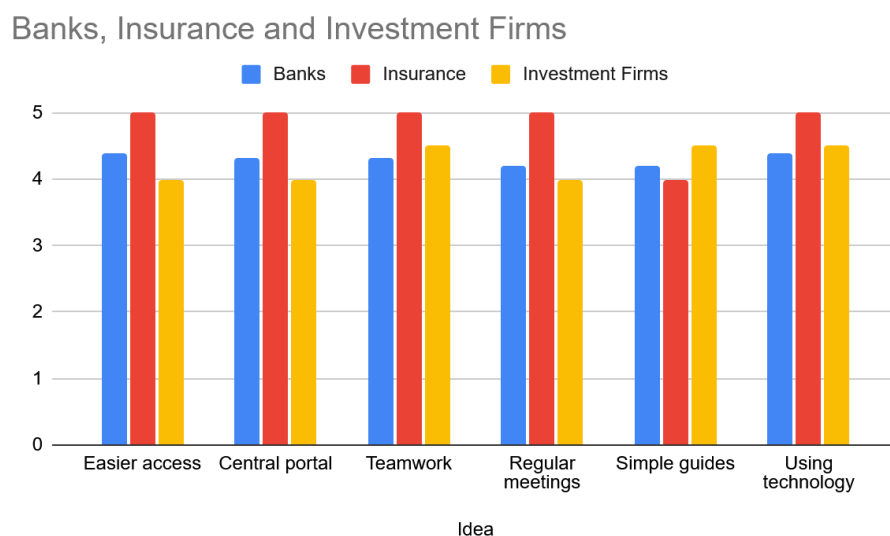


Figure 4: A comparative bar chart showing how each sector agrees with the ideas to improve knowledge management and use. Source: own processing.

## 4 DISCUSSION

The findings reveal knowledge management practices across banks, insurance companies, and investment firms. These findings were further evaluated through five key criteria: innovation, financial sustainability, user engagement, market potential, and scalability. These criteria reflect how knowledge management enhances organizational competitiveness in the financial services sector.

### 1. Innovation

Innovation in knowledge management within financial services involves leveraging knowledge to develop novel solutions, such as AI-powered fraud detection or predictive analytics (Sedziuviene and Vveinhardt, 2010). The survey findings indicate a strong perception that knowledge management contributes to innovation, with insurance companies scoring highest (Q12: 5.0), followed by investment firms (4.5) and banks (4.06). Notably, 81.25% of banks agree or strongly agree that knowledge management drives innovation, though one bank dissents, suggesting some variability. Qualitative responses (Q13) reinforce this, with examples like GCB Bank's tailored investment plans and Cal Bank's predictive scheduling showcasing innovative applications of knowledge that enhance products and processes.

The consistent application of knowledge (Q7: 89.5% across sectors) and diverse practices like training and knowledge-sharing meetings (Q8) provide a foundation for innovation by fostering idea generation and problem-solving. However, banks face a significant challenge with limited technology (62.5%, Q14), which could stifle innovative potential compared to insurance and investment firms, where no such barrier is prominent. Overcoming technological constraints is thus critical to sustaining innovation, aligning with the thesis aim of analysing how knowledge utilization influences innovation.

### 2. Financial Sustainability

Financial sustainability hinges on knowledge management practices delivering a favourable cost-benefit balance, such as through efficiency gains or automated processes (Sedziuviene and Vveinhardt, 2010). The survey shows high perceived effectiveness of knowledge management practices (Q9: insurance = 5.0, investment firms = 4.5, banks = 4.19), suggesting that these initiatives are viewed as valuable investments. Productivity gains (Q11: insurance = 5.0, investment firms = 4.5, banks = 4.19, with 81.25% of banks agreeing) and qualitative examples

like Ecobank's resolution of inefficient reporting (Q13) further indicate cost-saving benefits, enhancing financial sustainability.

While direct cost data is absent, the positive ratings imply that benefits outweigh expenses. However, investment firms report insufficient budgets (50%, Q14), and banks cite limited technology (62.5%), suggesting potential financial constraints. Insurance companies, with no reported challenges (Q14), appear most financially sustainable in their knowledge management approach. These findings relate to competitiveness by demonstrating how knowledge management optimizes resource use, though sector-specific budgetary and technological solutions are needed to ensure long-term viability.

### **3. User Engagement**

User engagement is essential for knowledge management success, requiring ease of use, training, and incentives (Alavi and Leidner, 2001). The survey highlights robust engagement, with 89.5% of respondents reporting consistent knowledge application (Q7) and a variety of practices like training (75–100%, Q8) and mentoring (37.5–100%) in use. High effectiveness scores (Q9) suggest that employees actively participate in and value these systems. However, banks report resistance to sharing (18.75%, Q14), indicating a barrier to engagement not seen in insurance or investment firms.

Improvement ideas (Q16) such as easier access (average scores  $\geq 4.0$ ) and central portals ( $\geq 4.0$ ) reflect a desire for more user-friendly systems, with banks and insurance firms showing stronger support than investment firms (4.0 on some items). Addressing resistance in banks through incentives like gamification (Di Vaio et al., 2021) could enhance engagement, supporting the thesis aim of identifying challenges and solutions. Strong user engagement underpins competitiveness by ensuring knowledge management systems are effectively utilized.

### **4. Market Potential**

Market potential is enhanced by knowledge management practices that improve customer service, compliance, and adaptability (Ibrahim et al., 2022). The survey confirms this, with high agreement that knowledge management improves customer service and compliance (Q10: insurance = 5.0, banks = 4.44, investment firms = 4.5) and enables informed decisions and market adaptation (Q15: insurance = 5.0, banks = 4.31, investment firms = 4.0). Qualitative examples (Q13) like tailored investment plans (GCB Bank) and optimized staffing (Cal Bank)

illustrate how knowledge management boosts customer satisfaction and operational efficiency, expanding market reach.

Insurance companies lead in these metrics, while investment firms lag slightly (Q15: 4.0), possibly due to budget and training challenges (Q14). Banks' high compliance scores (93.75% agree/strongly agree, Q10) are vital in a regulated sector, enhancing their competitive positioning. These outcomes tie directly to the thesis aim of assessing knowledge management's impact on market share and compliance, showing how knowledge utilization drives market potential and competitiveness.

## **5. Scalability**

Scalability ensures knowledge management systems can grow with the organization and integrate new technologies (Yu et al., 2022). The survey's emphasis on technology as an improvement idea (Q16: average scores  $\geq 4.38$ ) and practices like internal databases (50–100%, Q8) suggest a focus on scalable solutions. Central portals (Q16:  $\geq 4.0$ ) also indicate plans for adaptable, expandable systems. However, banks' limited technology (62.5%, Q14) poses a scalability challenge, unlike insurance and investment firms, where no such issue is prominent.

Investment firms' budget and training constraints (50%, Q14) could also limit scalability, though their high effectiveness ratings (Q9: 4.5) suggest current systems are robust. Insurance companies, with top scores and no challenges, exemplify scalable knowledge management. Addressing technological and resource barriers aligns with the thesis aim of proposing solutions, ensuring knowledge management systems remain competitive as organizations evolve.

## CONCLUSION

The aim of the thesis was achieved. The thesis summarizes the basic views on the concept of knowledge, its types and purposes. The main part is dedicated to the assessment of knowledge theories and their impact on competitiveness. It focuses on the examination of knowledge management and utilization within the financial services sector, focusing on banks, insurance companies, and investment firms. The findings show the role of knowledge management in competitiveness, with distinct applications and outcomes across the three sectors.

This thesis highlights the necessity of customizing knowledge management practices to each sector's unique context. For banks, overcoming technological limitations through investments in digital infrastructure could unlock greater innovation and scalability, enhancing their ability to compete in a fintech-driven landscape. Investment firms would benefit from increased funding and training initiatives to boost user engagement and capitalize on market opportunities, leveraging their innovative strengths. Insurance companies should explore new avenues to further elevate market potential. Across all sectors, practices like regular training, knowledge-sharing forums, and internal databases emerged as critical drivers of efficiency, compliance, and market positioning.

The broader significance of knowledge management lies in its capacity to propel competitiveness through innovation, adaptability, and stakeholder relationships. This thesis also stresses the need for continuous improvement in knowledge management practices. In a financial landscape marked by rapid technological advancements and evolving regulations, static knowledge management strategies fall short. Moreover, knowledge management is not a universal solution. While the financial services sector grapples with shared challenges like regulatory compliance and risk management, each sub-sector demands tailored strategies. Banks must prioritize digital transformation to keep pace with fintech disruptions. Investment firms require flexible knowledge management systems to navigate market volatility. Insurance companies should focus on customer engagement and risk mitigation to thrive in a regulated, competitive environment. This customization ensures knowledge management aligns with each sector's operational realities and strategic goals.

As financial services firms face pressure to innovate and adapt, those that effectively integrate human expertise with cutting-edge technologies will lead the way. This research offers valuable insights for organizations seeking to refine their knowledge management practices and fortify their competitive edge. By addressing sector-specific challenges and embracing tailored

knowledge management strategies, banks, insurance companies, and investment firms can harness knowledge to drive innovation, productivity, compliance, and market adaptability, securing enduring success in an ever-evolving industry.

## REFERENCES

- Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 25(1), 107-136.
- Alvarenga, A., Matos, F., Godina, R., & Matias, J. C. O. (2020). Digital transformation and knowledge management in the public sector. *Sustainability*, 12(14), 5824.
- Andersen, J. (2017). Genre, the organization of knowledge and everyday life. *Information Research*, 22(1).
- Andreeva, T., & Kianto, A. (2012). Does knowledge management really matter? Linking knowledge management practices, competitiveness and economic performance. *Journal of knowledge management*, 16(4), 617-636.
- Ardichvili, A., Maurer, M., Li, W., Wentling, T., & Stuedemann, R. (2006). Cultural influences on knowledge sharing through online communities of practice. *Journal of Knowledge Management*, 10(1), 94-107.
- Argote, L. (2013). *Organizational learning: Creating, retaining and transferring knowledge*. Sage Publications.
- Azeem, M., Ahmed, M., Haider, S., & Sajjad, M. (2021). Expanding competitive advantage through organizational culture, knowledge sharing and organizational innovation. *Technology in Society*, 66, 101635.
- Backer, T. E. (1991). Knowledge utilization: The third wave. *Knowledge*, 12(3), 225-240.
- Bergeron, B. (2003). *Essentials of knowledge management*. John Wiley & Sons.
- Blume, S. (2017). In search of experiential knowledge. *Innovation: The European Journal of Social Science Research*, 30(1), 91-103.
- Borgatti, S. P., & Cross, R. (2003). A relational view of information seeking and learning in social networks. *Management Science*, 49(4), 432-445.
- Bryman, A. (2016). *Social research methods*. Oxford University Press.
- Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. WW Norton & Company.
- Byrne, J. H. (2017). *Learning and memory: a comprehensive reference*. Academic Press.

- Cañizares-Esguerra, J. (2004). Iberian science in the renaissance: Ignored how much longer? *Perspectives on Science*, 12(1), 86-124.
- Chamunyonga, C., Edwards, C., Caldwell, P., Rutledge, P., & Burberry, J. (2020). The Impact of Artificial Intelligence and Machine Learning in Radiation Therapy: Considerations for Future Curriculum Enhancement. *Journal of Medical Imaging and Radiation Sciences*, 51(2), 214-220.
- Chilton, M. A., & Bloodgood, J. M. (2008). The dimensions of tacit & explicit knowledge: A description and measure. *International Journal of Knowledge Management (IJKM)*, 4(2), 75-91.
- Chopra, M., Saini, N., Kumar, S., Varma, A., Mangla, S. K., & Lim, W. M. (2021). Past, present, and future of knowledge management for business sustainability. *Journal of Cleaner Production*, 328, 129592.
- Chudnoff, E. (2013). Intuitive knowledge. *Philosophical Studies*, 162, 359-378.
- Dane, E., & Pratt, M. G. (2007). Exploring intuition and its role in managerial decision making. *Academy of Management Review*, 32(1), 33-54.
- De Giorgio, A., Lundgren, M., & Wang, L. (2020). Procedural knowledge and function blocks for smart process planning. *Procedia Manufacturing*, 48, 1079-1087.
- Derrida, J. (2005). 1930-2004. *Sophia*, 44(1), 11-32.
- Di Vaio, A., Palladino, R., Pezzi, A., & Kalisz, D. E. (2021). The role of digital innovation in knowledge management systems: A systematic literature review. *Journal of Business Research*, 123, 220-231.
- Donagan, A. (1970). The encyclopedia of philosophy. *The Philosophical Review*, 79(1), 83-138.
- Earl, M. (2001). Knowledge Management Strategies: Toward a Taxonomy. *Journal of Management Information Systems*, 18(1), 215-233.
- Eraut, M. (2004). Informal learning in the workplace. *Studies in Continuing Education*, 26(2), 247-273.
- Fayol, M. (1994). From declarative and procedural knowledge to the management of declarative and procedural knowledge. *European Journal of Psychology Of Education*, 9, 179-190.

- Field, A. P. (2020). *Discovering statistics using IBM SPSS statistics*. Sage Publications.
- Gettier, E. (1963). Is justified true belief knowledge? *Analysis*, 23(6), 121-123.
- Goldberg, P. (2006). *The Intuitive Edge: Understanding Intuition and Applying it in Everyday Life*. iUniverse.
- Grant, R. M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California Management Review*, 33(3), 114-135.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109-122.
- Hartnack, J. (2001). *Kant's theory of knowledge: an introduction to the Critique of pure reason*. Hackett Publishing.
- Hartsock, N. C. (2017). The feminist standpoint: Developing the ground for a specifically feminist historical materialism. In *Karl Marx* (pp. 565-592). Routledge.
- Hislop, D., Bosua, R., & Helms, R. (2018). *Knowledge management in organizations: A critical introduction*. Oxford University Press.
- Hodgetts, D., Stolte, O., Sonn, C., Drew, N., Carr, S., & Nikora, L. W. (2020). *Social psychology and everyday life*. Bloomsbury Publishing.
- Hood, P. (2002). *Perspectives on Knowledge Utilization in Education*. San Francisco, CA, WestEd.
- Hunt, D. P. (2003). The concept of knowledge and how to measure it. *Journal of Intellectual Capital*, 4(1), 100-113.
- Ibrahim, K. O., Abdulmalik A. Y., & Halima S. (2022) Impact Of Knowledge Management On Organisational Competitiveness: A Study Of First Bank. *International Journal Of Management, Social Sciences, Peace And Conflict Studies (Ijmsspcs)*, 5(2), 299-315.
- Jasinskas, E., Svagzdiene, B., & Simanavicius, A. (2015). The influence of knowledge management on the competitive ability of Lithuanian enterprises. *Procedia-Social and Behavioral Sciences*, 191, 2469-2475.
- Kahneman, D., & Klein, G. (2009). Conditions for intuitive expertise: a failure to disagree. *American Psychologist*, 64(6), 515-526.

- Katuscáková, M., & Katuscák, M. (2013). The effectiveness of storytelling in transferring different types of knowledge. In *Proceedings of the 14th European Conference on Knowledge Management* (pp. 341-348). Academic Conferences International Limited.
- Kuhn, M., & Vessuri, H. M. C. (2016). *Contributions to alternative concepts of knowledge (Beyond the Social Sciences)*. Palgrave Macmillan.
- Kumar, D., Phani, B. V., Chilamkurti, N., Saurabh, S., & Ratten, V. (2024). A taxonomy of blockchain technology application and adoption by small and medium-sized enterprises. *Entrepreneurial Business and Economics Review*, 12(3), 141-160.
- Kump, B., Moskaliuk, J., Cress, U., & Kimmerle, J. (2015). Cognitive foundations of organizational learning: Re-introducing the distinction between declarative and non-declarative knowledge. *Frontiers in Psychology*, 6, 1489.
- Lee, O. K. D., Choi, B., & Lee, H. (2020). How do knowledge management resources and capabilities pay off in short term and long term?. *Information & Management*, 57(2), 103166.
- Leydesdorff, L., & Meyer, M. (2008). The triple helix model and the knowledge-based economy. *Scientometrics*, 58(2), 191-203.
- Longino, H. E. (1990). *Science as social knowledge: Values and objectivity in scientific inquiry*. Princeton University Press.
- Machlup, F. (1980). *Knowledge: Its Creation, Distribution and Economic Significance, Volume I: Knowledge and Knowledge Production*. Princeton, Princeton University Press.
- Mahesh, B. (2020). Machine learning algorithms-a review. *International Journal of Science and Research (IJSR)*, 9(1), 381-386.
- Mahrinasari, M. S., Hussain, S., Yapanto, L. M., Esquivel-Infantes, S. M., Untari, D. T., Yusriadi, Y., & Diah, A. (2021). The impact of decision-making models and knowledge management practices on performance. *Academy of Strategic Management Journal*, 20(2), 1-13.
- Mandik, K. (2017a). *Cognitive psychology: An introduction*. Sage Publications.
- Mandik, P. (2017b). The Neurophilosophy of Consciousness. In *The Blackwell Companion to Consciousness* (pp. 458-471). John Wiley & Sons Ltd.
- Mayes, C. R. (2015). Revisiting Foucault's 'normative confusions': surveying the debate since the Collège de France lectures. *Philosophy Compass*, 10(12), 841-855.

- Mencken, H. L. (2003). *The Philosophy of Friedrich Nietzsche. 1908*. Tucson, See Sharp.
- Nakash, M., & Bouhnik, D. (2022). Risks in the absence of optimal knowledge management in knowledge-intensive organizations. *VINE Journal of Information and Knowledge Management Systems*, 52(1), 87-101.
- Nicolas, R. (2004). Knowledge management impacts on decision making process. *Journal of Knowledge Management*, 8(1), 20-31.
- Nonaka, I. (2009). The knowledge-creating company. In *The economic impact of knowledge* (pp. 175-187). Routledge.
- Nonaka, I., & Takeuchi, H. (2007). *The knowledge creating company: How Japanese companies create the dynamics of innovation*. Oxford University Press.
- Omotayo, F. O. (2015). Knowledge Management as an important tool in Organisational Management: A Review of Literature. *Library Philosophy and Practice*, 1(2015), 1-23.
- O'Sullivan, M. (2017). *An Analysis of Immanuel Kant's Critique of Pure Reason*. CRC Press.
- Ouakouak, M. L., & Ouedraogo, N. (2019). Fostering knowledge sharing and knowledge utilization: The impact of organizational commitment and trust. *Business Process Management Journal*, 25(4), 757-779.
- Perez, J. R., & de Pablos, P. O. (2003). Knowledge management and organizational competitiveness: a framework for human capital analysis. *Journal of Knowledge management*, 7(3), 82-91.
- Rahimli, A. (2012). Knowledge management and competitive advantage. *Information and Knowledge Management*, 2(7), 37-43.
- Ramchurn, S. D., Stein, S., & Jennings, N. R. (2021). Trustworthy human-AI partnerships. *iScience*, 24(8), 102891.
- Rhem, A. J. (2021). AI ethics and its impact on knowledge management. *AI and Ethics*, 1(1), 33-37.
- Rich, R. F. (1997). Measuring knowledge utilization: Processes and outcomes. *Knowledge and Policy*, 10(3), 11-24.
- Riege, A., & Lindsay, N. (2006). Knowledge management in the public sector: stakeholder partnerships in the public policy development. *Journal of Knowledge Management*, 10(3), 24-39.

- Robinson, H. S., Anumba, C. J., Carrillo, P. M., & Al-Ghassani, A. M. (2006). STEPS: a knowledge management maturity roadmap for corporate sustainability. *Business Process Management Journal*, 12(6), 793-808.
- Ross, J. F. (2003). Thomas Aquinas, *Summa Theologiae* (ca. 1273). Christian Wisdom Explained Philosophically. In *The Classics of Western Philosophy: A Reader's Guide* (pp. 143-166). Wiley-Blackwell.
- Sedziuviene, N., & Vveinhardt, J. (2010). Competitiveness and innovations: role of knowledge management at a knowledge organization. *Engineering economics*, 21(5), 525-536.
- Smith, E. A. (2001). The role of tacit and explicit knowledge in the workplace. *Journal of Knowledge Management*, 5(4), 311-321.
- Smith, L. T. (2021). *Decolonizing methodologies: Research and indigenous peoples*. Bloomsbury Publishing.
- Sveiby, K. E. (1997). *The New Organizational Wealth: Managing and Measuring Knowledge-based Assets*. Berrett-Koehler, San Francisco, CA.
- Teece, D. J. (1998). Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets. *California Management Review*, 40(3), 55-79.
- Tervonen, N., & Ojanen, V. (2015). Sustainability knowledge utilization: challenges from internal and external perspectives. In *2015 Portland International Conference on Management of Engineering and Technology (PICMET)* (pp. 2017-2026). IEEE.
- Thach, D. N., & Thuy, H. T. P. (2021). Viewpoint “Tabula Rasa” by John Locke-From Epistemology to Philosophy of Education. *Ilkogretim Online*, 20(5), 3159-3166.
- Tsoukas, H., & Vladimirou, E. (2001). What is organizational knowledge?. *Journal of Management Studies*, 38(7), 973-993.
- Vaccaro, A., Veloso, F., & Brusoni, S. (2008). The Impact of Virtual Technologies on Organizational Knowledge Creation: An Empirical Study. In *Proceedings of the 41st Annual Hawaii International Conference on System Sciences (HICSS 2008)* (pp. 352-352). IEEE.
- Vidic, F. (2022). Knowledge asset as competitive resource. *SocioEconomic Challenges*, 6(4), 8-20.

- Villalba de Kokkonen, D. (2024). *Aligning market needs with technological innovations: the strategic role of knowledge management*. Master's thesis. Tampere University of Applied Sciences.
- Wang, Y., & Ruhe, G. (2007). The Cognitive Process of Decision Making. *International Journal of Cognitive Informatics and Natural Intelligence (IJCINI)*, 1(2), 73-85.
- Wang, Z., & Wang, N. (2012). Knowledge sharing, innovation and firm performance. *Expert Systems with Applications*, 39(10), 8899-8908.
- Webster, R. (2016). Declarative knowledge acquisition in immersive virtual learning environments. *Interactive Learning Environments*, 24(6), 1319-1333.
- Yu, Q., Aslam, S., Murad, M., Jiatong, W., & Syed, N. (2022). The impact of knowledge management process and intellectual capital on entrepreneurial orientation and innovation. *Frontiers in Psychology*, 13, 772668.
- Zagzebski, L. (2017). What is knowledge? In *The Blackwell guide to epistemology* (pp. 92-116).
- Zaltman, G. (1979). Knowledge utilization as planned social change. *Knowledge*, 1(1), 82-105.

## **APPENDIX**

*Appendix 1: Anonymized dataset – example of data..... I*

## Appendix 1: Anonymized dataset – example of data

Timestamp	Position/Title	Organization	Type of Financ	Years of Exper	How would you	How would you	Which of the fo	How do you	ral Knowledge mai	Knowledge utili	Knowledge mai	Can you descr	What challenge	My organizatio	How much do y	How much do y	How much do y	How much do y	How much do y	How much do y	Any additional		
11.19.2024 9:57:55	Finance Specia	Bank	Bank	Less than 2 ye	We have a cle	Knowledge is c	Regular traini	Very effective	Strongly agree	Strongly agree	Strongly agree	Not Applicable. No significant c	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree		
11.29.2024 8:06:55	Data Analyst	Advnace- Ghar	Bank	Less than 2 ye	We have a cle	Knowledge is c	Regular traini	Very effective	Strongly agree	Strongly agree	Agree	Increasing effi	Limited technol	Strongly agree	Agree	Agree	Agree	Agree	Agree	Strongly agree	Strongly agree	Improving decis	
12.2.2024 23:54:43	Scientist	Central Hospita	Health sector	Less than 2 ye	We have a cle	Knowledge is c	Use of internal	Neutral	Agree	Agree	Strongly agree	When seeing a	Limited technol	Agree	Agree	Strongly agree	Agree	Agree	Agree	Agree	Agree	Strongly agree	
12.3.2024 5:28:25	Organisation m	Presco	Oil company	2 - 5 years	We have a cle	Knowledge is s	Mentoring and	Neutral	Agree	Strongly agree	Neutral	When we had	Resistance to s	Agree	Strongly agree	Agree	Strongly agree	Strongly agree	Neutral	Strongly agree	Strongly agree	Strongly agree	
12.3.2024 19:59:03	Administrative	Crassula Group	Production sen	5 - 10 years	We have a cle	Knowledge is c	Regular traini	Effective	Strongly agree	Agree	Agree	None	Other:	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	
12.3.2024 20:42:17	Financial Repo	Ecobank Ghan	Bank	Less than 2 ye	We have a cle	Knowledge is c	Regular traini	Effective	Strongly agree	Agree	Agree	Identified and	Limited technol	Agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	
12.4.2024 8:43:52	Financial Spec	Commerzbank	Bank	2 - 5 years	We have a cle	Knowledge is c	Regular traini	Very effective	Strongly agree	Strongly agree	Strongly agree	Knowledge App	Limited technol	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	
12.4.2024 17:33:09	Mr	Ministry of edu	GES	2 - 5 years	We have a bas	Knowledge is c	Regular traini	Effective	Agree	Agree	Agree	Pedagogy in te	Limited technol	Agree	Agree	Agree	Agree	Agree	Strongly agree	Agree	Strongly agree	Technology in	
12.4.2024 17:40:41	Teller	Eco bank	Bank	Less than 2 ye	We have a cle	Knowledge is c	Knowledge-sha	Neutral	Agree	Neutral	Neutral	It was periods	Resistance to s	Agree	Neutral	Agree	Agree	Agree	Neutral	Agree	Neutral	No comments	
12.14.2024 18:42:51	Assistant mana	Finance institut	Bank	2 - 5 years	We have a cle	Knowledge is c	Knowledge-sha	Effective	Agree	Agree	Agree	One's those kn	Other:	Strongly agree	Strongly agree	Agree	Agree	Strongly agree	Strongly agree	Agree	Agree	Agree	
12.14.2024 19:03:25	Manager	Moneta	Bank	Less than 2 ye	We have a cle	Knowledge is s	Regular traini	Effective	Agree	Agree	Agree	When we had	Resistance to s	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	
12.14.2024 22:36:13	Manager	SSNIT	Investment firm	5 - 10 years	We have a bas	Knowledge is c	Regular traini	Effective	Strongly agree	Strongly agree	Agree	One notable ex	Lack of training	Agree	Agree	Strongly agree	Neutral	Strongly agree	Strongly agree	Agree	Agree	Agree	
12.14.2024 23:01:56	Supervisor	KB	Bank	2 - 5 years	We do not hav	Knowledge is c	Knowledge-sha	Effective	Agree	Agree	Disagree	N	Limited technol	Strongly agree	Strongly agree	Neutral	Agree	Agree	Agree	Strongly agree	Agree	No thanks	
12.15.2024 0:41:27	Operations mar	Uhiqa	Insurance com	2 - 5 years	We have a cle	Knowledge is c	Regular traini	Very effective	Strongly agree	Strongly agree	Strongly agree	At the peak ses	No significant c	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	
12.15.2024 11:42:37	Loans Officer	GCB BANK LTI	Bank	2 - 5 years	We have a cle	Knowledge is c	Regular traini	Effective	Strongly agree	Agree	Agree	I applied my kn	Limited technol	Strongly agree	Strongly agree	Agree	Strongly agree	Agree	Agree	Agree	Agree	Agree	
12.15.2024 11:58:57	Back office sta	gcb bank	Bank	Less than 2 ye	We have a cle	Knowledge is c	Regular traini	Effective	Strongly agree	Strongly agree	Agree	N/a	Resistance to s	Agree	Strongly agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly agree	
12.15.2024 14:01:01	Mr	N/A	Financial Interr	Less than 2 ye	We have a cle	Knowledge is c	Regular traini	Effective	Strongly agree	Strongly agree	Strongly agree	N/A	Limited technol	Strongly agree	Agree	Strongly agree	Agree	Neutral	Strongly agree	Agree	Agree	N/A	
12.15.2024 15:23:25	Student	Prudential bank	Bank	2 - 5 years	We have a cle	Knowledge is c	Regular traini	Very effective	Strongly agree	Strongly agree	Strongly agree	I was prepari	Limited technol	Strongly agree	Agree	Strongly agree	Neutral	Agree	Agree	Agree	Agree	Agree	
12.15.2024 22:05:50	Customer relati	Cal Bank	Bank	2 - 5 years	We have a cle	Knowledge is c	Regular traini	Effective	Strongly agree	Strongly agree	Strongly agree	Data Analytics	Limited technol	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Knowledge utili
12.17.2024 21:46:58	Midwife	Kbth	Hospital	2 - 5 years	We have a cle	Knowledge is s	Regular traini	Effective	Agree	Agree	Agree	-	Resistance to s	Agree	Agree	Neutral	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	
12.20.2024 9:38:15	Waiter	Café&bistro	Bank	2 - 5 years	We have a bas	Knowledge is c	Mentoring and	Very effective	Strongly agree	Strongly agree	Strongly agree	when I started	Limited technol	Strongly agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	
12.20.2024 15:18:34	asistent maneg	reiffeisen bank	Bank	5 - 10 years	We have a bas	Knowledge is s	Use of internal	Very effective	Agree	Neutral	Neutral	My organizatio	Lack of training	Agree	Strongly agree	Agree	Agree	Agree	Agree	Agree	Strongly agree	My organizatio	
12.20.2024 15:41:09	Banking Advise	Česká spořitelr	Bank	Less than 2 ye	We have a cle	Knowledge is c	Regular traini	Neutral	Agree	Agree	Neutral	I had a difficult	Insufficient buc	Neutral	Neutral	Agree	Neutral	Agree	Neutral	Agree	Neutral	Agree	
12.20.2024 19:57:10	Data analytics	Lead Leap con	Investment firm	Less than 2 ye	We have a cle	Knowledge is c	Regular traini	Very effective	Strongly agree	Strongly agree	Strongly agree	Knowledge help	Insufficient buc	Agree	Agree	Agree	Strongly agree	Agree	Agree	Agree	Strongly agree	Knowledge is a	
12.21.2024 11:05:51	Junior Designe	RedDwarf .co	Mining Compar	Over 10 years	We have a cle	Knowledge is r	Use of internal	Neutral	Disagree	Agree	Strongly agree	In short followr	Lack of training	Neutral	Strongly agree	Neutral	Agree	Strongly disagr	Agree	Neutral	Neutral	Neutral	