



The Role of Knowledge Management in Mitigating Risks Theoretical Study

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Abstract:

This study aims to explore the role of knowledge management in mitigating enterprise risks by providing organizations with information about surrounding risks and predicting them before they occur. This encourages organizations to develop the necessary scenarios to comprehensively address and mitigate risks. Knowledge management, through its employees, processes, and activities, exploits any opportunity to mitigate anticipated risks. Knowledge management, through its employees, also contributes to building a database that includes all issues related to the risks the organization has been exposed to, both current and anticipated, and how the organization has dealt with past risks and how to deal with them. One of the findings of this study is the important role of knowledge management in mitigating negative impacts by providing the necessary information that helps the organization deal with risks appropriately and reduce their negative effects. Knowledge management also helps the organization avoid risks thanks to its ability to detect them early. Accordingly, the study recommends assigning specialized departments (especially in organizations that face risks due to the nature of their business) to collect, analyze, and predict information related to the nature and types of events. This is done to determine the nature of risks, document all necessary information and how to deal with them, and record all processes the organization has previously dealt with. The study also recommends developing several ready-to-use scenarios when needed.

دور إدارة المعرفة في الحد من المخاطر
(دراسة نظرية)

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المستخلص

تهدف هذه الدراسة إلى استكشاف دور إدارة المعرفة في التخفيف من مخاطر المؤسسة من خلال تزويد المؤسسات بمعلومات حول المخاطر المحيطة والتنبؤ بها قبل وقوعها، وهذا يشجع المؤسسات على وضع السيناريوهات اللازمة لمعالجة المخاطر والتخفيف منها بشكل شامل، تستغل إدارة المعرفة، من خلال موظفيها وعملياتها وأنشطتها، أي فرصة للتخفيف من المخاطر المتوقعة، كما تساهم إدارة المعرفة، من خلال موظفيها، في بناء قاعدة بيانات تتضمن جميع القضايا المتعلقة بالمخاطر التي تعرضت لها المؤسسة، سواء الحالية أو المتوقعة، وكيفية تعامل المؤسسة مع المخاطر السابقة وكيفية التعامل معها، ومن نتائج هذه الدراسة الدور المهم لإدارة المعرفة في التخفيف من الآثار السلبية من خلال توفير المعلومات اللازمة التي تساعد المؤسسة على التعامل مع المخاطر بشكل مناسب والحد من أثارها السلبية، كما تساعد إدارة المعرفة المؤسسة على تجنب المخاطر بفضل قدرتها على اكتشافها مبكراً، وبناءً على ذلك توصي الدراسة بتكليف إدارات متخصصة (خاصة في المؤسسات التي تواجه مخاطر بسبب طبيعة أعمالها) بجمع المعلومات المتعلقة بطبيعة الأحداث وأنواعها وتحليلها والتنبؤ بها، يتم ذلك لتحديد طبيعة المخاطر، وتوثيق جميع المعلومات اللازمة وكيفية التعامل معها، وتسجيل جميع العمليات التي تعاملت معها المؤسسة سابقاً، كما توصي الدراسة بتطوير عدة سيناريوهات جاهزة للاستخدام عند الحاجة.

الكلمات المفتاحية: المعرفة، إدارة المعرفة، الحد من المخاطر، إدارة المخاطر.

Introduction

Contemporary organizations face an environment characterized by volatility and uncertainty, as a result of rapid technological change, global economic openness, and intense competition. These conditions make organizations vulnerable to various risks that may hinder their progress or threaten their survival. To address these challenges, there has been growing interest in adopting knowledge management as a strategic tool that enhances organizations' ability to anticipate and analyze risks and develop appropriate solutions to address them.

Knowledge management, as the independent variable in this study, represents the systematic process through which organizations generate, organize, store, share, and utilize new knowledge to improve operations, support decision-making, encourage innovation, and achieve sustainable competitive advantage. This process involves integrating information with practical experience, leveraging human expertise, and providing the necessary technical tools to facilitate access to and utilization of knowledge.

The importance of knowledge management lies in helping to gather expertise, generate and organize information, and effectively use it to support decision-making and reduce uncertainty gaps.

On the other hand, risk management is a systematic mechanism that seeks to identify risks, assess their impact, and develop appropriate strategies to mitigate their negative effects. By linking these two fields, organizations can develop preventive and proactive strategies that make them more resilient and capable of facing crises. In this study, the researcher followed a descriptive theoretical approach to assess the study variables and used secondary theoretical sources to gather information from books, academic reports, research, and university master's and doctoral theses.

The study's substantive limitations include the lack of information related to the two study variables: knowledge management and risk reduction.

This study aims to establish the relationship and theoretical influence between the two study variables (knowledge management and risk reduction).

The research structure consists of four sections. The first section addresses the research methodology, the second section consists of the theoretical framework related to the independent variable (knowledge management), the third section addresses risk management, and the fourth section examines the relationship and influence between knowledge management and risk management.

Section One: Research Methodology

This section provides a detailed overview of the scientific research methodology. It includes a series of sections that explain the scientific research process and the structure of the methodology, as follows:

First: Research Problem

Despite the growing interest in knowledge management and risk management separately, many organizations still face difficulties in effectively integrating them. Some organizations still lack knowledge of the various levels of knowledge management, while others have extensive knowledge of both, albeit in different operating environments. Regarding the dependent variable, risk management, various incidents occur these days, the causes of which have not been identified, or some of which will not be accurately and clearly identified. Therefore, it is necessary to investigate these incidents. To properly address this study, we must seek answers to a set of questions, represented by the research questions. The research problem is embodied in the following main question:

How can knowledge management contribute to enhancing the efficiency and effectiveness of risk management within organizations?

This question leads to a set of sub-questions, such as:

1. Is there a statistically significant relationship between knowledge management and risk reduction?
2. Does knowledge management have an impact on identifying risks and estimating their likelihood?
3. How does knowledge management contribute to improving risk-related decision-making?
4. What are the most prominent challenges facing organizations in using knowledge to manage risk?

Second: Research Objectives:

This research seeks to achieve a set of objectives, most notably:

1. Clarify the relationship between knowledge management and risk management.
2. Explain the role of knowledge in predicting and analyzing risks.
3. Review mechanisms for integrating knowledge management into the various stages of risk management.
4. Identify the most prominent challenges and obstacles hindering this integration.
5. Suggest ways to enhance the use of knowledge management as a tool to support effective risk management.

Third: Significance of the Research:

The importance of this research is evident in the following points:

1. **Theoretical Significance:** It contributes to enriching studies related to the relationship between knowledge management and risk management by highlighting their complementarity and clarifying the role of knowledge as a strategic tool in reducing risk.
2. **Applied Significance:** It provides organizations with a practical framework that can be leveraged to develop risk management mechanisms by utilizing their available knowledge and enhancing their ability to confront crises and challenges.
3. **Future Significance:** It enables researchers and interested parties to study new models and innovative methods for integrating knowledge with risk management, in line with the changing environment of the contemporary world.

Forth Research Methodology:

The research will adopt a scientific methodology based on:

- 1- **Descriptive-analytical approach:** By reviewing and analyzing previous literature and theories related to knowledge management and risk management.
- 2- **Inductive approach:** By studying the relationship between knowledge management and risk management variables, general conclusions will be reached.
- 3- **Data collection methods:** By relying on secondary sources such as books, research, scientific articles, and specialized reports related to the topic.

Section Two: Knowledge Management

First: Concept and Importance of Knowledge Management:

The term knowledge management is relatively new and exotic, unlike the two relatively common terms, information management and management information systems. Despite the growing interest in knowledge management over the past two decades, controversy still rages over its true definition. Some view knowledge management as synonymous with information management, while others view it as a concept centered on specific efforts across networks. A third group sees knowledge management as the latest fad for IT manufacturers and consultants seeking to sell their innovative solutions to businesses seeking any tool that contributes to profitability and a competitive advantage (Mårtensson, 2000).

According to (Holsapple, 2005), Knowledge management was previously defined as the computer-based activities and applications associated with them. Knowledge

bases emerged in the field of expert systems. It can be argued that there is ambiguity surrounding the concept of knowledge management due to the multiple perspectives that have addressed it, which has led to multiple definitions, creating a kind of unintended confusion. This has increased the multiplicity and diversity of definitions offered.

Sarrafzadeh, (2024) points that Knowledge management is a set of processes that control, create, disseminate, and utilize knowledge by practitioners to provide them with the theoretical and cognitive background needed to improve the quality of decisions and their implementation.

According to (Machado, *et al.*,2022), Knowledge management, as previously defined, is primarily a human activity related to the internal mental processes of knowledge production, dissemination, and use. Therefore, it goes beyond being a technical matter, or primarily related to technology and computers, but rather uses these technologies to help save time and effort. Therefore, knowledge management is the process that connects knowledge seekers with knowledge sources for knowledge transfer.

Knowledge management is the process and activities that help an organization generate and acquire knowledge through selecting, organizing, using, and disseminating it, and through transforming the information and expertise it possesses and employing it in its various managerial activities, such as decision-making, business processes, and strategic planning (Heisig, 2024).

Knowledge management is the planning, organizing, controlling, coordinating, and synthesizing of knowledge and everything related to intellectual capital, processes, personal and organizational capabilities and potentials to achieve the greatest possible positive impact on the competitive advantage sought by the organization, in addition to working to sustain knowledge, exploit it, disseminate it, invest it, and provide the necessary capabilities for it, such as knowledge cadres, computers, networks, etc. (Girard & Girard, (2015).

Despite the multiplicity and diversity of concepts related to knowledge management, they encompass the following key elements:(Brajer-Marczak, 2016).

1. It is a clear and explicit systematic management.
2. It encompasses the activities, practices, policies, and programs related to knowledge.
3. The production of knowledge through generation and search for its various sources.
4. The selection, refinement, filtering, classification, and organization of knowledge.
5. The use and employment of knowledge to serve business interests, such as planning, decision-making, and problem-solving.
6. The dissemination of knowledge through available means.
7. The use of knowledge outputs to support learning processes, the construction of knowledge systems, and strategic planning.

The importance of knowledge management lies in its effective contribution to achieving efficiency and productive effectiveness. It enables organizational members to address many issues, especially new ones, by providing them with the

necessary capacity to make decisions efficiently and effectively and shape employees' future visions. It also helps the organization understand how to use information technology, its optimal use. (Habibi *et al.*,2019).

Omotayo, (2015) point out that knowledge management works to generate necessary knowledge and facilitate learning processes, in addition to disseminating and distributing it to stakeholders as needed. It also works to continually renew and develop knowledge, seeking leadership capable of building a knowledge system, preserving or storing it in specific locations, and facilitating its sharing. Therefore, knowledge management is more important and vital in the information age than in the industrial age (Sokoh & Okolie,2021).

Furthermore, we can say that knowledge management works to unify or institutionalize institutional knowledge. Knowledge management implements a strategy that enables each department within the organization to contribute to the production of knowledge according to its interests, so that all knowledge is placed in a single crucible and applied across all parts of the organization, benefiting the organization as a whole (Heisig, 2024).

As is clear, (Rong & Shao,2017), refers that the primary goal of knowledge management is the production, distribution, and use of knowledge. Thus, specific knowledge can be generated to address current or future risks. Naturally, the knowledge intended here is the ability to act optimally on the subject under study and research, which in turn leads to making the best decisions to address risks.

Second: The process of Knowledge Management

This set of basic processes is essential to understanding knowledge, and this knowledge leads to an understanding of knowledge management to some extent. Scholars in this field agree that these processes vary depending on the nature of an organization's work, but they can be successful in any knowledge management system. Knowledge is often considered a subject of management, meaning that it can be defined within the organizational framework, clearly demonstrating its importance. Raudeliūnienė, *et al.*, (2018) also refer to knowledge management, including knowledge acquisition, purpose-setting, generation, storage, and application. Additionally, Gonzalez, & Martins, (2017), defines knowledge processes as: creation, organization, contribution, and use.

In general, the knowledge management process can be represented as follows:



Figure No. (1) Knowledge management processes

Source: Prepared by the researcher

The first step is the knowledge identification process, i.e., determining the type of knowledge the organization desires and identifying its sources and methods of acquisition. The second process concerns defining the desired knowledge objectives—i.e., the goals and benefits the organization will gain from acquiring it. The third process concerns knowledge generation, which involves building the required knowledge using specific knowledge generation methods, such as knowledge repositories and databases, or books and journals. Then, in the penultimate stage, the knowledge is distributed to stakeholders for implementation and awaiting results. Follow-up is essential in all of the above processes (Razzaq *et al.*, 2019). The true meaning of knowledge management is the planning, organizing, directing, and coordinating of efforts and activities related to knowledge generation, with the goal of generating knowledge for the organization. The organization inevitably seeks knowledge that benefits it and provides it with a competitive advantage, or knowledge that enables it to keep pace with changes and developments, including risks, rather than just any knowledge. Therefore, some questions may arise about the nature of the knowledge the organization seeks to acquire, which can be considered primary and secondary knowledge management processes. These questions include: (Raudeliūnienė *et al.*, 2018).

1. What type of knowledge does the organization need? What does it contain? What are its uses? What form does it take? How can it be accessed? This indicates the need to precisely define the type of knowledge the organization needs to make it a resource and an influential force.

2. Analyze how this information adds value to the organization by answering the following questions:

What are the opportunities for using knowledge?

What value does it add to the organization?

What is the impact of its use? What is expected after its use?

What are the obstacles it faces?

3. Identify the activities necessary for optimal use of knowledge that add value by answering the following questions:

- How are activities planned to leverage knowledge?

- How are activities improved?

- How are activities monitored and controlled?

4. Review the use of knowledge to ensure value added. This refers to monitoring during implementation. This is done through the following questions:

Has the knowledge added value to the organization?

- How is the knowledge maintained to ensure its continuity?

- Does the use of knowledge create opportunities?

Third: concept and importance of knowledge

Given the importance of knowledge, writers and experts from various disciplines in this field have offered a range of definitions and concepts related to it. Given the multitude of efforts made to define and clarify the concept of knowledge, some have focused on historical aspects, addressing the origins and developments of knowledge to highlight its historical depth, encourage the pursuit of knowledge, and connect it to modern variables. Others have addressed linguistic aspects as a

fundamental necessity of knowledge and an important symbol of its meanings. Some have adopted economic, political, administrative, and other approaches, demonstrating the comprehensiveness of the meaning and the diversity of its connotations (Gülçehre, 2016). Thus, this diversity and multiplicity in defining the concept of knowledge and the approaches that address it have led to the emergence of two basic approaches. The first is the coding approach, which is based on measuring and addressing problems based on similar knowledge in fixed procedures, rules, or a pre-defined model. The second approach can be represented by specialization, which relies on the knowledge of individuals and can be used to address new and diverse problems. Both represent the knowledge system in an organization. Knowledge depends on the individuals responsible for knowledge work within an organization. They are the ones who collect, share, disseminate, and generate knowledge, translating it into a workflow that positively impacts products or services. Both approaches are essential for an organization's risk management (Donate & Pablo, 2015). The most important approach is the specialization approach, which focuses on multiple and diverse core knowledge, experiences, and skills, which can be described as wisdom, the highest level of knowledge, and the ability to act appropriately at the right time and in the right way. These are all essential and important activities for managing and preparing for risk.

Knowledge can be defined as the result of a delicate blending and interaction between information, experience, sensory perceptions, and the ability to make judgments. This blending process takes place within the individual's mind, producing knowledge that leads to optimal outcomes and decisions and the extraction of new concepts (Bolisani, & Bratianu, 2017).

Of course, the required knowledge is the knowledge of action and behaviors that lead to the best goals. In this regard, Ehrlinger & Wöß, (2016) point out that knowledge expresses the ability of individuals within an organization, and thus the organization as a whole, to understand and act—that is, to perform work effectively in the workplace.

This means translating knowledge, once understood and absorbed, into activities and practices capable of serving the organization and achieving a competitive advantage.

Managing this knowledge often falls to managers and distinguished individuals with unique experiences and capabilities, who are the producers of knowledge in a competitive environment. They are therefore responsible for ensuring the organization's survival. This is clear evidence of the necessity of generating and building knowledge in all areas of the organization, and employing it in a manner that serves its objectives efficiently and effectively (Pekar *et al.*, 2021). and in all circumstances and conditions facing the organization.

According to last source (Laovisutthichai, & Lu, 2025) points that the importance of knowledge, numerous references have been provided by scholars, thinkers, and experts in various fields, such as management, economics, and others. They all confirm that knowledge is the most important and vital strategic resource in building a competitive advantage that enhances the organization's position and

competitive position. Therefore, knowledge provides an economic advantage to its users; it is both power and wealth, and therefore more important than physical capital. It is the appropriate tool for creating added value. It is a resource not subject to the law of diminishing returns; on the contrary, it increases with use. Herein lies its importance: it is a resource that accumulates, not diminishes, with use. Furthermore, knowledge workers are the most important competencies in twenty-first-century organizations. Knowledge also gains its importance from its contribution to building the organization's core competency, which is a set of activities and tasks in which the organization excels. This competency is built through research and development activities within an organization carried out by qualified individuals, known as knowledge workers, who are responsible for continuously producing and developing knowledge, (Lim *et al.*, 2022).

There are two basic types of knowledge: (Johnson& Siegler, 2022)

1. Tacit knowledge: This is hidden knowledge that encompasses comprehensive processes. It refers to the knowledge and skills that reside in the mind and heart of each individual and are difficult to transfer or communicate to others.
2. Explicit knowledge: This relates to visual information stored in archives such as books and CDs. Everyone can access, use, and share it through seminars, conferences, meetings, brochures, etc.

Forth: Knowledge Acquisition

Knowledge acquisition requires the dissemination of a collaborative culture that supports and encourages knowledge exchange. One of the most important means of knowledge acquisition is the human mind, using modern technologies and learning and training methods. We will mention some of the methods of knowledge acquisition here, as follows: (Chen *et al.*,2022).

- 1- Accessing knowledge sources: This stage refers to the process of searching for, accessing, and retrieving information that constitutes knowledge, and communicating with its owners, including scholars, experts, research centers, and libraries. The communications revolution and the widespread use of the Internet have facilitated easy and convenient access to most of the information and knowledge we desire. This has become a threat to intellectual property, prompting many governments around the world to enact laws to protect intellectual property rights.
- 2- 2- Understanding knowledge: This refers to understanding knowledge by analyzing, classifying, filtering, and indexing it, and extracting its basic concepts and central ideas. To achieve this goal, many modern technical methods have been developed, such as automated systems for indexing and knowledge retrieval. Technology and information systems rely heavily on computers, which have contributed significantly to the development of knowledge.
- 3- Knowledge Employment: This term refers to the use and application of knowledge in areas of public life to describe and solve problems. Information systems in general, and software in particular, represent the most important

means of employing knowledge, contributing significantly to increasing productivity and achieving the highest possible returns.

- 4- Knowledge Generation: This means exploiting existing knowledge to generate new, unprecedented knowledge, or copying old knowledge and replacing it with new, alternative knowledge based on deduction and induction. Research and development departments undertake this task, which has become relatively costly due to the rapid development of knowledge-based fields. The knowledge acquisition cycle can be represented as follows:

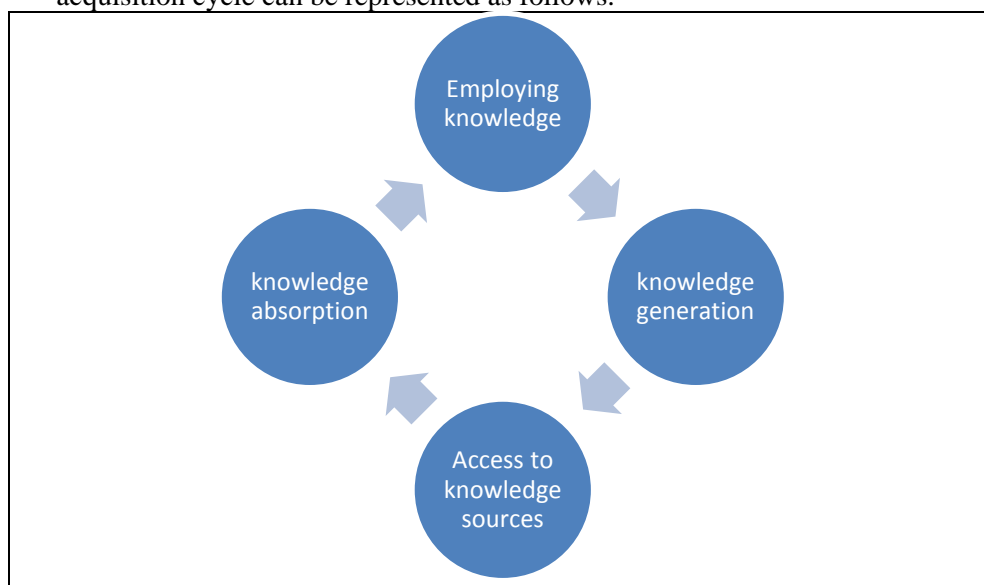


Figure (2) Knowledge acquisition cycle

Source: Chen, G., Wang, J., Liu, W., Xu, F., & Wu, Q. (2022). Knowledge is power: toward a combined model of knowledge acquisition and knowledge application of enterprises. *Nankai Business Review International*, 13(2), 220-245.

One of the methods for acquiring knowledge is scientific research methods, which consist of a series of sequential steps, as follows: (Ravetz, (2020)

- 1- Defining the problem and determining its scope and dimensions
- 2- Gathering information
- 3- Developing alternatives
- 4- Evaluating alternatives
- 5- Selecting the optimal alternative
- 6- Implementation and follow-up

Under normal circumstances, the previous method is used to solve problems that may lead to the discovery of new knowledge. However, in certain circumstances, such as crises and organizational exposure to risk, there may not be enough time to do so, where speed is a key factor. This, in addition to the increased dynamism and irregularity of relevant variables, limits the effectiveness of traditional scientific research methods. All of these methods lead to:

- 1- Researchers not being given enough time to complete their research.

- 2- Making short-term research predictions.
- 3- Formulating short-term research hypotheses.

This requires exploring new research methods, the most prominent of which are: Intuition: The importance of intuition, saying, "The essence of managerial work is problem-solving, and a problem can only be solved correctly if it is creatively approached." He also added that intuition is a fundamental approach to creativity (Calabretta *et al.*,2017).

Zeier., (2016)., have pointed out the importance of intuition in current organizations for the following reasons:

- 1- The size, breadth, and complexity of current organizations make it difficult to create a mathematical model that encompasses all their variables.
- 2- The multiplicity of environmental variables and their rapid change, to the point that previous year's indicators may not reflect current year's indicators.
- 3- The focus on non-quantitative variables, i.e., qualitative variables.
- 4- The rapidity and frequency of environmental changes, which leads to a state of ambiguity.

In addition, there are several benefits to the intuitive approach, especially in the following situations: (Calabretta *et al.*, 2017).

- 1- When the level of uncertainty is high, which has become certainty due to the successive changes occurring in various fields. All of them.
- 2- When there are few or no precedents.
- 3- Limited ability to predict.
- 4- When facts are limited.
- 5- When existing facts offer limited utility.
- 6- When there are many reasonable alternatives to choose from without conclusive evidence of the best alternative.
- 7- Time is limited to reach an informed decision.

Organizations and individuals, live in an environment characterized by rapid change and rapid transition from one stage to another, it can be said that the need for an intuitive approach is increasing.

Calabretta *et al.*,2017, defined the intuitive approach as the ability to integrate information coming from the right and left sides of the human brain. It is the result of self-immersion in a particular issue, and the blending and interaction of relevant emotional and physical variables. Therefore, it is an intense and intense experience of tacit and explicit knowledge.

The human brain consists of two hemispheres: the right hemisphere specializes in information or descriptive matters related to verbal ability and the ability to express oneself, while the left hemisphere specializes in mathematical matters related to numbers. The left hemisphere represents the rational side and is the center of logic, detail, and planning. Intuition arises from combining the right and left hemispheres and integrating the problem at hand to produce a more satisfying and realistic outcome. Therefore, many organizations seek to develop the intuitive skills of decision makers (managers) by relying on specialized training curricula. In addition to the intuition approach, there is an open approach.

Section three: Risk Management

First: Concept and Importance Risk Management

Given the multiplicity and diversity of risks facing the vast majority of organizations today, as a result of rapid and successive developments in various fields, many organizations have resorted to adopting more than one approach to dealing with these new developments. The concept of knowledge management has emerged in recent years not only as an ideology, but as a strategy to support the organization in all areas and provide it with a competitive advantage. It is also an important means of avoiding and dealing with risks, given the knowledge and training that knowledge management provides within the organization (Fan& Stevenson, 2018). As a result, what is known as organizational learning and the learning organization has emerged. Modern management in many organizations has become convinced that the organization's long-term success and survival depend on the relationship between knowledge-rich staff, productivity, and how to manage risks.

Fan& Stevenson, (2018) defined Risk management as the process of measuring, identifying, and assessing the risks to which an organization is exposed or may be exposed, and then developing the necessary strategies to address them.

The concept of risk management encompasses the following topics: personal injury, environmental damage, property damage, debt repayment, criminal activity, and the resulting losses, including reputation (McNeil., 2015).

When discussing the role of knowledge management in mitigating risks, its role primarily focuses on managing intangible risks, which are defined as a new type of risk. These risks have a 100% probability of occurring, yet organizations ignore them due to their inability to identify them. Examples include knowledge risks, which occur when incomplete knowledge is applied (Chierici., 2019). Relationship risks also occur when collaboration is ineffective. All of these risks directly reduce the productivity of knowledge workers, impairing spending efficiency, profitability, service quality, reputation, and profitability. Therefore, the role of knowledge management includes first testing all knowledge, whether imported or developed locally within the organization, to ensure its integrity before disseminating it within the organization (McNeil., 2015).

Second:Types of Risks: There are many types of risks that pose a threat to organizations, and organizational management seeks to eliminate them. The most prominent of these are (Aven& Renn,2020):

- 1- Financial Risk: Any action that results in financial loss, such as loans, exchange rate fluctuations, high interest rates on borrowed funds, theft, etc.
- 2- Business Risk: These risks include the loss of a company's market share, setting incorrect market prices, and disclosing information to competitors regarding pricing policies, market share, and customer engagement strategies and methods.
- 3- Disasters that cause property damage, such as earthquakes, fires, terrorism, and wars.

- 4- **Industrial Safety:** This requires a safe work environment and adherence to public safety regulations and rules.

In addition, risks can be classified as follows (Barron et al., 2020):

- 1- Normal Risks:** Normal risks can be considered everyday events, such as exceeding or exceeding permissible limits, etc. There are a number of activities to mitigate the effects of these excesses and malfunctions, such as:

- Stockpiling spare parts (replacing defective units).
- Installing backup units (such as power generators).
- Investing in surveillance systems (alarm systems).
- Assigning "deputies" for valuable tasks.
- Preventing

theft through effective security measures and protecting against fire damage, etc.

- 2- Compound Risks:** Processes related to compound risks are integrated into the management decision-making process. These activities include:

- Alternative investment strategies (it is important to describe and consider these alternatives). These strategies include finding alternative routes within the network. This is where knowledge management comes in to provide the organization with a range of solutions in the event of any type of risk.
- Diversifying the range of services or products to meet diverse market needs (where reliance on a single product is not the sole focus). This requires a diversity of employee skills and experience and the ability to adapt to produce a variety of products or services.
- Focusing on core businesses to increase efficiency and enhance competitiveness.
- Product development follows technical research and is prepared to integrate new products. The daily logical training process can be considered part of this development process.
- Human Resource Development: Developing employee skills to meet future demand and hiring new employees accordingly.

- 3- Key Risks:** These are risks that could lead to the bankruptcy of a company due to the obsolescence of its products. To overcome these risks, a key strategy for major suppliers is to conduct extensive research and develop a planning department for future products. This is a key function of knowledge management.

Knowledge management also addresses key risks through the following processes:

- Technology renewal (identifying obsolete equipment and systems).
- Basic research and development (determining the economic lifespan of products and services).
- Continuous employee training.
- Continuously seeking knowledge, generating new knowledge, and continually developing it.

Third :Risk Management Activities

Risk management activities include the following steps (Kalla & Hellingrath, 2025):

1. Identify risks (when and where they might occur). This includes planning operations, defining the scope of work, and the basis for risk assessment, as well as defining the framework and analysis agenda.
2. Identify risks (cost and/or loss due to damage). In this stage, significant risks are identified. Risks are events that, when they occur, lead to problems. Therefore, identifying risks can start with the source of the problem or the problem itself.

Furthermore the common risk identification methods include:

- Objective-based identification: All organizations and teams working on a project have specific objectives. Any event that threatens the achievement of these objectives, whether partially or completely, is considered a risk.
 - Scenario-based identification: In scenario analysis, different scenarios are developed. These scenarios may be alternative ways to achieve a goal, or an analysis of the interaction of forces in a market or a battle. Therefore, any event that generates a scenario different from the envisioned and undesirable one is defined as a risk. This refers to exposure to a problem or risk for which there is no solution within the available scenarios.
 - Classification-based identification: This involves detailing all potential sources of risk.
 - Common Risk Review: Many organizations have lists of potential risks.
3. Risk Control (Measures to reduce or prevent damage). According to (ElSayed., 2022), After identifying potential risks, they must be evaluated in terms of their severity and likelihood of occurrence. Sometimes these quantities are easy to measure, while other times they are more difficult. This step facilitates the risk control process. The difficulty in assessing risks lies in determining their occurrence rate, as statistical information on previous incidents is not always available. Furthermore, assessing the severity of consequences is often difficult in the case of intangible assets. This process highlights the role of knowledge management in recording and assessing risks.
 4. Risk Analysis (includes the first two steps). refers (Choi, 2021) with its opinion after the risk identification and assessment process is complete, all techniques used to address them fall into one or more of four main groups:
 - Transfer: These are methods that facilitate the acceptance of the risk by the other party, usually through contracts or financial hedging. Insurance is an example of contractual risk transfer. The contract may include a formula that guarantees the transfer of risk to another party without the obligation to pay insurance premiums.
 - Avoidance: This refers to an attempt to avoid activities that lead to a risk. An example of this is not purchasing a property or entering into a business to avoid legal liability. Avoiding risks may seem like the

optimal solution to all risks, but it may also result in the loss of benefits and profits that could have been achieved from the avoided activity.

- Mitigation: This includes methods to reduce the severity of the resulting losses. An example of this is software development companies that follow risk mitigation approaches through incremental software development.
- Acceptance (Retention): This means accepting losses as they occur. This approach is an acceptable strategy for small risks where the cost of insuring against the risk over time is greater than the total losses. All risks that cannot be avoided or transferred must be accepted. War is the best example of this, as property cannot be insured against war.

We noted that all steps in dealing with risk require information and knowledge, and this is what knowledge management does through its employees and processes. These are considered risk management strategies.

Section four: The relation and effect between knowledge management and risk management.

The impact of knowledge management on risk management is a major focus of modern management studies, as knowledge has become a strategic resource no less important than capital or technology.

Knowledge management includes a set of processes (diagnosis, goal setting, generation, storage, distribution, application, and monitoring). Here, knowledge management processes are linked to risk management strategies, as follows: (Zieba et al., 2022):

1. Developing a plan: This includes making decisions regarding the selection of risk management approaches. Each decision must be recorded and approved by the relevant management level. Here, knowledge management plays a key role in recording, documenting, and providing the necessary information from various sources, including referencing previous records when facing risks.
2. Plan Testing and Evaluation :The plan is essentially the product of knowledge management processes that begin with a comprehensive diagnosis of the problem, defining its objectives, then preparing and submitting it for evaluation and approval. Finally, it is implemented and monitored to detect and correct errors.
3. Implementation: In this phase, the plan is implemented on the ground, following the steps identified to mitigate the impact of the risk. Each step is evaluated, with the evaluation process continuing throughout.
4. Review and Evaluate the Plan: The initial risk management plans have not yet been completed. Through practice, experience, and field losses, the need to modify plans and leverage available knowledge to make different decisions becomes apparent.

The results of the risk analysis process, along with the risk management plans, should be updated periodically for the following reasons: To assess the effectiveness of previously implemented security controls. To assess the level of

potential changes in the business environment's risk profile. For example, information security risks are a good example of a rapidly changing business environment.

First: Risk Management and Business Continuity

Mošková & Bugarová (2023) mentions that risk management is the systematic selection of cost-effective methods to mitigate the impact of a particular threat to an organization or institution. Not all risks can be completely avoided or mitigated simply because of operational and financial constraints. Therefore, all organizations must accept a certain level of loss (residual risk).

While risk management is used to mitigate losses as much as possible, business continuity planning is designed to address the consequences of residual risks. Its importance lies in the fact that some unforeseen events may actually occur, given sufficient opportunity. Risk management and business continuity planning are two interconnected processes that cannot be separated. Risk management provides many inputs to the business continuity planning process, such as assets, impact assessments, estimated costs, and more (Matteis *et al.*, 2023). Therefore, risk management covers a wide range of areas important to business continuity planning, addressing risks beyond the scope of risk management.

Second :Enterprise Risk Management Strategy

The following are the most important risk components that can be included in any organization's plan. These components indicate the type of risks the organization may be exposed to:

Risk Management as Part of Corporate Culture: (Ali *et al.*, 2023).

The most important question is: "How can risk management become part of corporate culture?" How are risks defined and addressed at different levels of the organization? Risks vary from culture to culture. The most widely accepted framework for these differences is the one described by Hofstede in his research. This framework identifies five dimensions of national cultures, one of which is uncertainty avoidance. This is defined as the extent to which people fear and avoid uncertainty and ambiguity. Developing countries are characterized by a culture that demonstrates uncertainty avoidance. Political developments, which are difficult to predict (and influenced by external factors), make planning and decision-making heavily dependent on decisions made at the top management level. At the same time, decisions can change the next day due to political influence (Xu & Wang, 2024). Corporate culture relies heavily on the decisions of ministers, cabinets, etc. According to (Ching *et al.*, 2021), An organization can establish a risk management culture through the following:

- 1- **Accountability and Trust:** The basic elements of risk management should be included in the job descriptions of management and employees. The system of responsibilities and authorities should be defined in the job description. Expected actions should be directed to work orders, local purchase orders, etc. Local purchasing and hiring procedures should be clearly defined.
- 2- **Decision-Making Speed:** A common risk is not paying attention. In some organizations, difficult and inappropriate matters are postponed. Timing (the timeframe for making a decision) is critical, as is delaying when the manager

feels the correct procedures are not being followed. Quick action reduces risks and their negative effects (negative outcomes). It is difficult to address situations after a certain period of time.

- 3- **Implemented Rules and Instructions:** The natural way to manage and lead organizations is through management by objectives (MBO). Some tasks (such as safety and liquidity management) have rules and instructions. A common weakness in many organizations is the failure to communicate these rules and instructions. Updates or the introduction of new rules are rarely followed up. Analysis and improvement procedures are often forgotten.
- 4- **Safety Rules and Instructions:** New safety instructions are usually well-followed. There is a tendency to neglect reviewing and updating old information to keep up with developments (especially when the environment changes). Management should establish systematic follow-up as a good habit. In many cases, instructions are superseded when new methods and tools are introduced. Standards may change due to international agreements (such as color codes, coding, etc.). Distributing this information and monitoring how it is used is another way to mitigate risk.
- 5- **Information:** Information, its availability, and accuracy play an important role in risk management. There are always risks resulting from the spread of misinformation about instructions, rules, and procedures. A common pattern is to include good news while ignoring false commitments. A follow-up system must be in place to ensure employees understand instructions, and an effective control system must be in place to ensure information is communicated (McIlwraith, 2021). Providing accurate information has become increasingly important in a competitive environment. Here, the importance of knowledge management in generating and disseminating knowledge and information within the organization, especially to the individuals who will use it, becomes clear. Knowledge management has specialized means and communication channels that enable it to disseminate information efficiently and effectively. Many decisions are made based on available information, directly influenced by the quality, accuracy, and timeliness of the information. When an organization is exposed to risks, it is recommended that knowledge management assume this task in coordination with senior management.

Managers in Risk Management

Managers are responsible for addressing risks and establishing direct communication channels with knowledge management. The higher the level of positions, the greater the risks and opportunities related to the business (business risks). This requires knowledge management to continuously generate and develop knowledge, providing senior management with the necessary knowledge to enable them to make sound decisions and develop plans to address risks. (Voon *et al.*, 2024).

Third: Training in Risk Management and Risk Mitigation

Testa *et al.*, 2024, refers that the primary goal of training in this area is to improve attitudes and loyalty to the organization. Attitudes toward risk are built through training and case studies, with the help of qualified, experienced, and competent

trainers. Initiating risk management training is a somewhat sensitive topic, especially in the beginning, but it is important to provide initial training. If successful, it is followed by basic training for a group of individuals who will work in risk management, i.e., expanding the scope of the training program and disseminating it throughout the organization.

In short Knowledge management does not eliminate risks; rather, it enhances organizations' ability to anticipate, understand, respond to, and adapt to them. The more effective knowledge management is, the more successful and sustainable risk management will be.

Conclusions

In light of the theoretical literature on this topic, the study reached the following conclusions:

- 1- There is a positive relationship between knowledge management and risk management. Knowledge management positively impacts risk management by providing the necessary data, information, and knowledge about the risks facing the organization, facilitating their management and mitigating their impact.
- 2- Providing the organization with the analytical and intellectual capabilities necessary to analyze and predict imminent risks, enabling it to avoid them, address their nature if they occur, and mitigate their impact.
- 3- Reducing the ambiguity and uncertainty associated with risk situations through the analytical and intellectual capabilities of its employees, who are able to connect past, current, and future events, adopt an intuitive approach, and think critically.
- 4- Knowledge management provides numerous ready-made scenarios for dealing with risks. If no scenario is available that matches the nature of the risks facing the organization, available individual capabilities can adapt to the risk situation itself, adapt one of the available scenarios, or develop a scenario suitable for dealing with the risks.
- 5- Knowledge management aims to build an organization that is aware of risks and how to deal with them. This is achieved by documenting, disseminating, and raising awareness of all risk management processes within the organization. This enables the organization to manage risks, even within the narrowest limits. This mitigates the severity and impact of risks, regardless of their source or type.
- 5- Explore opportunities that can be exploited through risk management.
- 6- Throughout the collecting, analyzing, and sharing information within the organization, knowledge management helps identify potential risks early.
- 7- The accumulation and documentation of past experiences enables management to predict the frequency or likelihood of future risks.
- 8- When knowledge is organized, risk management decisions become more accurate and effective.
- 9- Knowledge enables comparison of alternatives and estimation of their costs versus benefits, reducing arbitrary decisions.
- 10- Knowledge management helps bridge the gap between the unknown and the known, reducing the ambiguity associated with risk.

- 11- The more knowledge shared, the less uncertainty there is.
- 12- Having an organized knowledge base enables teams to respond quickly when crises occur.
- 13- Documenting lessons learned from previous crises helps us handle similar situations more effectively.
- 14- Knowledge management provides an environment for generating new ideas and innovations that help develop innovative strategies for dealing with risks.
- 15- When knowledge is disseminated throughout the organization, an organizational culture is created that encourages risk monitoring and reporting.

Recommendations

1. Establish a department or division within the organization to address risks, in direct coordination with the Knowledge Management Department. This department will be responsible for collecting data and information related to risks.
2. Properly plan how risk management activities will be used within the organization. The plan should include roles, responsibilities, activities, and a budget.
3. Appoint a risk manager from the knowledge management team, tasked with anticipating potential problems for the organization. Their most important qualities should be healthy skepticism, analytical ability, and the ability to use an intuitive approach.
4. Maintain an up-to-date database of risks facing the organization. This data should include: start date, title, brief description, probability, and, finally, importance, as well as how they are addressed and the degree of success.
5. Establish a reporting channel through which members of the risk management team can submit reports containing their predictions for any potential risks.
6. Prepare mitigation plans for the risks selected for this approach. The purpose of these plans is to describe how these risks will be addressed, identify their nature, when they will occur, who will undertake them, and how to avoid or mitigate their consequences if they become a legal liability. Prepare a summary of the risks encountered and those planned, the effectiveness of mitigation activities, and the efforts made in risk management.

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