

A Proposed Strategy for Building Effective Partnerships in Knowledge Management in a Fair and Sustainable Way

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ABSTRACT:

This study aimed to present a proposed strategy for building effective partnerships in knowledge management, based on the principles of fairness and sustainability. This was achieved through an in-depth analysis of educational literature and relevant scientific research during the 2024/2025 academic year. The study focused on developing a practical and systematic vision to enhance the efficiency of leaders and decision-makers in educational and administrative institutions. This contributes to ensuring the continuity of institutional excellence and achieving comprehensive quality, in addition to enhancing knowledge production and its effective use in light of accelerating digital transformations. This study distinguished itself from others by its adoption of an analytical approach, which enabled a precise scientific extrapolation of previous studies with the aim of understanding the various contexts that affect knowledge management, both in terms of challenges and opportunities. This then led to the design of a long-term strategic framework based on the activation of multilateral partnerships. The proposed strategy is based on six basic principles: justice and fairness in the exchange of knowledge and benefits, transparency and accountability in operations, mutual benefit between partners, sustainability of resources and outputs, mutual respect for experiences and cultures, and finally, a focus on the added value achieved by partnerships at the institutional and societal levels. Based on an analysis of the literature and the results of previous research, the study recommends the need to design clear governance models that regulate the partnership process, ensure fair distribution of knowledge, and provide effective mechanisms for resolving conflicts and managing differences, with flexibility in adapting to new developments. The proposed governance elements include signing a partnership charter, defining roles and responsibilities, and activating monitoring, evaluation, and accountability mechanisms. Thus, the study contributes to establishing a scientific and practical foundation for building fair and sustainable knowledge partnerships that keep pace with contemporary developments and serve the goals of sustainable development.

Keywords: Knowledge management, partnership, strategy, sustainability.

INTRODUCTION:

In the modern era, knowledge has become the most important resource and the primary driver of comprehensive development in various fields, including economic, social, educational, and health. Organizations no longer rely solely on traditional material or human resources; rather, they seek to harness knowledge as an intangible capital that enhances innovation, increases competitiveness, and achieves sustainable development. In light of this transformation, the concept of "knowledge management" has emerged as a strategic tool aimed at collecting, documenting, exchanging, and optimally investing in knowledge within institutions and societies. The scope of interest in this concept has expanded to include governments, international organizations, the private sector, and even local communities, reflecting a global awareness of the importance of knowledge management to ensure development and smart growth.

With the growing interest in knowledge management, institutional and community partnerships have become a fundamental pillar in achieving its objectives. Building effective partnerships enables the exchange of expertise and experiences, provides a collaborative environment based on trust and shared interests, and contributes to

reducing knowledge gaps between different parties, especially in contexts of uneven development. However, the greatest challenge lies in ensuring that these partnerships are fair and sustainable, so that they do not perpetuate inequalities or knowledge dominance, but rather enable all parties to contribute equally and actively participate in the production and exchange of knowledge. This requires adopting smart strategies that take into account the cultural, economic, and social contexts of each party.

In this context, the need arises to develop an integrated strategy for building effective knowledge management partnerships. This strategy aims to achieve justice in the distribution and investment of knowledge and ensure the continuity of cooperation between the stakeholders based on the principles of fairness, mutual respect, and shared accountability. This strategy must also be flexible and adaptable to the rapid changes occurring in the knowledge environment. From here, this study sets out to present a proposed strategy for building effective knowledge management partnerships in a fair and sustainable manner. This strategy analyzes existing problems, reviews relevant literature, and draws on leading experiences, leading to the identification of theoretical and practical frameworks that ensure the achievement of the desired objectives of these partnerships.

Research Problem:

Knowledge institutions, particularly national libraries, face increasing challenges in a complex and globalized knowledge environment. This requires effective and fair knowledge management that ensures continuity, collaboration, and sustainability. With knowledge becoming one of the most prominent assets of contemporary institutions, its generation and organization are no longer sufficient. Rather, there is an urgent need to activate mechanisms for its transfer and application with fairness and efficiency among institutional and community partners.

Despite global consensus on the importance of partnerships in supporting knowledge management strategies, there remains a clear gap in formulating and implementing sustainable partnership models that take into account the equitable distribution of knowledge, responsibilities, and privileges, particularly in public knowledge institutions operating under regulatory and financial constraints, such as national libraries. The problem lies in the absence of clear strategic frameworks that link partnership objectives with knowledge management functions, ensuring the activation of both tacit and explicit knowledge and achieving sustainable impact.

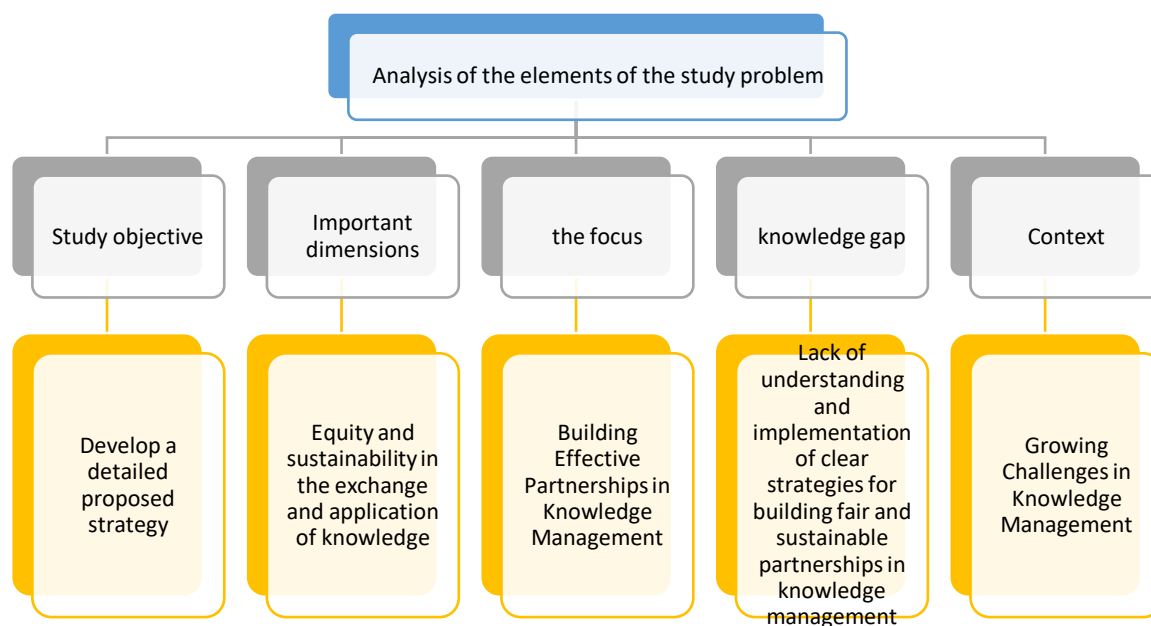
Recent literature has demonstrated diverse attempts to understand the dimensions of this challenge. For example, Han et al. (2025) highlighted the advanced role of corporate universities in generating, sharing, and transferring knowledge within a lifelong learning environment, using a theoretical model based on the cognitive perspective (KBV). This provides a framework that can be adapted to other knowledge environments, such as national libraries, that intersect with the paths of strategic knowledge production and circulation. In the same context, Wessali et al. (2025) noted the importance of cognitive technologies and artificial intelligence, particularly neurolinguistic programming (NLP) tools, in transforming tacit knowledge into tradable and usable knowledge. This could enhance the capabilities of national libraries to extract knowledge from their vast archives and transform it into shareable knowledge resources.

At the level of the cultural and organizational structure of knowledge, Abu Al-Majid et al.'s (2025) study provides an in-depth examination of knowledge management mechanisms within family businesses, emphasizing the importance of succession as a link between knowledge, innovation, and sustainability. This idea can be employed in formulating long-term partnerships within national libraries to ensure the sustainability of knowledge across generations. Arabi et al.'s (2025) study also revealed that entrepreneurship and digitization play an effective role in enhancing performance sustainability through knowledge management. This highlights an opportunity for national libraries to modernize their digital infrastructure and adopt entrepreneurial partnership models based on knowledge digitization and fair exchange among local and international partners. Within the scope of knowledge supply chains, Huang and Cheng's (2025) study presented a precise model for knowledge extraction by constructing a knowledge graph that enhances the organization and effective use of knowledge in the heavy equipment industry. This indicates the potential for employing similar models within national libraries to manage data, documents, and resources according to an analytical approach based on relationships and contexts. On the other hand, Oyakubo et al.'s (2025) study presented a bibliometric analysis linking knowledge management and innovation, emphasizing that the interaction between these two dimensions

is essential for achieving a sustainable competitive advantage. This essential relationship represents a strategic opportunity for national libraries to redefine their role in the knowledge environment through partnerships based on knowledge innovation. Therefore, the problem of the current study is defined by the need to develop a proposed and detailed strategy for building effective partnerships in knowledge management, with a particular focus on achieving the principles of fairness and sustainability in knowledge exchange and application processes within and between institutions. This study aims to answer the main question: What is the proposed strategy for building effective partnerships in knowledge management in a fair and sustainable manner? The following sub-questions emerge from this question:

1. What is the concept of knowledge management?
2. What are the most important foundations of knowledge management?
3. What are the most important challenges of knowledge management?
4. What is the proposed strategy for building effective partnerships in knowledge management in a fair and sustainable manner?

Based on the above, the problem of the current study crystallizes in: the absence of a clear strategy for building effective partnerships between national libraries and other knowledge institutions in the field of knowledge management, ensuring the fair distribution of benefits and responsibilities, achieving the sustainability of knowledge exchange and its employment in a way that enhances innovation, and benefits from modern technological and cognitive developments. The conceptual map illustrates an analysis of the study problem:



1.3 Study Objectives:

This study aims to:

- Identify the concept of knowledge management.
- Identify the most important foundations of knowledge management.
- Identify the most important challenges of knowledge management.
- Develop a proposed strategy for building effective partnerships in knowledge management in a fair and sustainable manner.

First: Practical and Applied Importance

- The practical importance of this study stems from the growing need to empower decision-makers in knowledge institutions, particularly national libraries, to develop effective visions and strategies for fair and sustainable knowledge management. The current era requires the development of individuals capable of critical and creative thinking, who are producers of knowledge, not just consumers, by building a knowledge environment that stimulates participation and promotes fairness in the generation, distribution, and use of knowledge. Hence, this study presents a practical framework that can be adopted as a starting point for a deeper institutional transformation toward a knowledge society in which knowledge management is relied upon as a focal point for change and sustainable improvement.
- It is also hoped that the study's recommendations will enlighten educational policymakers and decision-makers in the field of curriculum development about the importance of integrating knowledge management concepts and their application within curricula, with a focus on raising awareness of individuals' responsibility for the responsible production and circulation of knowledge, rather than merely its consumption. This shift in approach contributes to achieving knowledge sustainability and establishes more aware generations who participate in advancing society through knowledge.

Second: Theoretical and Intellectual Significance

- From a theoretical perspective, this study represents a qualitative addition to the academic field, given the scarcity of literature that has in-depth addressed the topic of equitable and sustainable partnerships in knowledge management within cultural institutions and national libraries, despite the strategic importance of this field in light of rapid digital and social transformations. The intellectual significance of the study lies in its highlighting a sensitive epistemological dimension that requires theoretical and methodological grounding that can be built upon in subsequent research, especially in environments that suffer from limited equitable access to knowledge.
- Thus, this study opens new research horizons for researchers and those interested in the fields of knowledge management, education, and the knowledge society, by presenting a scientific framework that enhances understanding of knowledge partnership practices and the mechanisms for their implementation. It also paves the way for further experimental and applied studies aimed at developing educational and research thought, contributing to a truly positive transformation in the way knowledge is managed and circulated within educational and cultural institutions, including national libraries.

1.4 Study Methodology:

The study relied on the analytical, inductive, and developmental approach, a comprehensive and integrated approach that combines in-depth analysis of concepts and theories with induction based on tracing cognitive phenomena and practices related to the subject of the study. The aim is to construct a coherent theoretical vision that can be developed and applied in practical reality. On the theoretical side, the researchers used the theoretical-analytical approach through systematic and organized reference to scientific literature related to knowledge management, corporate partnerships, and cognitive justice. This approach created a solid knowledge base that helped establish the study's key concepts and understand the intellectual and theoretical background underlying the issue under study.

A number of recent and diverse previous studies were also reviewed and analyzed, addressing similar topics from multiple perspectives, such as the use of artificial intelligence in knowledge management, transforming tacit knowledge, building partnerships, and sustaining performance in knowledge-based organizations. This analysis helped identify research gaps in the literature and highlight the need for an integrated strategy to build fair and sustainable partnerships in knowledge management, particularly in the context of national libraries. On the development side, the data derived from the theoretical and inductive analysis were employed to construct a new strategic vision that responds to the problems raised and proposes practical, implementable mechanisms. This section focused on proposing practical solutions and recommendations that can be utilized by knowledge institutions and decision-makers, with the aim of improving knowledge management and activating partnerships based on justice and sustainability. Thus, this multidimensional approach enabled the study not only to describe the problem and understand its theoretical dimensions, but also to propose strategic alternatives that contribute

to the development of knowledge performance within national libraries and support their vision as effective institutions in building a sustainable knowledge society.

1.5 Study Limits

- Temporal Limits: Previous studies spanning the years (2024-2025).
- Thematic Limits: Focusing on the topic of knowledge management and partnerships.
- Human Limits: Leaders (in this study, leaders are defined procedurally as decision-makers, policy makers, and their representatives in the field, who possess a set of qualities and skills that enable them to lead effectively and influence individuals to act with the desire and ability to persuade, motivate, and guide their behavior with a clear vision for the future. They work to unify efforts, define goals and priorities, and develop plans to achieve them, with the ultimate goal of knowledge management and building successful partnerships).

1.6 Previous Studies

Angela et al.'s (2025) study aimed to explore the impact of favorable conditions for knowledge management within projects on the construction of what is known as "volatile organizational memory." This study analyzed the relationship between knowledge management, organizational learning, and knowledge encoding mechanisms in a dynamic work environment. The study proceeded from the theoretical foundation based on the recurring interconnectedness between these elements, aiming to provide a deeper understanding of how to enhance learning within organizations through effective knowledge management in the context of projects. The study followed a descriptive qualitative approach, relying on a single case study: a mobile application development project implemented within a major software company in Brazil. Data was collected through in-depth interviews with project stakeholders, in addition to an analysis of official company documents, using a mixed analytical framework appropriate to the nature of the phenomenon under study. The results revealed real challenges facing knowledge management strategies at the project level, especially when it comes to stimulating effective organizational learning. It was found that factors such as organizational behavior and strategy significantly influence knowledge exchange mechanisms and the utilization of past experiences. However, they may also hinder the effectiveness of learning-based feedback processes, especially in light of emotional tensions and power struggles within the knowledge hierarchy. The study recommended prioritizing individual professional experiences within the project environment in order to enhance organizational learning and create sustainable cognitive memory. It also indicated that organizations that successfully link their projects to their overall strategies are better able to enhance the integration of knowledge creation, exchange, and encoding processes, which contributes to effectively strengthening volatile organizational memory. The study concluded by presenting four theoretical proposals related to how to address concepts such as volatile institutional memory, intuitive knowledge, organizational learning, and knowledge encoding mechanisms, thus constituting a qualitative contribution to the contemporary literature on knowledge management within corporate projects. Han et al.'s (2025) study aimed to explore the role of knowledge management in promoting lifelong learning within the workplace. This study examined the experience of corporate universities in China, as institutional models concerned with developing human capital and fostering sustainable professional skills. The study focused on understanding the internal mechanisms that enable organizations to build lifelong learning capabilities that keep pace with rapid cognitive and economic transformations. The study relied on a grounded theory coding methodology to analyze data extracted from a sample of seven corporate universities operating within major Chinese organizations. These universities were analyzed as advanced organizational units in knowledge management, with the aim of constructing a theoretical model that explains the paths that enable organizations to activate lifelong learning. The study concluded with the development of a theoretical path model that includes four complementary paths of knowledge management within these universities: "generating strategic knowledge," "sharing business knowledge," "improving knowledge governance," and "transforming cultural knowledge." These pathways illustrate how knowledge can be transformed into a strategic resource that enhances organizational learning and sustainability. The study's findings demonstrate that corporate universities play a pivotal role in enabling organizations to create continuous learning environments within the workplace, by developing a knowledge structure that contributes to supporting innovation and adapting to change. It also

demonstrates that the integration of knowledge management and corporate learning enhances organizational effectiveness and provides a foundation for improving work practices and developing human capital. The study's primary contribution is to present a theoretical framework that deepens understanding of the functions of corporate universities in the context of lifelong learning. It provides practical foundations for decision-makers and managers to develop sustainable knowledge management strategies within their organizations, with qualitative contributions that enrich the specialized literature in this field.

Wessali et al.'s (2025) study aimed to analyze the effectiveness of artificial intelligence (AI) and neurolinguistic programming (NLP) techniques in transforming tacit knowledge into usable knowledge within enterprise knowledge management systems. The study focused specifically on the mechanisms that enable insights to be extracted from semi-structured, document-based natural language representations, which are among the most prominent components of knowledge assets in contemporary organizational environments. The study followed a comparative analysis approach to evaluate a set of algorithms and techniques associated with NLP and AI, such as text mining, information extraction, sentiment analysis, classification, clustering, recommendation systems, and affective computing. These analyses were applied within an organizational context based on the analysis of institutional knowledge pieces, with the aim of measuring the effectiveness of these tools in uncovering unspoken or tacit knowledge, which is often distributed and hidden in work contexts. The study's results yielded a set of important outcomes, most notably identifying the relative strengths and limitations of each NLP technique, enabling organizations to select the most appropriate tools for their actual knowledge management needs. The study also demonstrated that transforming tacit knowledge through these technologies can effectively contribute to enhancing decision-making, improving customer relationship management, and developing knowledge services. Among the study's most notable findings are emerging challenges related to data privacy, source quality, and algorithm accuracy, while promising opportunities exist for expanding the use of artificial intelligence as a tool to improve cognitive processes within organizations. The study concluded by providing practical guidelines to help researchers and practitioners select and implement appropriate algorithms, contributing to the development of data- and text-based knowledge management systems. Abu Al-Majid et al.'s (2025) study aimed to analyze the reality of knowledge management within family businesses, and explore untapped opportunities and future trends in this vital field. This was achieved through a comprehensive review of specialized scientific literature, with the aim of highlighting research gaps and studying the organizational dynamics that affect the performance of these companies through the lens of knowledge management. The study relied on a comprehensive systematic review methodology, where 112 peer-reviewed scientific articles were analyzed that addressed the topic of knowledge management in the context of family businesses, which enabled researchers to extract accurate insights into the prevailing boundaries in the literature, key concepts, and common theoretical trends. The study results revealed the complexity of the relationships between knowledge management processes and institutional performance in family businesses, highlighting the central role played by the job succession process as an important link between organizational knowledge, entrepreneurial orientations, innovation, business sustainability, and internationalization outcomes. It also demonstrated that most of the reviewed literature is based on three main theoretical frameworks: the knowledge-based view, the resource-based view, and the dynamic capabilities view. These frameworks have proven highly effective in explaining the institutional mechanisms and dynamics that explain how knowledge management affects growth, performance sustainability, and the ability to innovate in family business environments. The study's essential contribution is to provide an integrated knowledge map that helps guide future research toward new research designs, innovative theoretical explorations, and in-depth empirical investigations into knowledge management processes. It also emphasized the importance of diversifying theoretical perspectives and expanding the scope of empirical studies to understand the complex interplay between family structures, corporate culture, and knowledge flows. This represents a promising step toward developing scientific knowledge in this field and refining existing theories.

Arabi et al.'s (2025) study aimed to analyze the relationship between entrepreneurial orientation, business process digitization, and performance sustainability in emerging digital firms, focusing on the mediating role played by knowledge management in this relationship. The study came in the context of the increasing challenges facing startups in competitive markets, particularly regarding achieving operational sustainability through the effective use of knowledge and the employment of modern technology. The study began from the observation that previous literature, despite its focus on entrepreneurial orientation and business digitization, has not given sufficient importance to the mediating role of knowledge management, particularly in the context of digital

startups. Therefore, the researchers sought to fill this gap through an applied study targeting digital startups in Tehran Science and Technology Park. The study relied on a quantitative approach, and data was collected from a sample of managers selected according to the Cochran formula to determine sample size. Using a questionnaire, the results showed that both entrepreneurial orientation and business process digitization have a positive and statistically significant impact on performance sustainability in digital startups. The results also showed that knowledge management plays an important mediating role in this relationship. This means that the effectiveness of entrepreneurial orientation and digitalization in enhancing performance sustainability depends largely on the organization's ability to manage knowledge effectively. The study concluded with practical recommendations for emerging digital companies, emphasizing that focusing on adopting an entrepreneurial orientation and developing the digital structure of business processes, along with systematic knowledge management, are pivotal factors in promoting innovation, improving services and products, and facing the challenges of a competitive market.

Huang and Cheng's (2025) study aimed to develop an effective methodology for knowledge extraction and the creation of a knowledge graph that enhances supply chain management in the heavy equipment manufacturing sector, considering knowledge management as a key factor in achieving the competitiveness of national industries. The study sought to provide an organized digital framework that enables industrial organizations to manage supply chain-related knowledge in an intelligent and integrated manner. The study relied on an experimental model design approach in the field of artificial intelligence, as the researchers developed a model based on remote supervision to extract knowledge based on entity relationships within limited data. The model was enhanced by incorporating ontology information using a fusion gate mechanism, which aims to improve sentence-level semantic interpretation and enhance the accuracy of results. To address the problem of noise propagation in the input data, the study applied feature weight adjustment techniques using intelligent gates. A sentence-level attention mechanism was also incorporated between the portfolios, which helped achieve more accurate information fusion and extract more reliable knowledge relationships between entities. Experimental results showed that the proposed model achieves a significant improvement over state-of-the-art models used in remote supervision, with a 2.8% increase in relationship extraction accuracy and a 3.9% improvement in the AUC value. These results are a strong indicator of the model's effectiveness in improving the quality of knowledge graphs, which significantly contributes to enhancing digital knowledge management within industrial supply chains.

Oyakubo et al.'s study (2025) aimed to analyze the relationship between knowledge management and innovation and explore recent research trends linking them, given the growing global interest in these two concepts as fundamental pillars of organizational success in both academic and commercial settings. The study sought to bridge the knowledge gap in the scientific literature by presenting a comprehensive view of the developments in these two concepts in recent years. The study relied on bibliometric analysis, a quantitative analytical approach based on tracking and analyzing published scientific output. The study examined scientific output published between 2017 and 2022, with the aim of identifying the volume of research, areas of focus, and the most important theoretical and applied issues discussed in the literature in this field. The study relied on a theoretical framework that considers knowledge a strategic resource that contributes to generating a competitive advantage through its effective management. Innovation is also an essential element in supporting organizations' flexibility, adaptability, and continuous learning. From this perspective, the complementary relationship between the two concepts was examined in terms of interaction and mutual influence at the level of institutional strategies. The study results revealed a steady growth in the number of scientific publications linking knowledge management and innovation, reflecting the expanding scope of research interest in this field. The results also highlighted the importance of modern technology, international collaboration, and diverse work teams as key drivers supporting the integration of knowledge management with innovation in organizations. The study confirmed that the intersection between knowledge management and innovation is essential to organizational success, especially in ever-changing business environments. It recommended the need to strengthen theoretical and applied frameworks that contribute to understanding this relationship and maximizing its benefits in designing effective organizational strategies that enhance organizations' competitiveness.

Thakuri's (2025) study aimed to explore how artificial intelligence contributes to the development and improvement of knowledge management systems in the modern business environment. This was in the context of the radical transformations imposed by the Fourth Industrial Revolution, which has resulted in profound

changes in communication mechanisms, work structure, and operating methods within organizations. To achieve this goal, the study relied on a systematic literature review approach, basing its reporting and data analysis on the PRISMA framework, a globally recognized tool for organizing and analyzing review studies. The literature was selected based on precise search queries spanning the period from 2013 to 2023. The study focused on literature linking three main themes: artificial intelligence (AI), knowledge management systems (KMS), and business organizations. Fourteen selected scientific studies were analyzed to answer four main research questions addressing the relationship between AI and the evolution of organizations' knowledge structures. The results revealed a set of new features that AI can add to KMS systems, most notably: improving access to knowledge, supporting intelligent decision-making, automating cognitive processes, and enhancing human-machine interaction within the corporate environment. The study also demonstrated that AI is not merely a technical tool, but rather a strategic element that reshapes knowledge management functions and enhances organizations' ability to respond flexibly to change. The study highlights the importance of integrating AI technologies into the organizational structure of knowledge management, while keeping pace with digital developments in business environments. It also recommended further experimental and field research to understand the impact of these technologies on organizational performance, decision-making quality, and knowledge sustainability in modern organizations.

Furutani's (2025) study aimed to analyze the key factors influencing the success or failure of implementing knowledge management systems within government institutions. The study was based on the premise that knowledge management is a rare and highly valuable strategic resource that directly contributes to improving institutional efficiency and achieving development goals. In this context, the study focused on understanding the organizational and structural conditions that either facilitate or hinder the implementation of knowledge management systems in the public sector. To address this research problem, the researcher adopted a descriptive survey approach, where data was collected through semi-structured interviews with a group of employees, along with questionnaires distributed randomly across a number of government institutions. The study did not mention a specific country, which gives its findings a general character and allows for generalization of its findings to government institutions in similar organizational contexts. This systematic design also enabled the combination of quantitative and qualitative data, helping to create a comprehensive analytical picture of organizations' experience in implementing knowledge management. The study's results revealed a set of critical factors that significantly contribute to the success of implementing knowledge management systems in government organizations, most notably: enhancing internal cooperation between departments, adopting an institutional culture based on openness and transparency, and providing training and professional development programs for employees. The study also highlighted the importance of encouraging innovation, removing bureaucratic barriers, establishing fair incentive policies, providing effective administrative role models, and setting clear and announced knowledge priorities. Conversely, the study identified several major obstacles that could lead to the failure of knowledge management initiatives in government institutions, such as neglecting formal organizational aspects, weak employee participation in knowledge generation and exchange processes, the failure to leverage digital collaboration technologies, the lack of technical infrastructure (networks and devices), complex administrative procedures, a lack of technical competencies, and low levels of trust between employees and management. The study concluded by emphasizing that success in implementing knowledge management systems is not achieved solely through adopting technology or formulating formal policies, but rather through the integration of multiple elements, including corporate culture, participatory leadership, continuous training, and the provision of necessary resources. It also recommended adopting a comprehensive and integrated approach that takes into account all influencing factors to ensure sustainable and effective knowledge management results within the public sector. Al-Qahtani's (2025) study aimed to present a proposed framework for implementing knowledge management to enhance research innovation skills among graduate students at universities, within the context of a global trend toward a knowledge economy and sustainable development. The study was based on the premise that higher education is no longer limited to knowledge transfer, but has become responsible for producing new knowledge that contributes to addressing developmental, social, and economic challenges, particularly through supporting innovative scientific research. The study relied on a qualitative approach to data collection and analysis, with in-depth interviews conducted with a sample of master's students. The data were analyzed using thematic analysis to extract recurring patterns representing students' perspectives on innovation requirements in the scientific research environment. This methodology was chosen to provide a deeper understanding of the nature of the cognitive and skill needs required to activate research

innovation in universities. The study results revealed a set of essential elements necessary to instill innovation skills in scientific research students. These elements included activating a renewed educational environment, relying on modern teaching knowledge and technologies, in addition to building collaborative learning communities that promote the exchange of ideas and the development of critical thinking. The results also emphasized the importance of strengthening partnerships with the industrial sector, encouraging global academic collaboration, and linking scientific research outcomes to the needs of the local community. This contributes to strengthening the university's role as a key player in achieving sustainable development. The applied significance of the study lies in its provision of a set of practical recommendations that university leaders and higher education decision-makers can leverage to develop policies and strategies that support innovation in scientific research. The study demonstrated that promoting innovation is not merely a technical or administrative issue, but rather a comprehensive process that requires building a supportive knowledge system that includes institutional structure, resources, leadership, and educational vision. In light of this, this study represents an important contribution to deepening understanding of the relationship between knowledge management and academic innovation, highlighting how to leverage knowledge management practices to create university environments that stimulate research and innovation, keeping pace with the global shift towards a knowledge economy and contributing to achieving the Sustainable Development Goals.

Peng's (2025) study aimed to explore the impact of social capital on knowledge sharing and transfer within the workplace, in light of the unprecedented challenges posed by the COVID-19 pandemic to the global economy, supply chains, and corporate mobility. The study focused specifically on changes in employee knowledge-sharing behavior, based on the premise that knowledge innovation is a pivotal element in organizational continuity and expansion. The researcher relied on social exchange theory as a theoretical framework to understand the motivations governing employee knowledge sharing and transfer. The study also relied on a quantitative analytical approach, collecting data from 30 companies operating in the information services sector in mainland China. A total of 483 valid responses were obtained, representing the study sample, providing a suitable database for rigorous statistical analysis. The results concluded that social capital, both its relational and structural components, plays an effective role in supporting and enhancing knowledge management processes within organizations. Strong social relationships among employees, along with an organizational structure that allows for the free flow of information, directly contribute to increasing individuals' motivation to participate in knowledge transfer and exchange, which positively impacts institutional performance and organizational innovation. The study also demonstrated that improving knowledge management strategies is not limited to the technical or organizational aspects alone, but also requires investment in building effective social capital, which enhances employee trust among themselves and encourages collaboration and openness of knowledge. This is essential in the context of the digital and institutional transformation witnessed in the post-pandemic world. The study recommended that institutions adopt holistic approaches to knowledge management based on strengthening human relations and developing an organizational culture that supports collaboration, in addition to developing knowledge infrastructure. It also emphasized the importance of integrating social and organizational dimensions in knowledge management strategies.

Shahawati's study (2025) aimed to explore the role of change management in enhancing the sustainable performance of higher education institutions by analyzing the relationship between the dimensions of change management—represented by readiness for change, a supportive climate for change, and change processes—and sustainable organizational performance. The study also sought to clarify the mediating roles played by transformational leadership and knowledge management in this relationship, within a dynamic and constantly changing global business environment. The study adopted a quantitative and exploratory cross-sectional approach, with data collected from the senior management of private higher education institutions in Malaysia. The study used SmartPLS 4.0 to implement structural equation modeling (SEM) to analyze the relationships between variables and assess the extent to which change management dimensions influence sustainable performance through mediating variables. The results revealed that two change management dimensions—climate for change and change processes—have a significant positive impact on knowledge management. Furthermore, climate for change was found to be the only dimension with a significant positive relationship with transformational leadership. The analyses revealed that knowledge management plays a mediating role in the relationship between climate, change processes, and sustainable performance, while transformational leadership emerged as a mediator in the relationship between climate for change and sustainable performance. On the other hand, the study results did not reveal a moderating effect of green teams on the relationship between the

mediators (transformational leadership and knowledge management) and sustainable performance, indicating the limitations of this factor in the context under study. The study reached a number of important recommendations, most notably the need to adopt the dimensions of change management, particularly climate and processes, as a strategic means to enhance sustainable performance in higher education institutions. The study also provides practical guidance for decision-makers in educational institutions and relevant government agencies on the importance of supporting transformational leadership and developing effective knowledge management strategies.

Ewan's study (2025) aimed to shed light on the concept of knowledge-based city logistics by examining the problems hindering the improvement of logistics services in cities and proposing solutions based on knowledge management. This study is important in light of the trend towards building smart and sustainable cities, where effective logistics services are a pivotal part of achieving the well-being of residents and the quality of urban life. Despite technological advancements and the use of tools such as sensors and emerging technologies, the question remains: Is relying on technology alone sufficient to address the complex challenges facing the transportation of goods within cities? The study adopted a qualitative approach by conducting an expert survey, hosting 31 international experts with extensive experience in urban logistics and previous work on specialized research projects in this field. Four key knowledge management processes were transferred to the scope of city logistics to analyze their applicability and the associated challenges. The study results revealed significant difficulties in data collection and knowledge acquisition, two pivotal processes in knowledge management within the logistics context of cities. The study attributed these difficulties primarily to the reluctance of stakeholders such as urban users, retailers, and transport and logistics operators to share information and knowledge. This precise identification of these weaknesses is an important signal for municipalities, logistics managers, and policymakers to reconsider their data sharing and knowledge collaboration strategies. A key finding of the study is the need to develop a collaborative knowledge infrastructure to support city logistics. The proposed solution is to create a collaborative knowledge base that combines an advanced IT tool known as the "Knowledge Management Platform" (KMP) and a partnership focused on urban freight quality. This initiative aims to enhance collaboration between various stakeholders and improve knowledge flow, contributing to the effective resolution of logistics challenges and supporting the realization of a knowledge-based smart city model.

Alkathiri's study (2025) aimed to explore research developments in the field of knowledge management and sustainable entrepreneurship by providing a comprehensive analysis of research trends, key concepts, and the intellectual and social structures that form the cognitive framework of these two intertwined fields. The study also sought to establish a future research agenda that could guide researchers interested in this field and support scientific efforts aimed at achieving effective knowledge-based sustainability. The study followed an integrated bibliometric methodology, complemented by a systematic review, to collect and analyze scientific production related to the study topic. Two main analyses were conducted: the first focused on scope analysis, which includes tracking research trends and temporal developments, and the second addressed the analysis of knowledge structures in terms of their intellectual, conceptual, and social dimensions. The data were based on the analysis of 233 documents extracted from the Scopus and Web of Science databases. The researcher used scientific analysis tools such as R version 4.1.2 and VOSviewer to create accurate knowledge maps. The results revealed a significant development in the production of knowledge related to knowledge management and sustainable entrepreneurship, whether at the level of individuals (authors), institutions, countries, or scientific journals. The study also demonstrated the ability of scientific mapping methodologies to provide in-depth insights into the conceptual, social, and intellectual structures shaping the current research landscape. This study is a pioneering effort that seeks to provide a comprehensive, scientifically based review of this growing field of research. Its findings not only review the current situation but also establish a future research vision, proposing new research paths that can enrich related scientific fields and contribute to promoting sustainable entrepreneurial practices through the effective use of knowledge management.

Rexwhite's (2025) study aimed to explore knowledge management practices among librarians, focusing on the challenges facing the implementation of knowledge management programs in academic libraries, particularly among young librarians. The study addressed the "missing link" in knowledge management practices, as the researcher noted that the lack of sharing of experiences and tacit knowledge among librarians hinders professional development and limits the effectiveness of library operations and the quality of user services. The study relied on a quantitative approach through opinion polls conducted in a group of university libraries in

Nigeria and South Africa, with the aim of collecting data on the extent to which knowledge management concepts and tools are applied in the library work environment. The polls focused on the reality of knowledge sharing, the availability of technical infrastructure, and the extent to which librarians are able to apply their managerial and cognitive skills. The study results demonstrated the importance of sharing tacit knowledge among librarians, given its role in improving library operations and providing more efficient services to users. The results also highlighted the role played by knowledge management tools such as database management systems, web portals, electronic document management systems (EDMS), and barcode readers in supporting librarians in their daily tasks. However, the study also revealed significant obstacles hindering the effective implementation of these tools and programs, such as weak infrastructure, the absence of supportive policies, and a lack of ongoing training and qualifications. To overcome these challenges, the study recommended the need to rehabilitate librarians through training programs that enhance their ability to manage and share knowledge effectively. It also emphasized the importance of governmental and institutional support in providing basic facilities and implementing policies that facilitate the adoption of knowledge management practices in academic libraries. Krišelj's (2025) study aimed to analyze the organizational challenges associated with the implementation of knowledge management through a comprehensive review of local and international professional literature. The researcher sought to explore the relationship between the development of organizational thought, quality management, and knowledge management, as three interconnected axes that influence organizational efficiency and the quality of their performance. The study followed a literature review methodology, analyzing a wide range of freely available scientific studies and articles collected from Slovenian library databases, as well as global databases such as Scopus, Science Direct, and Google Scholar. The review included literature that discussed developments in organizational thought and the impact of knowledge management on organizational performance. The study results showed that adopting knowledge management directly contributes to raising employee efficiency and productivity, and that knowledge management practices positively impact job performance, enhance job satisfaction, and facilitate improvements within the workplace. The study demonstrated that these practices have a significant impact on improving service quality, which in turn impacts overall social well-being from an organizational perspective. The study confirmed that its findings are beneficial to both founders and executive directors, enabling them to enhance institutional performance through effective knowledge management strategies. It also emphasized the importance of prioritizing knowledge management as an essential tool for achieving high-quality services. In terms of academic originality, the study indicated that it is the first of its kind to directly and comprehensively link the three axes: the development of organizational thought, quality management, and knowledge management. This gives it significant academic and research significance and opens the door to in-depth future studies in this field. Despite the cognitive value it provided, the study noted a methodological limitation, namely the failure to specify a clear time period for classifying the analyzed literature. Therefore, the study recommends conducting subsequent research based on a clear chronological classification to compare the development of concepts and research trends within the three axes across different time periods.

Mittelstädt's (2025) study aimed to explore the knowledge work practices of Members of the European Parliament (MEPs) and assess the extent to which knowledge management (KM) is applied in parliamentary institutions, as a vital component of democratic systems. The study was based on the premise that parliaments, despite their pivotal role in policy formulation and decision-making, have not received sufficient attention in the knowledge management literature, unlike other governmental and administrative institutions. The study adopted an exploratory, mixed-method approach. The first phase included an international comparative study of knowledge management in the parliaments of the 28 European countries, including the European Parliament. Between May and June 2023, an online survey was conducted alongside semi-structured interviews with a number of MEPs, with the aim of collecting in-depth data on the use and management of knowledge in parliamentary settings. Although the response rate was only 3%, which calls for caution in generalizing the results, the findings provide important insights into existing challenges. The study revealed that knowledge work within parliaments faces organizational and cultural barriers that hinder effective access to and sharing of knowledge. Moreover, the available human and technical resources are insufficient to ensure a transparent and inclusive knowledge environment. Additional problems have emerged, such as the dominance of ideologies, career aspirations, and the pressures of electoral success, further complicating knowledge management within parliament. The study also indicated that new MPs and members of the opposition particularly suffer from a lack of reliable information due to the absence of a clear systematic knowledge management structure. The study

highlighted the urgent need to adopt a clear parliamentary knowledge management strategy based on raising awareness of the importance of political knowledge, leveraging external expertise, and employing appropriate technical solutions to facilitate access to and organization of knowledge. The study also proposes a prototype for knowledge management in the parliamentary context, representing an initial contribution to the scholarly debate on this important topic. Despite the limited sample size, the study confirms that adopting an integrated knowledge management methodology could effectively contribute to expanding the parliamentary knowledge base and enable MPs to handle the increasing volume of information more efficiently, paving the way for improved legislative work and decision-making within complex democratic contexts.

1.7 Commentary on Previous Studies

Previous studies demonstrate a rich diversity in the academic approach to knowledge management, with each study focusing on a specific dimension of this vital field, according to different application contexts. Some addressed knowledge management in the educational context, such as Shahawati's (2025) study, which examined the role of change management and transformational leadership in supporting the sustainable performance of higher education institutions. Others focused on the general institutional environment, such as Kriselj's (2025) study, which linked organizational thinking to quality and knowledge management. Mittelstadt's (2025) study also distinguished itself by its political orientation, as it addressed knowledge work in the European Parliament, while Forotani's (2025) sought to shed light on the challenges within government institutions. From the academic perspective, as in Al-Qahtani's (2025) study, to the economic perspective, as in Arabi et al.'s study on digital startups, or the industrial context, as in Huang and Cheng's (2025) study on supply chains, we find that knowledge management has been approached from several angles. However, most studies have focused on internal effectiveness or direct institutional performance, without delving deeply into interrelationships or sustainable partnerships between multiple parties.

Similarities: These studies agree in their assertion that knowledge management is not an option, but rather a strategic necessity linked to innovation, performance improvement, and institutional sustainability. They also share the use of rigorous scientific methods, whether bibliometric, quantitative, qualitative, or mixed. Many of them recognize the existence of knowledge gaps or applied challenges that call for innovative solutions.

Differences: However, these studies differ in their scope and focus. For example, studies that have addressed higher education or startups have not addressed the issue of partnership equity or sustainability, but rather have focused on improving efficiency from within the organization. A study like Ewan's (2025), despite its discussion of the urban environment, remained confined to analyzing infrastructure and constraints without proposing integrated partnership models based on fair or sustainable principles.

What distinguishes our study: Our study, titled "A Proposed Strategy for Building Effective Partnerships in Knowledge Management in a Fair and Sustainable Way," stands out in several key points:

1. **Integration of fairness and sustainability in partnerships:** None of the previous studies focused on the concept of fairness in the distribution of knowledge or the institutionalization of fair knowledge partnerships between the various parties (academic, industrial, governmental, and societal). Our study, however, makes this a strategic focus.
2. **Focus on partnership as a knowledge governance model:** Most studies have proceeded from an internal perspective (performance development, process improvement, internal innovation), whereas our study repositions knowledge management within its collaborative context, as a bridge between multiple parties to build sustainable knowledge systems.
3. **Combining a Strategic Vision with an Implementation Model:** Our study presents a practical strategy and a proposed model for knowledge partnerships based on the principles of justice, partnership, and integration of expertise, making them applicable and buildable.
4. **The Values and Human Dimension:** While most previous studies have focused on technical or organizational aspects, our study seeks to integrate the ethical and social dimensions of knowledge management through the fair distribution of knowledge opportunities and equal access to information.

What distinguishes our study from previous studies is that it presents an integrative, humanistic, and strategic dimension to knowledge management, integrating justice and sustainability within the framework of knowledge partnerships and shifting from a focus on "internal management" to building a comprehensive collective knowledge environment. Thus, it represents a missing link in the knowledge management literature and opens new research horizons in this vital field.

1.8 Study Results:

Results of the first question, which states: What is the concept of knowledge management?

This study confirms that knowledge is no longer merely an academic product, but rather a strategic resource that must be managed efficiently within the context of the knowledge economy. Knowledge management has been portrayed as an enabling tool for research innovation in higher education institutions, particularly with regard to developing graduate students' skills. The implicit concept is: "A comprehensive framework concerned with building educational environments that support innovation by organizing knowledge, facilitating its access, and sharing it within the academic community."

1. Knowledge Management as an Institutional Link (Abu Al-Majid et al., 2025) In the context of family businesses, knowledge management appears as an "organizational dynamic" linked to institutional performance and sustainability. The study highlighted the relationship between knowledge management processes (such as storage, transfer, and transformation) and succession processes, entrepreneurial orientation, and innovation. The concept is: "A system of processes and practices that enable the preservation and intergenerational transfer of organizational knowledge to ensure business sustainability."

2. Knowledge Management as a Lever for Institutional Transformation (Shahawati, 2025) The study demonstrates how the dimensions of change management influence knowledge management within higher education institutions. Knowledge management is considered an effective mediator between the institutional climate and change processes, on the one hand, and sustainable performance, on the other. The concept here is: "A strategic tool that enhances the effectiveness of organizational change by supporting the process of organizational learning and knowledge sharing."

3. Knowledge Management in Parliamentary Systems (Mittelstadt Study, 2025) This study approached knowledge management from a new perspective, linking it to the "knowledge work" of Members of the European Parliament (MEPs), emphasizing that the absence of a systematic approach to knowledge management leads to a loss of transparency and difficulty accessing information. According to the study, the concept is: "Organizing and facilitating access to knowledge resources within political contexts, ensuring that decisions are made based on reliable information."

4. Knowledge Management in Urban Logistics (Ewan Study, 2025) This study highlighted the role of knowledge management in improving the efficiency of logistics services in smart cities. It focused on the processes of gathering and acquiring knowledge as an essential part of solving complex problems. The concept, as stated, is: "A collaborative information architecture based on knowledge exchange among various actors to improve the flow of services in complex urban environments."

5. Knowledge Management and Digital Transformation (Arabi et al. Study, 2025) This study addressed knowledge management as a mediating factor between entrepreneurial orientation and business digitization on the one hand, and the sustainable performance of digital companies on the other. Abstract: "An integrated system that enhances the ability to use knowledge to activate digital innovation and achieve sustainable performance in dynamic business environments."

6. Theoretical frameworks explaining the concept (Abu Al-Majid et al., 2025). The study indicated that understanding knowledge management relies on three basic theories:

- Knowledge-based view (KBV): Knowledge is the most important resource for creating value.
- Resource-based view (RBV): Knowledge management is considered a strategic internal resource.

- **Dynamic capabilities:** This view holds that organizations must learn and adapt to change through effective knowledge management.

7. **Knowledge Management in Government Institutions (Furutani Study, 2025)** The study addressed knowledge management as a means of improving government efficiency by enhancing internal cooperation, developing a culture of transparency, and providing the technical infrastructure. The concept here is: "A strategic organizational tool that enhances the quality of public service through the effective coordination of knowledge and human resources."

Summary of the concept derived from all the studies: Knowledge management: It is an integrated set of organizational and strategic processes aimed at generating, storing, organizing, sharing, and utilizing knowledge in all its forms (explicit and tacit), with the goal of achieving institutional excellence, promoting innovation, supporting decision-making, ensuring sustainability, and adapting to environmental changes. Its success is determined by the organization's ability to create a cultural and technical environment that allows for the flow of knowledge within the organization and among its partners.

Results of the second question: What are the most important foundations of knowledge management?

The foundations of knowledge management represent the philosophical, organizational, and technical infrastructure upon which any organization seeking to implement effective knowledge management relies. A review of previous studies indicates that these foundations vary between human, organizational, cultural, technical, and strategic, all of which form an integrated framework that ensures the success of knowledge processes in any organization.

First: Human Foundations - Human Capital and Tacit Knowledge. One of the most prominent findings of the Rexwait (2025) study is that young librarians, despite their possession of knowledge and skills, lack opportunities to activate this knowledge within the workplace due to the lack of genuine administrative empowerment. Al-Qahtani's (2025) study also emphasized the importance of the human element in building knowledge environments capable of generating innovation, as graduate students represent a knowledge reservoir that must be tapped into. **Conclusion:** Human capital is the primary foundation of knowledge management, not only in terms of the availability of knowledge, but also in terms of the ability to express, share, and develop it within a supportive work environment.

Second: Cultural Foundations – A Supportive Environment for Trust and Learning. Peng's (2025) study demonstrated that building social capital within an organization (relationships, trust, and collaboration) is an important foundation for successful knowledge sharing processes. Furutani (2025) also noted that the absence of institutional trust and a supportive culture weakens employee participation in knowledge processes. **Conclusion:** An organizational culture based on trust, openness, and shared learning is one of the most important foundations of knowledge management, as it can either enable or completely hinder knowledge processes.

Third: Technical Foundations – Smart Knowledge Infrastructure. Huang and Cheng's (2025) study indicated that creating knowledge graphs and using artificial intelligence contribute to smarter knowledge management in supply chains. Rexsuite's study demonstrated the importance of tools such as database management systems, EDMS, and barcode readers in supporting knowledge management. **Conclusion:** The availability of a smart technical infrastructure is an essential foundation for knowledge management, especially in digital and complex environments. This includes tools for collecting, storing, organizing, and retrieving knowledge.

Fourth: Organizational Foundations – Leadership and Flexible Structures. Shahawati's (2025) study demonstrated the importance of transformational leadership that enables knowledge to be directed toward sustainable performance. Kriselj's (2025) study also emphasized the need for flexible organizational structures linked to quality management and knowledge management to ensure improved performance. **Conclusion:** Organizational structures and supportive leadership are pillars of knowledge management, as they allow for the distribution of roles and clarification of responsibilities in knowledge flow and decision-making.

Fifth: Strategic Foundations – Vision and Knowledge Policies. Mittelstadt's (2025) study confirmed that the absence of a clear knowledge management strategy within parliaments led to knowledge chaos and a lack of

transparency. Ewan's (2025) study demonstrated that the absence of a clear knowledge vision in urban logistics leads to difficulties in sharing information between different parties. Conclusion: A clear and announced knowledge strategy is an indispensable foundation, as it sets the overall direction, organizes priorities, and directs resources. Sixth: Legal and Institutional Foundations – Policies and Institutional Support. Rexwait's study indicates that the absence of institutional policies that support knowledge exchange among employees constitutes a major obstacle. Furutani's study demonstrated the importance of administrative support and incentive policies that create an environment conducive to knowledge generation and exchange. Conclusion: Regulatory policies and institutional support (legislative and administrative) are pivotal foundations for knowledge management, as they define the framework for formal interaction around knowledge.

Seventh: Dynamic Foundations – Adaptability and Continuous Development. In Abu Al-Majid et al.'s (2025) study, the concept of "dynamic capabilities" was emphasized as a key component demonstrating how organizations can respond to change and leverage knowledge to ensure sustainable performance. This foundation is particularly important in entrepreneurial environments and family businesses, which require significant flexibility. Conclusion: Adaptability, renewal, and continuous learning are contemporary foundations of knowledge management, particularly in the context of innovation and entrepreneurship.

Table (1) Final Summary: The most important foundations of knowledge management

#	Foundation	Study-Based Interpretation
1	Human	Competencies, skills, and tacit knowledge of employees
2	Cultural	Trust, collaboration, and cognitive openness
3	Technological	Digital infrastructure and smart tools
4	Organizational	Effective leadership, flexible structures
5	Strategic	A clear vision and systematic knowledge policies
6	Institutional & Legal	Institutional support, policies, and regulations
7	Dynamic	Flexibility and adaptability to changes

Results of the third question: What are the most important challenges facing knowledge management?

Knowledge management, despite its strategic importance, still faces many complex challenges that hinder its effective implementation within institutions of all types (governmental, educational, industrial, digital, etc.). A review of previous studies indicates that these challenges are divided among organizational, human, cultural, technical, and political dimensions, and together constitute fundamental obstacles to the sustainability and organization of knowledge.

First: Cultural Challenges – Weak Trust and Limited Knowledge Sharing. Rexwaite's (2025) study showed that one of the most prominent challenges in academic libraries is the weak exchange of tacit knowledge among librarians, due to the absence of a culture of collaboration and a supportive environment for sharing. Peng's (2025) study linked weak social capital to limited knowledge sharing within work teams, especially in light of the effects of the COVID-19 pandemic, where levels of trust and group engagement have declined. Conclusion: An unsupportive cultural environment and a lack of trust among employees are among the biggest obstacles to knowledge management, leading to knowledge monopolization and ineffective exchange.

Second: Technical Challenges – Weak Digital Infrastructure. Furutani's (2025) study revealed that many government institutions suffer from a lack of technological infrastructure (networks, devices, information systems), which hinders the implementation of knowledge management. Similarly, Rexwait's study reported that electronic document management systems, barcode readers, and database systems are unavailable or

insufficiently implemented. Conclusion: The absence or inefficiency of supporting technical systems is a major obstacle to the storage, retrieval, and organization of knowledge, especially in organizations with limited resources.

Third: Organizational Challenges – Lack of Knowledge Structures and Policies. Mittelstadt's (2025) study revealed that European parliaments, despite their legislative role, lack a clear strategy for knowledge management, leading to information loss and a lack of transparency. In Ewan's (2025) study, it was found that the lack of coordination among city actors (the public sector, companies, and citizens) caused a disruption in knowledge sharing in logistics services. Conclusion: The absence of regulatory frameworks and institutional policies that govern knowledge management leads to knowledge chaos and poor coordination between teams and departments.

Fourth: Human Challenges – Weak Competencies or Lack of Incentives. Al-Qahtani's (2025) study indicated that graduate students' lack of guidance and institutional support renders knowledge management an ineffective tool in scientific research. Furutani's study also found that among the most prominent obstacles was weak employee engagement due to a lack of training, incentives, and the absence of leadership role models. Conclusion: The lack of investment in human resource development and training in cognitive skills, coupled with the absence of reward systems, is an ongoing challenge that weakens the dissemination and employment of knowledge. Fifth: Structural Challenges – Bureaucracy and Complex Procedures. Furutani (2025) identified administrative complexity and bureaucracy as among the reasons that hinder knowledge initiatives, as employees find it difficult to navigate a complex information management environment. This challenge is also linked to weak organizational structures that do not allow for freedom of initiative or knowledge networking between departments. Conclusion: Bureaucracy and administrative inertia impose restrictions on the flow of knowledge, leading to knowledge being transformed into a static stock rather than being circulated and dynamic.

Sixth: Strategic Challenges – Lack of a Long-Term Vision or Direction. In Abu Al-Majid et al.'s (2025) study, it was noted that the lack of diversity in theoretical frameworks and applied studies in family businesses leads to gaps in understanding the impact of knowledge management on performance. Shahawati's (2025) study demonstrated that organizations may adopt change management practices without a systematic knowledge management strategy. Conclusion: The absence of a long-term strategic vision in knowledge management deprives an organization of the ability to invest in systematic knowledge, rendering efforts fragmented and unsustainable. Seventh: Environmental Challenges - Multiple Stakeholders and Complex Relationships. Iwan's study (2025) identified a major challenge: the reluctance of actors (users, traders, operators) to share data, which complicates the knowledge exchange environment. Mittelstadt's study highlighted how ideological and professional differences among parliamentarians hinder access to and fair exchange of knowledge. Conclusion: The presence of multiple parties with different orientations may create a conflict over knowledge, which calls for the design of clear mechanisms to facilitate cooperation and define the roles of partners.

Table (2) Summary of the most important challenges

<i>Challenge Type</i>	<i>Manifestations in Studies</i>	<i>Potential Impact</i>
<i>Cultural</i>	Weak trust, lack of collaboration	Knowledge monopolization, weak sharing
<i>Technological</i>	Insufficient infrastructure	Difficulty in accessing and organizing knowledge
<i>Organizational</i>	Absence of policies and strategies	Knowledge chaos and weak coordination
<i>Human</i>	Lack of competencies, weak incentives	Reduced innovation and initiative
<i>Structural</i>	Bureaucracy and administrative complexity	Slow knowledge flow

<i>Strategic</i>	Absence of a clear vision	Dispersed efforts and loss of direction
<i>Environmental/External</i>	Conflicting interests of parties	Weak cooperation and loss of transparency

The results of this question demonstrate that knowledge management, despite its intellectual and practical momentum, still faces profound structural and cultural obstacles that prevent it from becoming a strategic pillar within organizations. The key to the solution lies in adopting a holistic vision based on building a stimulating knowledge environment and achieving integration between technical, human, and organizational elements.

Results of the fourth question: What is the proposed strategy for building effective partnerships in knowledge management in a fair and sustainable manner?

This strategy aims to provide a comprehensive framework through which multi-stakeholder knowledge partnerships (academic, governmental, community, and industrial) can be built, based on fair exchange, sustainable impact, and complementary roles. Its importance stems from the realization that knowledge management is no longer an isolated, internal activity, but rather a networking field that requires collaboration across sectors and institutional boundaries.

Objective: A strategy for achieving sustainable knowledge integration: Toward fair and fruitful partnerships in knowledge management

Vision:

To achieve a sustainable, collaborative knowledge environment that fosters integrated partnerships across various sectors, where knowledge is shared fairly and sustainably, contributing to enhancing innovation and achieving sustainable development.

Mission:

To build effective knowledge partnerships between academia, government, society, and industry to promote equitable knowledge exchange, support sustainable impact, and achieve integration between different roles, contributing to the development of a knowledge-based educational, economic, and social environment.

Key Principles of the Strategy:

- **Equity in Exchange:** Ensuring the equitable distribution of knowledge and resources among all stakeholders.
- **Sustainability in Impact:** Focusing on long-term impact and avoiding short-term solutions.
- **Integration in Roles:** Enhancing collaboration among all stakeholders and achieving integration between different roles.
- **Cross-Sector Collaboration:** Encouraging collaboration between various government, academic, community, and industrial sectors.
- **International Networking and Interaction:** Expanding the scope of partnerships to include collaboration across institutional and international boundaries.

Basic principles of the strategy:



1. Fairness and Equity: Ensuring a fair distribution of benefits, responsibilities, and resources among all partners.

2. Transparency and Accountability: Building trust through clear and open communication and establishing accountability mechanisms.
3. Mutual Benefit: Designing partnerships to deliver added value and mutual benefits for all parties.
4. Sustainability: Focusing on building long-term relationships that are adaptable to change.
5. Mutual Respect: Valuing the diverse experiences, knowledge, and cultures of partners.
6. Focusing on Value: Directing partnerships toward achieving clear and measurable knowledge management objectives.

Main stages of strategy implementation:

Phase	Goal	Application
Phase 1: Assessment and Planning	Identify Needs and Objectives	- Identify the institution's knowledge needs and existing knowledge gaps (current reality study). - Define the desired objectives for establishing knowledge management partnerships (e.g., accessing new expertise, developing innovative solutions, exchanging best practices). - Identify potential types of partnerships (with similar institutions, research organizations, experts, suppliers, clients).
	Analyze Potential Partners	- Identify and evaluate potential partners based on their expertise, resources, culture, goals, and alignment with the institution's objectives. - Analyze the risks and opportunities of each partnership.
	Define the Partnership Framework	- Clearly define the partnership's scope, objectives, and expected outcomes. - Define roles and responsibilities for each partner in detail. - Develop mechanisms for decision-making and conflict resolution. - Specify the resources (human, financial, technical) allocated to the partnership.
	Define Mechanisms for Justice and Sustainability	- Define how benefits (e.g., intellectual property, profits, recognition) will be distributed fairly. - Develop plans to ensure the sustainability of the partnership in the long term (e.g., review and renewal mechanisms, contingency plans).
Phase 2: Building and Establishment	Communication and Negotiation	- Communicate effectively with potential partners to explain the partnership vision and its benefits. - Negotiate partnership terms transparently and fairly, considering the interests of all parties.
	Formalizing Agreements	- Document the partnership terms in clear, detailed legal agreements that specify rights, duties, responsibilities, dispute resolution mechanisms, and benefit distribution.
	Building Trust and Relationships	- Invest in building strong, trust-based relationships with partners. - Promote open and honest communication.
	Establishing Shared Knowledge	- Identify appropriate technical tools and platforms for effective knowledge exchange, storage, and management. - Establish clear protocols for knowledge sharing and updates.

	Management Mechanisms	
Phase 3: Management and Activation	Activate Communication and Collaboration Mechanisms	- Create effective, regular communication channels between partners. - Organize joint meetings and workshops to exchange knowledge and build relationships. - Encourage collaboration on joint projects and initiatives.
	Monitor and Evaluate Performance	- Set Key Performance Indicators (KPIs) to measure the partnership's effectiveness and achievement of goals. - Conduct periodic evaluations of the partnership's performance, identifying strengths and weaknesses. - Gather feedback from partners and use it to improve the partnership.
	Ensure Ongoing Justice and Sustainability	- Periodically review mechanisms for distributing benefits and responsibilities to ensure ongoing fairness. - Adapt the partnership to changes in the internal and external environment to ensure sustainability. - Invest in the development of partners' capabilities and promote shared learning.
	Risk Management and Conflict Resolution	- Identify potential risks to the partnership and develop mitigation plans. - Apply clear and effective conflict resolution mechanisms in a fair and satisfactory manner for all parties.
Phase 4: Review and Improvement	Conduct Comprehensive Reviews	- Perform periodic, comprehensive reviews of the partnership's performance, effectiveness, and goal achievement. - Assess adherence to the principles of justice and sustainability.
	Identify Lessons Learned	- Document lessons learned from the partnership experience for application in future partnerships.
	Make Improvements and Adjustments	- Make necessary adjustments and improvements to the partnership structure and operational mechanisms based on review results. - Renew or terminate agreements based on the mutual benefit of all parties.

Critical Success Factors for the Strategy:

1. Senior Leadership Commitment: This refers to the extent of engagement and support of the institution's senior leadership—whether a university administration, a company's board of directors, or a government department—in adopting and implementing the knowledge partnership strategy. The importance lies in the fact that senior leadership provides formal legitimacy, funding, and strategic direction for projects. Leaders' support fosters a culture of collaboration and eliminates potential resistance to change. This is achieved through: involving leadership in formulating partnership objectives; issuing decisions and policies that support collaborative knowledge management; and allocating financial and human resources to implement partnerships.

Practical examples: a university president directing colleges to establish knowledge partnerships with the industrial sector. A minister or governor supporting an open data platform initiative in collaboration with civil society.

2. Collaborative Culture: The existence of an organizational environment within the institution that encourages knowledge sharing, transparency, team spirit, and openness to others. The importance lies in the fact that culture

is the foundation upon which partnerships grow; without a collaborative culture, partnerships devolve into competition or resistance. Sharing tacit knowledge (personal experience) only occurs in psychologically safe environments. This can be achieved by: encouraging employees to work together, celebrating joint initiatives, avoiding the penalties associated with sharing mistakes or problems, and encouraging collective learning. Incorporating the values of "trust, sharing, and acknowledging others" into performance and reward systems.

Applied examples: Teams from different departments collaborate to develop a new knowledge initiative. Allocating weekly time for "learning sharing" or "communities of practice" sessions.

3. Partnership management skills: This refers to the individuals or teams responsible for managing partnerships possessing the knowledge and skills necessary to plan, implement, and evaluate knowledge partnerships. The importance lies in the fact that knowledge partnerships require coordination with multiple parties and a delicate balance between different interests. Weakness in these skills leads to misunderstandings or partnership failure due to miscommunication or misperceptions. This can be achieved by training those responsible for partnerships in negotiation, relationship building, analyzing stakeholders, and conflict management. Furthermore, establishing a unit or department within the organization dedicated to "knowledge partnership management." Using collaborative project management tools (such as Canvas for partnerships or collaborative CRM tools).

Applied examples: Forming a partnership team between the university and the city municipality to manage a community knowledge project. Training public relations officers to manage knowledge collaborations with international organizations.

4. Effective communication: This means building open, continuous, and transparent communication channels between all partners, ensuring regular information and feedback exchange. Good communication enhances transparency, detects challenges early, and facilitates rapid adaptation, as a lack of communication creates knowledge gaps and leads to misunderstandings and a loss of trust. This can be achieved using integrated digital communication tools (such as Slack, Microsoft Teams, Zoom, etc.), organizing periodic meetings (virtual or physical) to monitor progress and coordinate efforts, and documenting and sharing decisions and outcomes with all parties.

Applied examples: An electronic platform for a multi-stakeholder partnership to exchange documents and notes. Monthly newsletters outlining the progress achieved in the partnership and reviewing success stories.

5. Flexibility, adaptability, and the ability to adjust the goals, activities, and structures of the partnership in response to contextual changes and the needs of the parties. and emerging challenges. Partnerships are affected by political, economic, and technological factors; rigid institutions fail. The ability to adapt ensures the continuity and effectiveness of partnerships despite changing circumstances. This is achieved by adopting flexible and adaptable partnership models, conducting interim assessments and periodic reviews of the joint plan, and involving all partners in making adjustment and adaptation decisions.

Practical examples: Modifying the role of an industrial partner in an educational project due to new economic circumstances, and transforming the partnership into a digital partnership when an emergency occurs (such as a pandemic).

Factor	Interpretation	Activation Tools	Risks of Absence
Top Leadership Commitment	Official and strategic support from institutional leaders	Decisions, funding, symbolic participation	Lack of seriousness, weak impact
Collaboration Culture	Organizational environment that encourages participation	Exchange sessions, collective rewards	Knowledge monopolization, resistance to partnership

Partnership Management Skills	Competencies in negotiation, coordination, and follow-up	Training, specialized teams, follow-up tools	Poor coordination, partnership failure
Effective Communication	Continuous and clear communication channels	Digital platforms, meetings, reports	Knowledge gaps, conflicting interests
Flexibility and Adaptability	Smart response to changes	Periodic evaluations, staged adjustments	Freezing of the partnership, lack of continuity

Linking tools and strategic stages:

Phase in Strategy	Appropriate Tool	Goal
Establishment and Planning	Knowledge Management Platforms + Collaboration Tools	Sharing visions and building understanding
Implementation and Operation	Communication Tools + Document Management Systems	Daily coordination and secure knowledge exchange
Evaluation and Improvement	Analysis Tools + KPIs	Measuring performance and identifying development opportunities
Documentation and Institutionalization	Content Management Systems	Preserving institutional memory and ensuring sustainability

RECOMMENDATIONS:

First Recommendation: Adopt a clear and integrated strategic vision for collaborative knowledge management.

Academic, governmental, and private institutions should adopt a clear strategic vision for knowledge management, integrating knowledge partnerships as a tool for achieving development and innovation goals. This vision should include the dimensions of knowledge equity, sustainability, and collaborative innovation, while setting measurable objectives and flexible operational plans. Reference: The results of the first question showed that the absence of a strategic dimension in the concept weakens the effectiveness of knowledge management, as in the study by Mittelstadt (2025) and the study by Shahawati (2025).

Second Recommendation: Establish an institutional culture that supports collaboration and knowledge sharing.

An organizational culture based on trust, openness, and mutual respect among partners must be fostered. The work environment must be conducive to the exchange of both tacit and explicit knowledge, through moral and material incentives, and formal and informal interactive spaces. Reference: The results of the second and third questions confirmed that the absence of a culture of collaboration represents one of the biggest obstacles to knowledge management, as reported in studies by Rexwait (2025) and Peng (2025).

Recommendation Three: Develop digital infrastructure and collaborative knowledge management technologies.

Investment in advanced tools and technologies, such as collaborative platforms, analytics tools, content management systems, and digital communication, is recommended. This will ensure a digital environment conducive to knowledge sharing, documentation, and tracking. These tools should also be linked to performance indicators to evaluate the effectiveness of partnerships. Reference: The results of supporting tools revealed the importance of technical solutions in the success of partnerships and in overcoming organizational and communication challenges, as reported in studies by Huang and Cheng (2025) and Al-Qahtani (2025).

Recommendation Four: Build human capacity to effectively manage knowledge partnerships.

Training and professional development programs should be designed for employees in the institutions participating in the partnership, to qualify them in the areas of knowledge management, negotiation, coordination, and joint project leadership. Administrative units specialized in partnership management should also be established. Reference: The results of the second and third questions revealed that the lack of competencies and knowledge management skills represents a major obstacle, as reported by Furutani (2025) and Abu Al-Majid et al. (2025).

Recommendation Five: Establish fair and flexible governance frameworks to regulate knowledge partnerships.

Governance models should be designed to ensure the equitable distribution of knowledge and benefits among parties, provide clear mechanisms for resolving disputes, and enable continuous adjustments to meet changing needs. This includes signing a partnership charter, defining roles, and mechanisms for participation and accountability. Reference: Several studies (e.g., Iwan and Mittelstadt) have shown that multiple parties and conflicts of interest are among the greatest obstacles to collaboration, requiring a flexible and fair governance framework.

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