

Fostering Knowledge Management Practices Through Artificial Intelligence: Vision 2030 as a Catalyst

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Abstract: The rapid integration of artificial intelligence (AI) into organisational operations has transformed knowledge management (KM) practices, providing opportunities to enhance decision-making, innovation and efficiency. This study explores the adoption and impact of AI on KM practices in Saudi Arabia, focusing on the alignment of these advancements with the Kingdom's Vision 2030 objectives for economic diversification and innovation-driven growth. Using a quantitative methodology, data were collected from management in private and public organisations to analyse the perceptions, challenges and opportunities of adopting AI for KM. While AI tools significantly enhance knowledge sharing, collaboration and the accuracy of knowledge repositories, the findings reveal that AI adoption is hindered by challenges such as limited technical expertise, high costs and resistance to change. The data underscore a strong expectation that AI-driven KM will become essential for maintaining competitiveness in the next decade. Additionally, organisational managers highlight the role of AI in fostering a culture of innovation and entrepreneurship, crucial for achieving the strategic goals of Vision 2030. This research provides actionable insights for policymakers and business leaders, identifying critical enablers of AI adoption, including investments in digital infrastructure, skill development and change management strategies. By addressing these barriers, organisations can optimise the integration of AI to support sustainable development and innovation. The study contributes to the growing body of literature on AI and KM in emerging economies, offering practical recommendations that bridge the gap between technology-driven initiatives and strategic objectives.

Keywords: Knowledge management, Artificial intelligence, Knowledge sharing, Vision 2030, Saudi Arabia, Public and private organisations

1. Introduction

The rapid advancement of artificial intelligence (AI) technologies has transformed business landscapes around the world, enhancing operational efficiency, decision-making and innovation. AI, defined as 'the capability of a computer system to show humanlike intelligent behavior characterized by perception, understanding, action, and learning' (Wirtz et al, 2019, p. 599), has emerged as a pivotal force in transforming knowledge management (KM) practices within businesses (Leoni et al, 2024). KM refers to the systematic process of creating, sharing and leveraging knowledge within an organisation to achieve strategic goals (Aljuwaiber, 2021). The integration of AI into KM aligns with the resource-based view (RBV), positioning AI as a critical resource that enhances organisational capabilities (Barney, 1991).

In Saudi Arabia, the integration of AI into business practices supports Vision 2030, a national plan which seeks to reduce dependence on oil revenues and promote a knowledge-based economy. KM is central to this transformation, as it enables innovation, improves decision-making and fosters organisational agility (Memish et al, 2021). To date, there is a lack of empirical research on KM practices and implementation in public sector organisations in Saudi Arabia (Algahtani, 2019). Furthermore, the existing literature often overlooks how KM initiatives align with the objectives of Vision 2030, requiring an assessment of sector-specific challenges and opportunities in this context (Yusuf & Lytras, 2023). This study fills this research gap by exploring how AI technologies – such as machine learning, natural language processing and intelligent automation – enhance KM processes in Saudi businesses. By focusing on identifying synergies between AI-driven KM and broader economic transformation goals, the research aligns with the objectives of Vision 2030.

This research critically addresses the following research questions:

RQ1: How has Saudi Vision 2030 encouraged the use of KM practices in Saudi Arabia? 1

a) How do key enablers drive the success of KM practices under Vision 2030?

b) What factors hinder the successful alignment of KM initiatives with Vision 2030?

RQ2: How do AI technologies influence KM practices in both public and private sectors in Saudi Arabia?

RQ3: What are the specific expectations and future roles envisioned for AI in enhancing KM processes?

RQ4: What are the primary challenges and enablers of employing AI in KM?

This study provides insights for policymakers, business leaders and scholars by linking KM to Saudi Vision 2030 and emphasizing the strategic role of AI in achieving national objectives. It offers practical recommendations for businesses to enhance their KM practices and contributes to the literature on KM in emerging economies, particularly in the Middle East. The study addresses a gap identified by Leoni et al (2024) and Al-Shboul (2024), who noted the lack of empirical research on the role of AI in KM. Unlike prior research which has focused exclusively on private businesses, this study also explores managerial perspectives in the public sector (Neumann et al, 2024), revealing the contextual factors that influence AI adoption and its impact on KM practices.

2. Theoretical Background

2.1 Organisational Knowledge Management Practices

KM practices are essential for improving organisational performance and innovation. Effective KM strategies enhance knowledge sharing and foster continuous learning, which directly impact organisational outcomes (Aljuwaiber, 2021). Silva and Fain (2024) found that improvements to KM capabilities, such as organisational structure or knowledge processes, lead to better performance in educational institutions. Khanal and Paudyal (2017) similarly found that KM strategies positively affect financial institution performance. Olan et al (2022) emphasised that aligning KM with organisational processes boosts employee motivation and stakeholder satisfaction, contributing to operational success. Ting et al. (2021) highlighted how transformational leaders in public service firms can drive KM adoption through strategic alignment.

Technology plays a key role in KM. Saratchandra and Shrestha (2022) found that cloud computing enhances KM capabilities in small and medium-sized enterprises (SMEs) by improving knowledge acquisition, sharing and utilisation. Leoni et al (2024) explained the transformative role of AI in automating KM processes and personalising knowledge delivery, exemplified by Amazon's use of big data for customer knowledge. The utilization of cutting-edge technologies, including AI in KM, along with its advantages, desirable for future investigation (Liu et al., 2023).

In Saudi Arabia, KM is critical for achieving the goals of Vision 2030, which focus on economic diversification, innovation and creating a knowledge-based society. A comprehensive approach to KM that integrates technology, leadership and organisational alignment is needed to foster innovation and improve performance (Aljuwaiber, 2020). Accordingly, the first aim of this study is to explore how KM practices contribute to innovation, collaboration and alignment with Vision 2030 goals.

2.2 Role of Artificial Intelligence in Public and Private Sectors

AI is transforming both public and private sectors, driving efficiency, innovation and improved decision-making in KM. Its ability to analyse vast datasets, predict outcome, and automate processes has made it a cornerstone of modern organisational strategies (Olan et al, 2022).

In the public sector, AI improves service delivery, resource allocation and citizen engagement. Saudi Arabia's Ministry of Health, for example, uses AI for predictive health analytics, aiding in early epidemic detection and personalised care (Kumar et al., 2025). Neom City, located in North of Saudi Arabia, integrate AI for urban planning, cybersecurity, traffic management and environmental monitoring, aligning with the sustainability goals of Vision 2030 (Hassan, 2020). Public organisations, particularly those implementing AI practices, are responsible for ensuring that AI applications are consistent with essential public values, including efficiency, fairness, accountability, transparency and responsiveness to human needs (Neumann et al, 2024). This alignment is crucial for maintaining public trust, promoting equity and safeguarding the integrity of public services. Wirtz et al (2019) stressed the potential of AI in public organisations but also highlighted the need for more research on its adoption and implementation.

In the private sector, AI can enhance a variety of business functions, especially human resources and operations. AI can stimulate creative thinking, foster shared memory among team members, and enhance feedback and peer review processes, promoting collaboration and innovation (Jarrah et al, 2023). Wijayati et al (2022) highlighted the role of AI in improving employee performance, particularly in data-driven sectors like banking and services. Amazon's AI recommendation engines, for instance, personalise the customer experience, boosting sales; many Saudi retailers use AI to predict trends and optimise supply chains (Alhumaid et al., 2025). In banking, AI facilitates fraud detection, risk assessment and personalised financial advice, improving competitive advantages and customer service (Al-Baity, 2023). However, there remains a lack of research on the long-term effects of AI on workforce dynamics and organisational culture.

The lack of long-term studies presents an opportunity for future studies to investigate the ethical frameworks necessary for responsible AI implementation in both public and private sectors, ensuring that the benefits of AI are realised without compromising social equity or organisational integrity. This paper seeks to fill this gap by analysing the impact of AI technologies on KM practices in public and private Saudi organisations.

2.3 Adoption and Effectiveness of Artificial Intelligence Technologies for Knowledge Management Practices

AI plays a crucial role in knowledge dissemination within digital organisations, improving the delivery of information (Rhem, 2021). A key advantage of AI is its ability to uncover patterns and generate insights beyond human capabilities. AI-driven recommendation systems promote organisational learning by suggesting relevant documents, training materials or collaborators based on user behaviour (Jarrahi et al, 2023). AlQahtani (2024) found that AI adoption in Saudi enterprises improved knowledge dissemination and retrieval, enhancing organisational learning and fostering innovation. Successful AI adoption in KM depends on the technology's compatibility with organisational goals and infrastructure. As Alharbi and Aloud (2024) noted, businesses with advanced IT systems are better positioned for effective AI integration. Despite its potential, AI adoption in KM faces challenges such as data privacy, technological complexity and employee resistance (Leoni et al, 2024). Thus, it can be argued that robust change management strategies and alignment with the organisational culture can assist in mitigating such challenges of AI adoption. Rhem (2021) highlighted the importance of addressing ethical concerns and aligning AI with organisational objectives.

If AI is to effectively advance KM practices, businesses must balance technological advancements with human-centric approaches. A culture of innovation and continuous learning is essential for AI adoption (Alqahani, 2024). Adequate IT infrastructure and access to quality data are also critical, as noted by Alharbi and Aloud (2024). Many Saudi SMEs face challenges related to outdated IT systems. Supportive policies and guidelines, such as those of Vision 2030, have positively impacted AI adoption rates in Saudi Arabia (Yusuf & Lytras, 2023). Accordingly, this research provides an overview of the factors that promote or hinder the implementation of AI in KM practice.

2.4 Contribution of Artificial Intelligence-Enabled Knowledge Management to the Goals of Saudi Vision 2030

The integration of AI into KM practices is crucial for achieving Saudi Vision 2030, which aims to diversify the economy, enhance public sector efficiency and improve citizens' quality of life. AI-powered KM systems facilitate knowledge capture, sharing and utilisation, driving innovation and improving operational efficiency. The Saudi Data and Artificial Intelligence Authority (SDAIA) supports Vision 2030 by enhancing data-driven decision-making within government agencies (Memish et al, 2021). The potential of AI to improve organisational performance through streamlined knowledge processes is essential for the public sector transformation envisioned under Vision 2030 (Memish et al, 2021). AI-driven KM enables Saudi businesses to optimise and innovate, contributing to economic diversification and non-oil revenue growth (Yusuf & Lytras, 2023). AI also supports the development of a knowledge-based economy by fostering the creation and sharing of knowledge across sectors (Alharbi & Aloud, 2024).

However, there are gaps in the KM literature regarding the long-term impacts and challenges of AI. More research is needed to address ethical issues, workforce roles, and the societal and economic impacts of AI adoption (AlQahtani, 2024; Rhem, 2021). Additionally, the role of AI in fostering collaboration between sectors, which is crucial for the holistic development of Vision 2030, remains underexplored. Closing these gaps will enhance our understanding of how AI may contribute to Saudi Arabia's strategic goals and guide effective implementation. As a result, this study aims to provide actionable recommendations that address integration challenges and optimise AI-driven KM strategies.

3. Methodology

This study follows a positivist philosophy, making a deductive approach logical and appropriate. A quantitative strategy was employed to obtain generalisable results within acceptable error limits (Fisher, 1993). Given the exploratory nature of the study and limited access to the population (Ahmed, 2024), non-probability sampling, specifically snowball and purposive sampling techniques, was selected.

3.1 Data Collection and Sampling

Data were collected from middle and executive management in both public and private organisations in Riyadh, Saudi Arabia using a structured survey. Participants were selected for their expertise and ability to provide reliable insights into AI adoption in KM, its challenges and enabling factors (Kukah et al, 2022). Purposive

sampling enabled the researcher to select individuals who were best suited to provide relevant insights, and snowball sampling helped expand participation through referrals, tapping into participant networks. The initial sample was sourced from industry contacts and academic networks, ensuring representation from both public and private organisations of varying sizes and scopes. The total sample consisted of 87 respondents, with 47 (54.0%) from the private sector and 40 (46.0%) from the public sector. Of the total, 52 (59.8%) held middle management roles, while 35 (40.2%) were part of executive management. A majority of respondents (60.9%) had been with their organisations for over 10 years.

3.2 Measures

A self-administered online questionnaire was used to collect data. The questionnaire consisted of a total of 28 primary items, encompassing four general and demographic pieces of information, as well as two questions featuring multi-optional selections were part of the 28 items. All items were measured on a 5-point Likert scale (1 = *strongly agree* to 5 = *strongly disagree*). Participation was voluntary and anonymous, and all possible attempts were made to reduce bias (Podsakoff et al, 2003).

3.3 Statistical Analysis and Results

This study utilised SPSS Version 28 for data analysis. Cronbach’s alpha was calculated to ensure the reliability of the survey instrument, and Pearson’s correlation coefficient was used to assess the internal consistency of survey items and the construct validity of the study axes. Kurtosis and skewness values were used to evaluate the normality of data distribution. Descriptive statistics, including means, standard deviations, item rankings and percentages, were also computed. For inferential analysis, the study employed one-sample and independent sample t-tests. Cohen’s d was used to measure the effect size, offering insights into the practical significance of the findings. Levene’s test for equality of variances was applied to assess the homogeneity of variances between two groups.

3.3.1 Reliability and validity

As seen in Table 1, Cronbach’s alpha exceeded 0.70 for all axes and the overall study, indicating high stability and excellent reliability for field application.

Table 1: Study reliability

Axis	No. of items	Cronbach’s alpha
Impact of Saudi Vision 2030 on KM	4	0.786
Understanding enablers of KM success in the context of Saudi Vision 2030	3	0.714
Challenges to KM alignment with Saudi Vision 2030 goals	10	0.783
Impact of AI technologies on KM	5	0.717
Complete study	22	0.789

The Pearson correlation coefficients for the survey items range from 0.382 to 0.857 (see Table 2), indicating a strong positive correlation between items and the overall axis. All correlations are significant at the 1% level, confirming a high degree of internal consistency and validity.

Table 2: Pearson’s correlation coefficients for the study items

Impact of Saudi Vision 2030 on KM		Understanding enablers of KM success in the context of Saudi Vision 2030		Challenges to KM alignment with Saudi Vision 2030 goals		Impact of AI technologies on KM	
Item	Correlation coefficient	Item	Correlation coefficient	Item	Correlation coefficient	Item	Correlation coefficient
1	0.832**	5	0.794**	8	0.515**	18	0.578**
2	0.857**	6	0.818**	9	0.428**	19	0.724**
3	0.682**	7	0.774**	10	0.679**	20	0.768**
4	0.745**			11	0.670**	21	0.727**
				12	0.638**	22	0.789**
				13	0.734**		

Impact of Saudi Vision 2030 on KM		Understanding enablers of KM success in the context of Saudi Vision 2030		Challenges to KM alignment with Saudi Vision 2030 goals		Impact of AI technologies on KM	
Item	Correlation coefficient	Item	Correlation coefficient	Item	Correlation coefficient	Item	Correlation coefficient
				14	0.762**		
				15	0.715**		
				16	0.388**		
				17	0.382**		

Note: ** indicates significance at the 1% level.

Correlation coefficients were calculated between each study axis and the overall study to determine the construct validity (Table 3). All correlations were positive and significant at the 1% level, confirming the validity of the constructs.

Table 3: Correlation coefficients for the overall study

Axis	Correlation coefficient
Impact of Saudi Vision 2030 on KM	0.526**
Understanding enablers of KM success in the context of Saudi Vision 2030	0.534**
Challenges to KM alignment with Saudi Vision 2030 goals	0.778**
Impact of AI technologies on KM	0.617**

Note: ** indicates significance at the 1% level.

3.4 Descriptive Analysis

3.4.1 The impact of Saudi Vision 2030 on KM practices

The results show that Saudi Vision 2030 has a statistically significant positive impact on KM practices, $t(86) = 21.39, p < .001$. The overall mean of 4.331 for the measure indicates a strong consensus on the role of Vision 2030 in fostering KM adoption. Cohen’s d was 2.29, exceeding the large-effect-size benchmark of 0.8, reinforcing Vision 2030’s substantial influence. The coefficient of determination of 0.842 indicates that 84.2% of the development in KM practices can be attributed to the encouragement provided by Saudi Vision 2030. As seen in Table 4, participants were in agreement that Saudi Vision 2030 influences KM investments (mean = 4.38, $SD = 0.751$) and promotes knowledge sharing for innovation (mean = 4.24, $SD = 0.762$).

Table 4: Participants’ views of the impact of Saudi Vision 2030 on KM practices

Items	Mean	SD	p.c. (%)
Saudi Vision 2030 has encouraged my organisation to implement knowledge management practices	4.33	0.787	86.60
Saudi Vision 2030 has influenced investments in knowledge management systems or tools in my organisation	4.38	0.751	87.60
Saudi Vision 2030 has inspired my organisation to prioritise knowledge sharing	4.37	0.667	87.40
My organisation encourages the concept of knowledge sharing among employees to stimulate creativity and innovation	4.24	0.762	84.80
Mean Total	4.331	0.580	86.62

3.4.2 Key enablers driving the success of KM practices under Saudi Vision 2030

The results confirm that key enablers (i.e. organisational culture, leadership and technological tools) significantly drive KM success under Saudi Vision 2030, $t(86) = 15.16, p < .001$. A Cohen’s d of 1.63 indicates a large effect size, reinforcing this impact. The coefficient of determination of 0.728 shows that key enablers account for 72.8% of KM success variations. Table 5 shows that participants feel that leadership supports KM implementation

(mean = 4.09, SD = 0.802) and technological tools aid KM (mean = 3.99, SD = 0.869). The overall mean (4.031) confirms a shared belief that key enablers drive KM success under Saudi Vision 2030.

Table 5: Participants’ views of enablers for KM success in the context of Saudi Vision 2030

Items	Mean	SD	p.c. (%)
Organisational culture in my organisation supports knowledge management practices due to its dynamism, flexibility and quick response to any changes or developments	4.01	0.723	80.20
Leadership in my organisation is committed to implementing knowledge management practices	4.09	0.802	81.80
Technological tools in my organisation enable effective knowledge management practices	3.99	0.869	79.80
Mean Total	4.031	0.634	80.62

3.4.3 Key factors hindering the successful alignment of KM initiatives with Saudi Vision 2030

Table 6 highlights key challenges in aligning KM with Saudi Vision 2030, including a lack of management support (mean = 4.31, SD = 0.811) and the absence of a clear KM strategy (mean = 4.29, SD = 0.776). Other obstacles include poor alignment with Vision 2030 goals (mean = 3.98, SD = 0.976) and AI integration challenges (mean = 3.89, SD = 0.841). The overall mean (4.122) suggests a strong consensus among respondents on these barriers.

Table 6: Participants’ views of key factors hindering the successful alignment of KM with Saudi Vision 2030

Factors	Mean	SD	p.c. (%)
Lack of management support	4.31	0.811	86.20
Resistance to change among employees	4.06	0.826	81.20
Inadequate digital infrastructure	4.17	0.879	83.40
Lack of a clear knowledge management strategy	4.29	0.776	85.80
Insufficient resources (time, budget or staff)	4.20	0.819	84.00
Poor communication or collaboration between departments	4.14	0.795	82.80
Poor alignment with Vision 2030 goals	3.98	0.976	79.60
Lack of training programs for career development	4.05	0.963	81.00
The integration of AI into knowledge management faces significant challenges in your organisation	3.89	0.841	77.80
The use of AI in knowledge management raises ethical concerns	4.15	0.755	83.00
Mean Total	4.122	0.493	82.44

3.4.4 The influence of AI technologies on KM practices in public and private sectors

AI technologies have a significant positive impact on KM practices in both the public and private sectors in Saudi Arabia $t(86) = 22.41, p < .001$. The overall mean = 4.291 and large effect size Cohen’s $d = 2.40$ confirm this influence. Additionally, an R-squared value of 0.854 indicates AI accounts for 85.4% of changes in KM practices.

Table 7: Participants’ views on the impact of AI technologies on organisational KM practices

Items	Mean	SD	p.c. (%)
AI's potential in enhancing knowledge management practices is underutilised in my organisation due to insufficient digital infrastructure	4.126	0.974	82.52
I believe that AI adoption in KM will become essential for businesses in Saudi Arabia to remain competitive in the next 5–10 years	4.448	0.678	88.96

Items	Mean	SD	p.c. (%)
AI tools help organisations make better data-driven decisions	4.299	0.764	85.98
AI improves the accuracy and reliability of organisational knowledge repositories	4.302	0.704	86.04
Adopting AI in knowledge management practices contributes to supporting sustainable economic development in Saudi Arabia	4.299	0.649	85.98
Mean Total	4.291	0.538	85.82

The highest-rated item in Table 7 is AI’s role in business competitiveness (mean = 4.448, SD = 0.678). Respondents also agreed that AI improves knowledge accuracy (mean = 4.302, SD = 0.704) and supports economic development (mean = 4.299, SD = 0.649), though its potential is limited by inadequate digital infrastructure (mean = 4.126, SD = 0.974). The overall mean (4.291) reinforces this consensus.

3.4.5 Differences in workers' responses across work sectors

The results from Levene's test show a *p*-value of 0.550, indicating equality of variances. Therefore, equal variances were assumed for the t-test analysis. The t-test in Table 9 had a *p*-value of .449, indicating there is no statistically significant difference in workers' responses between work sectors. In other words, opinions on the impact of AI on KM practices do not vary by sector.

Table 9: Independent Sample t-test results (equal variances assumed)

Axis	Sector	N	Mean	Std. Deviation	T	p-value
Impact of AI Technologies on KM Practices	Private	47	4.33	.516	0.760	.449
	Public	40	4.24	.564		

3.4.6 The specific expectations and future roles envisioned for AI in enhancing KM processes

Figure 1 shows that the majority of the sample (60.9%) expects AI to play a critical role in enabling seamless knowledge sharing and collaboration in the future. Another 35.6% believe AI will moderately support these efforts, while only 3.4% have no opinion on the matter.

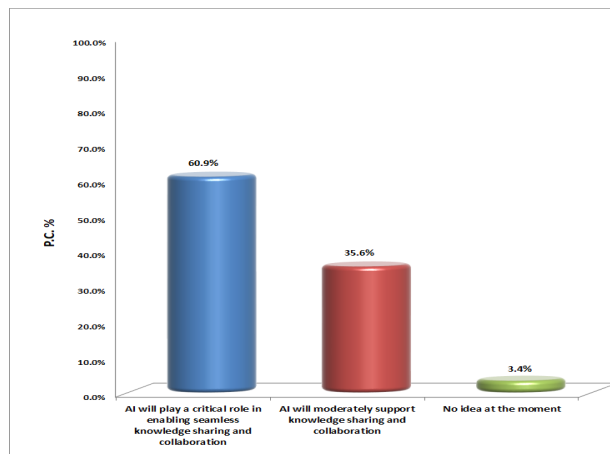


Figure 1: Expectations and future roles envisioned for AI in enhancing KM practices

3.4.7 The primary challenges facing organisations in integrating AI into KM practices

As shown in Figure 2, the majority of participants (62.1%) identified a lack of technical expertise as the main challenge in integrating AI into KM. This was followed by resistance to change among employees (52.9%), concerns about data privacy and security (46.0%), and the high costs of AI technologies (43.7%). Data quality issues were seen as a challenge by only 29.9% of the sample.

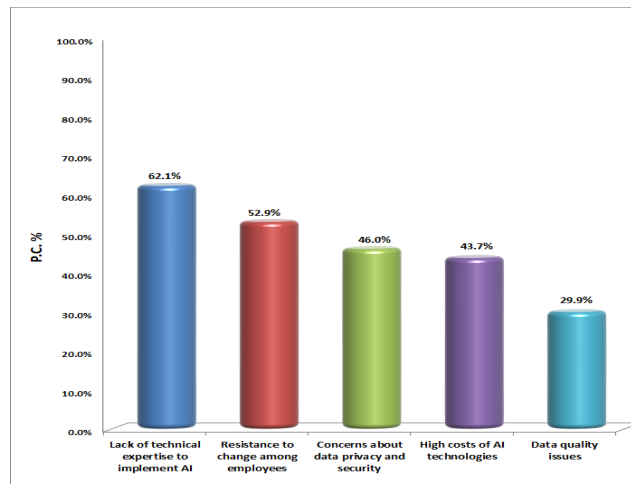


Figure 2: Primary challenges facing organisations in integrating AI into KM practices

4. Discussion

The findings of this survey confirm that Saudi Vision 2030 has significantly influenced organisational investments in AI for KM. Vision 2030's focus on digital transformation, economic diversification and human capital development has led to the increased adoption of KM tools and systems, which organisations now view as vital for innovation, efficiency and competitiveness. Vision 2030 has also fostered a culture of knowledge sharing, supporting collaboration, transparency and continuous learning, which in turn enhances productivity, adaptability and decision-making in Saudi Arabia's rapidly evolving economy. A similar pattern of results in the study by Liu et al. (2021), which indicated that knowledge-friendly organisational culture significantly shapes organizations' perspectives and practices regarding KM. Leadership emerged as a critical enabler of successful KM practices within the context of Saudi Vision 2030, with executive support, strategic vision and top management commitment identified as essential for effective KM implementation. The study also identified key barriers to aligning KM initiatives with Vision 2030, including a lack of management support, unclear KM strategies and insufficient resources. Without strong leadership, KM initiatives struggle to gain traction, and resource constraints and unclear strategies further hinder effective integration. Interestingly, AI integration was seen as a lesser challenge, with ethical concerns about AI in KM ranking moderately among various impediments.

AI technologies are expected to play a crucial role in shaping KM practices in Saudi organisations. The majority of participants believe AI adoption in KM will become essential for business competitiveness in the next 5–10 years, supporting global trends. AI enhances KM by improving knowledge accuracy, retrieval and decision-making through tools like natural language processing and machine learning, while also enabling personalised knowledge recommendations. Participants concurred as to the potential of AI to transform knowledge sharing and collaboration within organisations, with 60.9% of respondents expecting AI to play a critical role in knowledge exchange. Thus, the findings of this study might be considered a promising aspect of future research that highlights the KM across borders (Zhao et al., 2024) in the context of AI. Challenges to AI integration remain, however, including a lack of technical expertise, employee resistance due to concerns about job displacement and workflow changes, and data privacy and security concerns, particularly in the evolving data governance landscape within Saudi Arabia.

5. Conclusion and Implications

The integration of AI into KM practices offers substantial benefits for Saudi businesses and aligns with the objectives of Saudi Vision 2030, particularly in enhancing efficiency, innovation and economic diversification. Successful adoption will rely on factors like organisational readiness, technological infrastructure, a skilled workforce and supportive regulatory frameworks. Addressing these factors is crucial for maximising the contribution of AI-driven KM to Saudi Arabia's transformation goals and ensuring businesses remain competitive. This study provides a roadmap for businesses to leverage AI while supporting the nation's vision for economic diversification and sustainable growth.

The study's findings have both theoretical and practical implications for the integration of AI and KM. There is a need to expand traditional KM theories to incorporate technological advancements, particularly AI, in processes like knowledge creation, sharing and retention. This requires the development of new models that reflect the

role of AI in knowledge process automation and organisational learning (Al-Shboul, 2024). Leadership has been identified as a key enabler of KM success, suggesting a need for updated leadership and change management theories that reflect the management styles required for AI adoption (Ting et al., 2021). The study also identified barriers for AI implementation such as technical expertise gaps, resistance to change, data privacy concerns and data quality issues, which may provide a basis for developing more comprehensive theories on AI adoption in KM.

From a practical standpoint, it is essential that organisations overcome technical expertise gaps by investing in AI and data management training programs in the workforce. Organisations should implement structured change management strategies that address employee resistance to AI adoption and promote a culture of innovation. Addressing data privacy and security concerns requires robust cybersecurity protocols, transparent data management policies and compliance with data protection regulations. Ensuring high data quality is also critical, and organisations must establish data governance frameworks that support the effective integration of AI in KM systems (AlQahtani, 2024).

Several limitations of the study should be acknowledged. The research sample was limited to 87 individuals from managerial positions in Riyadh, making it difficult to generalise the results to other regions or populations. The limitations of quantitative data collection methods should also be considered when interpreting the results. Future research should investigate optimal methodologies for AI-driven KM implementation across diverse contexts. Additionally, this study is a good starting point for discussion and further research to explore the application of advanced technologies, including AI in KM (Liu et al., 2023), along with the benefits they offer, as previously indicated.

Ethics declaration: Ethical approval was not required for the research.

AI declaration: The research has employed AI tools to gather information on the subject matter, facilitate comprehension of various concepts, and support the rephrasing of certain sentences.

References

- Ahmed, Sirwan. (2024) "How to Choose a Sampling Technique and Determine Sample Size for Research: A Simplified Guide for Researchers", *Oral Oncology Reports*, Vol 12, No. 1, pp 1-8.
- Al-Baity, Heyam. (2023) "The Artificial Intelligence Revolution in Digital Finance in Saudi Arabia: A Comprehensive Review and Proposed Framework", *Sustainability*, Vol 15, No. 18, pp 1-16.
- Algahtani, Khaled. (2019) "Knowledge Management practices in the Kingdom of Saudi Arabia Public Sector Organisations", [Doctoral thesis], University of Wolverhampton, <https://wlv.openrepository.com/handle/2436/622796>
- Alharbi, Ghadah and Aloud, Monira. (2024) "The Effects of Knowledge Management Processes on Service Sector Performance: Evidence from Saudi Arabia", *Humanities and Social Sciences Communications*, Vol 11, No. 1, pp 1-19.
- Alhumaid, Meshaal and Alotaibi, Ibrahim. (2025) "Artificial Intelligence, Big Data, and Their Impact on Improving Marketing Effectiveness and Customer Experience in the Retail Sector in the Kingdom of Saudi Arabia", *Jazan University Journal of Human Sciences*, Vol 2, No. 13, pp 1-21.
- Aljuwaiber, Abobakr. (2020) "Knowledge Strategy and Leadership and Their Roles in Change at Universities." *Journal of Management Strategy*, Vol 11, No. 1, pp 17-25.
- Aljuwaiber, Abobakr. (2021) "Enabling Knowledge Management Initiatives through Organizational Communities of Practice", *South Asian Journal of Business and Management Cases*, Vol 10, No. 3, pp 260-275.
- AlQahtani, Mohammed. (2024) "Impact of Artificial Intelligence on Knowledge Management: An Investigation on The Public Sector in Saudi Arabia", *American Academic and Scholarly Research Journal*, Vol 14, No. 7, pp 14-29.
- Al-Shboul, Moh'd. (2024) "Do Artificial Intelligence System Adoptions Foster Production Management Supply Chain Performance in Pharmaceutical Manufacturing Firms? An Empirical Exploring Study from the MENA Region", *Business Process Management Journal*, Vol 30, No. 7, pp 2427-2455.
- Barney, Jay. (1991) "Firm Resources and Sustained Competitive Advantage", *Journal of Management*, Vol 17, No. 1, pp 99-120.
- Fisher, Robert. (1993) "Social Desirability Bias and The Validity of Indirect Questioning", *Journal of Consumer Research*, Vol 20, No. 2, pp 303-315.
- Hassan, Oz. (2020) "Artificial Intelligence, Neom and Saudi Arabia's Economic Diversification from Oil and Gas", *The Political Quarterly*, Vol 91, No. 1, pp 222-227.
- Jarrahi, Mohammad, Askay, David, Eshraghi, Ali and Smith, Preston. (2023) "Artificial Intelligence and Knowledge Management: A Partnership Between Human And AI", *Business Horizons*, Vol 66, No. 1, pp 87-99.
- Khanal, Lekhanath and Paudyal, Santosh. (2017) "Effect of Knowledge Management Practices on The Performance of Nepalese Financial Institutions", *Journal of Advanced Academic Research*, Vol 4, No. 1, pp 44-59.
- Kukah, Augustine, Badu, Edward, Owusu-Manu, De-Graft and Edwards, David. (2022) "Motivations for Engaging in PPP Power Projects in Ghana: Comparison of the Public and Private Sectors", *International Journal of Energy Sector Management*, Vol 17, No. 1, pp 187-205.

- Kumar, Rakesh, Singh, Ajay, Kassar, Ahmed, Humaida, Mohammed, Joshi, Sudhanshu, and Sharma, Manu. (2025) "Leveraging Artificial Intelligence to Achieve Sustainable Public Healthcare Services in Saudi Arabia: A Systematic Literature Review of Critical Success Factors", *Computer Modeling in Engineering & Sciences*, Vol 142, No. 2, pp 1289-1349.
- Leoni, Luna, Gueli, Ginetta, Ardolino, Marco, Panizzon, Mateus and Gupta, Shivam. (2024) "AI-Empowered KM Processes for Decision-Making: Empirical Evidence from Worldwide Organisations", *Journal of Knowledge Management*, Vol 28, No. 11, pp 320-347.
- Liu, Gang, Kianto, Aino, and Tsui, Eric. (2023) "Knowledge Management Technologies and Organizational Performance: A Meta-Analytic Study", *Industrial Management and Data Systems*, Vol 123, No. 2, pp 386-408.
- Liu, Gang, Eric, Tsui and Aino, Kianto. (2021) "Knowledge-Friendly Organisational Culture and Performance: A Meta-Analysis", *Journal of Business Research*, Vol 134, No. 1, pp 738-753.
- Memish, Ziad, Altuwaijri, Majid, Almoeen, Abdulgader and Enani, Sara. (2021) "The Saudi Data and Artificial Intelligence Authority (SDAIA) Vision: Leading the Kingdom's Journey Toward Global Leadership", *Journal of Epidemiology and Global Health*, Vol 11, No. 2, pp 140-142.
- Neumann, Oliver, Guirguis, Katharina, and Steiner, Reto. (2024) "Exploring Artificial Intelligence Adoption in Public Organizations: A Comparative Case Study", *Public Management Review*, Vol 26, No. 1, pp 114-141.
- Olan, Femi, Arakpogun, Emmanuel, Suklan, Jana, Nakpodia, Franklin, Damij, Nadja, and Jayawickrama, Uchitha. (2022) "Artificial Intelligence and Knowledge Sharing: Contributing Factors to Organizational Performance", *Journal of Business Research*, Vol 145, No. 1, pp 605-615.
- Podsakoff, Philip, MacKenzie, Scott, Lee, Jeong., and Podsakoff, Nathan. (2003) "Common Method Biases in Behavioral Research: A Critical Review of The Literature and Recommended Remedies", *Journal of Applied Psychology*, Vol 88, No. 5, pp 879-903.
- Rhem, Anthony. (2021) "AI Ethics and its Impact on Knowledge Management", *AI and Ethics*, Vol 1, No. 1, pp 33-37.
- Saratchandra, Minu and Shrestha, Anup. (2022) "The Role of Cloud Computing in Knowledge Management for Small and Medium Enterprises: A Systematic Literature Review", *Journal of Knowledge Management*, Vol 26, No. 10, pp 2668-2698.
- Silva, Tiana and Fain, Nusa. (2024) "Knowledge Management Practice and Organizational Performance in the Context of International Schools", *International Journal of Knowledge Management*, Vol 20, No. 1, pp 1-15.
- Ting, Irene, Sui, Hai., Kweh, Qian. and Nawanir, Gusman. (2021), "Knowledge Management and Firm Innovative Performance with The Moderating Role of Transformational Leadership", *Journal of Knowledge Management*, Vol 25 No. 8, pp. 2115-2140
- Wijayati, Dewie, Rahman, Zainur, Rahman, Muhammad, Arifah, Ika and Kautsar, Achmad. (2022) "A Study of Artificial Intelligence on Employee Performance and Work Engagement: The Moderating Role of Change Leadership", *International Journal of Manpower*, Vol 43, No. 2, pp 486-512.
- Wirtz, Bernd, Weyerer, Jan and Geyer, Carolin. (2019) "Artificial Intelligence and The Public Sector—Applications and Challenges", *International Journal of Public Administration*, Vol 42, No. 7, pp 596-615.
- Yusuf, Nadia and Lytras, Miltiadis. (2023) "Competitive Sustainability of Saudi Companies Through Digitalization and the Circular Carbon Economy Model: A Bold Contribution to The Vision 2030 Agenda in Saudi Arabia", *Sustainability*, Vol 15, No. 3, pp 1-20.
- Zhao, Yixiao, Liu, Gang and Sumbal, Muhammad, Saleem. (2024) "Knowledge Transfer Across Borders in Multinational Companies", In the 25th *European Conference on Knowledge Management* (pp. 938-943). Academic Conferences International Limited.