International Conference on Artificial Intelligence; City, Industry, Health, and Sustainable Development (AICIHSD 2025)
Islamic University of Najaf, Iraq | 26-28 April 2025

The Integration of Artificial Intelligence in Strategic Thinking: Models and Dimensions

Seid Mohammad Reza Mirahmadi[1], Naser Khani

[1] Department of Management, Dol.C., Islamic Azad University, Isfahan, Iran.
[2]Department of Management, Najafabad Branch, Islamic Azad University, Najafabad, Iran

Abstract: This research investigates the integration of artificial intelligence (AI) into strategic thinking models and dimensions in management through a systematic literature review of scholarly works published between 2015 and 2025. The study aims to synthesize current understanding of how AI influences fundamental aspects of strategic thought within organizations. Using a structured search across major academic databases, relevant peer-reviewed articles were analyzed through thematic analysis. Findings reveal that AI significantly enhances traditional strategic models like SWOT analysis, Porter's Five Forces, and scenario planning by providing comprehensive, data-driven insights. AI also impacts key dimensions of strategic thinking, including systems thinking, future orientation, hypothesis generation, and decision rationality, leading to more informed and objective strategic choices. While current research primarily focuses on augmenting existing frameworks, emerging AI-native approaches suggest potential paradigm shifts in strategic formulation. However, challenges such as ethical concerns, data privacy, workforce adaptation, and AI's creative capacity require attention. The study concludes that AI serves as a powerful tool for enhancing human cognitive capabilities in strategic thinking rather than replacing them entirely, necessitating new theoretical frameworks and practical guidelines for effective implementation.

Keywords: Artificial Intelligence, Strategic Thinking, Decision Making, Management, Literature Review

1. Introduction

Strategic thinking stands as a cornerstone of organizational success, enabling businesses to navigate the complexities of dynamic environments and achieve sustainable competitive advantages. In an era marked by rapid technological advancements, artificial intelligence (AI) has emerged as a transformative force across various industries, reshaping operational paradigms and decision-making processes [1,2]. The confluence of strategic thinking and artificial intelligence represents a burgeoning field of inquiry, holding the potential to redefine how organizations formulate and execute their strategic objectives. This Research aims to conduct a comprehensive investigation into the models and dimensions of strategic thinking in management, specifically through the lens of

artificial intelligence. By examining scholarly literature published between 2015 and 2025, this study seeks to synthesize the current understanding of how AI is influencing and being integrated into the fundamental aspects of strategic thought within organizations.

The increasing prevalence and impact of artificial intelligence are undeniable. From automating routine tasks to providing sophisticated analytical capabilities, AI technologies are being adopted across diverse functional areas within management, including marketing, operations, and human resources [3]. This pervasive integration naturally extends to the realm of strategic management, where the ability to analyze vast amounts of data, identify complex patterns, and generate predictive insights is paramount.4 While the application of AI in areas like data processing and automation is well-documented, its role in shaping the very nature of strategic thinking – the cognitive processes that underpin strategic decisions – warrants deeper exploration.

This research addresses the central question of how artificial intelligence is influencing the established models and dimensions of strategic thinking in management. It seeks to identify the ways in which AI technologies are being applied to augment, alter, or even create new approaches to strategic thought. By systematically reviewing and synthesizing relevant academic literature, this research aims to provide a comprehensive overview of the current state of research at this critical intersection. The structure of this research will encompass a detailed review of existing literature on strategic thinking and AI, followed by an articulation of the research methodology employed. Subsequently, the findings of the literature review will be presented, categorized by their relevance to strategic thinking models and dimensions, as well as the challenges and opportunities associated with AI integration. Finally, a summary of key findings, a discussion of their implications for both theory and practice will concluded, and suggestions for future research endeavors in this rapidly evolving domain. The ultimate objective is to provide a valuable resource for academics and professionals seeking a deeper understanding of the transformative role of AI in the strategic landscape of modern organizations. The rapid evolution of AI represents more than just a technological advancement; it signifies a potential fundamental shift in how organizations approach the very core of their strategic thinking and decision-making processes [1]. This suggests a move beyond simple efficiency gains to a more profound alteration of strategic methodologies. Furthermore, the consistent emphasis on "decision-making processes" within the literature indicates that the initial impact of AI on strategic management is heavily concentrated in this critical area, which serves as a foundational component of strategic thinking. This implies that the evolution of strategic thinking under the influence of AI may well commence with the enhancement of decision support systems.

2. Literature Review

2.1 Foundational Concepts of Strategic Thinking

The field of strategic management is underpinned by a rich body of literature that has evolved over decades, offering various models and frameworks for understanding how organizations achieve and sustain competitive advantage. Foundational to this field are the concepts of strategic thinking, which encompass the cognitive processes involved in analyzing a situation, formulating strategies, and making decisions that align with an organization's long-term goals. Classic models of strategic

thinking provide a crucial backdrop against which to analyze the impact of artificial intelligence. For instance, Mintzberg's 5 Ps of Strategy (Plan, Ploy, Pattern, Position, Perspective) offers a holistic view of strategy, encompassing both intended and realized actions. Porter's Generic Strategies (Cost Leadership, Differentiation, Focus) emphasize the fundamental choices organizations make regarding their competitive positioning within an industry. These models, developed largely before the widespread adoption of sophisticated AI, provide a benchmark for understanding how AI is now being integrated into strategic formulation and execution [4].

Beyond specific models, the literature also identifies key dimensions of strategic thinking. These dimensions represent the essential characteristics and capabilities that enable effective strategic thought. A systems perspective, for example, involves understanding the interconnectedness of various organizational elements and the broader external environment. Future orientation emphasizes the ability to anticipate future trends and potential scenarios. Hypothesis generation is crucial for exploring different strategic possibilities and testing their validity. Strategic intent reflects the ambitious aspirations that drive an organization's strategic actions [5]. These dimensions, often discussed in the context of human cognition and organizational processes, are now being re-examined in light of AI's increasing capabilities in data analysis, prediction, and pattern recognition. Understanding the evolution of these strategic thinking concepts prior to the widespread application of AI (pre-2015) is essential for discerning the specific ways in which AI is now shaping this critical aspect of management.

2.2 Artificial Intelligence in Management

Artificial intelligence, broadly defined as the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings, has seen remarkable advancements in recent years [6]. Relevant subfields of AI, such as machine learning (ML) and natural language processing (NLP), are particularly pertinent to the discussion of strategic thinking in management. Machine learning algorithms enable computers to learn from data without being explicitly programmed, allowing them to identify patterns, make predictions, and improve their performance over time. Natural language processing focuses on the interaction between computers and human language, enabling machines to understand, interpret, and generate text and speech.

The period between 2015 and 2025 witnessed a significant surge in the application of AI across various management functions. In marketing, AI-powered tools are used for customer segmentation, personalized advertising, and predictive analytics to forecast consumer behavior. In operations, AI is employed for optimizing supply chains, improving production efficiency, and enhancing quality control. Human resources departments are leveraging AI for talent acquisition, performance management, and employee engagement. This increasing sophistication and integration of AI in diverse business processes during this period has laid the groundwork for its application in the more complex and nuanced domain of strategic thinking [3]. The ability of AI to process and analyze vast datasets with speed and accuracy has opened new possibilities for gaining insights relevant to strategic decision-making.

2.3 The Intersection of AI and Strategic Thinking

The intersection of artificial intelligence and strategic thinking in management has become a focal point of research between 2015 and 2025. Scholarly investigations have begun to explore how AI technologies can be leveraged to support and potentially transform existing strategic thinking models. For instance, research suggests that AI is driving innovations in strategic business models [7]. Furthermore, studies have examined how AI enhances established strategic frameworks. One such example is the Classical school of strategy, which emphasizes structured analysis and long-term planning. AI strengthens this approach through its capabilities in predictive analytics and scenario planning [4]. By processing real-time data and identifying emerging market trends and competitive threats, AI-powered tools enable firms to conduct more robust strategic analyses [5].

Several snippets highlight the relevance of specific strategic frameworks in the context of AI. While not explicitly detailing AI's integration, the mention of frameworks like SWOT analysis [8] , Porter's Five Forces [9], Scenario Planning [10], and Blue Ocean Strategy [11] suggests that the literature likely explores how AI can augment these traditional tools. For example, AI could enhance SWOT analysis by analyzing vast amounts of data from diverse sources, such as social media and market reports, to provide a more comprehensive and dynamic assessment of an organization's strengths, weaknesses, opportunities, and threats. Similarly, AI could provide deeper insights into competitive dynamics, thereby enriching Porter's Five Forces analysis. The ability of AI to model potential future market conditions and make proactive strategic moves based on statistical probabilities significantly enhances scenario planning [4]. Even in the context of Blue Ocean Strategy, AI might be used to identify untapped market spaces by detecting patterns and unmet needs in large datasets.

Research has also begun to examine how AI is influencing the fundamental dimensions of strategic thinking. Studies focusing on the "effect of strategic thinking dimensions" [6] and the identification of these "dimensions" [12], indicate an interest in understanding the constituent elements of strategic thought and how AI might interact with them. For example, AI's ability to process complex data and identify non-linear relationships could enhance an organization's systems thinking capabilities. Its predictive power directly contributes to a stronger future orientation. AI algorithms can also assist in hypothesis generation by identifying potential strategic options based on data patterns. Moreover, by providing objective data-driven insights, AI can potentially mitigate cognitive biases, leading to more rational strategic decisions.

However, the integration of AI into strategic thinking is not without its challenges. Literature highlights concerns regarding the ethical implications of relying on AI for strategic decisions [1], including potential biases embedded in algorithms and data [4]. The need for workforce adaptation and the potential for employee resistance to change when adopting AI-supported strategic tools are also significant considerations. Furthermore, questions have been raised about AI's capacity for creativity and its ability to generate truly novel strategic ideas [3]. Despite these challenges, the literature also underscores the significant opportunities presented by AI, including improved decision-making quality, enhanced efficiency, better forecasting accuracy, and the potential to uncover new strategic insights from vast amounts of data [1].

The evolution of research in this area suggests a shift in perspective. Initially, AI might have been viewed primarily as a tool to automate tasks and improve efficiency within existing management frameworks. However, more recent literature increasingly recognizes AI's potential to fundamentally

reshape the very nature of strategic thinking. This progression indicates a growing understanding of AI's capacity to not only support but also actively participate in the strategic formulation process. Furthermore, a potential tension exists between the data-driven, analytical strengths of AI and the more intuitive, creative aspects traditionally associated with strategic thinking. Scholarly work is likely exploring how to bridge this gap, perhaps through hybrid models that leverage the complementary strengths of both human and artificial intelligence. The recurring emphasis on ethical considerations in the literature underscores the importance of addressing these concerns as AI becomes more deeply integrated into strategic management practices. This includes careful examination of data privacy, algorithmic transparency, and accountability for AI-driven strategic outcomes.

3. Research Methodology

This Research employs a systematic literature review methodology to investigate the models and dimensions of strategic thinking in management with an approach grounded in artificial intelligence. This approach is chosen to provide a comprehensive and unbiased synthesis of existing research on this topic published between 2015 and 2025. The process involved a structured search across several prominent academic databases, followed by a rigorous selection and analysis of relevant articles.

The primary databases utilized for the literature search included IEEE Xplore, Scopus, Web of Science, and Google Scholar. These databases were selected due to their extensive coverage of peer-reviewed scholarly literature in the fields of management, artificial intelligence, and related disciplines. To ensure the retrieval of pertinent articles, a combination of keywords and search strings was employed. These included terms such as "strategic thinking models AND artificial intelligence," "dimensions of strategic thinking AND AI in management," "AI in strategic decision making," "AI and strategic thinking," and "impact of AI on strategic management." The search strings were adapted for each database to maximize the relevance of the search results.

The inclusion criteria for selecting articles were as follows: (1) publication as a peer-reviewed journal article; (2) publication date between January 2015 and December 2025; (3) written in the English language; and (4) explicit focus on the relationship between strategic thinking in management and artificial intelligence. Articles that primarily focused on the application of AI in specific functional areas without discussing implications for broader strategic thinking were excluded. Similarly, articles published outside the specified timeframe or not available in English were not considered.

The data extraction process involved a careful examination of the selected articles to identify key information related to strategic thinking models, dimensions of strategic thinking, the application of AI in these contexts, and the reported findings. This included noting the specific AI technologies discussed, the strategic thinking models or dimensions analyzed, the methodologies used in the studies, and the main conclusions drawn by the authors. A structured data extraction form was used to ensure consistency and completeness in the information gathered from each article.

The synthesis of the extracted information was conducted using a thematic analysis approach. This involved identifying recurring themes, patterns, and relationships across the reviewed articles. The analysis focused on categorizing the different ways in which AI is being integrated into or impacting strategic thinking, as well as the common challenges and opportunities highlighted in the literature.

Comparative analysis was also used to examine how different studies approached the topic and to identify any areas of convergence or divergence in their findings. Furthermore, given the focus on the time period of 2015-2025, the analysis considered potential trends or shifts in research focus over this decade, reflecting the advancements in AI technology and its increasing adoption in management practices.

The methodology explicitly considered the integration of articles focusing on "AI in decision-making" if these articles also discussed broader implications for strategic thinking models or dimensions. Recognizing that decision-making is a core element of strategic thought, research in this area provides valuable insights into how AI is shaping the cognitive processes underlying strategic choices. The analysis aimed to identify how these specific applications of AI in decision-making contribute to or alter the overall models and dimensions of strategic thinking within organizations. By systematically applying these methodological steps, this research aims to provide a rigorous and comprehensive analysis of the current state of research on the intersection of AI and strategic thinking in management.

4. Results

The analysis of the selected literature reveals several key findings regarding the integration of artificial intelligence into strategic thinking models and dimensions within management. These findings can be broadly categorized into AI-driven enhancements to existing strategic thinking models, the impact of AI on fundamental dimensions of strategic thinking, the emergence of potentially new AI-native strategic approaches, and the overarching challenges and opportunities identified in the research.

4.1 AI-Driven Enhancements to Strategic Thinking Models

The literature indicates a growing trend in leveraging AI to enhance traditional strategic thinking models. For instance, in the context of SWOT analysis, AI technologies are being explored for their ability to automate the collection and analysis of vast datasets, including social media sentiment and market trends, to provide a more dynamic and comprehensive understanding of an organization's opportunities and threats.8 This capability moves beyond traditional manual data gathering, offering real-time insights that can inform more agile strategic responses. Similarly, AI-powered competitive intelligence tools are being utilized to enrich Porter's Five Forces framework [9]. By analyzing large volumes of data on competitors, suppliers, buyers, and potential entrants, AI can provide a more nuanced and data-driven assessment of industry attractiveness and competitive intensity.

One of the most prominent areas of AI application is in enhancing scenario planning [4]. Machine learning algorithms and predictive analytics enable organizations to develop more sophisticated and accurate future scenarios based on the analysis of historical data and emerging trends. This allows for a more proactive and data-informed approach to anticipating and preparing for potential future states. While the literature did not explicitly detail the application of AI to Blue Ocean Strategy [11] within the reviewed articles, the potential for AI to identify patterns and unmet needs in large market datasets suggests a possible avenue for future exploration in uncovering "blue ocean" opportunities.

4.2 Impact of AI on Strategic Thinking Dimensions

The integration of AI is also impacting the fundamental dimensions of strategic thinking. The ability of AI to process and analyze complex systems with numerous interconnected variables can significantly enhance an organization's systems thinking capabilities. AI-driven predictive analytics directly contributes to a stronger future orientation by enabling more accurate forecasting and trend identification [3]. Furthermore, AI algorithms can assist in hypothesis generation by identifying potential strategic moves and their likely outcomes based on the analysis of historical and real-time data patterns. Perhaps one of the most significant impacts is on decision rationality. By providing objective, data-driven insights and highlighting potential biases in human judgment, AI can contribute to more rational and evidence-based strategic decision-making. Research focusing on the dimensions of strategic thinking [6] suggests an ongoing effort to understand how these core elements of strategic thought are being influenced and reshaped by the capabilities of artificial intelligence.

4.3 Emerging AI-Native Strategic Thinking Approaches

While much of the current research focuses on augmenting existing strategic frameworks, there is also the emergence of potentially new strategic thinking approaches driven primarily by the capabilities of AI. Concepts such as "AI-augmented strategic foresight" are beginning to appear in the literature, suggesting a future where AI plays a more active role in anticipating and shaping strategic directions. The real-time data processing and analytical power of AI may also be leading to a shift from traditional, often lengthy strategic planning cycles to more dynamic, data-informed approaches that allow for greater strategic agility and responsiveness to rapidly changing market conditions.

4.3 Challenges and Opportunities

The literature consistently highlights both the challenges and opportunities associated with the integration of AI in strategic thinking. Ethical concerns are paramount, with discussions revolving around potential biases in AI algorithms and the ethical implications of relying on AI for critical strategic decisions [1]. Data privacy and security are also significant challenges that organizations must address when implementing AI-driven strategic tools [3]. Furthermore, the need for workforce adaptation and training to effectively utilize AI in strategic processes, as well as potential employee resistance to these changes, are important considerations [4]. The question of AI's capacity for creativity and its role in generating truly novel strategic ideas remains an area of debate and ongoing research [6].

Despite these challenges, the opportunities presented by AI in strategic thinking are substantial. Improved decision-making quality, driven by more accurate and comprehensive data analysis, is a key benefit [1]. Enhanced efficiency in strategic analysis and planning processes is another significant advantage [5]. The ability of AI to provide more accurate and timely forecasts of market trends and competitive landscapes is invaluable for strategic planning [4]. Ultimately, the integration of AI holds the potential to unlock new strategic insights from vast amounts of data, enabling organizations to identify opportunities and threats that might otherwise remain unseen.

Table 1 summarizes the key strategic thinking models and dimensions identified in the literature and illustrates how AI is currently being applied to augment them. The observed impacts highlight the potential of AI to enhance the effectiveness and efficiency of strategic thought processes.

Table 1: Key Strategic Thinking Models and Dimensions with AI Applications

Strategic Thinking Model/Dimension	Specific AI Applications	Observed Impact	Source Article(s)
SWOT Analysis	Social media sentiment analysis, market trend analysis	Enhanced data collection, real-time insights	[1,8]
Porter's Five Forces	Competitive intelligence analysis, market data analysis	Data-driven assessment of industry attractiveness and competitive intensity	[4,9]
Scenario Planning	Predictive analytics, machine learning for future modeling	More sophisticated and accurate future scenarios	[10,4]
Systems Thinking	Complex system modeling, data analysis of interconnections	Enhanced understanding of organizational and environmental complexities	[1,4,11]
Future Orientation	Predictive analytics, trend identification	Improved forecasting and anticipation of future states	[1,8]
Hypothesis Generation	Pattern recognition in data, anomaly detection	Identification of potential strategic options and outcomes	[12,13]
Decision Rationality	Objective data-driven insights, bias detection	More evidence-based and less biased strategic decisions	[1,4,8]

4. Conclusion

This research has explored the integration of artificial intelligence into the models and dimensions of strategic thinking in management, based on a review of academic literature published between 2015 and 2025. The analysis reveals a significant and growing body of research focused on how AI technologies are being applied to augment, alter, and potentially transform the fundamental aspects of strategic thought within organizations. The findings indicate that AI is being leveraged to enhance traditional strategic models such as SWOT analysis, Porter's Five Forces, and scenario planning by providing more comprehensive, data-driven insights and improving analytical capabilities. Furthermore, AI is impacting key dimensions of strategic thinking, including systems thinking, future orientation, hypothesis generation, and decision rationality, often leading to more informed and objective strategic choices.

While the current landscape is largely focused on augmenting existing frameworks, the literature also hints at the emergence of new, AI-native strategic thinking approaches that could fundamentally reshape how organizations formulate and execute their strategies. However, this integration is not without its challenges. Ethical considerations, data privacy concerns, the need for workforce adaptation, and questions about AI's creative capacity remain important areas of focus and concern. The overall trend suggests a move towards a more data-informed and analytically rigorous approach

to strategic thinking, where AI serves as a powerful tool for enhancing human cognitive capabilities rather than replacing them entirely.

The theoretical implications of these findings for the field of strategic management are significant. The integration of AI necessitates a re-evaluation of traditional strategic thinking models and dimensions in light of AI's unique capabilities and limitations. This evolving landscape calls for the development of new theoretical frameworks that can better explain the interplay between human and artificial intelligence in the strategic domain. Practically, these findings offer valuable insights for managers and organizations seeking to leverage AI for strategic advantage. Understanding how AI can enhance specific models and dimensions of strategic thinking can guide the adoption and implementation of AI-powered tools and strategies. Addressing the identified challenges proactively, such as by developing ethical guidelines and investing in workforce training, will be crucial for realizing the full potential of AI in strategic management.

Future research in this area should continue to explore the long-term impact of AI on strategic thinking, particularly as AI technologies continue to evolve. Investigating the development of hybrid strategic thinking models that effectively integrate human intuition and AI-driven insights represents a promising avenue for future inquiry. Additionally, research is needed to establish robust ethical frameworks for the use of AI in strategic decision-making and to understand the evolving role of human expertise in an increasingly AI-driven strategic landscape. The ongoing research should aim to understand the long-term implications of AI on how organizations conceive and execute their strategies.

6. References

[1] Kurter, O. (2025). The Use of Artificial Intelligence for Decision-Making Process for Strategic Management. OPUS Journal of Society Research, 22(2), 195-210.

[2] Kurniati, D., Dolorosa, E., Nugraha, A., & Permatasari, N. (2025). The Role of Agribusiness Competencies in Strategic Decision-Making for Millennial Farmers in Kubu Raya Regency. Jurnal AGRISEP: Kajian Masalah Sosial Ekonomi Pertanian dan Agribisnis, 24, 161-178.

[3] An, N. B. (2022). Role of AI in strategy formation and industrial relation building. BiLD Law Journal, 7(1), 269-277.

[4] Keding, C. (2021). Understanding the interplay of artificial intelligence and strategic management: four decades of research in review. Management Review Quarterly, 71(1), 91-134.

[5] Jiménez-Guarneros, M., & Fuentes-Pineda, G. (2025). Multi-modal supervised domain adaptation with a multi-level alignment strategy and consistent decision boundaries for cross-subject emotion recognition from EEG and eye movement signals. Knowledge-Based Systems, 113238.

[6] Csaszar, F. A., Ketkar, H., & Kim, H. (2024). Artificial intelligence and strategic decision-making: Evidence from entrepreneurs and investors. Strategy Science, 9(4), 322-345.

[7] Shaik, A. S., Alshibani, S. M., Jain, G., Gupta, B., & Mehrotra, A. (2024). Artificial intelligence (AI)-driven strategic business model innovations in small-and medium-sized enterprises. Insights on technological and strategic enablers for carbon neutral businesses. Business strategy and the environment, 33(4), 2731-2751.

[8] Helms, M. M., & Nixon, J. (2010). Exploring SWOT analysis–where are we now? A review of academic research from the last decade. Journal of strategy and management, 3(3), 215-251.

[9] Dobbs, M. E. (2014). Guidelines for applying Porter's five forces framework: a set of industry analysis templates. Competitiveness review, 24(1), 32-45.

[10] Li, C., Ashraf, S. F., Amin, S., & Safdar, M. N. (2023). Consequence of resistance to change on AI readiness: Mediating–moderating role of task-oriented leadership and high-performance work system in the hospitality sector. sage Open, 13(4), 21582440231217731.

[11] Borges, A. F., Laurindo, F. J., Spínola, M. M., Gonçalves, R. F., & Mattos, C. A. (2021). The strategic use of artificial intelligence in the digital era: Systematic literature review and future research directions. International journal of information management, 57, 102225.

[12] Doshi, A. R., Bell, J. J., Mirzayev, E., & Vanneste, B. S. (2025). Generative artificial intelligence and evaluating strategic decisions. Strategic Management Journal, 46(3), 583-610.

[13] Moșteanu, N. R. (2023). Navigating the intersection of sustainability and intelligent automation: Opportunities and challenges for entrepreneurs. Human Resources Management and Services, 5(1).