



## ARTIFICIAL INTELLIGENCE IN BUSINESS VALUE

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### ABSTRACT

For organizations, the development of new business models and competitive advantages through the integration of artificial intelligence (AI) in business and IT strategies holds considerable promise. The majority of businesses are finding it difficult to take advantage of the opportunities for value creation while other pioneers are successfully utilizing AI. On the basis of the research methodology of Webster and Watson (2020), 139 peer-reviewed articles were discussed. According to the literature, the performance advantages, success criteria, and difficulties of adopting AI have been emphasized in prior research. The

results of this review revealed the open issues and topics that call for further research/examination in order to develop AI capabilities and integrate them into business/IT strategies in order to enhance various business value streams.

**KEYWORDS:** Artificial Intelligence, Business and IT Strategies.

### INTRODUCTION

It has become apparent that both socio-technical and political-economic changes, along with demographic changes, have swiftly accelerated during the COVID-19 pandemic. Modern businesses have had to hone their adaptive capabilities to manage changing market dynamics

and client behavior under these challenging circumstances. Rapid organization evolution is made possible by adaptive capabilities, which also act as a basis for organizational change and digital transformation.<sup>[1,2]</sup> But still lack strategic guidelines in order to keep up with the exponential pace of modern technology.<sup>[3]</sup> Existing businesses use cutting-edge technologies to improve and adapt their operations. Artificial intelligence, also known as the next wave of analytics, is one of those technologies.<sup>[4,5]</sup> The phrase “artificial intelligence” refers to a wide range of leading-edge analytics, applications, and logic-based methods that imitate human behavior, decision-making, and processes including learning and problem-solving.<sup>[6,7]</sup> However, as part of the digital transformation, AI technologies give businesses several chances to transform their operations across numerous sectors.<sup>[8]</sup> Examples include applying AI-driven decision making to loan, credit, or sales forecasts.<sup>[9,10]</sup> Additionally, AI can provide significant benefits by automating formerly manual procedures.<sup>[11]</sup> and enabling enhanced processes where humans and AI collaborate in a positive way.<sup>[12]</sup>

## METHODOLOGY AND DATA

Our research was conducted following the guidelines of Webster and Watson’s<sup>[13]</sup> systematic literature review. This is a procedure that consists of three phases.

- (1) In order to identify databases and keywords, a survey of the most recent literature was conducted.
- (2) Following this, a thorough backward search was performed to look into citations, and a forward search was performed to look for citations of the selected publications.
- (3) At the conclusion of the procedure, potential study opportunities were identified, and all of the articles were categorized by concept in accordance with their individual contents. According to this perspective, this article aimed to fill this gap by conducting a thorough literature review focused on the integration of AI with business strategy, combining the existing approaches with models, highlighting the anticipated advantages, difficulties, and opportunities, and launching a discussion about potential new research directions. Trunk et al.<sup>[7]</sup> conducted a literature study to examine how AI and corporate decision making interact in dynamic situations. In order to provide a summary of the prospects of existing studies in linking AI with business decision-making in dynamic environments, the authors searched for peer-reviewed publications and performed a content analysis. Insight was provided in a theoretical framework that first outlines how humans might use AI for decision-making in dynamic situations before outlining the challenges, prerequisites, and implications that need to be taken into account. Grover and colleagues<sup>[14]</sup> investigated the viability of using AI

within an organization based on six factors, including job fit, complexity, long-term effects, affect towards use, social factors, and facilitating conditions for various elements of operations management, by mining the collective knowledge of experts on Twitter and through the academic literature. A systematic review of the literature in peer-reviewed scientific journal articles was conducted by Caner and Bhatti<sup>[15]</sup> in order to present a theoretical model for examining the AI organizational strategy. They deduced that the key elements of AI in organizations are its capabilities and limitations, financial matters and AI, organizational functions and AI, workforce, industries and AI, and laws and ethics of AI in identifying AI corporate strategy.

### Article Selection

The papers were found in the Scopus, Science Direct, and Web of Science databases using a combination of the phrases Artificial Intelligence (AI), AI capability, business strategy, IT strategy, business value, and digital transformation in the title, keyword, and abstract sections of the search query. Each article was published in a journal that had undergone peer review or in conference proceedings. There were no limits with regard to the year of publishing. The search for the aforementioned keywords resulted in the collection of a total of 1738 articles. Following the application of language, source, and category restrictions, there were a total of 942 articles remaining. After reviewing the contents of the remaining articles, we decided not to include 547 articles because of their titles, 164 articles because of their abstracts, and 109 articles because of their actual content. After that, 6 duplicate articles were eliminated, bringing the total number of articles down to 116. In addition to these, 12 articles were added as a result of the forward search, and 11 articles were added as a result of the backward search. This resulted in 139 articles being available for examination. The search was finished when repeating articles for different keyword combinations were found. The necessary number of articles had been acquired to match prior studies. The major findings and contributions for each paper, along with the illustrative components, were compiled on an Excel data extraction sheet, which was then used to evaluate the final sample. The novelty of this research lies in its focus on the integration of AI with business and IT strategies as a key enabler of digital transformation alignment, which improves a variety of organizational business value outcomes. The study conducted a systematic literature review using a particular technique that has been widely utilized in the past to investigate information systems strategy and subjects related to digital transformation. This research also examined the specific difficulties, solutions, levers, and streams in the context of responsible AI

governance and the use of its ambidexterity in the development of AI capabilities.

### **Artificial Intelligence Capabilities in Organizations**

Thinking, understanding, interpretation, learning, judging, and inference are some of the numerous skills that make up intelligence. People are able to perform tasks such as learning from experience, creating answers to various and unknowable challenges they confront, and reacting as quickly as possible to a new scenario because of their intelligence.<sup>[16]</sup> The heart of AI methodologies consists of these actions. Artificial intelligence refers to a broad range of methodologies that can generate solutions with comparable designs to solve issues and attempt to replicate the intelligence of people or other living things in the computer environment. The success of these methods in solving problems that are NP (nondeterministic polynomial)-Hard, or extremely difficult to solve with conventional methods, is their greatest advantage in business and personal life. Significant scientific progress has been made in the field of AI over the past ten years, which is defined as “a system’s ability to properly interpret external data, to learn from that data and to use this knowledge learned to accomplish specific objectives and tasks through flexible adaptation”.<sup>[17]</sup> Algorithms are already becoming able to digitally perform operations that effectively and productively imitate human learning, profound judgment, and decision-making across a wide range of application domains, driven by a rise in data generation and computation power.<sup>[9,18]</sup> Examples of such business applications include product design, the gathering of limited external knowledge, talent recruitment and screening, and internal business operation optimization.<sup>[19,20]</sup> The taxonomy of artificial intelligence techniques, however, is not generally agreed upon. The majority of AI techniques are grouped under the headings Fuzzy Logic (FL), Artificial Neural Networks (ANN), Expert Systems (ES), and AI-supported Meta-heuristics (MH) approaches in Figure 2, which also presents the different types and applications of AI.<sup>[21,22]</sup> As a result of these advancements, management academics are becoming increasingly intrigued by AI’s potential to assist or change firms.<sup>[23]</sup> However, while the use of AI algorithms is currently the subject of extensive research in a variety of functional areas, such as human resource management, marketing, information systems, economics<sup>[24]</sup>, finance, operations management, and manufacturing, much less focus has been placed on comprehending how the advent of AI alters the nature of strategizing—that is, the activities of those involved in the strategy process.<sup>[25,26]</sup>

## AI Governance

There is a growing consensus on responsible AI governance, despite the lack of a precise definition.<sup>[27]</sup> It can be described as a function that details the various ethical rules that apply to AI. It may also be described as a procedure that spans all phases of AI project lifecycles by adhering to the responsible use tenets.<sup>[28]</sup> In particular, it is crucial to look at what kind of impact responsible AI governance has on businesses' capacity to adopt changes in business products, procedures, and services and benchmark against competitive performance gains.<sup>[29]</sup> Microsoft, for instance, created explain ability tools to comprehend machine learning models that support decision making.<sup>[30,31]</sup> Therefore, there is accumulating evidence to support the assertion that responsible AI governance affects internal organizational knowledge management skills.<sup>[32]</sup> as well as how organizations are perceived by external entities when utilizing AI.<sup>[33]</sup>

## DISCUSSION

In order to help businesses align with their digital transformation and deliver improved business value outcomes, the integration of AI with business/IT strategies was the focus of this study. Artificial intelligence or research is fundamentally sparked by digital transformation, extremely difficult problem, and businesses' need to model and comprehend human behavior. The significance of management information system, located at the intersection of information, business, and industry, has grown even as a result of the fourth industrial revolution particularly now that digitalization has grown into a necessity. We conducted a systemic literature review using a particular technique that has been widely utilize in the past to investigate information system strategy and subjects related to digital transformation. Our research indicates that an organization commonly undergoes a digital transition as a result of environmental technological development. It is now urgently necessary for the organization to be able to connect with its surroundings and follow new regulatory frameworks. The study's finding present a more detailed picture of how AI affect organizations. Previous research has demonstrated how the application of AI can help organization acquired the adaptive organizational capabilities necessary to increase operational efficiency.

## CONCLUSION

AI has been hailed as a revolutionary technology that has the potential to change the way businesses operate. This study delves into the specific ways in which AI can be integrated

with business and IT strategies in order to help organizations navigate the digital landscape and achieve their goals. The research finds that the integration of AI capabilities with business/IT strategy is a key enabler of digital transformation alignment and that the synergistic ambidexterity effect of innovative and routine AI deployment outweighs the solo benefit. One of the key takeaways from this study is that AI is not just a tool, but a force that can shape the very nature of an organization. As businesses seek to harness the power of AI, they must be mindful of the ways in which this technology can be used to create new opportunities and unlock new forms of value. This requires not only a deep understanding of the technology itself but also a willingness to question established norms and explore uncharted territories. In this sense, the integration of AI with business and IT strategies can be seen as a form of alchemy, in which organizations are able to transmute the raw materials of data and technology into new forms of value and competitiveness. This process requires a deep understanding of the underlying principles of AI, as well as a willingness to experiment and take risks. Ultimately, this study highlights the importance of embracing the potential of AI in order to thrive in the digital age. As businesses seek to stay ahead of the curve and adapt to the rapidly changing landscape, they must be willing to question the status quo and explore the uncharted territories that AI has opened up. In doing so, they can unlock new forms of value and gain a competitive edge that is difficult to replicate.

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