Chapter 7
Digital Transformation and Organizational Performance:
Evidence From Multinational Firms

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ABSTRACT

Although artificial intelligence has driven digital transformation in several countries and sectors, many large companies are still lagging behind in adopting these technologies. In fact, business managers remain unaware of the strategic role AI can play. Therefore, explaining the potential of AI and its strategic implications could be a viable solution to address this issue. In this context, this chapter explores how AI can enhance organizational performance by developing dynamic capabilities. Using a survey-based approach, we collected data from multinational firms in Tunisia to examine the indirect effect of AI adoption on organizational performance. Data was gathered from 226 multinational firms and analyzed through structural equation modeling. Our findings reveal that AI adoption positively impacts three key dynamic capabilities: exploration innovation, strategic decision-making speed, and exploitation innovation. These results highlight the strategic benefits of AI adoption in multinational firms, fostering capabilities that, in turn, enhance organizational performance.

INTRODUCTION

Organizations have recently started to digitally transform novel digital technologies such as Artificial Intelligence (Khanagar, et al., 2021). Artificial intelligence developers have realized that digitally transforming operations and processes by means of Artificial Intelligence is a necessity for organizations so that they could deliver quality and timely services.

Research shows that Artificial Intelligence improves firms' ability to adapt to rapidly changing business environments and enhances the quality of their products and services (Wong et al., 2024).

However, recent reports and empirical studies indicate that many large firms are still facing difficulty effectively using their Artificial Intelligence applications. This creates uncertainty regarding whether and how this technological investment can deliver organizational value (Weber et al., 2023; Feng et al., 2024).

DOI: 10.4018/979-8-3373-0149-5.ch007

Moreover, authors (Shang et al., 2023; Oduro et al.,2023 ;Li et al.,2023 ; Grünbichler and Salimbeni, 2024) indicate that while some organizations are boosting their investments in Artificial Intelligence (e.g Google, Amazon, IBM, Tesla, Nvidia…), many large firms are slill either reluctant or nor ready to use it. This situation poses challenges for researchers and practitioners in figuring out how to effectively take advantage of Artificial Intelligence applications to meet organizational goals and how to improve performance.

Note that the impact of Artificial Intelligence has been demonstrated in a holisic approach across various sectors, including public organizations, healthcare, banks...

Although artificial intelligence is prevalent across many fields and industries, its impact on the operations of large enterprises, particularly multinational firms, remains complex and ambiguous (Arroyabe et al., 2024; Cordeiro et al., 2024).

Additionally, the literature emphasizes a limited understanding of how organizations can effectively deploy Artificial Intelligence applications across various departments and services within large firms (Jafarzadeh et al., 2024; Schwaeke et al., 2024).

Despite these challenges, the concept of Artificial Intelligence has been developed from a strategic perspective.Therefore, the notion of Artificial Intelligence capability has been put forth to describe the capacity of organizations to plan and deploy intelligent solutions in order to improve organizational activities.

Several theoretical studies have highlighted the effect of Artificial Intelligence strategic capabilities on the performance levels of organizations.

However, recent research on Artificial Intelligence usage in large companies reveals that a significant barrier to adopting Artificial Intelligence in their operations and processes is the lack of understanding its capabilities and potential benefits (Schaefer, Lemmer, and Kret, 2021).

For instance, Yusuf et al.,(2024) and Chahda et al(2023) argue that several organizations are likely to face Artificial Intelligence challenges when acquiring incomplete information about these thechnologies.

Other studies have revealed that companies experience organizational resistance because of insufficient understanding of the perceived performance of new technologies (de Wilde,2023 ;Shang e al.,2023).

In fact, some studies have focused primarily on Artificial Intelligence innovation capability and its direct effects on economic performance (Wang et al., 2023 ; Tay, 2024). Additionally, the Artificial Intelligence literature highlights its innovation capability in SMEs. Other recent research works have implicitly demonstrated the role of Artificial Intelligence in enhancing decision-making capacity(Lemos et al., 2022 ;Kim and Leos, 2023 ;Lada et al.,2023).

As organizations adopt such technology as AI, a strategic approach is crucial to fully capitalize on the poential benefits of Artificial Intelligence capabilities. Exploring Artificial Intelligence applications is part of a broader framework for understanding its impact on organizational performance (Olan et al., 2022; Vrontis et al., 2022a). Hence it is necessary to study the strategic capabilities of Artificial Intelligence on organisational performance.

This study is based on the notion of a strategic Artificial Intelligence capabilities, as necessary capacities that organizations must foster to derive value from emerging digital technologies. Grounded on dynamic capability theory, we propose an adapted operationalization of the notion which outlines three broad types of capacities that need to be considered by organizations: strategic decision capability, exploration capabiliy and exploitation capability.