Artificial Intelligence and Business Models:
Case Studies, Meta, X, and TikTok

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ABSTRACT

Amid rapid technological developments, integrating digital technologies into administrative and commercial activities has posed a significant challenge for many companies. This study aims to analyse how smart digital technologies can transform the business models of companies. The authors discuss the impact of artificial intelligence as one of the results of the digital revolution on the business models of three giant companies (Meta, X, and TikTok) specializing in search engines and content production and having a network of clients around the world. Accordingly, they explore through a qualitative methodology the mechanisms of business model development. The results indicate the ability of artificial intelligence to develop companies' business processes. The study contributes to increasing knowledge about our understanding of AI-powered business models. The study provides a guide for managers to create, demonstrate, and capture value when developing business models.

1. INTRODUCTION

Organizations are increasingly relying on artificial intelligence (AI) technologies (Burström et al., 2021), by integrating these technologies into their various activities with the aim of increasing their outputs and reducing their costs (Deriu et al., 2024; Gupta et al., 2023). AI is not a new phenomenon, its real background goes back to the 1940s and 1950s, when Turing introduced and tested the concept of "machine intelligence" (Turing, 1950; McCorduck, 2004). Scientists' desire for AI was to develop machines that mimic tasks performed by humans and require intelligence (McCarthy et al., 2006). In

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other words, producing intelligent systems that faithfully mimic individuals' behaviors at cognitive, emotional, and social levels (Haenlein and Kaplan, 2019,a). Teece (2018) argues that AI represents a technology that can be integrated into routine workflow procedures that helps increase value in disparate parts of the value chain. For example, Björkdahl (2020) emphasizes that companies that have introduced smart technologies into their operations have reduced production costs and reduced waste of time and resources. Some researchers and practitioners provide evidence that new digital technologies, including AI, are linked to business models (BM) (Merin-Rodrigañez et al., 2024; Vial, 2021), either modifying or replacing such that a new value chain is created that may have a positive impact on companies' business results (Kumar et al., 2023). In contrast, the literature has indicated that some companies have failed to integrate smart technologies into their BMs and have not achieved the expected growth (Burström et al., 2021).

Teece, (2010) asserts that companies operate, albeit implicitly, in a certain form of BM, even without using the term itself. According to Baden-Fuller and Morgan (2010), the BM represents a conceptual framework that explains how companies create value, the conditions for providing service to customers, markets, and the strategic components of the company, including the opportunities and challenges they pose. Research findings reveal that more successful companies attach greater importance to BMs than less successful companies (Wirtz et al., 2016). In this context, companies that are unable to adapt to the changes taking place around them fail and exit the markets, or lose their independence, either by acquisition from other companies or by merger (Manshreck, 2022).

The current study aims to understand the relationship of AI to BMs, including value creation, presentation, and capture (Kraus et al., 2022; Spieth, and Schneider, 2016). Although the impact of AI on BMs is widely recognized by academics and practitioners (Caputo et al., 2021; Di Vaio et al., 2020; Filser et al. 2021), little research has addressed the how and consequences of this impact (Burström et al., 2021). Teece (2018) defined AI as a technical tool that can be integrated into companies' systems and operational processes that helps provide added value in the value chain. At the same time, companies may be forced to reformulate their BM designs based on the new integration (Kumar et al., 2023). Meta, X (Twitter until recently) and TikTok, use algorithms that collect information, analyze data, and draw conclusions to benefit from them in managing customer relationships and achieving better performance. Both Meta and X, have developed their BMs, either modifying or replacing them, or even changing their brands, to meet the needs of their customers spread across the continents of the world. BMs provide a picture that describes a company's workflow and stages of development (Kaplan, 2012; Clauss et al., 2020). More specifically, the BM describes how value is created for customers, how it is delivered, and what the company's revenues are from it (Gassmann et al., 2015). Based on resource-based theory (Barney, 2001) and dynamic capabilities (Teece, 2010), the study seeks to reveal the role of AI technologies in BM development. The study seeks to reveal relevant factors in the development of BM. We propose a conceptual framework that highlights how BM tools can be modified or innovated. To better understand this connection we ask the following questions: How do new BM s create, display, and capture value? To what extent does AI e affect the three components of the BM s of Meta, X, and Tiktok companies?

To answer the research question, qualitative methodology was used. Three giant companies in the field of communications were selected. The aforementioned companies use the Internet and are considered among the largest companies in the field of social media. These companies use AI technologies, which enhances human creativity and contributes to changing or restructuring BMs so that they can continue to innovate and create value (Daugherty et al. 2023). We conducted several interviews with the staff of these companies to understand how they apply AI technologies and modify their BMs. Our results