

Artificial intelligence (AI) has the potential to become ubiquitous in the modern business landscape as a general-purpose technology (Davenport & Ronaki, 2018). Firms in diverse industry sectors are considering deploying AI-based technologies within their business operations, from healthcare to education to publishing (Jiang et al., 2017; Tarafdar et al., 2019). However, considering that the AI-led transformation is only beginning, there is extreme uncertainty about the opportunities as well as the challenges that firms will encounter. On the one hand, AI presents myriad opportunities for businesses to reduce costs, generate value along their entire value chains, and also acquire competitive advantage (Davenport & Ronaki, 2018; Gregory et al., 2021). On the other hand, businesses face challenges in navigating the competitive, regulatory, ethical, and corporate social responsibility landscapes, simultaneously (Gerke et al., 2020; Kemp, 2023; Scherer, 2015). This degree of potential disruption is unique to AI, a technological discontinuity unlike most technologies in the past decades (Maula et al., 2013).

In this proposed research, my goal is to understand the role of the board of directors (BoD) in helping firms navigate AI-led technological disruption. I propose to draw from three key literatures, all of which have examined the role of the BoD in addressing technology management challenges, though in limited ways. First, in the literature on firm upper echelons (Hambrick & Mason, 1984), the top management enables a firm to navigate technological disruptions (Jingyu Li et al., 2021) by directing the top management's attention allocation processes (Eggers & Kaplan, 2009), and further, inter-organizational relationships can play a key role (Maula et al., 2013). The second literature is on board composition and board interlocks. Previous studies showed that business board interlock could diffuse knowledge and expertise (Howard et al., 2017), influence decision-making across firms (Haunschild & Beckman, 1998), and increase a firm's ability to anticipate future development (Burt, 1983; Westphal et al., 2006). Moreover, board composition influences firms' failure (Hsu & Wu, 2014), firm governance (Yeh & Woidtke, 2005), financial fraud (Beasley, 1996), operating performance, and stock prices (Dahya & McConnell, 2007).

I propose to address critical gaps in the existing literature, of which I discuss a few here. One, the extant research, including the seminal works discussed above, mostly considers CEOs and other executives as top management, and the role of the BoD in this process has been largely overlooked. The second gap in the research is evident in papers that examine the influence of the BoD but only consider either its internal dynamics or external links as explanatory factors, without exploring the interaction between internal and external characteristics. (Howard et al., 2017). Third, the considerable literature on IT governance (Tanriverdi, 2006) is largely in the context of managing regular IT operations and rarely on navigating technological discontinuities. Finally, except for a few papers (Andriole, 2009; Benaroch & Chernobai, 2017), board studies have shown insufficient attention to the roles of the BoD in technological discontinuity and technology management.

Considering the impending AI-led transformation is unique, a number of questions arise relevant to BoD, all of which deserves fresh attention. First, how is the BoD composition being adapted by firms, if at all, to respond to AI impacts? Second, how are BoD interlocks being strategically chosen to position a firm to leverage the opportunities or mitigate the threats of AI to a firm? Third, how is the relationship between the BoD and top management evolving to maximize the benefits derived from technological discontinuity? I propose to use archival databases, including financial and accounting sources, as well as questionnaire surveys and text analysis to answer the above questions. The results of the research will generate insights on how the BoD should reconfigure itself in terms of its internal expertise and its external connections in order to fulfill its varied responsibilities, which are all becoming highly salient and also mutually conflictual in the face of the impending AI transformation.

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