

# The Impact of CEO Characteristics on IT Capabilities of Private Family Firms

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## 1. Introduction

Digitalization is rapidly transforming organizations and digital transformation is impacting firms of all sizes and sectors (Sorescu, 2017). In an increasingly digital business environment, IT capability gained significant importance as it enables firms to take advantage of emerging digital technologies. IT capability describes a firm's ability to assemble and deploy IT-based resources in combination with other firm's resources (Bharadwaj, 2000). Firm's IT capabilities are, therefore, important for firm performance, which is also empirically confirmed (Ke & Wei, 2008). Nwankpa and Roumani (2016) reported that IT capabilities not only directly enhance firm performance, but they also positively influence the outcome of digital transformation, which further amplifies the benefits of IT capabilities.

While the importance of having IT capabilities is already widely confirmed in the literature, there seems to be a high level of variety in terms of these capabilities among firms. It is, therefore, highly relevant to examine what characteristics drive the investment in IT capabilities. There are several firm level drivers of IT capabilities identified in the literature. Firm size, industry, competitive pressure, organizational culture, and IT readiness are key drivers of IT capabilities at the firm level. Larger firms have more resources to invest in IT capabilities (Liang et al., 2007), while the industry in which a firm operates influences IT investment decisions and capabilities (Chen et al., 2017; Liu et al., 2015). Competitive pressure motivates firms to invest in IT capabilities (Singh et al., 2021), and those with a culture supporting risk-taking and innovation tend to possess greater IT capabilities (Rai et al., 2006; Hartono et al., 2008; Lu et al., 2015).

It is evident from the aforementioned literature that drivers of IT capabilities have been predominantly studied at the *firm* level, neglecting the potential contribution of individual-level drivers. These individual-level drivers may include the IT skills and knowledge of employees, the attitudes and beliefs of individuals towards technology, and their motivation to use IT in their work. As such drivers are expected to play a significant role in the development and utilization of IT capabilities within organizations as well, it is crucial to examine them.

Despite the potential significance of individual-level drivers, there is a lack of research on their role in the development of IT capabilities, particularly in private family firms. Private family firms often face unique challenges, such as the interplay between family dynamics and business decisions, which may affect their investment in IT capabilities. Family firms might be more reluctant to invest in IT capabilities due to their focus on non-economic and family goals next to financial goals (Gomez-Mejia et al., 2011). However, having the right IT capabilities will also become more and more important for these firms as it can improve efficiency, communication, and competitiveness in an increasingly technology-driven business environment. Within these firms, however, the level of IT capabilities is less likely to be influenced mainly by firm-level drivers. In private family firms, the CEO often holds significant influence as the head of the family and founder of the firm, making them the key decision-maker (Hsu et al., 2013). Hence, the CEO is typically seen as the main driving force behind the

organization's decision-making processes in private family firms. This emphasizes the importance of individual-level drivers in shaping the firm's IT capabilities in private family firms. While valuable qualitative work from Kammerlander and Ganter (2015) already suggested the CEO's non-economic goals as determinant of whether the CEO assesses an emerging technology as relevant enough to warrant a reaction from the firm, quantitative research on this topic is still lacking.

Therefore, this study focuses on the impact of individual-level CEO characteristics on the IT capabilities of private family firms, more specifically CEO education and age. Education is considered important for enhancing cognitive ability and knowledge, influencing IT adoption and use. Younger CEOs are believed to be more adaptable to change and risk-taking, leading to greater investments in IT. However, family dynamics, such as family status and generational stage, may influence these relationships. Family CEOs face a complex decision-making process when investing in IT capabilities, considering both business and family-related factors. The generational stage of the family firm may also play a role, as attitudes towards IT investment will vary across generations. Therefore, the research aims to understand the influence of CEO age and education on IT capabilities in family businesses, considering the moderating effects of family status and generational stage. By addressing this research gap, the study contributes to the literature on family businesses and emphasizes the importance of developing IT capabilities in the digital transformation era. The study adopts a holistic approach, incorporating the concept of a "mixed gamble" in decision-making within family businesses, and highlights the role of family dynamics in shaping the outcomes of these firms.

## **2. Methodology**

The study will employ a combination of questionnaire data and financial statement data. This data will provide valuable insights into the personal attributes and traits of CEOs as well as their firm's IT capability, which will be analyzed to test the hypotheses of this study. The collected data will be analyzed primarily through regression analysis to examine the impact of the CEO characteristics education and age on the firm's IT capability and the moderating role of CEO status and generational stage.

## **3. Results**

It is expected that CEOs with higher levels of education are likely to have a positive influence on IT capabilities within privately-owned family firms. This positive impact can be attributed to their advanced cognitive abilities, extensive knowledge, and deeper understanding of technological advancements, which facilitate the development and utilization of IT capabilities. Similarly, the study anticipates that younger CEOs will exhibit a positive effect on IT capabilities. Their adaptability to change, openness to innovation, and willingness to take risks are expected to contribute to the effective adoption and utilization of IT within the organization.

However, the relationships between both CEO age and education, and IT capabilities are expected to be influenced by family dynamics. The research predicts that family status (whether the CEO is a family member or not) will moderate the impact of CEO age and education on IT capabilities. More specifically, family CEOs may view the investment in IT capabilities to be a more complex decision that involves weighing the perceived business benefits (e.g. improved efficiency) with potential family related tradeoffs (e.g. loss of control). Hence, it might be a mixed gamble for family CEOs and they may not always prioritize investing in IT capabilities according to their personal preferences. Therefore, it is expected that the effect of CEO education and age on IT capability will be weaker for family CEOs than for non-family CEOs.

Similarly, the generational stage of the family firm is also expected to play a significant moderating role. According to the study of Schulze et al. (2003), first generation family members often prioritize immediate consumption over long-term investment, hence, may perceive IT investment as risky due to potential financial constraints and lower dividends. On the other hand, subsequent generations demonstrate a greater inclination towards innovation and long-term success (Hernandez-Perlines et al., 2020) and may thus better recognize the importance of IT investment in driving growth and efficiency.

Hence, it is expected that the effect of CEO education and age on IT capability will be weaker for first generation family firms compared to subsequent generation family firms.

#### 4. Conclusion

This paper argues that CEOs who are higher educated and younger will have a significant positive impact on the IT capabilities of privately-owned family firms, especially if the CEOs are non-family CEOs. For family CEOs, the relationship between CEO characteristics and IT capabilities becomes a mixed gamble. They face the challenge of balancing potential uncertain benefits against certain losses, considering both financial and non-financial goals. The study also highlights the significance of family dynamics in shaping the trajectory of family businesses, given their unique structure.

The findings of this research will contribute to the understanding of the individual-level drivers of IT capabilities in family businesses, shedding light on the significance of developing IT capabilities in the digital era while considering the complexities of family dynamics. This is both theoretically and practically highly relevant. Moreover, by integrating the concept of a mixed gamble, this research contributes to the literature on family businesses, offering a more holistic understanding of their dynamics, especially with regard to IT capabilities.

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