

IT Capabilities of Private Family Firms: The Influence of CEO Characteristics Amidst Family Dynamics and Generational Transition

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1. Research gap

Digitalization is rapidly transforming organizations, and digital transformation is impacting firms of all sizes and sectors (Verhoef et al., 2021). IT capability gained significant importance in an increasingly digital business environment, enabling firms to use emerging technologies. According to Soluk and Kammerlander (2021), developing IT capabilities is crucial for family firms to build dynamic capabilities and remain competitive in the rapidly changing business environment. IT capability describes a firm's ability to assemble and deploy IT-based resources in combination with other firm's resources (Bharadwaj, 2000). Therefore, a firm's IT capabilities are essential for firm performance, which is also empirically confirmed (Felipe et al., 2020; Ke & Wei, 2008; Lu & Ramamurthy, 2011; Mikalef & Pateli, 2017; Mithas et al., 2011).

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. Several firm-level drivers of IT capabilities are identified in the literature, like firm size, industry, competitive pressure, organizational culture, and IT readiness. 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 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 developing and utilizing IT capabilities within organizations, it is crucial to examine them.

Despite the potential significance of individual-level drivers, there is a lack of research on their role in developing 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 increasingly 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, making them the key decision-makers (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) suggested that the CEO's non-economic goals determine 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.

2. Research question

This study focuses on the impact of individual-level CEO characteristics on the IT capabilities of private family firms, specifically, CEO education and age. Education enhances cognitive ability and knowledge,

influencing IT adoption and use. Younger CEOs are believed to be more adaptable to change and risk-taking, leading to more significant investments in IT. However, family dynamics, such as family status and generational stage, may influence these relationships. When investing in IT capabilities, family CEOs face a complex decision-making process, considering 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. In summary, 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. Therefore, the main research question of this study is: What is the impact of the CEO's age and education on the IT capabilities of private family firms, and to what extent is this impact affected by the CEO's family status and the family firm's generational stage?

3. Theories Used

This study builds on the Resource-Based View (RBV), the Upper Echelons Theory, the Socioemotional Wealth (SEW) perspective, and the mixed gamble concept. By delving into personal attributes and decision-making approaches, the research seeks to unravel the role of CEO attributes in developing IT capabilities, thereby adding to the RBV and Upper Echelons Theory. The study also employs the concept of the "mixed gamble" in the decision-making processes of family businesses. This concept captures the intricate risk and opportunity inherent in strategic decisions within familial contexts. By scrutinizing the complexities of decision-making, the research contributes to a more comprehensive understanding of how family businesses navigate uncertainties while pursuing IT capabilities.

4. Research Method

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 and 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. CEO status will be assessed by comparing family and non-family CEOs, while the generational stage will distinguish between the first generation and subsequent generations. This comprehensive analysis provides nuanced insights into the complex relationships among CEO attributes and IT capabilities and moderating factors of CEO status and generational stage.

5. Contribution to Research

This study makes a significant theoretical contribution to both the family business literature and digital transformation literature. By integrating the "mixed gamble" concept in decision-making processes concerning IT capabilities within family businesses, the research provides a more comprehensive idea of the complex IT decision-making in family businesses.

The study expects CEOs with higher education levels to influence IT capabilities positively 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 positively affect IT capabilities. Their adaptability to change, openness to innovation, and willingness to take risks are expected to contribute to the organization's effective adoption and utilization of IT. However, the relationships between CEO age, 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 as a more complex decision involving 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 only sometimes prioritize investing in IT capabilities according to their personal preferences. Therefore, the effect of CEO education and age on IT capability is expected to 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, they may perceive IT investment as risky due to potential financial constraints and lower dividends. On the other hand, subsequent generations demonstrate a greater inclination toward innovation and long-term success (Hernandez-Perlines et al., 2020). They may thus better recognize the importance of IT investment in driving growth and efficiency. Hence, the effect of CEO education and age on IT capability is expected to be weaker for first-generation family firms compared to subsequent-generation family firms.

6. Contribution to Practice

The findings of this research will provide practical insights for family business owners and managers on the importance of developing IT capabilities in the digital transformation era. The study emphasizes the role of CEO characteristics, such as education and age, in shaping IT capabilities in family businesses. The study also highlights the moderating role of family status and generational stage in this relationship, providing insights into the complexities of decision-making within family businesses.

This study offers practical recommendations for family businesses to enhance their IT capabilities and improve their performance in the digital era. The practical implications highlight the need for investing in developing IT capabilities for their CEOs and key decision-makers. This may involve providing training, mentorship, and access to resources to enhance their understanding of IT and its potential impact on the business. Family businesses should create a supportive and innovative company culture that encourages the adoption of new technologies. This includes fostering open communication, encouraging risk-taking, and recognizing the value of IT-driven innovation. Moreover, Family businesses should involve younger family members in IT decision-making processes. Their perspectives and insights can be valuable in navigating the complexities of the digital era and ensuring that IT initiatives align with long-term family goals.

References:

- Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance: an empirical investigation. *MIS Quarterly*, 169-196.
- Chen, Y., Wang, Y., Nevo, S., Jin, J., Wang, L., & Chow, W. S. (2017). IT capability and organizational performance: the roles of business process agility and environmental factors. *European Journal of Information Systems*, 23(3), 326-342. <https://doi.org/10.1057/ejis.2013.4>
- Felipe, C. M., Leidner, D. E., Roldán, J. L., & Leal-Rodríguez, A. L. (2020). Impact of IS capabilities on firm performance: The roles of organizational agility and industry technology intensity. *Decision Sciences*, 51(3), 575-619.
- Gomez-Mejia, L. R., Cruz, C., Berrone, P., & De Castro, J. (2011). The bind that ties: Socioemotional wealth preservation in family firms. *Academy of Management annals*, 5(1), 653-707.
- Hernandez-Perlines, F., Ribeiro-Soriano, D., & Rodríguez-García, M. (2020). Transgenerational innovation capability in family firms. *International Journal of Entrepreneurial Behavior & Research*, 27(1), 1-25. <https://doi.org/10.1108/ijeb-08-2019-0497>
- Hsu, W.-T., Chen, H.-L., & Cheng, C.-Y. (2013). Internationalization and firm performance of SMEs: The moderating effects of CEO attributes. *Journal of World Business*, 48(1), 1-12. <https://doi.org/10.1016/j.jwb.2012.06.001>

- Kammerlander, N., & Ganter, M. (2015). An attention-based view of family firm adaptation to discontinuous technological change: Exploring the role of family CEOs' noneconomic goals. *Journal of Product Innovation Management*, 32(3), 361-383.
- Ke, W., & Wei, K. K. (2008). Organizational culture and leadership in ERP implementation. *Decision Support Systems*, 45(2), 208-218.
- Liang, H., Saraf, N., Hu, Q., & Xue, Y. (2007). Assimilation of enterprise systems: the effect of institutional pressures and the mediating role of top management. *MIS Quarterly*, 59-87.
- Liu, H., Huang, Q., Wei, S., & Huang, L. (2015). The impacts of IT capability on internet-enabled supply and demand process integration, and firm performance in manufacturing and services. *The International Journal of Logistics Management*, 26(1), 172-194. <https://doi.org/10.1108/IJLM-11-2013-0132>
- Lu, Y., & Ramamurthy, K. (2011). Understanding the link between information technology capability and organizational agility: An empirical examination. *MIS Quarterly*, 931-954.
- Mikalef, P., & Pateli, A. (2017). Information technology-enabled dynamic capabilities and their indirect effect on competitive performance: Findings from PLS-SEM and fsQCA. *Journal of Business Research*, 70, 1-16.
- Mithas, S., Ramasubbu, N., & Sambamurthy, V. (2011). How information management capability influences firm performance. *MIS Quarterly*, 237-256.
- Schulze, W. S., Lubatkin, M. H., & Dino, R. N. (2003). Exploring the agency consequences of ownership dispersion among the directors of private family firms. *Academy of Management Journal*, 46(2), 179-194.
- Singh, S., Sharma, M., & Dhir, S. (2021). Modeling the effects of digital transformation in Indian manufacturing industry. *Technology in Society*, 67. <https://doi.org/10.1016/j.techsoc.2021.101763>
- Soluk, J., & Kammerlander, N. (2021). Digital transformation in family-owned Mittelstand firms: A dynamic capabilities perspective. *European Journal of Information Systems*, 30(6), 676-711. <https://doi.org/10.1080/0960085x.2020.1857666>
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889-901.