

Digital Transformation in Family Businesses: A Systematic Literature Review and Research Agenda

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Abstract: Digital transformation has become a necessity for many organizations, including family firms. Understanding the role and impact of digital transformation is crucial to guarantee family firms' survival and long-term prosperity in an uncertain and constantly developing environment. This study aims to synthesize the limited existing body of knowledge on digital transformation in family firms and identify future research directions. We employed a systematic literature review to address the goals and identified 30 relevant peer-reviewed papers published between 2019 and 2023. The limited number of existing family firm studies indicates the nascent state of research in this area and highlights the increasing research need in the rapidly expanding and evolving field of digital transformation and digitalization. The studies identify and provide insights into the drivers, challenges, strategies, and outcomes of the digital transformation process in family firms. Moreover, the review highlights challenges family firms face during digital transformation, such as the development, activation, or reconfiguration of new and existing capabilities and the deployment of resources by the family. Based on the findings, this systematic literature review identifies several promising avenues for future research. Within the particularities of the family business context, these include the role of family influence, possible antecedents to the process, enablers and barriers, explanatory mechanisms, and performance outcomes and implications. Although the number of identified studies is relatively limited, this review contributes to the literature by consolidating the current knowledge on digital transformation in family firms and highlighting areas for further investigation. Practitioners and policymakers can draw insights from this review to inform their decision-making processes regarding digital transformation strategies for family firms. Researchers are encouraged to address the identified research directions to advance our understanding of issues related to digital transformation in family firms and pave the way for future theoretical and practical advancements.

Keywords: Digital transformation, Family business, Systematic literature review

1. Introduction

Digital technologies have become the great enabler, presenting new and exciting opportunities for firms to change and innovate and eventually evolve their value proposition, internal structures, and organization (Yoo et al., 2012). The combination of intentional and targeted efforts in the digitalization of processes, products, services, and business models leads firms to the complete digital transformation (DT) of the organization, opening new avenues to do with new strategies, value creation, and new customer segments (Soluk and Kamerlander, 2021; Vial, 2019; Wessel et al., 2021). Although there are many possible definitions of the term “digitalization”, in this paper, we understood it as the “process of adopting and using digital technologies” in an organizational context (Legner et al., 2017, p. 301). As a consequence, digitalization entails multiple, and possibly fragmented, digital activities across the value chain of a business that, in their totality and according to their impact, can lead to firm-level DT. Although the topic of DT, which can be defined as “organizational change that is triggered and shaped by the widespread diffusion of digital technologies” (Hanelt et al., 2021, p. 1160), has gained much attention in business research, it is surprising how little we know about the phenomena in the context of the family business ecosystem.

Family firms (FFs) display fundamental differences from non-family firms (De Massis et al., 2014), especially regarding innovation and digitalization (De Massis et al., 2013; De Massis et al., 2015; Röd, 2019). Considering DT as a radical change process, we can expect that FFs will find elements of this new digital era challenging. To be able to remain competitive in this new environment and enjoy the medium to longer-term results of DT, FFs will need to deeply understand the variations and stages of the DT process, evolve existing and develop new required capabilities, and be open to change in general (Soluk and Kamerlander, 2021).

Based on the importance of both family businesses and DT as an evolving phenomenon with consequences for all levels of a business, we argue that the intersection of the two research streams is relatively under-explored. To address this gap, we present an organized view of knowledge amassed in prior research, intending to structure the landscape of current understanding and potential avenues for future research. To this end, we focus on the following research questions: What is the current status of research in digital transformation in

the context of family business? What are its antecedents, challenges, mechanisms, and outcomes? What are the significant future research opportunities?

To address the research questions presented above, we conducted a systematic literature review (SLR) and consistently categorized the findings according to both DT and FB research streams. The following text proceeds as follows. First, we introduce the methodology. Subsequently, we present the results. Then, we present the significant avenues for future research. Finally, we provide our concluding remarks.

2. Methodology

To address the study's research questions, we performed a SLR on the topic of DT in the context of FFs. Since our research questions are broad and the topic of DT is dynamically evolving and multifaceted, we aimed to include all relevant studies that would add value to categorizing, mapping, and organizing research around our topic.

Our selection procedure consists of 5 steps, consistent with our systematic aim. Firstly, we conducted a broad search in the Scopus and Web of Science (WoS) databases, selecting them as the most comprehensive research databases. We introduced a set of criteria that would determine the inclusion and exclusion of research articles. To collect our initial sample of papers, we employed keywords like "family" and "digit*" and "transformation" or "technolog*" or "*entrepreneur*" in the above databases. After excluding duplicates, the initial search produced 932 results, collating from both databases. We then proceeded with the second step of our process, narrowing down our list of potentials, keeping only peer-reviewed papers in the English language and only papers on relevant thematic topics around business, management, and economics. This step resulted in a sample of 125 studies. As the third step, we read through the abstracts of all the articles and evaluated their overall relevance to the topic, thus restricting our sample further to 31 studies. Subsequently, we read through all the papers and excluded another 10 articles based on relevance and erroneous initial categorization in the databases. Finally, we performed a manual search tracking citations of papers in our sample and added 9 more studies, bringing the final number of publications in our sample to 30.

3. Results

3.1 Drivers of Digital Transformation

Internal antecedents.

Leadership & strategy. During periods of digital entrepreneurship, Basly and Hammuda (2020) recognize that leadership should focus on transforming the business around the goals of agility and openness. The management team is expected to have a deep level of understanding of the organizational changes required in the context of adopting digital technologies. The authors highlight that the FF leadership team should possess characteristics such as entrepreneurial orientation, transformational leadership, high educational level and background, and prior exposure to digital technologies. Drawing on the human determinants that affect DT, the qualitative study of Ano and Bent (2020) highlights the personalized involvement of family leadership in DT, signifying the importance of a strong sense of mission communicated throughout the organization by the leadership.

Organization, structure & governance. Simplification and increased efficiency in the form of decentralization and lean project organization are highlighted by Basly and Hammuda (2020) as organizational determinants that will provide the systems and settings supporting the adoption of digital technologies and change. The family's involvement grants a distinguishable feature to FFs, as a set of unique rules and structures of governance are put in place (Siebels et al., 2012). To oppose rigid mental models and increase the speed and aggressiveness of the digital adoption rate, FFs need governance structures that enhance a shared vision between family and firm, reducing conflict and providing clarity of goals and objectives throughout the organization (Christman et al., 2015). Focusing on the concept of governance even further, the quantitative study by Dutot et al. (2022) recognizes the concept of IT governance as a part of agency theory, whereby a solid governance structure can dampen short-term agency phenomena that negatively impact DT. Finally, addressing succession in FFs, Ano and Bent (2020) underline the strategic importance of early engagement and preparation of future family generations to be involved in the business when fostering a positive DT climate.

Employees. The importance of human resources in digital transformation has been recognized by multiple authors (Ano and Bent, 2020; Basly and Hammuda, 2020; Kathuria et al., 2022). Employees as a critical resource, and in the community context of the FF, become vital elements of the adoption of digital

technologies when they perform in a stewardship environment with increased autonomy and empowerment (Basly and Hammuda, 2020) and when a digital strategy with an explicit consideration on human elements is transparently communicated to them (Ano and Bent, 2020). Investing in human capital (Ano and Bent, 2020) and external talent is crucial in professionalizing the workforce, enabling the organization to develop capabilities that will prove instrumental during DT. Kathuria et al. (2023) point out that when FFs invest in external executives, they can mitigate some of the adverse effects that family involvement might have on the adoption of digital technologies.

Resources. Resource scarcity is a theme widely discussed in the context of DT in FFs (Ano and Bent, 2020). DeGroot et al. (2023) suggest that success in the digital context, in general, and DT in particular, is influenced by the accessibility and allocation of historical capital, know-how, and experience amassed over the years, family collaborative capital, relationships developed with internal and external partners, and family venture capital in the form of FF private equity investment. Chrisman et al. (2015) recognize community and connections as resources influenced by the goals and governance structures of the family as they analyse the adoption of discontinuous technologies in their conceptual paper. Community can lead to a less formalized environment with positive effects on DT and connections with all stakeholders that can lead to timely acknowledgment of opportunities in the digital realm.

External antecedents.

Exogenous Shocks. The recent COVID-19 crisis has prompted several researchers to explore the behaviour of FFs during the crisis, with implications for digitalization and DT. Kraus et al. (2020) highlight a strong push of the firms toward change and rapid digitalization. Soluk (2022) explores the mechanisms behind FFs' adaptations triggered by exogenous shocks, starting from changes in the motives that influence resource allocation. FFs able to change during crises will likely exhibit rapid evolution in product, process, and business model innovation (Soluk and Kammerlander, 2021). Bouncken and Schmitt (2022) describe a reactive digitalization whereby the FF trails behind the current requirements but reacts to external stimuli and triggers that increase perceived urgency.

External Network. The external triggers of technological change are often traced to all entities interacting with the FF beyond the organizational boundary, in the form of customers, competitors, suppliers, and the general legal and regulatory environment (Bruque and Moyano, 2007). Soluk and Kammerlander (2021) describe how external pressures build up from business partners for a FF to proceed with digital technology adoption projects aligning both entities. Increased competition also leads to heightened business awareness (Rashid and Ratten, 2020), creating a sense of urgency within the FF. Furthermore, the authors recognize customer requests as potential DT opportunities.

3.2 Challenges of Digital Transformation

Family & behavioural challenges.

Family influence and involvement. Basly and Hammouda (2020) suggest viewing the influence of family members on the business in current or future dimensions. Specifically, the authors propose that the prioritization of current goals will have a negative impact on the adoption of digital technologies, while family influence, expressed as FF continuation, will have a positive impact. In their study of FFs, Ceipek et al. (2021) provide evidence of the negative impact of family involvement in IoT (Internet of Things) explorative innovation.

Socioemotional wealth. While researching technology acquisition in FFs, Kotlar et al. (2013) consider the role of the controlling family's socioemotional wealth (SEW) (Gomez-Mejia et al., 2010). The authors generalize the argument that FFs are willing to sacrifice economic performance to protect their SEW (Gomez-Mejia et al., 2010) to the field of technology adoption, as an investment in technology may represent a threat to the influence and character-building blocks of the FF (Basly and Hammouda, 2020). As family ownership and influence increase, the central requirement to preserve SEW intensifies (Kathuria et al., 2023), thus affecting digitalization efforts.

Risk aversion. The quest for preserving SEW will often lead to FFs' more risk-averse management attitudes (Basly and Hammouda, 2020). While not all FFs are highly risk-averse, many struggle with finding the right balance between risk-taking and preserving their identity, tradition, and legacy (Heider et al., 2022). Basly and Hammouda (2020) also argue that even the relationship between the presence of an external CEO and the family will be influenced by the levels of risk tolerance, leading to a narrower view of DT project investment

and implementation. As family owners frequently rely exclusively on the FF for sustainable revenues and profits for the family income, stability is often preferred over aggressive growth (König et al., 2013). The totality of the DT process requires a commitment to change and exploration, and therefore FF owners often tend to stay within the boundaries of the early efficiency improvement stages of DT (Kathuria et al., 2023), thus reducing the scope of the transformation (Heider et al., 2022).

Willingness to maintain control. The decision-making of FFs is often driven by a general reluctance to lose control and a preference to retain traditional management concepts (Ano and Bent, 2022). This fact certainly has a profound impact on DT, considering the disruptive nature of the process (DeGroot et al., 2023; Heider et al., 2022). To retain control and protect their SEW, families often steer away from risky projects, such as exploratory digital technologies (Ceipek et al., 2021), preferring stability over change and slow evolution over disruption (Basly and Hammouda, 2020). The family control preservation strategy is also highlighted by Ano and Bent (2022), whereby the exclusion of skilled external managers and external technologies often is preferred in an effort to retain control within the family circle (Kotlar et al., 2013; Soluk and Kammerlander, 2021).

Rigid mental models. Paternalistic decision-making is identified by Soluk and Kammerlander (2021) as an essential barrier to the development of the capabilities required for a DT. The authors make a case for instances of authoritarian management practices that are highly antithetical to the adoption of digital technologies. Traditionalism, combined with low levels of strategic vision and commitment, also often becomes an obstacle in the quest for the digital evolution of a FF (Bouncken et al., 2022).

Firm and Management

Centralization. Research has identified cases of management centralization in FFs that, when combined with low levels of digital competencies of managers, can become detrimental to digital evolution efforts (Bouncken et al., 2022). Kotlar et al. (2013) highlight that FF management is sometimes more sceptical when acquiring external technology, which could be attributed to the reluctance to decentralize decision-making processes.

Competences. Bouncken et al. (2022) identify the dualism of FF managers with relatively low digital competences, appearing over-confident in their competitive firm status while approaching the challenges with the ability to formulate a viable strategic plan. Soluk and Kammerlander (2021) present evidence of occasional inconsistencies in understanding DT and elements of the digital strategy. Developing competences by FFs is a particularly challenging endeavor as it presents a considerable strain on resources for the firm (Soluk and Kammerlander, 2021).

Resources. External capital availability for a(n) FF can prove a scarce resource (Kraus et al., 2019). FFs seeking continuity may seek access to external capital regarding digital investments (Chrisman et al., 2015). Additionally, resource limitation is often combined with the local nature of the FF, which narrows the options for digital business model transformation even further (Cravotta and Grottke, 2020). DeGroot et al. (2023) recognize the importance of accessing external resources, such as patents, trademarks, and copyrights, through vehicles like external family corporate ventures.

3.3 Mechanisms and Strategies of Digital Transformation

Process model. In their qualitative study, Soluk and Kammerlander (2021) suggest a process model of three stages for DT in FFs. The authors recognize the first stage as the process digitalization stage, where various processes and information streams are digitized within the family context. The next stage is identified as the product and service digitalization stage, where elements of the value offering of the FF are being digitalized, and the relationship with various customers and suppliers is also affected. The third and final stage is that of the business model digital transformation, where the authors view the totality of the business model affected and an integrated permeation of digital technologies in most elements of the value chain. To transition between the stages of the process model, the authors discuss various triggers and the related dynamic capabilities required, which will touch upon below, along with other research findings around strategies and mechanisms of DT.

Capabilities. FFs seeking to effectively adopt, internalize, and use digital technologies as a transformation platform will rely on the evolution of existing operating capabilities and the development of new, dynamic capabilities. Soluk and Kammerlander (2021) identify various operational and dynamic capabilities in each of the three stages of their DT process model presented above. In the process digitalization stage, the authors suggest focusing on new, sensing, operational capabilities, such as developing and reconfiguring existing

business procedures and configuring and utilizing a basic technical set-up. Through these capabilities, the authors posit that FFs will develop an understanding and assessment capacity of the digital landscape while focusing on efficiency improvements. In the second stage of the DT process, when transforming their product and service offering, Soluk and Kammerlander (2021) theorize that FFs will rely on a combination of operational capabilities and new dynamic capabilities, such as adopting changes in digital strategic decision-making, reconfiguration of existing business patterns, and identifying, internalizing, and adding commercial value to new digital information from various sources. In the final stage of digital business model transformation, the authors recognize all previously developed capabilities as well as new capabilities that encompass the totality of the firm and include knowledge and learning (Soluk et al., 2021), digital mindset (Rashid and Ratten, 2020), communication and coordination via strategic partnerships, high degrees of autonomy, and decentralization and marketing (Soluk et al., 2021; Soluk et al., 2023; Rashid and Ratten, 2020).

3.4 Outcomes of Digital Transformation

In our SLR, we found little exploratory research performed on the outcomes of the DT process in the context of FFs. Most of the research questions and hypotheses tested revolved around the mechanisms and motivations for adopting digital technologies by FFs, as well as the challenges FFs face when presented with the new digital age. In the next section, we present the few outcomes found in the literature. Ano et al. (2022) identify significant performance outcomes and transformations in change management attitudes, the emotional connection towards the digital phenomenon, innovation behaviours, the individual involvement of family members in the DT process, and the interaction between family management and employees trending towards empowerment and autonomy. In terms of organizational outcomes and structural changes, Soluk et al. (2021) describe how, through an exogenous shock and a process of digitalization, FFs are opening up to forming new alliances, expanding to digital platforms, and reducing mental rigidity, which fosters the adaptive capacity of the firm.

4. Future Research

Type of studies. Our SLR sample consisted of only 7 longitudinal studies. As DT is a time-varying phenomenon, with stages of the process influencing the current and future status of the firm, further research of a longitudinal nature is required to gain a more comprehensive understanding of the DT phenomena in FFs. Poeschl and Freiling (2020) propose a focused research path of longitudinal studies that would consider DT and succession in FFs (Pruegl and Spitzley, 2021; Soluk et al., 2021). Soluk and Kammerlander (2021) also support longitudinal studies as helpful to expand and possibly improve their DT process model.

Concepts. Basly and Hamuda (2020) recognize the need for further research in measuring digital entrepreneurship adoption rates and DT. Similarly, Ano and Bent (2022) propose further empirical research to establish a testable hypothesis between the identified resources and capabilities and their impact on the DT process. Soluk and Kammerlander (2021) encourage future research in the direction of the identification of other barriers and enablers of the DT process in FFs. Furthermore, by expanding the set of barriers and enablers, the authors point out that a different set of dynamic capabilities will emerge, applicable to different stages of the transformation model. The authors also point out the need for expansion on the concept of SEW and the non-economic goals of the family (Pruegl and Spitzley, 2021) as means of exploring the willingness of the family to engage in a DT path. Heider et al. (2022) propose the further breakdown of ability and willingness in FFs into subdimensions and the assessment of the impact of these on DT. Soluk et al. (2021) recognize the need for further research on how family members perceive risk and the impact of the perception on digital business models.

Business contexts. Further research in the business contexts of internationalization and specific geographical (Soluk et al., 2021) and industry dimensions (Upadhyay et al., 2017) is suggested by Basly and Hamuda (2020). The authors also propose focusing on the impact of specific digital tools (Upadhyay et al., 2017), such as platforms, on the FF's various aspects (organizational, governance, managerial).

Impact and outcomes. Ano and Bent (2022) suggest measuring the actual impact of DT, in comparison with non-family firms, on performance and organizational changes. Soluk and Kammerlander (2021) also suggest exploring performance effects in the form of increased profitability, customer interactions, and competitive advantage.

5. Conclusion

Digital transformation can be an inflection point for family businesses and can signify a new era of ‘hybrid’ family firms, ones that will embrace deep and integral digital transformation and, in the process, shed some of their more rigid, traditional characteristics. Our systematic literature review demonstrates that the topic of DT in FFs is still relatively underdeveloped, primarily due to the breadth of the DT phenomenon, combined with the heterogeneity of FFs.

The outcomes and impacts of digital transformation initiatives in family firms extend beyond mere financial performance, encompassing the organizational structure, internal processes, and even the firm's value proposition.

Our review contributes to both the FF and the DT literature in several ways. Initially, as far as we know, this is the first attempt to systematically summarize research findings around digital technology adoption in family businesses. Furthermore, we present the relatively fragmented nature of research, and by categorizing and organizing the findings, we attempt to set a structure that can be the basis for future research efforts.

For sure, this study is not without limitations. First, our sample of studies was only limited to peer-reviewed academic papers. While those represent the major contribution to the development of a research field, interesting findings in conference proceedings or working papers could have been overlooked. Second, consistent with many other authors, we only reviewed papers written in English and searched in two databases. Also, in this case, we cannot rule out that some remarkable insights have been omitted. Finally, we would highlight the need for the current study to be further extended towards the development of a comprehensive framework around DT in FFs that will guide research opportunities for the future.

Acknowledgement

We appreciate the funding support received from the Czech Science Foundation for the project entitled “Intrafamily Conflicts in Family Firms: Antecedents, Effects and Moderators” (registration no.: GA20-04262S).

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