

# DIGITALIZATION OF SMALL AND MEDIUM-SIZED FAMILY ENTERPRISES: THE KEY ROLE OF SUCCESSION

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## Abstract

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Family small and medium-sized enterprises (SMEs) represent a peculiar context for investigating digitalization since the vital link between the family and the business turns into distinctive approaches to innovation relative to nonfamily firms. Although extant literature acknowledges that all firms are increasingly required to respond to the challenges of the digital economy, the current knowledge about how family SMEs pursue digital innovation and how it impacts the organization is still limited. Similarly, understanding if and how succession plays a role in innovation and digital change development in family firms is a topic that needs further investigation. A qualitative study of six Italian family SMEs currently undergoing their digitalization journeys detected three types of digitalization (molt, turmoil, and clear-cut) that are deeply connected with different succession experiences, different levels of business family support, and various levels of strategic planning. The findings highlight the central role of succession and intergenerational dialogue in fostering digitalization in family firms. The paper contributes to the general literature about digital innovation in family SMEs and mainly speaks to that literature focused on the relationship between technological innovation and succession, offering new and deeper insights into the relationship between the family, the person who is in charge of managing digitalization in these firms and the whole digitalization process. Contributions to practice are also outlined: the three types of digitalization represent a valuable tool to sustain consultants and family firms' owners in digitalizing these organizations.

**Keywords:** Digitalization, SMEs, Succession, Family Firms, Socio-Emotional Wealth (SEW), Innovation

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## 1. INTRODUCTION

Since its inception in the early 2000s, the research interest in digitalization has grown exponentially, and various new lines of inquiry have emerged. Digitalization — i.e., the adaptation of the world to the existence of digital and intelligent technologies — is indeed a critical factor for firm innovation, growth, and competitiveness and plays a strategic

role for both small and medium-sized enterprises (SMEs) and large firms (Li et al., 2018). However, the approach to digitalization profoundly varies based on the firm's size: large firms can more easily exploit the advantages of the digital economy, while SMEs face recurring barriers that slow down digitalization and change (Giotopoulos et al., 2017; Nicholas et al., 2011). Given these peculiarities, SMEs represent a fascinating research context that deserves

further investigation (Henley & Song, 2020), as large firms have traditionally been privileged research settings (Roper & Hewitt-Dundas, 2017). Furthermore, the existing studies on digitalization in SMEs have mainly explored the primary outcomes, for instance, in terms of business model innovation (Verhoef & Bijmolt, 2019), internationalization (Cassetta et al., 2020), corporate entrepreneurship (Ben Arfi & Hikkerova, 2021), and performance in a broad perspective (Neirotti & Pesce, 2019). In this scenario, the mechanisms through which digitalization occurs in the specific research context of SMEs, along with its characteristics and the peculiar stimuli fostering its initiation, remain largely untapped.

Within the context of SMEs, family firms deserve particular attention in light of their specificities, including the link between the family and the firm (Sciascia et al., 2015) and tradition's role in such organizations (Erdogan et al., 2020). However, family SMEs need digitalization to sustain their competitiveness. Although they may face more difficulties when pursuing innovation because of potential intergenerational conflicts and the emotional ties between the family and the business (König et al., 2013; Suddaby & Jaskiewicz, 2020; Baltazar et al., 2023), they must adapt to the new digital scenario as any other firm (De Massis et al., 2016). Moreover, some aspects of digitalization phenomena in family SMEs remain particularly unclear (Überbacher et al., 2020), such as which factors influence the adoption of digital technologies, the role played by the family and the succession process in this context, as well as the identification of similarities and differences across family SMEs. Based on the above, how family firms innovate and digitalize leaves room for further investigation (Überbacher et al., 2020; Erdogan et al., 2020; Suddaby & Jaskiewicz, 2020).

To better contextualize the digitalization of family SMEs, analyzing the close relationship between succession dynamics and technological innovation — of which digitalization is one of the possible manifestations, this study draws on the socio-emotional wealth (SEW) perspective (Berrone et al., 2012). According to this perspective, family owners assess how every strategic action will affect their SEW before making important decisions. Specifically, they evaluate how these decisions may impact “the stock of affect-related value that the family has invested in the firm” (Berrone et al., 2012, p. 271) beyond economic and financial implications (Zellweger & Dehlen, 2012). Extant literature has already used the SEW perspective to frame several family firm dynamics, including succession (Stewart & Hitt, 2012; Minichilli et al., 2014) and innovation (Song et al., 2022). Specifically, extant literature suggests a strong relationship exists between the changing process of family chief executive officers (CEOs) and the level of technological innovation (Shi et al., 2019; Yang et al., 2021). However, little is known about family firms' specificities regarding digitalization (Song et al., 2022). Hence, SEW would be a suitable approach to contextualize the related dynamics of digitalization and succession in family firms. This lens indeed allows to extend the digitalization of family firms literature by considering the mixed motives and desires that firm owners may have as they seek to protect their diverse values and interests (Gedajlovic et al., 2012).

Therefore, the present study has two main goals:

- to gain more profound knowledge about the mechanisms that guide digitalization in family SMEs while delving deeper into examining the stimuli that foster digitalization in this context;

- to discover more about the role of family and, in particular, of succession in the digitalization process of family firms.

From these goals, we identify two research questions:

*RQ1: How is digitalization initiated and pursued in family SMEs?*

*RQ2: Does succession play a role in the digitalization process of family SMEs?*

With the ultimate goal of addressing these questions, this study adopts a qualitative approach, as it is particularly appropriate to answer “how” questions (Yin, 2012). Specifically, this paper analyses six case studies of Italian family-owned SMEs and detects three main ways family firms started and pursued digitalization in their firm. In particular, the analysis delves into the role of succession as an engine and a crucial imprinting factor in the digitalization process in family SMEs, highlighting the role of intergenerational conversations and the family support importance for a successful digital transformation.

The study identifies three main types of digitalization deployment: “molt digitalization”, “turmoil digitalization”, and “clear-cut digitalization”. These digitalization typologies differ in their starting — linked with different succession experiences, in the level of support demonstrated by the family throughout the whole digitalization process, and in the level of strategic planning that characterized the digital transformation of the business.

The findings offer many contributions to the extant literature. They primarily speak to the literature about the strong relationship between SEW, succession, and innovation, analyzing the crucial role of family and inter-generational dialogue for digitalization. Moreover, they also contribute to the broader literature about innovation in family firms by delving deeper into the initiation dynamic of digitalization in these organizations. Finally, this paper provides implications for practice as its findings can guide consultants and family firm owners in the conscious and effective development of digitalization in family businesses.

The remainder of the paper is organized as follows. Section 2 reviews the literature on digitalization in the field of family SMEs and the relationship between technological innovation and succession in these firms. Section 3 presents the case-based methodology as used in this study shortly follows. Section 4 displays the findings of this paper and Section 5 discusses them. Finally, Section 6 outlines the paper's main contributions, along with its main limitations and the avenues for future research.

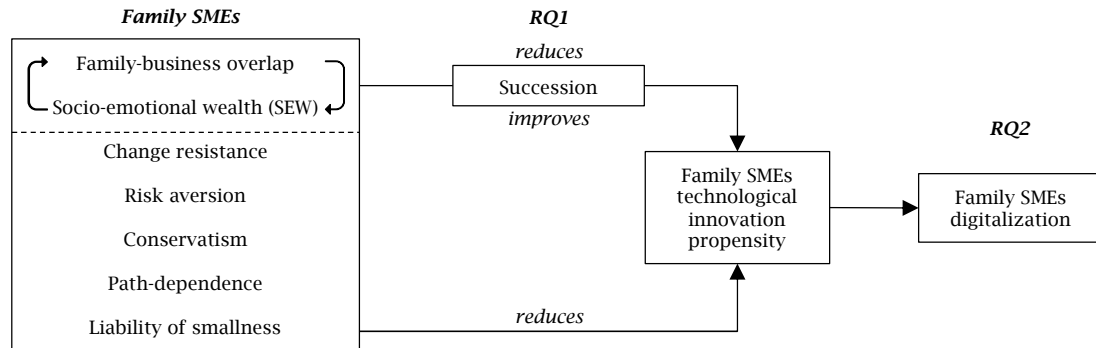
## 2. THEORETICAL BACKGROUND

This study's theoretical and conceptual positioning lies at the intersection of two interrelated literature streams investigating family SMEs' innovation dynamics. The first addresses the negative impact of family SME peculiarities on innovativeness, while

the second focuses on the impact of succession dynamics on different elements of family businesses, including technological innovation propensity. Indeed, the moment of succession is particularly delicate in

family businesses and may be highly impactful on the innovation levels of the firm. Extant literature about these issues is detailed in the following paragraphs and synthesized by Figure 1.

**Figure 1.** Theoretical and conceptual framework



## 2.1. The peculiarities of digitalization in family SMEs

Family SMEs are small businesses characterized by a unique pool of characteristics that make them a peculiar research context (Kotlar et al., 2020). First, they are controlled by one family or a group of families, which makes it difficult to distinguish the family system from the business system: this overlap makes the firm hard to manage and change (Sciascia et al., 2015). Second, because of this blurred line between the family and the organization, family SMEs' long-term strategies are driven by both financial and non-financial aims (Chrisman et al., 2012). Indeed, one of a family SME's main goals is to ensure the firm's generational turnover and survival over time, passing down know-how, values, and expertise through generations (Kotlar & De Massis, 2013; Erdogan et al., 2020). Third, these firms are often defined as risk-averse (Duran et al., 2016) and characterized by limited resources (De Massis et al., 2018). These characteristics collectively determine the existence of a peculiar approach to innovation in family SMEs. This research field is still inconsistent and under-investigated (De Massis et al., 2013; Migliori et al., 2020; Bouncken & Schmitt, 2022). Indeed, the role of family SMEs as innovators is still unclear.

Family SMEs are considered highly innovative by some studies (Urbinati et al., 2017; Muñoz-Bullon et al., 2020) because of their flexibility and rapid decision-making and for their local solid embeddedness that fosters innovation activities (Classen et al., 2014) as well as the centrality of the family that can help to manage technological innovation efficiently (De Massis et al., 2016). However, they typically have a lower willingness to engage in innovation activities (Chrisman et al., 2015) and generally show lower innovation inputs (Miroshnychenko et al., 2019) and, consequently, lower innovation outputs (Calabrò et al., 2018). Their liability of smallness (Freeman et al., 1983) and the lack of adequate resources (De Massis et al., 2018) make it even more challenging to cope with the emerging digital economy (Schwab, 2017).

In this context, many aspects of digitalization in family SMEs remain unclear (Jalilvand et al., 2017; Überbacher et al., 2020), and there is still much to uncover about factors that influence the use of digital technologies, the advantages coming from

digitalization and the different approaches to digitalization adopted by these firms. Indeed, in family businesses, leaders can often prioritize non-economic goals over economic goals (Chrisman et al., 2012), and the difficulty of escaping their path dependencies could reduce their digitalization potential (Bouncken & Schmitt, 2022). Also, extant research about family firms shows that digitalization is strongly related to generational conversations and change (Kammerlander & van Essen, 2017). For this reason, a need to further explore the role of tradition in digitalization and the role of family and other actors involved in the process in family firms does exist. Furthermore, prior research offers room for additional investigation to detect the possible different declinations of digitalization in family SMEs. In particular, research suggests that digitalization in family firms is strongly related to the need to rapidly answer to crises (Leppäaho & Ritala, 2022), while the ability of family firms to develop a long-term digitalization strategy is largely untapped (Zapata-Cantu et al., 2023). Thus, it is essential to understand how family SMEs define and implement their digital transformation strategies (Bouncken & Schmitt, 2022).

## 2.2. Innovation, succession and socio-emotional wealth in family firms

Family businesses' attention to the preservation of non-economic benefits is closely related to the concept of SEW. Indeed, the SEW theoretical perspective offers a grounded explanation of many family firm behaviors. The SEW perspective identifies the preservation of SEW endowment as a critical issue for those at the head of family firms (Berrone et al., 2012). SEW refers to "non-financial aspects of the firm that meet the family's affective needs, such as identity, ability to exercise family influence, and perpetuation of the family dynasty" (Gomez-Mejia et al., 2007, p.106). Family firm literature frequently uses the theoretical lens of SEW to investigate family behavior (Rondi et al., 2019). Indeed, in these firms, all major strategic decisions are often affected by a trade-off between choices dedicated to the preservation of SEW and those motivated by the search for financial results, sometimes at the expense of SEW preservation.

The relationship between succession and innovation is particularly apt to be analyzed using this theoretical lens as the succession phase is a delicate moment for family businesses where SEW is highly impacted and often reduced by the will of the successor to invest more in technological innovation (Minichilli et al., 2014; Song et al., 2022). Indeed, being family businesses characterized by the coexistence of various generations of the same family that may influence the decision-making process (Jain et al., 2023), innovation processes are strongly influenced by the family tradition and vision (Cassia et al., 2012; Erdogan et al., 2020). As a result, the contrasting need to pursue tradition and embrace change simultaneously is naturally embedded in family firms (Schuman et al., 2010; De Massis et al., 2016). For these reasons, extant literature suggests that innovation is deeply linked with succession in family firms, as they are two central themes in family business and keys to the firm's long-term survival and continuity (Hu & Hughes, 2020). Similarly, literature suggests that different approaches to succession may impact the innovation level of the family firm differently (Song et al., 2022).

According to Bower (2007), succession in family firms is the transition of the management and ownership of the company to the next generation of family members. This dynamic process (Devins & Jones, 2016) also includes a socialization mechanism between the successor and the former incumbent. Succession, therefore, has a strong impact both on the family and the business level as it necessarily drives change, creating instability (Baltazar et al., 2023). Duran et al. (2016) also suggest that the ability of a family firm to innovate "more with less" is partially tied to succession, seen as a critical mechanism of reinterpretation of the firm resources. Indeed, many studies showed that the succession process impacts the innovation level and future sustainability of the firm and that, in general, the innovation levels of family firms increase generation after generation (Ahmad et al., 2021; Cesaroni et al., 2021).

In the succession phase, knowledge is shared across generations, fostering innovation while also securing continuity (Li et al., 2022; Schell et al., 2018; Wang et al., 2019). This happens because "family business success and longevity are directly linked with the capacity to successfully manage the creation, maintenance, and intergenerational transmission of traditions" (Suddaby & Jaskiewicz, 2020, p. 234). The ability to reinterpret these traditions in a context of intergenerational dialogue during the succession phase is a particularly critical capability for family firms (Suddaby et al., 2020) that can leverage the past of the firm to develop new interpretations of their activities (Rondi et al., 2019).

Indeed, as suggested by Duran et al. (2016), while radical innovation per se is often negatively perceived by family firms as it suggests an extreme departure from the past, the succession process allows the business leader and his/her successor to discuss and remember the business history, reinterpreting it and legitimating novelty as an incremental extension of the founder's legacy (Jaskiewicz et al., 2015). The collective activity of intergenerational reminiscing and reinterpretation is known as rhetorical history, and it allows family

firms to use the business past, history, and tradition as an innovation drive rather than an innovation barrier (Suddaby & Foster, 2017; Suddaby & Jaskiewicz, 2020).

### 3. RESEARCH METHODOLOGY

This study employs an empirical qualitative approach based on multiple cases (Eisenhardt, 1989). Qualitative methods are particularly suitable when a study aims to answer "how" questions (Yin, 2012) and discover underlying, unquantifiable connections between the elements of the study. Moreover, case studies are frequently used in family firm research (Erdogan et al., 2020), as they are "a valuable method for family business scholars to describe complex phenomena, develop new theory or refine and extend existing theories" (De Massis & Kotlar, 2014, p. 16). This paper's multiple case study approach unveils the underlying processes and practices that family firms enact in pursuing digitalization.

Following the suggestion by Eisenhardt (1989) that at least four to ten cases where the phenomenon of interest is observable should be selected, six family SMEs based in Italy are the context of this study. These firms were identified starting from a larger sample of 130 SMEs involved in a previously conducted survey-based study about digitalization dynamics in SMEs. Specifically, the survey was submitted to a group of 200 manufacturing and tertiary sector SMEs active in various industries in March 2021 to investigate the following issues: the degree of pervasiveness of digitalization in the business model of Italian SMEs, the impact of digitalization on their strategic approach, on their resources and capabilities, and performance.

Three sampling criteria that allowed the most comprehensive and relevant results (Draucker et al., 2007) were used to select the firms analyzed in the present study. First, the firms should be owned by a family actively involved in the company's management (Chrisman et al., 2012). Second, we only selected long-established firms that have changed and survived over multiple generations (at least two). Third, only firms reported in the previous survey as involved in some internal digitalization process were considered eligible for this study. Over 30 family SMEs were initially assessed for this research, out of which six were finally selected based on the availability of data about digitalization and on the potential richness of data and information as a result of the willingness of the entrepreneurs to share their family SME digitalization journey.

Up-to-date information from company websites was gathered to ensure that the theoretical sampling criteria were satisfied, and answers to the previous survey were analyzed. After selection, representatives of the firms were contacted and asked if they would be willing to be interviewed and provide access to other sources of information. Our final sample includes six family SMEs operating in different sectors (i.e., hardware and carpentry, metal galvanic and pallet sector manufacturing, joinery, and printing). Table 1 provides detailed information on our sample.

Our study combines both primary (interviews and observations) and secondary (archives) data sources (see Table 2). The interview protocol

consisted of semi-structured questions organized in three macro-sections. The first includes questions to gain general demographic information on the interviewee and the SME. The second set of questions aims to introduce the concept of digitalization, asking the interviewee when and why they started feeling the need to digitalize, what they mean by digitalization and the importance of digitalization in their firm. The third section of the interview describes the digitalization process, delving deep into the role of succession and helping the interviewee narrate the steps and elaborate on relevant elements such as antecedents (i.e., drivers and barriers), actors involved (i.e., family and nonfamily; internal and external to the firm), changes in business management, business structure and organizational climate (e.g., new resources and competences, a new approach to work, variations of

staff attitude), outcomes of the process and future digitalization objectives. The interview protocol was iteratively reviewed during data collection. The complete interview protocol is available in the Appendix.

From March 2022 to June 2022, six semi-structured in-depth interviews were conducted with family members of selected SMEs, lasting between 1.5 and 4.5 hours. A follow-up interview with a family member was conducted in two cases, yielding eight interviews. Details about the interviewees are provided in the Appendix. Interviews were conducted in Italian, recorded, and transcribed verbatim by the author immediately after. Interviews were then triangulated with observations. These included field visits, observations of production sites and warehouses, informal conversations with family and nonfamily employees, and interactions of family members with each other.

**Table 1.** Analyzed firms' main characteristics and data sources

<i>Firm</i>	<i>Firm type/ firm sector</i>	<i>Year of foundation</i>	<i>Digitalization type</i>	<i>Main digitalization areas</i>	<i>Family member in charge of digitalization</i>	<i>Data source</i>
A	Commercial Hardware sector	1931	Turmoil digitalization	Logistics, management and administration, sales	3rd generation owner	<ul style="list-style-type: none"> <li>• Interview with 3rd generation owner (4.5 hours);</li> <li>• Field visit;</li> <li>• Business reports;</li> <li>• Website;</li> <li>• Social media profiles;</li> <li>• Financial records.</li> </ul>
B	Manufacturing Printing sector	1938	Turmoil digitalization	Production, marketing, management and administration, sales	3rd generation owner	<ul style="list-style-type: none"> <li>• Interview with 3rd generation owner (3 hours);</li> <li>• Field visit;</li> <li>• Business reports;</li> <li>• Website;</li> <li>• Social media profiles;</li> <li>• Financial records.</li> </ul>
C	Manufacturing Wood sector	1907	Molt digitalization	Production, management and administration, marketing	4th generation owner (two cousins)	<ul style="list-style-type: none"> <li>• Interview with 4th generation owners (2 + 2 hours);</li> <li>• Field visit;</li> <li>• Business reports;</li> <li>• Website;</li> <li>• Social media profiles;</li> <li>• Financial records.</li> </ul>
D	Manufacturing Joinery sector	1975	Clear-cut digitalization	Management and administration, production	2nd generation owner	<ul style="list-style-type: none"> <li>• Interview with 2nd generation owner and her husband (1.5 + 1.5 hours);</li> <li>• Field visit;</li> <li>• Business reports;</li> <li>• Website;</li> <li>• Social media profiles;</li> <li>• Financial records.</li> </ul>
E	Manufacturing Galvanic sector	1967	Molt digitalization	Production, management and administration	3rd generation owner	<ul style="list-style-type: none"> <li>• Interview with 3rd generation owner (1.45 hours);</li> <li>• Field visit;</li> <li>• Business reports;</li> <li>• Website;</li> <li>• Social media profiles;</li> <li>• Financial records.</li> </ul>
F	Manufacturing Mechanic sector	1963	Molt digitalization	Logistics and production, management and administration	3rd generation owner	<ul style="list-style-type: none"> <li>• Interview with 3rd generation owner (1.30 hours);</li> <li>• Field visit;</li> <li>• Business reports;</li> <li>• Website;</li> <li>• Social media profiles;</li> <li>• Financial records.</li> </ul>

Secondary data was also available and was gathered from company webpages and social media profiles, newspaper articles about the firm, and the firm's reports and official documents reporting interesting information about digitalization.

During data analysis, the author asked the help of a colleague to guarantee maximum objectivity during the coding process. The two reviewed the primary and secondary data independently, identifying general concepts related to digitalization.

Then, they returned to the data to detect the digitalization process steps and the elements connected to the firm's digitalization journey. A cross-case analysis followed the within-case analysis to compare the findings of each case and revise the emerging themes accordingly, moving from data to theory (Eisenhardt, 1989). At this point, the researchers identified more prominent themes and aggregated issues that recurred in results, then compared and solved the potential inconsistencies.

**Table 2.** Primary and secondary data — Sources and use

<i>Data source</i>	<i>Data (n.)</i>	<i>Use of data</i>
Semi-structured interviews	8 interviews (17.45 recorded hours; 200+ pages transcriptions)	Main source of data. Recorded, transcribed and analyzed identifying first, second and third orders relevant to our analysis of the digitalisation process of the firm.
Field visits	6 (1 hour on average; 100 pages of field notes)	Secondary source of data. Field notes were taken during the visits and reorganized immediately after in search of relevant details about: a) intra- and extra-family reactions to conversations about digitalization that emerged during the visits; b) the digital level of the firm; c) spontaneous conversations about digitalization, unable to be recorded.
Financial statements	60	Secondary source of data. The financial statements of the last 10 years were downloaded for each firm and analyzed in search of the economic impact of specific digital changes reported by the interviewees to have happened during this time span.
Websites, articles and social media profiles	18	Secondary source of data. Websites, journal articles and at least one social media profile were analyzed for each firm and each page or post involving the “digitalization” word was carefully observed in search of relevant additional information.

#### 4. RESEARCH FINDINGS

The analysis of the six cases suggests that digitalization and succession are strongly related issues in family businesses for two main reasons. First, digitalization is a process that impacts and involves — in different ways — different generations that coexist within the firm. Indeed, the will to start digitalization within the observed firms always came from a representative of the younger and upcoming generation of the owner family, here labeled as the digitalizer. However, the choice to start digitalizing the firm’s business model impacts all businesspeople of every age, from other family members to long-time and short-time employees, as digital technologies change processes and management. Second, digitalization and succession are related because, to be developed successfully, digitalization needs autonomy and decision-making possibilities for who is in charge of managing this disruptive change. This often creates opportunities for intergenerational confrontations between the current leader in charge and his/her successor(s). Data suggest that confrontations may sometimes accelerate succession processes, while in others, they may create a hard-to-manage intergenerational climate.

Therefore, three main types of digitalization within family SMEs, labeled as clear-cut digitalization, molt digitalization, and turmoil digitalization, emerged from our data. These types are different for their initiation and management of intergenerational conversations and for the deployment of the digitalization process.

##### 4.1. Molt digitalization

Three of the six analyzed firms showed similar digitalization paths. At one moment, during the last ten years, a young member of the family (in all cases, the designated successor) developed an increasing interest in digital technologies and started to see the potential that these could have on the competitiveness of their firms. This interest spread by an educational experience (i.e., Master of Business Administration — MBA and Master’s courses) that showed them the potential of digitalization and motivated the digitalizer to pass from theory to practice, starting to experiment with digital technologies adoption within their firm or by an increasing competitive pressure coming from competitors or customers.

*“The will to digitalize the firm was born from an intuition of my cousin. He entered the business a few years before me and saw that we were technologically and digitally behind some of our competitors. [...] My cousin noted that and began to work to realign our work to those of others”* (C, personal communication, March 18, 2022).

*“I have always been interested in innovation, but digitalization seemed impossible in my own firm. Then I’ve decided to enroll in the MBA: that experience completely changed my mind on the topic”* (E, personal communication, April 15, 2022).

Once the importance of digitalization was realized, in all cases, the digitalizer started a conversation with the rest of the owning family and, especially, the business leader (in all three cases, the father) about digitalization. This conversation aimed to share their digitalization vision and confront the older generation regarding strategic coherence of the ideas and possible application of digital technologies within the firm. In all three cases, the father was willing to listen to the new ideas and started an intense and long conversation about digitalization (from 3 months to 1.5 years). The possibility to exchange ideas and perspectives about digitalization was crucial in these cases. Indeed, even though the older generation rarely shared the enthusiasm of the successors about introducing digital technologies, the fathers were open to trying to understand the youngsters’ perspective. The open dialogue about digitalization, therefore, created trust and comprehension of mutual needs and doubts between the business leader and the successor. In all cases, it ended in an initial implementation of digital technologies in core areas of the firm (i.e., production processes).

*“My father and uncle are from a different generation. When my cousins started to talk about digitalization, they were really skeptical. However, they gave trust to my cousin, and now he and I are in charge of managing everything about going digital”* (C, personal communication, March 18, 2022).

*“My father was so scared when I first suggested buying a digital technology to increase the pace of our production. For him, it was unthinkable to change the way things were done for 30 years. However, he trusted me and gave me the freedom to try”* (F, personal communication, June 6, 2022).

After this first implementation, the conversation about digitalization continued, and digital technologies were adopted and integrated throughout the rest of the firm, following a structured strategy developed

through a continuous confrontation between the business leader, his/her successor, the rest of the family, and the firm's employees.

*"Every few months, the whole family is gathered, and I am in charge of explaining the next steps. [...] digitalization started as an experiment of my own, but now it is my father himself who cannot wait for the next adventure"* (E, personal communication, June 6, 2022).

*"My cousin and I periodically report to our fathers about how it is going. It is not always easy because especially my father, who is still in the firm, is not always convinced about our projects; however, he is always supportive in the end"* (C, personal communication, March 18, 2022).

Indeed, the support toward digitalization from the fathers facilitated the acceptance of change by the rest of the families and the businesses. As in these firms, the family and the business systems strongly overlap, and the positive and supportive attitude shown by the father/business leader was crucial in the rapid development of digital change throughout the whole business model.

*"The biggest challenge was to manage people. Our firm has employees who have worked here for 30, 20, and 10 years. They are no longer employees; they are family members. This also makes it difficult to say unpleasant things and to manage change"* (E, personal communication, April 15, 2022).

*"Managing change among employees was hard. There were many problems. The first was that the average level of education among employees was low. The second was that often in family firms, in ours for sure, autonomy and trust toward employees are high, and they were not happy to be controlled and scanned every moment to be sure they followed the new rules. [...] In the end, we made it, but the mediation of my father was crucial"* (F, personal communication, June 6, 2022).

Finally, digitalization seems to have a mutually nurturing relationship with the succession process in these cases. Indeed, in all three businesses, the succession process was planned and discussed well in advance, although the generation in charge of leadership was not about to retire. However, the idea of and desire for continuity helped the business leader to listen carefully and understand the potential of ideas and suggestions coming from the upcoming generation about digitalization. At the same time, however, the spread of digital technologies and approaches toward the firm impacted the succession process, speeding the transfer of power from the older to the younger generation.

*"I believe that, in some way, the decision to push the digitalization button helped me gain a lot of autonomy in rapid times. [...] My father doesn't understand digitalization and cannot guide this process, so he gave me the mandate to manage it, and I'm happy that I owned that trust"* (F, personal communication, June 6, 2022).

*"Digitalization helped me obtain my own place in the firm: I'm not like my father, but everyone is ok with that right now"* (C, personal communication, March 18, 2022).

#### 4.2. Turmoil digitalization

Digitalization showed a very different path in the other two cases. Although with similar beginnings,

with a young member of the owning families developing an interest in digital technologies for educational or competitive purposes and starting to see its potential benefit on their respective business models, these cases differ deeply in the support shown by the business leader and the rest of the family.

*"I knew that the firm was old, managed with an outdated approach, but you know, we were keeping going. Once the flood invaded the warehouse in 2014 and we experienced such a terrible financial loss, I realized that was the moment in which we had to change everything. That was the moment when I knew that, although difficult, I had to push for digitalization"* (A, personal communication, March 3, 2022).

*"At some point, the situation was: either we change or die. That was the moment when I realized that digitalization would be an opportunity for us. [...] I studied something at the university, and that was when I wanted to try it"* (B, personal communication, March 15, 2022).

Indeed, once the digitalizer started the conversation about digitalization to discuss his ideas with the business (and family) leader, this was scarcely open to supporting the digitalization projects. Precisely, the first conversations about digitalization were cut short by the business leader who claimed the importance of continuity and coherence with the firm's tradition. Indeed, in these firms, the urgency of both leaders was that of clearly differentiate the traditional activities and ways of doing things of the family business — seen as the right way of doing things, with the new approach proposed by the younger generation — seen as the poor ways of doing things and as a waste of money and time. However, in both firms, the digitalizer tried multiple times to own the leader's trust and support, but this was never obtained. On the contrary, after many difficult conversations about this topic, the digitalizer obtained a "challenge" from the leader who invited them to develop their digital project independently without relying on the family or the business. However, in both cases, the leader asked for a periodic and precise reporting activity about all the digitalization-related activities, the results of which were periodically critically analyzed with the rest of the owning family.

*"With my father, it is an absolute disaster. He does not understand the importance of going digital; he is convinced that we can continue like we did twenty or thirty years ago. When I started questioning his belief, he was furious and, in the end, he decided to try just because he didn't want my mother to suffer because of our behavior"* (A, personal communication, March 3, 2022).

*"When I spoke about my projects with my uncle, he laughed in my face. He believed digitalization was a waste of money. [...] It was tough to start"* (B, personal communication, March 15, 2022).

Indeed, the unwillingness to listen and accept the possibility of change shown by the business leader developed not only the lack of financial and strategic support but also scarce relational support. In both cases, the digitalizer was "isolated" within the family and the business as it was the leader's wish to clearly differentiate their ideas and vision from those of their successors. Therefore, even though digitalization was realized, it was more

difficult to financially sustain, deploy, and manage as all the changes and the issues derived from the digitalization process were regarded as a direct consequence of the digitalizer's "tantrum".

*"One could think that paying for these changes is the hardest part, but it is not! That's easy if compared to managing people. I faced much resistance. [...] My uncle definitely didn't help; he was the first one who did not believe in my plans; why would others have?"* (B, personal communication, March 15, 2022).

*"This is really a good question! It was always difficult. My father is the "alpha" around here, and if he is not convinced of something, everyone will follow: from the guy working in the warehouse to my sister"* (A, personal communication, March 3, 2022).

To conclude, a relationship between digitalization and succession dynamics was also detected in these firms. As for the firms characterized by molt digitalization, in these cases, the digitalizer was also the expected future leader of the family business. However, succession was never clearly discussed or planned by the family or shared with the rest of the firm. Moreover, when digitalization became an issue to be discussed, the current business leader was not open to listening and supporting the digitalizer. Indeed, the leader lacked comprehension of potential digitalization benefits while fearing the lack of control over digitalization changes. Therefore, for the digitalizer, it was tough to obtain the approval of the leader as well as his/her trust and the autonomy over business decisions needed to develop digitalization successfully.

Consequently, the digitalizer needed to demonstrate the benefits of digitalization, realizing the changes with very little room for maneuver and the lack of family and business trust and support. Doing this, digitalization has become a "weapon" for the successor to gain autonomy and demonstrate his ability and preparation to the whole family business. However, this approach made the digitalization process of these two firms slower than those characterized by a molt digitalization and a reverse strategic digitalization approach. Indeed, the first digitalized areas were not those related to the firm's core activity but "peripheric" and support areas where the digitalizer could experiment without corrupting the traditional working procedures (i.e., administrative enterprise resource planning (ERP) systems, and marketing).

*"Today, I'm so happy with what I achieved: digitalization was always my solo project. For this reason, it was very tough, but it was such a reward! When I see in my father's eyes, the realization of the benefit coming from my projects is the perfect reward for me"* (A, personal communication, March 3, 2022).

*"Digitalization was hard because I had to develop it by myself, creating my team and often searching for my funds, but it was a gratifying path"* (B, personal communication, March 15, 2022).

#### 4.3. Clear-cut digitalization

The last family firm analyzed in this study showed a third and different type of digitalization path. Similar to the previous two types of digitalization, the idea of adopting digital technologies to benefit the firm's competitiveness came to the family firm's

expected successor after a specific educational experience (i.e., MBA). However, she did not have the opportunity to start a structured conversation about it with her father because he suddenly died a few months after she became interested in digitalization. This fact unexpectedly accelerated the succession process as she became the firm's leader. Previous family conversations secured her position, and it was shared with the rest of the business that she would follow in her father's footsteps as the family business leader. However, as the passage moment was unexpected and unplanned, she faced a difficult strategic decision.

On the one hand, she wanted to privilege continuity over her father's business approach to secure her position while being recognizable to the business family, employees, and stakeholders. On the other hand, she felt the need to change and modernize the firm and saw an excellent opportunity to do so in the future. After a conversation with the rest of the family during which she explained her plans for the firm, especially those about adopting digital technologies, she gained the trust of the other members as they saw in her the new leader who was worthy of support.

*"In 2000, my father suddenly died, and this sped up the generational change; my husband, my brother, and I entered the business. My father was a genius and the very pillar of this firm, but we were different in experience and education. We feared to lose the leadership my father held so well. That was when I realized that we should differ from my father completely [...] That was when I wanted to begin our digitalization journey"* (D, personal communication, March 3, 2022).

The trust gained by the rest of the owning family also helped the digitalizer gain the support and collaboration of employees who saw in her the designated successor and were open to helping her develop her leadership style and business vision.

*"I suspect that the succession circumstances helped me gain trust and support from other people involved in the family [...] I have never felt alone. Sure, digitalization is always difficult to realize because it brings so many changes and requires so much funding, but I feel like people always followed and trusted me"* (D, personal communication, March 3, 2022).

The deployment of digitalization was different from the previous two types because, in this firm, digitalization was more experimental and developed with a trial-and-error approach. Indeed, the digitalizer's autonomy enabled the development of digitalization without particular resistance in many different areas of the business model (i.e., ERP, production process, supply chain, marketing). However, at the same time, the decision of which areas needed digitalization was not supported by conversations with the previous generation that could have helped define a clear and effective digitalization strategy in line with other business goals. Therefore, the digitalizer followed her instinct and changed ideas many times, slowing the digitalization process.

*"Digitalization was not a linear path in our firm. [...] At the time, I had to learn a lot of things in a very short time, and this made it difficult to understand the priorities clearly. This was also true for digitalization: we were so enthusiastic about developing digital change that we made many mistakes. [...]"*



*For a long time, we did not have a plan; we tried what we wanted to try... and failed miserably a lot of times. Then we understood what is best, and we developed a clear strategy that guides us in digitalizing the firm"* (D, personal communication, March 3, 2022).

## 5. DISCUSSION

The findings of this study showed that digitalization can occur in different ways in family firms and that these ways seem to be strictly related to the succession experience that the firm is experiencing or planning to experience.

Specifically, the molt digitalization (cases C, E, F), which takes its name from the ability of snakes to change their skin periodically, is the one that happens in family firms where the older, in-charge business and family leader engage in a conversation about digitalization with his/her younger designated successor and together they develop a shared and structured strategy to develop digital change within the firm. In this typology, digitalization emerges as a succession accelerator as the successor becomes in charge of decision-making power and autonomy regarding this topic, gaining his/her role and developing his/her leadership style with other family members, employees, and other stakeholders.

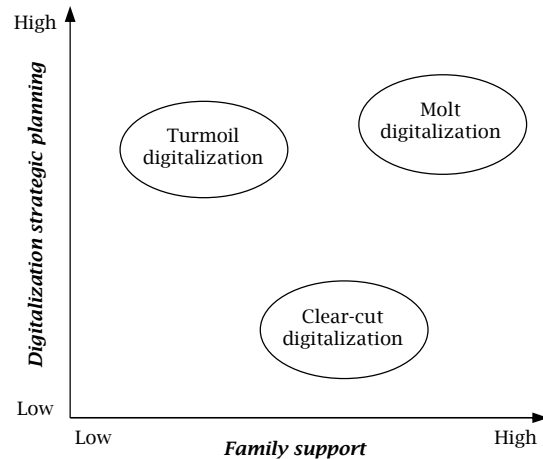
The second typology of digitalization deployment detected in this study was the turmoil digitalization (cases A and B). As the label suggests, the digitalization deployment is more turbulent in this second case and lacks family support. Expressly, the business and family leader disagrees with the digitalization projects suggested by his/her successor and does not show trust in the digitalization process as he/she does not perceive the potential benefit. The lack of trust by the leader determines not only a lack of financial support but also a lack of help in managing the organizational change derived from digitalization activities, creating discontent among employees and fostering conservatism throughout the organization. Digitalization is a single-person responsibility rather than a collective process in the firms that are part of this typology. For this reason, digitalization is highly structured by the digitalizer in a step-by-step strategy, and highly controlled by the rest of the family. That requires constant proof of the benefits of digital adoption and a longer development time, as it is pretty challenging to manage from both a financial and relational perspective.

The third type of digitalization detected was clear-cut digitalization (case D). In this typology, the firm lacks an actual intergenerational confrontation about digitalization as the business leader unexpectedly becomes unable to work, and the successor (previously designated), who was willing to start talking about the digitalization of the firm, has no opportunity to discuss the issue with his predecessor. This situation both positively and negatively impacts the firm's digitalization journey. Indeed, although the successor has plenty of autonomy regarding the digitalization decisions and the support of family members and employees derived from her new apical position in the business, the digitalization process followed a trial-and-error approach rather than a specific and structured strategy.

To conclude, as shown in Figure 2, digitalization in family firms can follow three different paths that

could differ for the type and moment of the succession process they are currently experiencing, the level of structuring of the digitalization strategy, and the level of support shown by the rest of the business family.

**Figure 2.** Different types of digitalization deployment in family SMEs



## 6. CONCLUSION

The findings speak to the literature about the relationship between SEW, succession, and innovation. This study extends the well-known relationship between these three aspects (Carayannis & Grigoroudis, 2023; Cirillo et al., 2019) by delving deeper into the mechanisms that tie them together. Specifically, the literature suggests that the characteristics of the succession process have an impact on the level of innovation propensity of the firm (i.e., innovation investment, Song et al., 2022) as well as innovation investments may have a destabilizing impact on the SEW of a family business during and after succession leading family firm to reduce innovation investment during these times (Gomez-Mejia et al., 2014). However, our findings expand this knowledge in two main ways.

First, while most extant studies analyze how succession can be an adequate yet complex moment for innovation attempts (Carayannis & Meissner, 2017; Jibir & Abdu, 2021; Ruii & Breschi, 2019), this study employs a slightly different perspective as in five out of six cases digitalization was a choice that was independent of the succession process as it spurred from competitive purposes. Moreover, the findings suggest that the will of the digitalizer to develop digitalization within his/her firm could accelerate the succession process as it develops the urgent need for inter-generational dialogue even if the incumbent head of the firm is not yet planning to retire. In this context, our findings are coherent with those studies suggesting that different types of succession are related to different innovation propensities as different approaches to this intergenerational dialogue emerged, determining different approaches to digitalization. However, earlier studies suggest that participatory succession (characterized by the will of creating an intergenerational dialogue as a form of preparation for succession) is highly beneficial

for technological innovation as it smooths the comprehension between the incumbent and designated part of the succession process, enhancing the overall SEW of the business (Carayannis & Meissner, 2017; Jibir & Abdu, 2021; Ruiu & Breschi, 2019). This research confirms the central role of intergenerational dialogue, as demonstrated by the one characterizing the molt digitalization. However, it also suggests that this dialogue can sometimes be difficult and counterproductive to maintain SEW. Indeed, in the case of turmoil digitalization, a dialogue exists between generations but is the cause of tensions at both the family and business levels, reducing the SEW. This finding also speaks to those studies analyzing how, during succession, innovation can be seen as a threat because it implies the involvement of external, nonfamily professionals and new resources that reduce the level of SEW as it implies decentralization and a limitation of family control over innovation (Acquaah, 2012; Shi et al., 2019; Yang et al., 2021). In the turmoil cases, the involvement of external subjects to support innovation represented a secondary problem within the family, as family members primarily focused on the lack of alignment between the incumbent's vision and the firm's new management.

Second, extant studies suggest that radical succession (that is, the one happening almost unexpectedly, without any intergenerational preparation) is negatively related to the technological innovation propensity of the firm during and immediately after the succession takes place (Wu & Chen, 2014; Song et al., 2022). Moreover, extant literature suggested that the lack of intergenerational confrontation leading to succession is negatively related to the maintenance of SEW and the investment level in innovation technologies (Ruiu & Breschi, 2019; Jibir & Abdu, 2021). This study's findings do not entirely support this dynamic. Indeed, in the case of clear-cut digitalization, where the head of the firm unexpectedly left his role, his daughter used digitalization as a tool to build authority, and digitalization levels increased immediately after the succession. That is an intriguing result, considering that literature still lacks a final answer to how the incumbent generation can establish a legitimate authority within family firms after succession (Song et al., 2022).

Therefore, the findings of this study answer the call for further investigation of the role of the family in the field of innovation and digital transformation (Jalilvand et al., 2017; Jain et al., 2023; Überbacher et al., 2020). Indeed, the identification of three different types of digitalization deployment in family SMEs comes from the typology of succession they experience to support and expand the academic dialogue about the importance of intergenerational conversations to support innovation. Moreover, while most previous studies implicitly assume a unidirectional flow in the exchange process from the incumbent generation to the heritor generation, as suggested by Suddaby and Jaskiewicz (2020), the findings of this study demonstrate that the succession derives from the intergenerational exchange of ideas and experience. This result supports and expands the literature about the importance of rhetorical history as a tool to develop change while protecting continuity in family firms (Jaskiewicz et al., 2015).

Finally, the findings of this paper also contribute to practice. First, they could be of interest to family business entrepreneurs and owners. Indeed, the insights of this study, and particularly the identification and explanation of the three paths of digitalization, can be used to critically analyze the digitalization of their firm through a lens that provides an interrelated view of digitalization strategies and family involvement. The findings of this paper could also offer guidance to family business owners in different family and business contexts. Indeed, the findings suggest the potential of a digitalization process based on a well-grounded inter-generational dialogue and the possibility of employing digitalization as an effective strategy during sudden leadership change (e.g., the unexpected death of the incumbent family and business leader). Second, the findings can also be of great interest to family business consultants and advisors at various levels as the analysis of the three digitalization paths offers an overview of different scenarios they may face when consulting family businesses during a digitalization process. Specifically, the importance of mitigating and listening to the views on the issue coming from different family generations to support and maintain a good level of SEW in their customers' environment could help define a well-rounded consulting strategy. Moreover, this paper suggests the importance of engaging in a broad view of the family concept that includes family members but also encompasses long-time employees. For a consultant guiding a family business over a digitalization process, it is essential to notice this and pay adequate attention to all the internal stakeholders that could be impacted by the inevitable changes determined by digital technologies.

This paper also presents some limitations, which may, however, suggest directions for future research. First, digitalization is a long, slow-paced process that is difficult to analyze comprehensively without a longitudinal approach. This paper lacks this approach as it does not analyze digitalization development over the years. Thus, a longitudinal multi-year case-based study would offer an invaluable contribution to the research on the digitalization process. Second, this paper conducted interviews with only one family member. More interviews with different family members within the family could significantly help to delve deeper into the family's role in the firm's digital transformation and better understand the two perspectives involved in the intergenerational dialogues. Third, although the SMEs included in this study are all different in their activities, the potential industry-level variation in digitalization is not part of this study's focus. Future research could thus address how firms in different sectors pursue digitalization; this line of inquiry could shed light on the link between digitalization approaches and industry environments. Fourth, the firms included in the study were all at least 30 years old. Analyses conducted in research settings, including greater diversity in terms of firm age, would help detect similarities and differences between family SMEs characterized by different experiences. Finally, future studies could further develop the analysis of the different types of digitalization deployment by delving deeper into examining how the various phases of family firms' digital transformation may vary based on different family approaches.

In conclusion, this research extends our understanding of digitalization in the context of Italian family SMEs. Through a qualitative, case-based methodology, the study conceptualizes different digitalization developments based on the level of family support, succession, and strategic

planning characterizing digital change. This study offers multiple contributions to the research on both the broader literature on innovation in SMEs and the specific research domain of digital innovation in family SMEs.

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## APPENDIX

Table A.1. Details about the interviewees for each firm

<i>Firm</i>	<i>Interviewee's role</i>	<i>Age</i>	<i>Gender</i>	<i>Years in the family business</i>
A	3rd generation owner	41 years old	M	15
B	3rd generation owner	55 years old	M	25
C	4th generation owner (cousin 1)	29 years old	M	5
	4th generation owner (cousin 2)	34 years old	M	7
D	2nd generation owner (wife)	56 years old	F	20
	2nd generation owner (husband)	58 years old	M	19
E	3rd generation owner	36 years old	F	8
F	3rd generation owner	42 years old	M	17

Table A.2. Semi-structured interview protocol

<i>Interview's section</i>	<i>Open questions</i>
Section 1: General information	<ul style="list-style-type: none"> <li>• Let's start from your firm: can you synthesize its history?</li> <li>• Can you briefly explain the main activities of your firm?</li> <li>• Can you briefly explain the main role you have and the main activity you conduct in the firm?</li> <li>• Tell me something about your family: how is it composed? Do all members work in the business? Which roles do they have in the business?</li> </ul>
Section 2: Digitalization's initiation	<ul style="list-style-type: none"> <li>• What does digitalization mean for your firm?</li> <li>• How much is it essential to digitalize your firm?</li> <li>• Who initiated a discussion about the deployment of digitalization in your firm?</li> <li>• When did (s)he initiate this conversation, and why?</li> </ul>
Section 3: Digitalization process	<ul style="list-style-type: none"> <li>• Can you please summarize the main steps of your firm's digitalization journey?</li> <li>• What were the main barriers and drivers of digitalization?</li> <li>• Which are the critical subjects involved in the digitalization process?</li> <li>• What are the primary outcomes of the digitalization process?</li> <li>• How did the family and the business react to digitalization? (Posed whenever possible). How did your father/mother/uncle/aunt react to digitalization?</li> <li>• Did succession play a role in the whole digitalization process? Please explain.</li> <li>• Did digitalization speed up succession? Please elaborate on your answer.</li> <li>• Did digitalization change some dynamics within the family and the business? If yes, please explain.</li> <li>• Did digitalization have an impact on the relationship you have with other members of your family? If yes, please explain.</li> </ul>