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The impact of family-external business succession on digitalization: exploring management buy-ins

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Abstract:
Digitalization in small- and medium-sized (SME) family firms and processes of family-external business succession within these firms are under-researched areas. As SME and their future viability are important for many economies around the world, we aim to study the effects of succession processes on those companies' digitalization activities. Utilizing a unique data set comprising of around 340 pages of transcribed interviews within a multiple case study involving four family firms in the DACH region of Europe, we perform exploratory research of this matter. Our findings indicate that incumbent and new owner-managers focus on efficiency-related digitalization activities during succession processes. More long-term issues such as changes to business models or the exploitation of external opportunities through digitalization are underrated and postponed. Our findings contribute to both digitalization and family firm literature and we provide suggestions for future research in this regard.

Keywords:
family business succession; digitalization; digital transformation; entrepreneurship theory; management buy-in.

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1. Introduction

Family firms are encountering two rising waves that will dramatically shape their way of doing business. One wave relates to the digital transformation of businesses in general [1] and to family businesses in particular [2]. The other one is even more specific to family companies: business succession [3]. Business succession is among the most relevant and critical issues family firms have to face at some point in their life [4], [5], [6]. Family firms' idiosyncrasies [7], [8] make the succession process a challenge for corporate performance and survival [9], [10]. This is even more the case when looking at family-external succession which is a peculiar succession mechanism that has received little attention in existing family business research [11], [12], [13], [14]. Such family-external successions have been found to come along with serious ramifications for the businesses concerned [9], [15] which is not surprising as such succession typically follows a complex, multi-staged and dynamic process [16], [17], [18]. Unfortunately, especially the process of family-external business succession, the 'exit gate' of family business research, is under-researched [19], [20]. This is in stark contrast to the relatively good progress that has been made on primarily family-internal succession processes [21], [22], [23]. Typically, studying family firms is a challenging task as such businesses have been described as "difficult to access for research purposes" [16, p. 79] and rather secretive in nature [17].

The topic has enormous practical relevance. While 25 percent of all business successions in Austria were family-external ones in 1996, the latest figures of 2006 indicate a jump to 50 percent [18]. During the same period family-external successions in Switzerland climbed from a share of 39 percent to close to 50 percent [19]. In Germany roughly 40 percent of all business successions between 2002 and 2008 involved family-external successors [20]. Despite an absence of more recent figures, it is reasonable to assume that external business succession continues to be of high relevance. In Bavaria, one of Germany's economically most active federal states, roughly 40 percent of current owner-managers aim to find family-external successors due to a lack of internal ones in the next two to ten years [21]. Again, there is a lack of research as to external business succession [22], [12] and this lack has practical implications insofar as research has failed to provide perspectives and implications for external successors [23]. Given that 500,000 small- and medium-sized entities (SME) will need to find successors by 2022 [24], the economic relevance is evident. Moreover, it is also of considerable political and societal importance as between 61% and 70% of the Swiss, German and Austrian workforce are employed by family firms [25], [26], [27].

In addition to this wave of business succession across many small- and medium-sized family firms there is an "unprecedented wave of digital transformation" [1, p. 301] currently hitting the shores of these businesses. Various terms such as digitization, digitalization or digital transformation refer to more or less substantial changes of doing business [28], [29], [30], [31]. Benefits of digitalization are manifold and include cost savings, more efficient processes or closer ties to customers [30], [31], [32]. Still, those benefits do not come automatically, and digitalization can represent a major challenge for companies [33], [1]. Specifically, most family firms are small- and medium-sized [34] and such businesses face particular issues related to digitalization. They tend to lack resources [35], [36] and expertise needed for such digitalization [37], [quinton] and are often very much dependent on the digital skills of owner-managers and their attitudes towards changes [37], [38], [2]. Moreover, scholars and family firm practitioners have only been starting to explore digitalization within the context of family firms and are still in the process of exploring and gaining experience [39]. In this regard, there is a specific lack of understanding of digitalization issues in small- and medium-sized companies [40].

When combining these two very current issues of family-external business succession and digitalization our main research question arises:

RQ: How is digitalization being considered by owner-managers during a family-external succession process in small- and medium-sized firms?

The purpose of this paper is to explore this question by making use of a unique data set comprising of a multiple case study of four family firms in the DACH region. 340 pages of transcribed in-depth interviews have been collected on an entirety of fifteen interviews held with various stakeholders, including previous and new owner-managers. Given the above-mentioned difficult research access to family firms and the under-researched natures of both the family-external business succession and digitalization in small- and medium-sized family firms, the present study contributes to existing research in two main ways: first and from a methodological point of view, it generates exploratory and quasi-longitudinal insights into the process of family-external business succession and its effects on these firms' various layers of digitalization during that time. Secondly, we employ entrepreneurship theory in order to conceptualize pre- and post-succession phases within the external succession process in order to make it more susceptible for both data collection and exploration of its dynamic character.

The remainder of this paper is structured as follows: in the next chapter we conduct a literature review on the many facets of digitalization and family-external business succession and discuss their interplays and relevance for small- and medium-sized family businesses. Afterwards, we conceptualize the succession process' division in two main phases and its effects on digitalization by creating three research propositions. In the subsequent section we explain and argue our methodology by detailing the case study approach employed to research on the formulated propositions. Consequently, we present our findings and interpretations and conclude with discussing those results as well as naming implications and limitations as well as promising areas for future research.

2. Literature review

2.1 Family firms and business succession

There is a vast number of categories which family firms can be placed in, starting from dimensions such as the families' concentration of ownership to their size in terms of sales and employees or the degree of family involvement in the companies' leadership team [41], [42]. Various authors point out that firm size is a relevant factor when studying such family firms as organizational or resource-related differences between small and large ones can be substantial [42], [43]. Indeed, while there is data-backed agreement that most family firms are small- and medium-sized [44], [38], [37] there is no universally accepted definition of small- or medium-sized. The definition given by the European Commission [45] has been described as the "only semi-official" [46, p. 21] one. According to this definition, SME are those firms that employ between 10 and 249 employees and that either have an annual balance sheet volume of between 2 and 43 Mio. € or an annual turnover of between 2 and 49 Mio. € [45]. Stemming from its practical significance and widespread adoption [46] our study utilizes this SME definition.

With turnover or balance sheet and employment dimensions already narrowing down the manifold options of defining family firms, the actual family-related characteristics of such firms still hang in the balance. As Werner [41] and Haunschild et al. [47] point out, the unity of ownership and management is a defining feature of family firms and that at least 50 percent of voting shares need to be held by family members for a firm to classify as a family business. As Haunschild and Wolter [48] add, those voting shares can be held by sole owners or even a group of owners and the classification holds in the case of some external managers sitting on the management board next to family members. This feature is especially relevant in the context of the present study as a particular way of family-external business succession has been studied, namely management buy-ins (MBI). These involve external persons (managers) that purchase the majority, or, in larger deals, a significant percentage of a firm's voting shares [49]. In that these managers also take up management positions in the firms whose voting shares they at least partly acquired they possess decisive rights in steering the firms and consequently become the new owner-managers [49]. We therefore define small- and medium-sized family businesses (SMFB) in the dependence on the European Commission [34] and Haunschild and Wolter [48] as follows:

Small- and medium-sized family businesses (SMFB) are those firms that employ between 10 and 249 employees and either have an annual turnover of between 2 and 49 Mio. € or an annual balance sheet volume of between 2 and 43 Mio. € and whose sole owners or group of owners have decisive rights of the particular firms' voting capital and whose sole owners or group of owners belong to the management board either on their own or in combination with external managers.

Family firms in general have been associated with some sort of ‘familiness’ [50] as a bundle of specific resources stemming from family involvement and intra-family relationships [51], [52], [53] as well as various unique features such as patient, i.e. owners’ long-term invested capital [54]. Furthermore, especially the role, attitudes and skills of owner-managers in SMFB have been found as important influencing factors for the organization and the conduct of those firms [55]. As many SMFB are limited in their funding options due do their size [56] these businesses rely to a large extent on owner-managers’ willingness to put funds into the business [55]. This financial dependence in turn increases owner-managers’ central role in shaping and controlling the firm [9], [55], for instance ranging from their being the main point of contact for suppliers or banks [56] to their central role in defining the criteria for business success. Such centralized decision-making is typical for small- and medium-sized firms in Germany and Austria [57]. While such an organizational setup allows quick decision-making as mainly the owner-manager is involved [58] it is precisely this personalized way of doing business that has the potential of complicating the process of family-external business succession [59], [60].

In light of this personalized way of doing business in many SMFB, the relevance and challenges of MBI are not to be underestimated. MBI are a relatively recent phenomenon in the world of business succession [61], yet their share out of all (family-external and internal) business successions in Germany alone has been estimated to be 16.5 percent between 2005 and 2009 [62]. In absolute numbers this estimate would yield a total of 3,630 MBI per year in Germany in this period [15], [30]. Now, MBI concern the transfer of the above-mentioned decisive rights from a firm’s sole owner or its group of owners to outside managers [63]. Especially for SMFB such MBI are a fitting succession mechanism as the personalized way of doing business often continues with a new owner-manager [64]. Those outside managers often receive financial support by capital providers who in turn get to hold some percentage of the acquired firm’s voting shares [65], [66], [67]. In order to classify as a genuine management buy-in, Görres and Moss [66] as well as Wright et al. [49] argue that these shares of capital providers need to be limited and external managers should at least hold 25 percent of the acquired firms’ voting shares. In line of this reasoning we define management buy-ins as "*the transfer of ownership whereby executive control of a business is gained by a manager or entrepreneurs or a team of managers who were not working for the company before the transaction*" [61, p. 5, emphasis added] *and who acquired and hold at least 25 percent of the firm's equity, possibly in combination with providers of financial capital who hold the majority of the remaining shares* [66], [49].

2.2 Digitalization

Among the many terms associated with the use of new and digital technologies ‘digitalization’, ‘digitation’, ‘digitization’ or ‘digital transformation’ have been the most widely used [68], [69], [41]. Authors tend to agree that digitalization and digital transformation can be used interchangeably and refer to more or less the same meaning, namely fundamental changes within business, society or politics that are driven by digital technology [51], [29]. As to the business context, such changes concern nearly all areas of firms ranging from individual processes to the organizational setup and whole business models [31], [1], [40]. Digitalization in turn stands for the alteration and change of processes, organizations or business models in a way that might completely change their function, significance or shape or even lead to completely new products [70], [71], [72].

Following the above discussion, in this study we employ the definition of digitalization given by Parviainen et al. [29] which states that digitalization “*is defined as changes in ways of working, roles, and business offering caused by adoption of digital technologies in an organization, or in the operation environment of the organization*” (p. 64). According to Parviainen et al. [29] such changes typically relate to areas of internal efficiency (such as processes and reporting systems), external opportunities (such as related to customers and products) and business models (such as new ventures).

The benefits of such digitalization include increased innovation [39], [73], [1] and gains in productivity [74]. In general, Buhl and Kaiser [75] classify and Neumeier et al. [76] substantiate the benefits of digitalization according to a total of five layers, namely related to customers (e.g. product innovation), business models (e.g. new business ventures), business processes (e.g. increased productivity), applications and systems (e.g. enhanced analytic tools) and infrastructure (e.g. modernized technical equipment). Especially in SMFB, however, digitalization is a dramatic challenge owing to these firms' often limited technical capabilities and widespread hierarchical organizational structure [2], [33], [36]. With regard to the latter, Elbeltagi et al. [37] find that owner-managers in small- and medium-sized firms play a central role when it comes to these firms' adoption of new technologies. This is significant as Bollweg et al. [77] find that owner-managers tend to either underestimate customer expectations of digital services offered or tend to implement such digital offerings only when competitive and customer pressure mount. Such behavior by owner-managers might relate to difficulties of small- and medium-sized businesses finding and retaining new talent which is of particular concern given the relatively new area of digitalization [78]. Taiminen and Karjaluoto [38] find that many small- and medium-sized businesses do not exploit the full potential of digital ways of working and question whether owner-managers have understood the signs of the time.

3. Theoretical and conceptual foundations and research propositions

As noted above, business successions play out in stages and constitute a process [17]. When studying such temporal phenomena involving a variety of stakeholders, a conceptual framework is helpful in guiding and structuring the empirical investigation [79]. Through it, we aim to create causal propositions that direct our data collection and analysis [80], [81].

The first step involves addressing the sort of theoretical lens that we employ for our investigation. Business succession can be perceived as a form of entrepreneurial behavior as successors basically start to own and manage their new firm [67]. Moreover, SMFB have been widely linked to entrepreneurship theory and research [9], [21], [67]. When dealing with incumbent and new owner-managers such a process involves a difference in knowledge about the business at hand [15]. Thus, these main stakeholders are presumed to possess asymmetric information which is likely to translate into different decisions being made [82]. The present paper therefore takes a subjectivist theoretical stance. With small- and medium-sized family firms' digitalization during family-external business succession being this study's explanandum, the exploration of why and how such businesses' digitalization efforts will be affected during such a transitional process marks the research aim of this study. This transition, however, is not straightforward to research. The process as such needs to be delimited for precise data collection and analysis [32]. We follow various contributions in that we conceptualize two main succession phases: pre-buy-in and post-buy-in [32], [83], [84], [85], [15]. The pre-buy-in phase is relatively straightforward to define as *the time period between current and new owner-managers' first contact and the contractual finalization of the management buy-in transaction* [15]. Finding a definition for the post-buy-in phase presents a more difficult endeavor. One could argue that for new owner-managers the post-buy-in phase lasts until the moment there is another change in ownership and/or management. From a research point of view such a long period of time is hardly measurable. That might well be the reason why post-succession phases in general have been found to be often neglected in research [83]. We try to circumvent this issue by employing entrepreneurship theory and especially its construct of entrepreneurial balance [86]. Such a balance is achieved when new owner-managers have become familiar with their firm's formal and informal matters such as processes and culture. This allows conceptualizing the post-buy-in phase as one that takes up considerable time for new owner-managers [86], [15]. Thus, we define the post-buy-in phase as *the time period between the finalization of a management buy-in transaction and the achievement of a new entrepreneurial balance for new owner-managers* [15].

Now, when looking at digitalization efforts of SMFB, preliminary evidence suggests a degree of centralization when bringing forward digitalization projects and this centralization follows the lines of SMFB management by owner-managers in general [77], [2], [38]. However, as owner-managers have been found to play a central role in adopting digitalization [37] we do not focus on owner-managers' past actions as to such digitalization. Rather, we look at their role during the process of business succession. In this regard Taiminen and Karjaluoto [38] point out that a lack of resources and especially time is a significant barrier to the adoption of digitalization by owner-managers and small- and medium-sized firms in general. In the pre-buy-in phase, incumbent owner-managers are supposed to facilitate the due diligence of their business. A due diligence is "a purposeful, systematic, professional investigation of business opportunity and risk during on-going sale negotiations" [87, p. 156]. Thus, owner-managers in cooperation with their tax planners or outside consultants prepare tax documents, sales forecasts, historical financial information and similar data so that parties interested in the MBI can investigate the firm and offer a purchasing price [87]. All this preparation is complicated and time-consuming [88]. Next to many owner-managers' lack of initiative as to digitalization even in non-succession times [77], Hopkins et al. [89] reason that during a succession owner-managers tend to neglect the digital side of a due diligence, for instance by not creating a register of all digital assets in the business. Similarly, Sherer et al. [90] note that digital topics such as new technologies or electronic data demonstrate rather recent and still incomplete areas of due diligence investigations. Following this discussion, we assume the pre-buy-in phase to focus on traditional areas of due diligence such as tax, organization and financial and less so on digitalization. Thus, we formulate our first research proposition:

P1. Small- and medium-sized family businesses' incumbent and new owner-managers focus less on digitalization-related areas in the pre-buy-in phase compared to classic due diligence topics.

Within the context of succession especially post-succession phases are highly difficult for both new owner-managers and firms. Specifically referring to MBI, business failure rates in the aftermath of successions range between 8 percent and 32.5 percent [49]. Robbie and Wright [61] find that despite complicated due diligence processes in MBI, new owner-managers struggle with a lack of information of their newly acquired firms, with unanticipated issues such as a lower-than-expected quality of warehouse stocks and the maneuvering through the firm's accounting and reporting systems. Laub [91] adds the vital function of looking at cash-flows and accounts receivables and payables as priorities for new owner-managers in the immediate post-buy-in phases. New owner-managers need to build rapport with the firms' employees as soon as possible in order to facilitate trust and performance which Howorth et al. [59] found to be a challenging undertaking for new owner-managers. Adding to that, Weber [22] finds that especially in cases of external business succession, opportunistic behavior by some employees needs to be addressed by new owner-managers. This may explain why changing employees' incentive systems are a common prioritized task among new owner-managers in MBI [61]. Such changes correspond to Schmude and Leiner [60] who note that many small- and medium-sized firms require financial restructuring by their new owner-managers. In light of this discussion, we expect new owner-managers to be very much occupied by classic business administration topics in the post-buy-in phase. These topics include cash-flow management, building relationships with employees, customers and suppliers, the familiarization with accounting and reporting systems and gaining in-depth and intimate knowledge about their new companies. These assumed tasks correspond to issues related to exploitation as opposed to exploration [92]. Taking into consideration the definition of digitalization given by Parviainen et al. [29] and its relation to the digitalization aspects of internal efficiency, external opportunities and business models, we assume new owner-managers to focus on the first aspect of digitalization, if at all. Given the likely number of business- and finance-related priorities for new owner-managers, we anticipate there is less focus on the creation of new business models in the immediate aftermath of the pre-buy-in phase. Similarly, the exploration of new external opportunities is not expected to be a priority in the immediate post-buy-in phase. Thus, we propose:

P2. When new owner-managers deal with digitalization in the post-buy-in phase, they focus their time and resources on aspects related to internal efficiency and exploitation.

One component accompanying many mergers and acquisitions (M&A) transactions is a vision or long-term strategy formulated by new leaders when acquiring a company [93]. Successful business integration involves leaders that think about and formulate clear long-term strategies [94]. With regard to digitalization in SMFB, Bley et al. [95] find that a majority of 55 percent of German businesses in their study of the Dresden region overestimate their degree of digitalization and many of those firms are small- and medium-sized. Similarly, Sommer [96] reports on a lack of interest in many small- and medium-sized firms when it comes to digitalization. Still, there is preliminary evidence and reason to believe that in businesses general and SMFB in particular there is a rising awareness of the significance of digitalization [96], [97]. This ties in to business succession as a potential engine for innovation and exploration as successors enter the company with new ideas and visions [98]. Following our second proposition, we assume that in spite of more urgent business priorities in the post-buy-in phase, new owner-managers will attempt to at least study the possibility of utilizing the more long-term and strategic elements of digitalization such as the ones related to external opportunities and business models. Thus, we propose:

P3. Already in the post-buy-in phase, new owner-managers will study the possibility of or formulate visions for the utilization of more radical and longer-term aspects of digitalization such as the ones relating to external opportunities and business models.

4. Methodology

Digitalization in SMFB demonstrates a still under-researched topic [39], [40] and a research methodology has been sought to further our understanding of this contemporary phenomenon by studying it in its real-life context [99] and by providing in-depth knowledge [100]. Consequently, we chose a qualitative method [101] and, more specifically, a multiple case study approach [99]. A total of four SMFB have been included in the case study and interviews with a variety of stakeholders have been conducted which in turn addresses on of the main criticisms case studies of SMFB face, namely the over-reliance on just owner-managers [100]. Hence, we were able to achieve access to multiple sources of evidence [99]. Moreover, regarding the family-external business succession this research access is advantageous as it reflects the successions' multi-level character [23]. Especially regarding family firms, Reay and Zhang [102] recommend an in-depth qualitative research as it allows for unearthing these firms' dynamics.

The four firms ("AUTO", "TOOLS", "FURNITURE" and "FOOD") have been small- or medium-sized family firms (as defined above) at the time of the interviews and based in either Austria, Germany or Switzerland. All interviews were held between the years 2012 and 2019 and the average duration were 68 minutes (across all AUTO interviews), 47 minutes (across TOOLS), 55 minutes (across FURNITURE) and 32 minutes (across FOOD). DiCicco-Bloom and Crabtree [103] state that qualitative interviews typically last between 30 minutes and several hours and the interviews held in the context of the present study fit into this time window. Table 1 below depicts the stakeholders that were interviewed across the four firms.

Table 1. List of individuals interviewed for this study

AUTO	**TOOLS**	**FURNITURE**	**FOOD**
New owner-manager	New owner-manager	New owner-manager	Incumbent owner-manager
Previous owner-manager	Previous owner-manager	Management employee	Employee
Employee 1	Employee	Consultant	
Employee 2		Trustee	
Former employee			
Capital provider			

The companies AUTO, TOOLS and FURNITURE underwent a family-external business succession through MBI a maximum of two years before the interviews. The FOOD business is currently undergoing the MBI process and is meeting interested parties as part of the due diligence. Therefore, it was mainly included in the examination of proposition 1 and partly in proposition 2 based on the owner-manager's recollection of statements and indications made by interested parties. Table 2 below displays the main characteristics related to SMFB of the firms interviewed.

Table 2. Main characteristics of firms researched for this study

Information \ Case	**Furniture**	**Tools**	**Auto**	**Food**
Headcount post-buy-in	15-25	50-60	30-40	80
Annual turnover post-buy-in	2-10 M€	5-15 M€	25-35 M€	2-5€
Previous owner-manager's (incl. family) share of voting capital pre-buy-in	100%	100%	100%	100%
New owner-manager's (incl. family) share of voting capital post-buy-in	41%-49%	51%-61%	%51-61%	100% (desired)
Previous owner-manager's (incl. family) share of voting capital post-buy-in	Balance	Balance	Balance	0% (desired)
Capital provider's share of voting capital post-buy-in	41-49%	Balance	Balance	-
Generation of firm	3	2	3	1
New owner-manager's perception of firm as still a family firm (yes = still a family firm; no = no longer family firm)	No	Yes	Yes	-

Due to family firms' secrecy and the confidentiality of MBI transactions it is exceptionally difficult to study such successions while they occur [25]. Unsurprisingly, then, sampling took place on the basis of firms' availability and willingness to participate in the study after they were contacted by the researchers. Related to this, in the case of AUTO, FURNITURE and TOOLS retrospective interviews and in the case of FOOD prospective interviews had to be held [de vaus]. Especially retrospective or quasi-longitudinal research makes it possible to reconstruct data that arose over a period of time by collecting it at one point in time, namely the time of the interview [104]. Interview participants were thus asked to recollect occurrences [104] which poses the danger of having an error of recall [105], [104]. This problem has been attenuated by including a variety of different interview participants as has been shown in table 1 [105].

A semi-structured interview guide was created and issues of validity and reliability were considered [99]. As for *construct validity*, in order to achieve as much plausibility as possible and in a way that fits the underlying qualitative approach, we developed reproducible indicators related to the construct of digitalization. We follow Parviainen et al. [29] and divide the construct into three components: activities related to (i) internal efficiency, (ii) external opportunities and (iii) business models. Based on these components we found a valuable inspiration for indicators of digitalization with Neumeier et al. [76] and Bollweg et al. [77]. Stemming from the exploratory nature of this study, we follow Geider [106] in that we did not over-specify the indicators but rather created them in order to guide our collection and analysis. The complete list of indicators can be found in attachment A. Moreover, next to the utilization of multiple sources of evidence, all interviews were tape-recorded and transcribed completely to prevent a loss of evidence [99]. All interviews were held in the interviewees' native languages (German). In total, around 340 pages of transcription were generated and imported into MAXQDA for coding purposes. Overlying categories that were found were compared across cases [107] and assigned to the causal propositions, if deemed relevant [108].

As to *internal and external validity*, this study is not perceived as capable of achieving a generalizability of its results owing to its exploratory nature [99]. However, by generalizing to the causal propositions developed in this study, we aim to contribute to theory building efforts as to digitalization during the process of family external business succession. So doing, achieving "internal generalizability" [100, p. 115] as a way of generalizing within the setting of the study becomes possible.

A case study protocol involving literature review, conceptual framework, interview schedule and credentials has been developed to achieve a more robust *reliability* [99]. Yet, due to the fact that non-disclosure agreements were signed with all firms, the publication of that protocol is not possible and interview anonymization and pseudonymization had to take place. However, appendices A.1 through B2. Demonstrate in exemplary ways how data collection, transcription, data analysis and the drawing of conclusions have been undertaken. In summary and reverting to the four ways of increasing validity stated by Maxwell [101], we conclude that there has been an intensive involvement with the study's participants (family firms), that rich data was created (around 340 transcribed pages), that triangulation took place based on a variety of interviewees and that a more robust multiple-case study approach was chosen as opposed to a single one.

5. Empirical results

The empirical section presents and analyzes data in the light of the research proposition developed above.

5.1 Examination of proposition 1

A family-external business succession through MBI took place in AUTO, TOOLS, FURNITURE and is the desired way of succession in the ongoing sale process of FOOD. In most cases, financial and legal topics dominated both the MBI preparation by incumbent owner-managers and the due diligence conducted by their potentially new counterparts at this point in time (and in the case of FOOD interested parties). In the AUTO case the interested new entrepreneur laid his due diligence focus on getting to know customers, travelling to industry fairs and drafting financial and especially cash-flow related budgets for AUTO's future. As he acquired the company in conjunction with a provider of capital, lawyers and financial experts at this capital provider conducted the main financial, legal and taxi due diligence. Given AUTO's sound financial results in recent years the new owner-manager's main concern was related to funding the MBI and to continuing with existing customers. There was hardly any evidence of digitalization playing an important role of AUTO's pre-buy-in phase, either for the incumbent or new owner-manager.

For TOOLS, however, the interested new owner-manager did include digitalization-related topics in his study and due diligence of the company. This was mainly due to outdated processes and an aging workforce at TOOLS which led the new owner-manager to draft a plan for the rejuvenation of the company. The digitization of processes such as accounting, or the introduction of an electronically accessible management information system were his main concerns. Thus, especially internal efficiency-related indicators were found in the case of TOOLS' interested new owner-manager. The incumbent one, however, made it clear that she was chasing exactly one goal: to sell the company. In the months prior to the start of the MBI process there was no dealing with an update of processes, channels or other digitalization-related issues.

Nearly the same applied to FURNITURE where the incumbent owner-manager was no longer the acting party due to health issues. Rather, his external trustee was entrusted with the task of selling the company. As this trustee is an accountant by nature, he did not influence the company's operations which were delegated to employees which in turn did not have much budget during the whole succession process. Much was hanging in the balance for FURNITURE until a new owner-manager was found. Within the due diligence, the interested new owner-manager was mainly looking at the overall market of FURNITURE and customer developments together with financial and tax-related reports. When it comes to the technical infrastructure of FURNITURE, he indicated a reliance on oral assertions made by the trustee, such as concerning the quality and age of computers. In hindsight he was negatively surprised about the outdated technology used in FURNITURE, about missing computer passwords and a lack of software licenses.

Regarding FOOD, the current owner-manager's main task in the pre-buy-in phase has been the upgrade of the company's production facility. This included purchasing more modern manufacturing equipment which could be programmed and connected to a production planning software. Within this context, the modernization of FOOD's production meant that its owner-manager needed to look at the internal efficiency side of digitalization, namely the introduction of a software to streamline and connect planning and production services. Having said that, according to the incumbent owner-manager's statements the parties interested in acquiring FOOD have been quite uninterested in its digitalization activities and mainly focused on customers and the company's financials. It must be noted that at this stage there were no additional meetings scheduled between FOOD's owner-manager and interested parties, which implies no further opportunities for interested parties to address this issue. As FOOD's owner-manager put it with regards to digitalization: *"I can't say it was discussed in detail or that they even asked about it at all. In principle the production expansion has been the main topic." (FOOD's owner-manager; translated and paraphrased from German)*

Table 3 below provides an overview of the findings related to proposition 1. In summary, we find some preliminary support for our first proposition in that for AUTO's, TOOLS' and FURNITURE's incumbent owner-managers digitalization played a minor role at best in the pre-buy-in phase. For AUTO, FOOD and FURNITURE the same can be applied to the potentially new owner-managers and interested parties. They were found to be mainly interested in classic due diligence issues such as financials and customers. However, in the cases of TOOLS and FOOD we have found some evidence of instances where digitalization-related topics are part of the pre-buy-in phase. We conclude that such instances happened due to a concrete and specific situation in these cases, either the status quo of an organization (TOOLS) or changes to facilities or processes being made and also involving some degree of digitalization (FOOD). Therefore, we reason that proposition 1 needs to be modified as follows:

P1 (modified). *Small- and medium-sized family businesses' incumbent and new owner-managers either focus less on digitalization-related areas in the pre-buy-in phase or only within the context of related issues compared to classic and standalone due diligence topics.*

Table 3. Findings related to proposition 1

Case	**Owner-manager**	**Findings regarding proposition 1**
AUTO	Incumbent	low (mainly as part of usual IT activities which were delegated to staff anyway)
	New	low (focus on bidding process, market environment and customer development)
TOOLS	Incumbent	non-existing (full focus on selling the firm and no change in dated, paper-based processes)
	New	moderate (as part of concept how to renew the firm's aging infrastructure and workforce)
FURNITURE	Incumbent	non-existing (absence of owner-manager, trustee initiated and conducted the MBI)
	New	low (revelation in post-buyin phase only of age of computers)
FOOD	Incumbent	moderate (focus on upgrading production facility including introduction of production software)
	Interested parties	low (hardly relevant in meetings with interested parties, focus on production facility)

5.2 Examination of proposition 2

Our second proposition states that in the post-buy-in phase, new owner-managers will focus more on internal efficiency-related areas of digitalization. Indeed, we found resounding support for this proposition. In all cases nearly all issues concerning digitalization right after the new owner-managers took over related to internal efficiency. These issues ranged from simple considerations such as reviewing licenses and the availability and distribution of IT passwords (FURNITURE), to the ending of paper-based accounting processes in favor of an introduction of a more electronic way of doing things (TOOLS) to mere updates in processes in the cases of FOOD (based on indications of interested parties in the due diligence meetings) and AUTO. It becomes apparent that nearly all these actions concern firms' back-end systems and processes as well as the overall working style within organizations. TOOL's managerial employee stated a priority in the post buy-in phase and regarding the firm's accounting processes as follows: *"They used to work like there were no computers in the whole world. (...) And this was among the first processes that we modernised." (translated and paraphrased from German)*

FURNITURE's new owner-manager also prioritised relatively mundane, i.e. process- and exploitation-related topics in the immediate post buy-in phase: *"Let's take the simple example of licences in the IT department. Which employee has got a computer? And which computer is equipped with all licenses necessary to operate it properly? (...) All this basically constitutes a properly working IT infrastructure. And I've been unlucky and had to modernize it all." (FURNITURE's new owner-manager, translated and paraphrased from German)*

Thus, the indicators relating to the internal efficiency side of digitalization were found throughout all four cases. Additionally, there was no indication of concrete actions regarding external opportunities, such as customers or sales channels, or business models. Table 4 below summarizes our findings with regard to proposition 2.

Table 4. Findings related to proposition 2

Case	**Findings regarding proposition 2**	**Immediate post-buy in focus**
AUTO	slight modernisation of back-end (more digital processes, more KPI tracked digitally)	processes, systems
TOOLS	introduction of digital way of working in the first place in back-end (getting rid of paper-based accounting, hiring first ever IT person)	processes, systems
FURNI-TURE	strong modernisation of backend (review and purchase licences, upgrade computers, make known passwords in case of absence)	processes, systems
FOOD	according to meetings with interested parties: slight modernisation in processes	

5.3 Examination of proposition 3

As we have seen, new owner-managers involved in this study focus first on digitalization topics related to internal efficiency after having taken over their new companies. Proposition 3 indicates that despite their focus on such efficiency matters, they will start considering aspects of digitalization that are more long-term in nature (external opportunities and business models). As table 5 below demonstrates, we indeed find support for this proposition across all four cases. While new owner-managers were busy improving their firms' internal activities, they drafted visions and strategies of how to approach customers in a more digital way through their website (TOOLS). This connects well to the indicator developed in order to measure a more digital way of customer interaction. Similarly, the combination of FURNITURE's existing, analogue products with technology has been found a concern for its new owner-manager, thereby corresponding to the indicator that is linked to the creation of new and more digital products. AUTO's new entrepreneur also indicated a desire to better involve technology with the company's sales undertakings. Moreover, AUTO's new owner-manager turned out to have some concrete business model-related visions and even a specific company that he likes to use as some sort of role model for AUTO's digitalization. This company is operating in a different industry and AUTO's new owner-manager has been impressed by this firm's high degree of digitalization. Additionally, FOOD's incumbent owner-manager reported on statements by interested parties regarding the introduction of a production system which takes into account customer preferences as opposed to the firm's current top-down approach. In doing so, the firm's new payment system would automatically interpret certain customer preferences based on their purchases of certain food products (e.g. more customers purchase option A compared to B). These findings would then be imported in the production system, thereby affecting the purchasing of raw materials and the subsequent manufacturing of particular food products.

Table 5. Findings related to proposition 3

Case	**Findings regarding proposition 3**
AUTO	Plans for new customer segments, horizontal expansion of know-how towards new industries; utilization of synergies between technology and sales
TOOLS	Creation and utilization of Internet-based sales channel (website)
FURNITURE	Combining technology and ergonomics in future products
FOOD	Introduction of digital payment system, production based on digitally available customer preferences

6. Discussion of results

The wave of digitalization [1] that sweeps across nearly all companies worldwide is of particular concern in small- and medium-sized family firms [35], [36], [40], [38], [2]. What is more, many of those SMFB will need to be transferred to new owner-managers in the years ahead [24], [25], [26], [27]. As such processes of transferring the businesses to outside owner-managers have been found to go along with managerial interruptions [12], the combination of the two contemporary issues of digitalization and family external business succession is the main concern of this exploratory study. In doing so, we built upon Hopkins et al. [89] and Sherer et al. [90] who argue that digitalization within the context of business succession and due diligence is a relevant, yet rather new and often neglected area. We therefore attempted to shed some initial light on how digitalization is considered by incumbent and new owner-managers during a business succession process. As business succession has been found to run along the lines of a process [59] we divided the succession in a pre- and post buy-in phase and explored how digitalization is being considered in each of these phases.

Regarding the pre-buy-in phase we find that digitalization either played a less important role for interested new owner-managers or when it played a more pronounced role it was due to its connection to an issue of major concern. Such major concerns included an outdated organization which the new owner-managers hoped to improve by introducing certain facets of digitalization as well as the concern of setting up a new production process and connecting it to a software-based planning. Beyond that, classic aspects of due diligence such as finance, tax and customer issues were prioritized by the new leaders. What is even more relevant in this phase is the digitalization-related behavior of incumbent owner-managers. With the exception of one case, we find that the remaining three cases were characterized by incumbent owner-managers not initiating any digitalization efforts at all in the pre-buy-in phase. This adds to Taiminen and Karjaluoto [38] who report on reasons for delaying the introduction of tools or processes related to digitalization. Now, one could argue that the firms already employed state of the art digital processes or tools, but this is – according to the available data – not the case. On the contrary, in some cases whole departments still ran on a paper basis and continued to do so during the post-buy-in phase. Our findings also relate to Cravotta and Grottke [2] who state that family firms need to prepare themselves for long-term changes brought upon them by digitalization and that those changes also affect these firms' operational activities. These changes also touch upon operational matters [109], [110] which is relevant insofar as business succession is accompanied by very hands-on issues, as demonstrated in this study's results. We find that the succession process can delay the introduction of those changes and therefore a prolonged family-external business succession demonstrates a challenge for SMFB that could impede their competitiveness. Bollweg et al. [77] come to a similar conclusion concerning digitalization in SMFB even in non-succession times. Our study also supports Hopkins et al. [89] in that we too find that digital assets such as software licenses were partly neglected in some of the firms' due diligence. This in turn created noteworthy obstacles for successors in the post-buy-in phases. Moreover, we can partly support Sherer et al. [90] who state that digitalization plays a still incomplete role in due diligence processes.

Additionally, our findings support propositions 2 and 3 which indicate that new owner-managers focus first on digitalization-related aspects of internal efficiency while at least strategizing on more long-term issues such as external opportunities through digitalization or even transforming their business models. Starting in the immediate post-buy-in phase, our reasoning that new owner-managers will first look at improving day to day issues and focus on enhancing efficiency and the smooth running of operations was supported. We based our assertions on a body of literature that points out the importance of down-to-earth issues such as cash flows, customers or processes in the post-buy-in phase for new owners-managers [59], [32], [60], [61], [15]. Utilizing the three layers of digitalization according to Parviainen et al. [29] we indeed find that internal efficiency is of priority to new owner-managers in the immediate post-buy-in phase compared to external opportunities (e.g. relating to customers) or the transformation of business models.

However, addressing proposition 3, such external opportunities and business models were part of new owner-managers' more long-term and visionary thoughts in the post-buy-in phase even if no concrete actions were taken. Thus, our findings conform to Epstein [93] in that also in MBI transactions involving SMFB and addressing digitalization, leaders think about long-term strategies. Such thoughts correspond to evidence that awareness of digitalization is on the rise in small- and medium-sized firms [96], [97]. In fact, our study adds to this research the finding that external business successions demonstrate one opportunity for the rise of such awareness as new owner-managers approach their new companies with fresh ideas and visions. It therefore supports the assertion of business succession being an engine for innovation and exploration [98] and not only in general, but specifically in the context of this study's focus on digitalization. These more strategic attempts of rejuvenation, however, are more long-term in nature.

Our study's findings indicate that during the process of external business succession in SMFB, digitalization efforts play only a secondary role compared to more pressing matters for both incumbent and new owner-managers in the pre-buy-in phase. As to the post-buy-in phase, internal efficiency was found to be the main dimension of digitalization that the new leaders turned to. Table 6 summarizes this paper's main findings which also have some serious implications for policy makers, owner-managers and researchers as we will point out in the next section.

Table 6. Summary of main findings

Phase	**Main findings**
Pre-buy in	Low to moderate levels of new digitalization activities; indication of delays in introducing digital infrastructure in the wake of succession; low concern with digital issues in due diligence processes
Post-buy in	Main focus on efficiency gain from digitalization; awareness of longer-term and strategic use of digitalization

7. Limitations and implications

This study is exploratory in nature and involves four small- and medium-sized family firms as part of its multiple case study approach. Our data touches on a research topic that is still under-researched [10], [15], [39], [40]. By developing, testing and in part modifying three causal propositions we contributed findings that can now be further substantiated in future research. Also, our study touches upon the open debate about realizing ambidexterity of both exploration and exploitation in the sense of March [92], particularly in times of digital transformation and disruption in the realm of SMFB.

Yet, our research comes along with several limitations. First, its exploratory case study approach translates into the impossibility of generalizing our findings across SMFB. As Eisenhardt and Graebner [107] note, by the replication logic it becomes possible to build more robust theories from case study research and this implies further research in this area. Second, we turned to entrepreneurship theory for the utilization of a theoretical lens and we needed to maneuver some level of abstraction in the operationalization of constructs and in the creation of this study's conceptualization. Third, more focus can be given to family firms' idiosyncrasies [8] and to these firms' specific situations and points of origin regarding digitalization even though this is challenging in the difficult-to-research area of external business succession [14], [23]. Fourth, our empirical investigation has been based on a retrospective, quasi-longitudinal approach and this entails a variety of limitations such as the possibility of errors of recall [105]. Additionally, our qualitative case study method involving interviews poses the threat of having biases, such as towards the researcher (from the participants' point of view) or towards data (from the researchers' point of view; [101], [105]). Finally, our study is limited to the 'DACH' region of Europe and further research in other geographical areas is needed as cultures or priorities of family firms in those regions might differ.

In light of these limitations, further research is deemed necessary in this economically and societally important area of SMFB and digitalization. We encourage future researchers to attempt to gain in-depth access to family firms, which our study has shown is possible given a level of patience and persistence. In doing so, researchers will find ample opportunities in studying digitalization activities of SMFB during their business successions. More research is needed in order to specifically measure these firms' point of origin when it comes to their degree of digitalization and the specific effects succession processes have on the status of digitalization after a, in many cases, years-long succession process. In case of more researchers finding that certain aspects of digitalization are postponed or neglected during such processes this has serious consequences for the competitiveness of this firms – and, consequently, for the health of the economies of Austria, Switzerland and Germany which all depend heavily on these SMFB. Therefore, policy makers are well advised to closely follow this topic and, in case future research supports our findings, develop appropriate measures of support for such firms and their digitalization in times of succession. To practitioners our findings indicate that during due diligence processes there are tangible benefits of including digitalization-related areas in their investigation next to the more classic topics of finance, tax or customers.

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Appendix

A.1. List of codes and indicators for empirical investigation

Level	Codes	Indicators	On the basis of:
Ext. Opp.	PRSV	Creation of digital products or services	Parviainen et al., 2017; Kollmann, 2016
Ext. Opp.	PRSVQA	Improvement of digital products/services quality	Neumeier et al., 2017; Henriette et al., 2015; Kollmann, 2016; Bollweg et al., 2016
Ext. Opp.	CUCO	New ways of digital customer interaction	Neumeier et al., 2017; Henriette et al., 2015; Kollmann, 2016
Int. Eff.	PROCIM	Change to digital of internal processes	Kollmann, 2016; Vieru, 2015; Bollweg et al., 2016
Int. Eff.	ORGIMP	Tweaking/introducing digital changes in organisation	Kollmann, 2016; Neumeier et al., 2017;
Int. Eff.	SYSTDIG	Creation or improving digital systems, tools or reportings	Kollmann, 2016; Vieru, 2015
Int. Eff.	STTE	Staff or technical equipment changes related to digitalization	Kollmann, 2016; Henriette et al., 2017; Vieru, 2015
Bus. Mod.	BUSMO1	Diversifying the business	Henriette et al., 2015; Parviainen et al., 2017; Neumeier et al., 2017
Bus. Mod.	BUSMO2	Vision for change in business models	Henriette et al., 2015; Kollmann, 2016; Parviainen et al., 2017; Neumeier et al., 2017
Bus. Mod.	BUSMO3	Actual changes in business model	Henriette et al., 2015; Parviainen et al., 2017; Neumeier et al., 2017
Misc	MISC1	Others	

A.2. Exemplary illustration of coding and data abstraction from semi-structured interviews

Document	Code	Segment (translated)	Phase	Abstraction
AUTO Interview CP	RME1	To some extent AUTO was being run by the two managerial employees. So they didn't always need to go back and forth to the owner-manager or patriarch, but were in many areas free to take decisions. Not in all areas, but in important operational ones.	Pre	Delegation to employees Same level of conduction as in non-succession times
AUTO Interview CP	RME1	That made the whole succession easier, because AUTO was like on auto-pilot during the succession negotiations.	Pre	Delegation to employees Same level of conduction as in non-succession times
AUTO Interview CP	RE1 CO5	He [new owner-manager] talked to almost all employees after taking over. And when he took over management he also developed a future strategy for AUTO and he did this will the important managerial employees. So he did set the frame work but then he also discussed with his staff about their ideas and recommendations. And that was something that was well received with the staff as that did not happen previously [with old owner-manager before succession].	Post	Change in post- compared to pre-succession phase

B.1. Exemplary illustration of transcription of audio file into Word document (translated)

I: If I understand you correctly the new owner-manager did communicate that there was pressure to improve the firm's financials rather quickly? #00:23:31-0#

B: Yes, well, the pressure was originating from the new owner-manager of course. It's just like that. But the AUTO industry runs on a development cycle of two to three years, minimum. That means you won't achieve much in the short-term with such pressure. #00:23:48-3#

B: So with these development cycles some big items like supplier contracts or so are fixed for two or three years. You can't just re-negotiate them overnight. #00:24:01-0#

B.2. Exemplary illustration of data analysis based on transcription and subsequent data abstraction

	Pre-buyin digitalization efforts			
Company	AUTO	TOOLS	FURNITURE	FOOD
Evidence reg. Pre-buyin digitalization efforts (previous / existing owner-managers)	- IT-related employees were responsible for improving processes - Process improvements occured in terms of efficiency, not in terms of overhauling them completely based on new business models - Previous owner-manager not too much involved, delegated task to IT staff; focus of owner-manager not on IT or digitalization or new business models - AUTO needed to have industry-specific IT systems in place in order to deal with car manufacturers and their supply chains; this was seen as AUTO's IT and digitalization framework	- Pre-buyin, there was hardly any focus in IT or digitalization - Accounting was still mainly done using paper invoices and on paper - No meetings or concerns regarding digital shifts in the tools selling industry - Previous owner-manager had sole focus on traditional selling methods - IT landscape of TOOL meant basic things such as a website or email address	- Hardly any focus digitalization pre-buyin, as the previous owner-manager was largely absent and the managerial employees did not have budget or leeway to initiate projects - Essential commercial aspects such as cash flows and accounting were very much the focus of the managerial employees pre-buyin - FURNITURE had a basic IT landscape in place pre-buyin, for instance using online product catalogues to order products from suppliers. There was no efforts to change or improve them or add to them in terms of digitalization during the pre-buyin times.	- In FOOD's pre-buyin phase there were activities to overhaul ist product facility and introduce "smart" processing machines or machines for which data could be extracted (e.g. how much output in electronic terms). - For FOOD these efforts were important because of industry shifts which the owner-manager discovered and wanted to realise in FOOD in order to make it more attractive for potential successors

Biographical notes

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