



Digital Transformation in Family Businesses

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Abstract

Nowadays, the impact of digital technologies on all businesses is inescapable for their managers and is receiving a great deal of attention in research and businesses. Digitalization as an ongoing process has just begun and will continue to drive many decision-making processes. So far, much research has been done on technical implementations and digital technologies as such, but there is still a lack of research on the decision-making processes around digitalization, especially in small and medium-sized businesses with limited resources, such as the economically important family businesses (FBs) in Germany. These FBs have a massive impact on value creation in Germany and include many global market leaders. Based on eleven interviews with family and non-family member Chief Executive Officers (CEOs) and employees, the thesis shows which drivers and barriers exist in the digitalization process in FBs and how they influence the process. Moreover, their influence on the digitalization of the business model is examined. The results of the thesis provide implications for how FBs can successfully master digitalization and use it to their advantage. Finally, the thesis suggests opportunities for future research in digitalization in FBs and on identified correlations in the cases.

Keywords: Digital transformation; Family business; Digitalization.

1. Introduction

Digital transformation is defined as the process of change through the integration of digital technologies in work processes, products and services, and the overall business model of organizations (Kammerlander, Soluk, & Zöller, 2020) and it is increasingly influencing the decision-making process of organizations (Karimi & Walter, 2015). In addition, digital transformation will continue for a long time to come, as the coming new generations of digital technologies will continue to drive the process of digital transformation (Oswald, Saueressig, & Krcmar, 2022). Moreover, it influences the overall long-term success of organizations (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013) and provides many new business opportunities for organizations to develop their busi-

ness model and value creation (Yoo, Henfridsson, & Lyytinen, 2010). Especially many organizations from the industrial sector, in particular, have immense potential through the integration of new digital technologies (Kammerlander et al., 2020), for example through new ways of bringing their products to the customers.

Furthermore, prior research underscores the success of businesses that have established digital technologies and continue to address societal and organizational challenges through highly innovative approaches (Bharadwaj, 2000; George, Merrill, & Schillebeeckx, 2021). Digital technologies based on hardware, software, and networks and built on binary digits (von Briel, Davidsson, & Recker, 2018), such as digital twins, artificial intelligence, or cloud computing, require all organizations to adapt their business models to successfully implement the new technologies (Spieth, Schneckenberg, & Ricart, 2014). Nevertheless, the introduction of digital technologies is associated with many challenges and represents a new area of business for organizations, which is associated with a lack of knowledge and in most cases requires external support (Kammerlander et al., 2020). In most organizations, entirely new capabilities need to be

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built, for instance, in IT or logistics, to deal with the newly implemented technologies (Nambisan, Lyytinen, Majchrzak, & Song, 2017), which pushes some organizations to the limits of their capacity and requires intensive efforts (Kammerlander et al., 2020).

De Massis, Audretsch, Uhlaner, and Kammerlander (2018) see FBs, which are characterized by the fact that the family exerts a considerable influence on the business policy of the company (Kammerlander et al., 2020), in particular affected by these challenges posed by digital transformation due to their limited financial resources. Furthermore, despite previous research, there is still a knowledge deficit regarding the drivers and barriers of digital transformation in general and in particular in the area of FBs and specifically in their business model innovation. However, for various reasons, such as their limited financial resources, FBs have a highly efficient conversion rate that measures input into output (Duran, Kammerlander, Van Essen, & Zellweger, 2016) and supports the high research interest in their business decisions.

In addition, the German Mittelstand, which comprises small and medium-sized businesses with sales of less than 50 million Euros and includes many of the German FBs (Kammerlander et al., 2020), accounts for an immense share of value-added and total economic output in Germany and thus influencing Germany as a business location overall. Moreover, the German Mittelstand, also known as small and medium-sized enterprises (SMEs) (Federal Ministry for Economic Affairs and Energy, 2020), is highly relevant for Germany as a business location as such. According to the Federal Ministry for Economic Affairs and Climate Action (BMWK), around 60% of jobs in Germany are created by the Mittelstand and around 99% of German companies belong to the Mittelstand (Federal Ministry for Economic Affairs and Energy, 2020). In addition, around 35.3% of Germany's total sales are generated by the Mittelstand, which underscores the great importance of these companies to the economic situation in Germany (Federal Ministry for Economic Affairs and Climate Action, 2020).

1.1. Research Question and Goal Setting

Given the importance of the FBs for Germany, the challenges associated with digital transformation, including the establishment of digital technologies, raise the following research question: How do the digitalization drivers and barriers in FBs promote or impede the overall digitalization process and, in particular, the business model transformation?

Answering this research question is important because business model transformation varies in different management systems, which requires further research on business model innovation in FBs because their business decisions differ from those in non-family businesses (Newbert & Craig, 2017). Furthermore, focusing on the digitalization drivers and barriers in FBs will help to get a more detailed overview of the business decisions and to investigate the digitalization process, which will help to better understand the transformation process of the FBs' business model. Business model

transformation changes how the company creates value for its customers and how it acquires that value, which also defines the business model as such (Sorescu, 2017).

It is precisely the diversity of FBs that leads to many differences in the overall digitalization process and makes it relevant to further analyze several FBs in more detail. In addition, the owning families who hold and operate the FBs bring further diversity and, with their different backgrounds and knowledge (Kammerlander et al., 2020; Nordqvist, Hall, & Melin, 2009), can provide deeper insights into the digitalization processes and the basis for a successful FB in the long term. While previous research has examined business model innovation in general and has not differentiated between businesses other than their size and revenues, the objective of this thesis is to examine the processes within business model transformation in FBs. In addition, the driving and hindering factors of this process in FBs are examined, as well as the influence of the fact that these businesses are controlled or managed by a small number of families or just one family (Kammerlander et al., 2020).

1.2. Methodological Approach and Structure of the Thesis

To investigate the research question, a qualitative research study was conducted to obtain a detailed and accurate analysis of the cases related to the research question. For this purpose, eleven people of FBs, including family members, non-family member CEOs, and non-family member workers, were interviewed. The number of interviewees depended on the availability and cooperation of the FBs. Most FBs were located in the Heilbronn-Franconia area, as many FBs are located in this area and the close connection through my network within the Heilbronn-Franconia area ensured easier access.

To ensure the best possible insights, the FBs were of similar size in terms of revenue and number of employees. Moreover, the business areas of the FBs were different, as the focus was on the digitalization process and different knowledge backgrounds can provide a broader field of insights into the digitalization process. In addition, the interviewed employees must have worked in FBs that are 100% family-owned and thus control all day-to-day operations or have a strong say in the process to ensure that the research is as generalizable as possible to FBs.

The method of data collection was semi-structured interviews using a guideline. Depending on the preference of the interviewee, the interviews were conducted online via Microsoft (MS) Teams, by telephone, or in person. The interviews were conducted according to the following scheme: First, there was a short introduction, followed by the second section looking for the drivers and barriers of digitalization in FBs. The third section focused on the business model transformation process within FBs. The final fourth section of the interview guideline allowed the interviewee the opportunity to add further important points or improve the interview guideline, as well as a small conclusion and summary of the interview.

After analyzing the given inputs from the interviews, the results are presented and compared in this thesis. The structure of the thesis is divided into four sections: the theoretical framework, the research methodology, the results and findings, and the discussion and conclusion. The theoretical framework provides an overview of digital transformation in FBs. This part covers the drivers and barriers of digital transformation in FBs and, in particular, examines the connection with the fact that all the studied businesses are family-owned. The following section corresponds to the research methodology, and it contains the rationale for the qualitative research design and its structure, as well as the form of data collection with semi-structured interviews in more detail. Furthermore, it includes the data analysis to identify more patterns within the cases, (i.e., similarities or dissimilarities). Third, the results and findings from the analyzed FBs are presented to be discussed in the fourth part of the thesis, the discussion and conclusion. Finally, the discussion and conclusion summarize the main findings and results of the thesis and use them to provide a final answer to the research question. This section also explains the contribution of the thesis, draws implications for FBs' managers, and identifies future research topics in the field of digitalization in FBs that remained unanswered.

2. Theoretical Framework: Digital Transformation in Family Businesses

2.1. Digitalization Drivers in Family Businesses

Since digitalization has been a continuous process over the last decades and will continue to have a massive impact on the FBs' performance and success (Gómez, Salazar, & Vargas, 2017), it is very important to understand the drivers of digitalization to develop tailored solutions. Drivers of digitalization are commonly referred to as the circumstances that drive the development of digitalization or further extend the barriers to digitalization (Faber, 2019). These drivers can be, for example, economic opportunities, improved productivity, or a changed customer segment that now has to be supplied differently from the previous customer segment (Kammerlander et al., 2020). Moreover, they influence most of the business decisions and have an impact on most of the FBs' working processes (Soluk, Miroshnychenko, Kammerlander, & De Massis, 2021). Furthermore, for the successful introduction of digital technologies in FBs, it is important to know how they need to be deployed to properly meet the requirements of digitalization (Faber, 2019).

These digitalization drivers are highly relevant to accelerate digitalization as such and to ensure continuous development and overcome barriers within digitalization (Kammerlander et al., 2020). The goal of the thesis is to advance former research and find additional digitalization drivers within FBs. In addition, the diverse backgrounds and knowledge of the interviewed FBs provide a broader insight into the drivers within FBs to drive the digitalization process. Moreover, knowing the digitalization drivers can help to innovate

the business model more efficiently and successfully and will be analyzed in more detail using the key elements of the Business Model Canvas (BMC).

2.2. Digitalization Barriers in Family Businesses

In addition to the knowledge of the digitalization drivers, a good understanding of the digitalization barriers is important to overcome these barriers smoothly and without major difficulties. In all the different phases of digitalization, the barriers can complicate or even prevent individual steps of digitalization (Kammerlander et al., 2020). Barriers are defined as all influencing factors that have an inhibiting effect on the digitalization of the FBs (Soluk & Kammerlander, 2020). These barriers may include limited financial resources, restrictive product features, or employee resistance to change (Kammerlander et al., 2020). However, to keep the complications to a minimum, it is very important to know exactly what the barriers to digitalization are. For example, addressing the barriers at an early stage could significantly reduce later high incremental costs or could significantly reduce the risk of a bad investment (Kotlar, De Massis, Frattini, Bianchi, & Fang, 2013). Furthermore, it is highly relevant to know the exact barriers of digitalization to address and overcome them as efficiently as possible so that the success of digitalization is not hindered (De Massis et al., 2018).

Getting a better overview of the digitalization barriers helps to improve digitalization as a whole, and therefore the thesis further advances former research by uncovering more barriers in the digitalization process of FBs. Due to the high diversity between FBs with all their different structures of production areas, workforces, and different proportions of the influence of the owning families, it is necessary to investigate more FBs. In addition, the barriers within the overall digitalization also help to further improve the business model transformation, which is of great importance for the overall digital transformation of the FBs.

3. Research Methodology

3.1. Qualitative Research Design

To answer the research question about the drivers and barriers of digitalization and how these affect the transformation of the FBs' business models, a qualitative research approach with multiple cases is best suited (De Massis & Kotlar, 2014; Eisenhardt, 1989). Since FBs differ in their production areas, hierarchy structures, decision-making processes, and many more business characteristics, a multi-case study was chosen to gain a broader insight into several FBs and avoid being limited by a single case study (Eisenhardt & Graebner, 2007; Nordqvist et al., 2009). The qualitative approach was chosen due to the lack of current research within specific FBs. Moreover, the qualitative approach gives a better and deeper insight into the different structures of FBs that could not be addressed by a quantitative approach, such as a survey (Eisenhardt & Graebner, 2007). Added to that, according to Bryman and Bell (2015), the qualitative research

design aims at understanding complex research questions, especially to answer ‘how?’ and ‘why?’ questions, which is of great importance for the analysis of the processes including their drivers and barriers of digitalization. Furthermore, the multiple-case format provides a rich and detailed description of specific manifestations of a phenomenon based on a large number of cases (Yin, 2003), which underscores the use of a qualitative research design with multiple cases.

The focus of this thesis is on the digitalization of FBs in the Heilbronn-Franconia area and on some outliers within a radius of 80 kilometers around Heilbronn due to their availability and accessibility. All FBs are either active in the manufacturing sector, the service sector, or the trade sector. These FBs are highly relevant to study for the following reasons to answer the research question accordingly with primary data (Eisenhardt & Graebner, 2007).

First, FBs in the Heilbronn-Franconia area are of great importance, as many of them are global market leaders in their most narrow and small market segments (Benz, Block, & Johann, 2021). Most of these FBs have been successfully managed for generations and are characterized by a high level of innovation, whether in production processes, product features, or business models (Schumm, 2020). The region Heilbronn-Franconia is one of the most successful economic regions in Germany (Benz et al., 2021; Glückler, Schmidt, & Wuttke, 2015) and is home to many FBs from a broad spectrum, such as the automotive industry, the glass industry, mechanical engineering, the packing industry, and many more (Suarsana & Glückler, 2016).

Second, most of the previously mentioned industries are currently in the process of transformation through the implementation of new digital technologies and are transforming their industrial value creation (Müller, 2019). Moreover, the topicality of the subject of digitalization threatens FBs that do not adopt new digital technologies to be overrun by transformed companies with their adapted business models (E. Weber, 2016).

Third, beyond the topicality of the issue for the FBs themselves, society is also highly affected by the digitalization of the FBs and the strategic plan initiated by the German government with the strategy paper Industrie 4.0 underlines the relevance for Germany as a business location (Niehoff & Beier, 2018). The strategy paper supports the transformation process of the German industrial sectors as such and emphasizes the importance of adapting new digital technologies within the export- and world market-driven German manufacturer sector (Niehoff & Beier, 2018). While FBs adopt digital technologies only within their established business models over many years, key partners are also affected by the slow integration or general lack of new digital technologies through their interaction with FBs and could suffer from their wait-and-see attitude (Kammerlander et al., 2020). The digitalization of FBs thus not only affects the FBs themselves but also has an impact beyond their spheres of influence (Hahn, 2020).

The sample of the thesis consists of eleven interviewees from seven FBs with different positions and backgrounds

within the FBs. The interviews included family member CEOs, non-family member CEOs, and non-family member workers without a supervising function. The FBs were selected by the following selection criteria: 1.) FBs should be consistent with Chua, Chrisman, and Sharma (1999) definition of a business that is controlled and/ or managed by one or a small number of families and with the intention to pursuing the vision of the business through generations of the owning family or families (De Massis et al., 2018; Nordqvist & Zellweger, 2010). 2.) The FBs should be located in the Heilbronn-Franconia area and within a radius of 80 kilometers around Heilbronn. 3.) The FBs should be similar in size in terms of their sales of EUR 25 to 150 million and the number of employees from 200 to 1000.

The selection of FBs depended mainly on access to FBs and their availability. Therefore, the selection criteria were convenience sampling to ensure easy accessibility to the interviewees due to the limited time frame of the bachelor thesis (Creswell & Creswell, 2017; Iacobucci & Churchill, 2015). In addition, convenience sampling ensured a low-cost sampling method that was easy to conduct (Creswell & Creswell, 2017; Iacobucci & Churchill, 2015).

Due to my close connection to the Heilbronn-Franconia area and a large number of FBs in this area, the early focus was directly placed on this area. Moreover, Heilbronn-Franconia has shown an above-average growth of around 44 percent over the last 20 years and consists of eleven high-growth clusters (Kirchner, 2019). In addition, the region has very high competitiveness in the manufacturing sector, which is reflected in an export ratio of 51.4 percent (Kirchner, 2019). Through a call in the newsletter of the regional field hockey club, attached in Annex A, a large number of FBs in the area were reached and the first interviews were fixed. The interviews took place from July to August 2022 and the corresponding timeline of the interviews is attached in Annex B. In addition, my close connection to several owners of FBs ensured additional interviews. Moreover, other FBs were suggested to me during the interviews, and contacts were made. In terms of availability, a high approval rate was achieved, which simplified the overall search for interview partners. In addition, the interviews were conducted in German to further increase the consent rate for the interview requests, as most of the interviewees are native German speakers and preferred an interview in German. Because interviewees were assured of confidentiality in a consent form before the interviews, Table 1 below lists the anonymized interviewees of the case FBs in numerical order and provides additional information about the interviewees and FBs.

3.2. Data Collection: Semi-Structured Interviews

To develop an insightful and advanced interview guideline, several research papers were studied to obtain as much information as possible about the possible interview variations. After reviewing the literature on various interview techniques, the semi-structured interview format promised the most insightful data and was supported by several research papers with a perfect fit for the research question (Bry-

Table 1: List of interviewees and additional information.

	Interviewee	Family Business	Position	Employees	Sales in Mio. Euros
1.	INTV1	FB1	Family CEO	501-1000	25-50
2.	INTV2	FB1	Non-family employee	501-1000	25-50
3.	INTV3	FB2	Family CEO	501-1000	101-150
4.	INTV4	FB2	Non-family CEO	501-1000	101-150
5.	INTV5	FB3	Family CEO	201-500	51-100
6.	INTV6	FB4	Family CEO	501-1000	101-150
7.	INTV7	FB4	Non-family employee	501-1000	101-150
8.	INTV8	FB5	Family CEO	201-500	51-100
9.	INTV9	FB5	Non-family employee	201-500	51-100
10.	INTV10	FB6	Non-family CEO	201-500	25-50
11.	INTV11	FB7	Family CEO	201-500	51-100

man & Bell, 2015). As such, the semi-structured interview contributes to a high degree of objectivity by the interviewer due to its division into structured and unstructured interview parts (Bryman & Bell, 2015). In addition, the characteristics of a semi-structured interview provide a high level of trustworthiness due to the open nature of the interview, thus supporting a higher plausibility of the collected data through the interviews (Bryman & Bell, 2015; Mayer, 2012).

To develop a rigorous interview guideline, this was closely based on the findings of Bryman and Bell (2015), and Mayer (2012) and their development of a semi-structured interview guideline: First, the requirements for the use of a semi-structured interview guideline were examined. In the second step, the findings from the previous literature review on digitalization in FBs were written down and used to construct the interview questions. In the third step, a first version of the momentary interview questions was formulated to be tested in the fourth step, the pilot testing. After the interview questions went through two pilot tests and some improving changes were made, the most important interview questions were presented in the accompanying seminar for the bachelor and master thesis to further improve the interview guideline.

After the final guideline for the interviews with family member CEOs of the FBs was developed, two additional guidelines, one for the non-family member CEOs and one for the non-family member employees without supervising function, were developed. These additional guidelines were adapted accordingly to the particular interviewee (Mayer, 2012) or entirely new questions were added so that the interview guideline was always perfectly tailored to the interviewee to obtain the most insightful data possible (Yin, 2003). In addition, the interview guideline was continuously adjusted and updated after each interview during fieldwork to ensure the best possible results (Mayer, 2012). Furthermore, to increase the validity of the interviews, the interview guideline was sent out before the interview so that the interviewee could already look at the questions and make initial notes to enrich the data. The complete interview guidelines in the three different versions can be found in Annex C.

Nevertheless, to get a first overview of the concrete data collection based on the interview guideline, this is the final scheme according to which the interviews were conducted: First, there was a short introduction with basic information, the presentation of the research question, and a small overview of the interviewee, including the position in the FB and the professional career. The aim of the introduction was to create a trusting atmosphere and to collect missing basic information about the FB.

The second part addressed the drivers and barriers of digitalization in FBs and how they promote or impede digitalization. To increase the external validity of the collected data, a definition of digital transformation was given to bring all interviewees to the same level of knowledge. The second part of the interview lasted at least 20 minutes and aimed to understand the process of digitalization in FBs and to identify the specific drivers and barriers to investigate basic decision-making. In addition, the focus was particularly on the correlations with the FB as such and why these digitalization processes happened the way they did. Moreover, these drivers and barriers of digitalization in FBs help to develop a better understanding of digitalization and, in particular, of the digitalization of the business model. The knowledge of these processes within the FBs help to gain a deeper insight into the decision-making and transformation of FBs.

Third, the business model transformation process within the FBs was addressed and, in particular, the drivers and barriers of a digital business model were analyzed. The aim of the second main part of the interview was to take a closer look at the business model and to learn about the current business model and changes that have already been made. Moreover, the further development of the business model with its drivers and barriers was to be examined in a more differentiated manner. In this part of the interview, references to the general digitalization of the FBs were repeatedly made and linked.

The final fourth part allowed the interviewee the opportunity to mention further important points that have not yet been addressed. In addition, the interview topic should be reflected on a more abstract level and the interviewee could

give suggestions or feedback to further improve the interview guideline. Moreover, after the end of the interview, the first findings of the thesis could be presented and a discussion could follow. The goal of the discussion should be to either reinforce or invalidate previous findings, as well as to provide the interviewees with additional insights into the topic of the digitalization of FBs.

For example, in the version for family members, the following translated questions were asked (translated from German to English): How is the digitalization process promoted/impeded in your FB? Do you think this is influenced by the fact that you are a FB? How do you see the connection here to you as a FB and do you see any differences here to non-family-run businesses? How have you already digitized your business model and what further measures do you have planned? How is the process of changing your business model to a digitized one particularly driven by all the challenges?

3.3. Data Analysis

The vast majority of the interviews were recorded using either MS Teams or regular audio. Due to technical difficulties with the first two interviews, two recordings were lost, and in addition, two interviewees did not want to be recorded. Nevertheless, all interviews were documented and post-processing was conducted immediately following the interview to capture all key points and the most important quotes (Miles & Huberman, 2019). With the information gathered about the FBs before the interviews, some points from the interviews could be verified by taking notes on their websites or in their press releases (Creswell & Creswell, 2017).

The first step of the after-interview process was to code the data using the Gioia-Method according to Gioia, Corley, and Hamilton (2013) and conduct a within-case analysis according to Miles and Huberman (2019) to identify key elements within each case from the interview. After the within-case analysis was done for all interviews, a cross-case analysis of the data was conducted to compare these points across FBs and identify patterns (Miles & Huberman, 2019). After identifying the first-order codes, which were similar across FBs, they were classified into the overarching categories of second-order codes (Miles & Huberman, 2019). The final coding step involved linking second-order codes to aggregate theoretical dimensions (Miles & Huberman, 2019). For example, the second-order codes in which interviewees indicated the facilitating effect of the Corona pandemic, internationalization, and an increase in efficiency through digital communication channels were combined into a theoretical dimension called "Internal and External Connectivity." In addition, the aggregated theoretical dimensions were iteratively revised and tested for consistency (Eisenhardt, 1989) until sufficient coding consistency was obtained (R. P. Weber, 1990). Following the Gioia-Method (Gioia et al., 2013), seven drivers and six barriers emerged as theoretical dimensions, which are presented in Annex D as a data structure.

Adherence to this procedure and the semi-structured interview guideline increased the overall reliability of the research (Yin, 2003).

4. Results and Findings

After a brief introduction to the digitalization drivers and barriers of FBs and a close look at the research methodology, the following section presents the results and findings of this thesis. First, the current state of digitalization in the sample FBs is analyzed using Soluk and Kammerlander (2020) three-phase system to provide a good overview of the different stages of digitalization and to ensure better generalizability. Subsequently, the main drivers of digitalization within the FBs are presented and further analyzed. Then, the barriers to digitalization within FBs are presented and further analyzed. After examining all these drivers and barriers with a view on the research question, the second section will focus on the impact of these drivers and barriers on the development and transformation of FBs' business models. To get a structured overview of the business model transformation, the BMC is used to analyze the impact of these drivers and barriers in a structured order.

4.1. Current Status Digitalization Sample FBs

Following Soluk and Kammerlander (2020) three stages, shown in Figure 1, and starting with the first stage, the "process digitalisation stage" (Soluk & Kammerlander, 2020, p. 691), there was positive feedback in the interviews regarding the progress within this stage. All interviewed FBs stated that digitalization within the work processes has already taken place and that only some areas within the FBs are still missing to fully complete the first phase. Among the most common responses was the digitalization of work processes through a digital Enterprise-Resource-Planning (ERP) system across almost all departments to manage company inventory more efficiently (Umble, Haft, & Umble, 2003). In addition, several other work processes are already digitalized by software, for example, in the Human Resources (HR) department with time recording systems and digital sickness reports or by digital Customer-Relationship-Management (CRM) software in which all customer data is stored. The current digitalization status of the FB from Interviewee6 (INTV6) is presented as follows:

"The high level of digitalization in our company is certainly also since we are a FB. Very early on, with a high digital affinity of individual shareholders, we invested and began to digitize work processes and services. [...] This enabled us to maintain our competitiveness early on, especially in Germany as a production location."

The great progress in the first "process digitalisation stage" (Soluk & Kammerlander, 2020, p. 691) was also affirmed by nine of the eleven interviewees. In addition, three of the interviewees already confirmed the completion of the first stage of digitalization within their FBs and that they are already focusing on the other two stages of digitalization.

The second stage, the “product and service digitalisation stage” (Soluk & Kammerlander, 2020, p. 693), is characterized less by internal digitalization processes and more by external processes. As the name suggests, the focus in this stage of digitalization is on what added value can be offered to the customer by digitizing the product and/ or service. INTV5 emphasized the business added value through the digitalization of the service and stated:

“With our newly created service offer through digital access to the customer in terms of maintenance work via Teamviewer, we can offer the customer enormous added value through a fast and much more efficient consultation for minor problems.”

Nevertheless, only five of the eleven interviewees were able to confirm digital products or services in their FBs. While some FBs already offer several services online and use the close interface connection with customers and suppliers via IT-supported processes for their entire business processing, or use the new possibilities via social media and modern communication channels for more customer proximity, some FBs still lack the second stage of digitalization. For instance, INTV7 noted the dependency on the product features to determine whether product and service digitalization is possible or not:

“Our product must remain rather simple. Especially abroad, a digitized product is worse because our customers want a robust product with little digital content.”

Supplementary to this statement, some FBs explained that they tend to focus on lightweight and low-cost products, which is in contrast to the digitalization of the product itself. In addition, many of the interviewees indicated that their small number of product series did not allow for further digitalization, as these product numbers were too small to digitize cost-effectively. Nevertheless, the interview guiding questions in the interviews showed that the vast majority of interviewees have already thought about digitizing their products and/ or services, and so far, either the customer demand or the technical requirements have not yet been met.

Concerning the third stage “the business model digitalisation” of Soluk and Kammerlander (2020, p. 695), only two of the seven interviewed FBs could confirm a very advanced digitalization of their business models. While the other FBs have not yet started digitizing their business models, these two FBs have mainly digitized their business model by digitizing their channels to the customer segments, their key activities, their customer segments, and even their value proposition. For example, INTV1, the family CEO of FB1, has completely transformed the channels to reach customer segments from an analog channel via in-person orders to a fully digital on-line ordering platform.

Moreover, FB2’s non-family CEO even confirmed a complete transformation of the company’s image and value proposition to broaden the company’s base to fund the core business with new business opportunities. In addition, the non-family CEO of FB2 stated:

“For us, it is particularly important to address those cus-

tomers who still want to use traditional [analog] products and are willing to pay for them, but we believe it is equally important to adapt to new customer groups and future target groups, especially through new digital opportunities.”

Moreover, FB2’s family CEO emphasized the help of digitalization through the analyzed data, which non-value-adding key activities of the business model can be removed or need to be improved. In addition, the digital capabilities for weekly monitoring of price and margin developments, as well as raw material costs, were highlighted by FB2’s managing director as helping to counteract any eventualities and to guarantee a quick response to market-adjusted prices with a shorter response time.

In contrast to this, five interviewees affirmed, that they deliberately did not digitize their analog business model and their related products, as their customer segments do not demand or even reject this digitalization of the FBs’ business models. Whereas their products continuously changed over the last decades, their business model was not affected by that. Furthermore, a common statement to this was that the FBs often rather wait for the necessary pressure by their customers to digitize, instead of proactively digitizing their business model. However, even these FBs agreed that more commerce should be conducted through digital relationships with customers in the future, such as sales through websites, but indicated that these are not currently their primary focus.

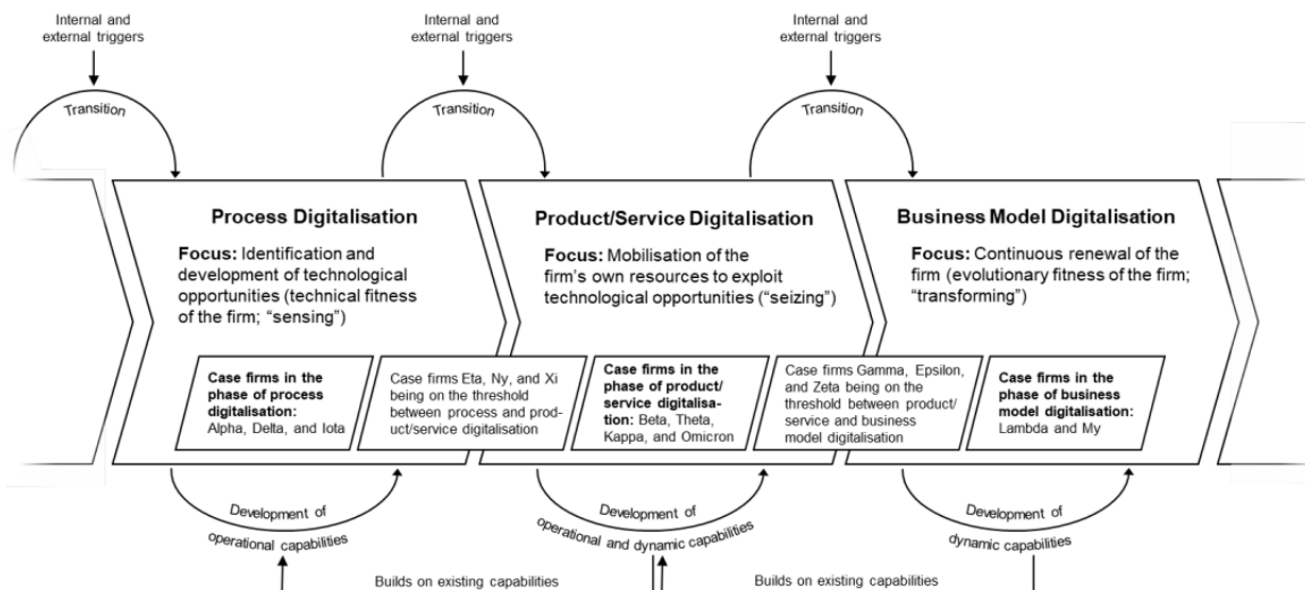
4.2. Digitalization Drivers in FBs

After providing a broad overview of the current state of digitalization in the interviewed FBs, the following section outlines the drivers of digitalization in the FBs to answer the research question. In addition, Figure 2 summarizes all drivers and barriers of digitalization in FBs.

4.2.1. Internal and External Connectivity as Driver

After two years of a pandemic situation, the way people connect has changed. For example, governmental travel restrictions or guidelines for limited meetings with a certain number of people have affected the way people communicate and have led people to digitize their communications. Furthermore, the connectivity between people within FBs has also massively changed, driving digitalization, both in terms of internal connectivity within FBs and external communication. INTV8 particularly highlighted the importance of connectivity for FBs with a high proportion of exports to international countries, as various restrictions have resulted in a lack of connections with customers and/ or suppliers. In addition, the interviewee stated that before the pandemic, the connection was easily given by a business trip to an international country, whereas now the meetings are held via digital communication platforms like TeamViewer or MS Teams. Moreover, INTV5 underscored digital success by providing virtual problem analysis via a camera transmission, which saves a lot of time and money.

Furthermore, since INTV3 and INTV7 described regional-ity and customer proximity as a major advantage of FBs over



Note. This chart was produced by Soluk and Kammerlander in 2020, illustrating the digital transformation process of FBs in a three-stage model. From “Digital Transformation in Family-Owned Mittelstand Firms: A Dynamic Capabilities Perspective”, by J. Soluk and N. Kammerlander, 2020, *European Journal of Information Systems*, 30(4), p.736.

Figure 1: The digital transformation process in FBs by Soluk and Kammerlander.

their non-family competitors, the development of new digital connections to customers was driven even more strongly. Another big driver for digitalization was also the connection of four of the FBs (FB1, FB3, FB5, FB6) to larger corporations as Business-to-Business (B2B) customers, which almost “forced [us] to change over years ago so that everything runs electronically via IT systems”, as stated by INTV8. Moreover, not only was external connectivity digitized, but internal connectivity became more digitized as well. Since it was already a great advantage of FBs that their internal communication was very efficient, as most employees are tied to one location and narrow work paths lead to better connectivity, digitalization made communication even faster and more efficient.

4.2.2. Improved Productivity through Digitalization

Another driver of digitalization, in addition to more efficient connectivity, is significantly improved productivity through digital technologies (Martínez-Caro, Cegarra-Navarro, & Alfonso-Ruiz, 2020), with ten of the eleven interviewees noting an increase in productivity following the digitalization of certain work processes, for example. INTV10 cited as an example an increase in efficiency through travel expense reporting via digital HR systems, digital employee time recording, or also online vacation administration on the intranet. Moreover, digital contract management is also more efficient due to its online and constant availability. In addition to such smaller investments, especially in the administrative departments, larger investments in for example Big Data within production can also massively increase productivity, as INTV6 stated:

“With the help of digitalization, I can use the analyzed data to see which non-value-adding processes I can eliminate or need to improve. Without the data collection, I would not be able to identify and improve certain weak points within the supply chain.”

This described improved productivity within the production processes also ensures a competitive advantage in Germany as a production location, as otherwise, it would be necessary to outsource abroad, as many non-family-run businesses have already done.

An investment in Big Data cannot only help in the production area but is also used by FB1 to ensure greater transparency. The collected data through digital technologies feed the digital inventory management system to have a better overview of the throughput with an accurate daily overview of the products. As FB1’s CEO explains, “the digital inventory management system is extremely important for managing our product range of over ten thousand products and is much more efficient than the replaced system with paper receipts and issue slips for the products.” Such an increase in efficiency through digitalization underlines the importance of digitizing work processes and is one of the more important drivers for the digitalization of FBs.

4.2.3. Economic Opportunities

Due to their limited financial possibilities (De Massis et al., 2018), one of the bigger drivers of digitalization in FBs are the economic opportunities with the associated cost savings and efficiency gains through digital technologies. As

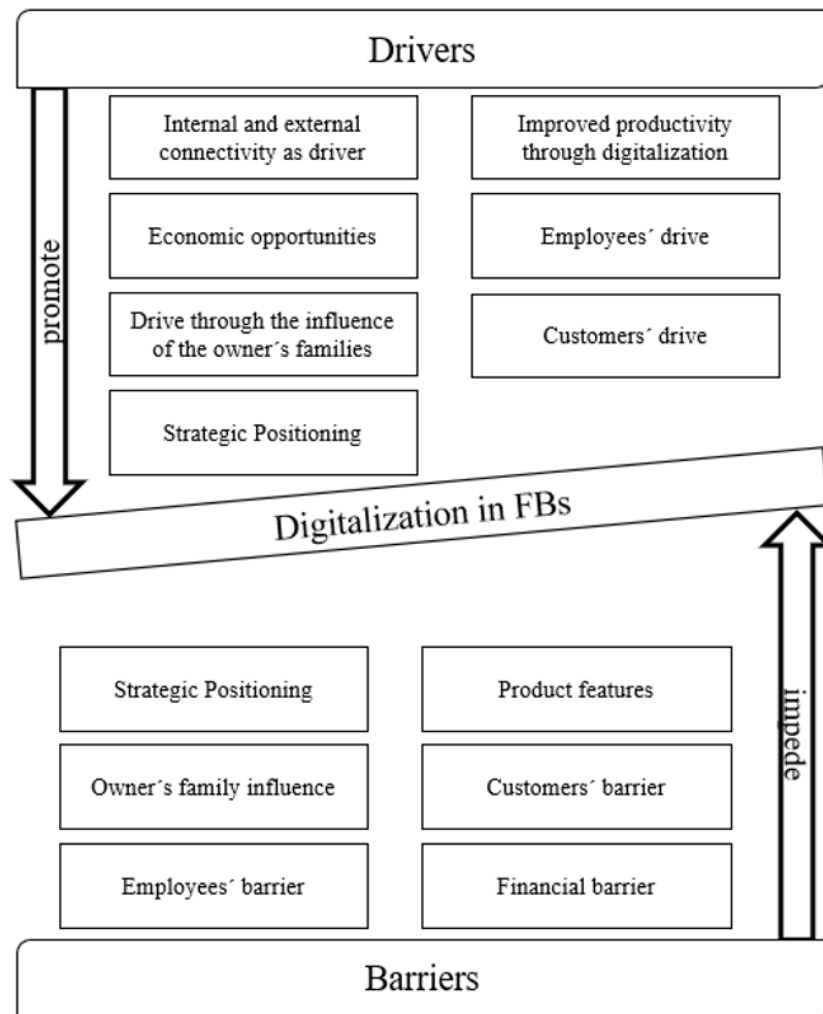


Figure 2: Drivers and barriers of digitalization in FBs.

INTV7 stated, “without digitalization, the entire work processes would not run efficiently in business terms”, the big driver behind digitalization is the enormous economic potential in terms of higher productivity and cost efficiency. Moreover, as INTV5 added, a lack of further development and investments in new digital technologies leads to an investment backlog that is difficult to finance, especially for financially constrained FBs. In addition to looking at the long-term use of digital technologies, the short-term management decisions of FBs can also be supported and improved by internal transparency in controlling. For example, real-time data with accurate and transparent data sets, as already implemented in two of the FBs (FB4, FB5), support managers’ decision-making processes with clear and structured data.

Furthermore, a major advantage of FBs and one of the drivers promoting the decision to invest in digital technologies is the much longer investment horizon than non-family-owned or publicly traded companies, as confirmed by all interviewees and summed up by INTV6 in the following words:

“We think and invest from generation to generation, while our non-family competitors act from quarter to quar-

ter.”

A long investment horizon, even for financially constrained FBs, is one of the main drivers in deciding for or against digitalization, since, for example, a major investment in digital technologies cannot be amortized within a few years, but theoretically only after decades.

4.2.4. Employees’ Driver

In addition to promoting drivers through economic aspects, employees within FBs are also driving digitalization, as described by ten of the eleven interviewees. INTV9 primarily described the employees’ demand for more digital opportunities within the FB, which is also met by the majority of the FBs through the established home office options with the integration of more digital connectivity.

Moreover, INTV3 also highlighted the drive by their in-house IT department with its developers to bring many business processes to a new digital level. While it is not only their employees who are driving digitalization in FBs, several interviewees (INTV2, 3, 7, 8) also mentioned their increased interest in hiring new employees to develop their internal ex-

pertise. INTV7 stated that the new commercial manager of an external company is one of the biggest drivers of digitalization within the FB. Furthermore, especially when looking for new employees in a tight labor market with too few qualified specialists, a certain attractiveness for new employees concerning the digital level is necessary, as INTV6 described.

4.2.5. Driver through the Influence of the Owner's Families

Concerning the influence of the owning families on the current level of digitalization within the FBs, the interviews revealed a major difference between the FBs. While some of the FBs have been massively influenced by the high digital affinity of individual family members, or in other FBs a successor has joined the FB and thus became an important driver in the topic of digitalization, in some FBs the influence of the owning family is very low or manageable. INTV4 stated, "the owning family takes a critical view of investments in digital technologies, but largely agrees with them", and INTV10 added, "the owner family does not close itself off to digitalization, but lives it."

Another major advantage of the family driver since the owning families influence the FBs is the possible fast decision-making by individual family members or a few shareholders, whereas in corporations the decisions have to be legitimized by several supervisory boards or financial investors who want to influence the decision. Therefore, INTV2 stated:

"Fast implementation and flexibility in decision-making is the most important thing when integrating fast-changing digital technologies within our FB. [...] This makes us unbeatably fast compared to many competitors."

4.2.6. Customers' Driver

The drive by customers to digitize, for example, digital ordering options, digital handling returns, and beyond, has reached FBs in today's digital age (Bélanger & Crossler, 2011). To remain competitive in the market with non-family-owned businesses, FBs need to provide added value to customers, as INTV2 explained that digital options ensure a better service through faster accessibility or shorter communication channels. In addition, FB1 was requested by customers to improve the processing of returns and handle them digitally to provide more transparency. Furthermore, according to INTV10, "the option of a digital e-commerce sales platform provides added value for customers." Moreover, several interviewees (INTV2, 4, 6) added that in addition to securing and expanding their sales channels, these digital ordering options are also more convenient, faster, and less time-consuming, which further promotes digitalization within these FBs. Added to that, digital marketing is particularly important for the target groups of young customers, and customers' demands and given trends must be served through the appropriate digital platforms, as explained by INTV6.

Furthermore, several of the interviewed FBs were forced by electronic data interchange (EDI) data transfer requirements by suppliers or B2B customers to integrate a digital

management system to retain their customers. However, such a closer interface between FBs, customers, and suppliers through IT-supported processing ensures long-term customer retention and further promotes digitalization, as INTV9 noted.

As especially the dimension to the customers is very important for a FB, as confirmed by all interviewees, the owner families are present in public to reflect their FB. This closeness to customers further drives the digitalization of FBs, as special closeness to customers is required for the development of new digitized products for future generations and can be given through new digital technologies. INTV7 stated: "As an FB, we are significantly closer to the market and can act more quickly, for example, in the event of changes in customer requirements." In addition, the new digital dimensions to customers can further shape proximity to customers and convey the important family values and traditions of the FBs, as INTV8 underlined.

4.2.7. Strategic Positioning

As a further driver of digitalization in FBs, strategic positioning places high demands on the more traditional FBs. As INTV4 noted, "we are currently changing our FB's corporate image away from a traditional FB with its traditional products to a diversified business with online offerings and new business areas." This is further driving digitalization within FB2 and is driven by competition with international competitors and the requirements for a digital strategy to be able to compete with global corporations with high-quality standards. Furthermore, in a long-term view of strategic positioning, following INTV6, only the integration of digital technologies makes it possible to maintain competitiveness in high-wage locations such as Germany. In addition, a broader positioning in the overall business model due to new digital possibilities, in other words, greater complexity, requires further digitalization to be able to better organize and process the increased data volumes, as described by INTV7. Moreover, the strategic positioning of FBs is described by all interviewees as cross-departmental within the FBs, as the departments work across departments for the entire company and not just for their departments. Therefore, there is a high demand for connectivity through digital technologies, as already described in the first driver of the thesis, which further drives the digitalization process.

4.3. Digitalization Barriers in FBs

After analyzing the found drivers in the interviewed FBs, the following section provides an overview of all barriers to the digitalization process in these FBs.

4.3.1. Financial Barrier

While on the one hand, financial opportunities through the implementation of digital technologies can be seen as a strong driver of digitalization, the financial limitations of FBs are one of the biggest barriers. As most interviewees indicated, FBs' financial resources are limited, especially for

major investments in digital large-scale projects. INTV9 compared the FB to a non-family run competitor and noted, “our main competitor is non-family-run and much stronger and broader financially, and therefore pioneers in social media, e-commerce, etc., while we are still in many testing phases and think twice about whether to invest or not.” Furthermore, some investments in digitalization come at a very high cost with no benefit, as they usually only improve soft values, such as better customer service via online platforms, but do not directly increase profits, as INTV4 noted.

In addition, most FBs are driven by a low willingness to take risks, as their entire business depends on the financial situation over generations, and thus there is a lower risk appetite due to the close ties to the company and fear of financial difficulties. According to the fact that FBs generally do not engage in costly experimentation, INTV6 stated the following:

“It must pay off according to the motto: what does it bring, what does it cost?” Furthermore, most interviewees stated their willingness to invest less at the moment and accumulate more liquidity in the current crises, which are associated with many uncertainties, as the possibility of the investments flopping, resulting in immense losses, could affect the financial situation for decades.

4.3.2. Employees' Barrier

Another barrier to digitalization in FBs is employees' resistance to change, which was also described by all interviewees. In particular, the quote “people don't like to change” occurred independently in four interviews (INTV2, 6, 10, 11) and underscores the importance of counteracting employees' fears and debunking them. Especially, the fear of staff reductions due to digitalization and the associated automation of processes is present in all FBs and brought to the point by INTV7:

“Employees are afraid they will lose their jobs if work can be done more efficiently at the push of a button, but after a short time they realize that they have much more time for other tasks.”

It is therefore particularly important to take the employees along with them and teach them the new tools with appropriate tailored training courses, as INTV10 noted. However, there is an insistence by individual employees, for example, on old workflows or software, which impedes digitalization in FBs. Nevertheless, these cases are rare in FBs, as INTV8 stated because in FBs there is very close proximity to the employees, which is much more pronounced and important than in large corporations due to tradition and established family values. Due to this close relationship between employees and FBs, they have a strong value position as a family with faces and certain values in the background, which makes it easier to reduce such fears of digitalization than in corporations, as INTV6 described.

In addition to resistance to change or these fears, the lack of employee expertise can also be a barrier to the processes of digitalization in FBs. In FBs, it is usually common that

many of the employees have been working in the same company for decades and most of the employees have even done their training in the same company, which leads to a lack of knowledge, especially in digital technologies. It further requires new external employees with specific expertise, but who are only available on the labor market in a very limited way, as INTV7 stated.

4.3.3. Owner's Family Influence

In the interviews with the family member CEOs and workers, as already described in the drivers' section, a major difference between the single FBs was apparent. While some family CEOs were strongly innovative and invested massively in new digital technologies so far, other family CEOs were not willing to make big changes because they have been this way for many generations or because they did not yet see any benefits in digitalization. INTV6 mentioned a lack of error culture within some FBs to see mistakes as an opportunity for each FB to learn from. In addition, a strong dependence of the level of digitalization on the education and age of the family CEOs or shareholder(s) was noted and analyzed self-critically by INTV8:

“I was personally a brake when it came to digitalization because that is not my thing. [...] That was a lesson for me and in retrospect, I can say that it is very important to integrate the younger generation into the business processes. [...] I know many FBs that have gone to the wall because the senior leader did not let go and kept going.”

Furthermore, INTV7 compared FBs to non-family-owned businesses in the following terms regarding their level of digitalization:

“FBs are growing much more slowly and cautiously to avoid spending too much money. As a result, they lag behind their non-family-owned competitors in many areas of digitalization.”

4.3.4. Customers' Barrier

Another barrier that emerged in the interviews was the desire of customers to keep FBs' business processes at a minimal level of digitalization, as INTV5 described. Since FBs traditionally operate in industries that are more traditional and their customers tend to use fewer digital technologies and push FBs to digitize less, customers can also be a barrier to the digitalization process. INTV10 experienced this customer behavior and noted the “customers' preference in classic industries to order everything analogously”. What appears to be a small barrier to digitalization is a big problem in some FBs, as the relationship with customers willing to pay could be neglected and lost. Moreover, INTV9 stated that digitalization does not bring any increased customer value and thus only increases costs without any benefits. In addition to the willingness of customers to keep the level of digitalization as low as possible, many requirements imposed by customer data protection regulations, especially when processing customer data, also make digitalization more difficult, as INTV4 noted.

4.3.5. Strategic Positioning

The following question in the interview guideline focused on the strategic positioning of FBs especially in the long-term: How do you assess the value of your digital initiatives compared to other strategic projects in your FB? It was used to better understand the importance of digitalization in the FBs and thus to better analyze digitalization with its strategic value. In all FBs, the impression was that digitalization is only third or fourth in terms of importance (with one being the most important) in the strategy papers due to their limited resources of employees and financial constraints. INTV5 stated:

“For us, the strategic value of digitalization is in third place: It is being pulled along, but the decisive processes lie in product improvement and development, and internationalization, which all come before digitalization.”

Two of the FBs (FB4, FB5) also relied on lean management principles, which were also described as a counterpart to digitalization, as many work processes were not yet efficient enough and the focus on lean management somewhat hindered the digitalization process, as the FBs' resources tend to be focused on other individual projects. In addition, INTV8 stated that “in terms of our strategic positioning [...], we have not yet suffered enough to digitize in some areas”, which explains the lower priority given to digitalization in some FBs.

4.3.6. Product Features

In addition to these more complicated barriers to digitalization, product features that simply prevent the digitalization or add no value are a rather simple barrier, but also an almost insoluble one without developing a completely new product. Small analog products, as INTV7 explained, have at the first glance cheaper procurement costs than their digital counterparts. Furthermore, some micro products with low value simply cannot be digitized, as INTV8 noted. Moreover, as INTV5 described, the complexity of the product does not allow it to be digitized, or digitalization makes the product worse because it is more technically fragile or the more difficult repair is not guaranteed everywhere, as skilled workers are needed. In addition, INTV5 stated:

“The more digital the products are, the more difficult it becomes to sell the product via export to simple, technologically less advanced markets, such as South America or Africa. [...] Digitalization would thus prevent or significantly limit our high export rate as FB or an expansion into developing countries.”

Moreover, a too high degree of specialization requires a high level of consultation and individual feedback, which makes it much more difficult to sell and accompany the sold products with service without added value through digitalization, as INTV9 noted.

4.4. Business Model Canvas

To answer the research question of the thesis regarding the development and transformation of the FBs' business

models, the impact of the drivers and barriers are analyzed using the BMC, as suggested by *Osterwalder and Pigneur (2010)*. The core elements of the BMC, such as the value proposition, key resources, channels, or cost structures, help to examine these drivers and barriers and their influence on the FBs' transformation of the business models in a more structured way. The following section provides a straightforward overview of the drivers and barriers in order of the key elements of BMC and how they promote or impede the FBs' business model digitalization. Figure 3 gives an overview of all the key elements that will be examined to analyze the impact of digital transformation on the FBs' business models and provides the related questions.

4.5. Business Model Digitalization in FBs

4.5.1. Value Proposition

The value proposition describes what added value a company offers its customers with the products and services it provides to meet the customers' needs (*Muhtaroglu, Demir, Obali, & Girgin, 2013*). Through digitalization in the interviewed FBs, it is now possible to offer customers new and value-added products or services, as three of the interviewees described (INTV2, 3, 9). This section provides an overview of the new value propositions that the interviewed FBs can offer their customers following the introduction of new digital technologies, as well as the value propositions that have remained unchanged.

While some of the interviewees stated that they convey a modern and innovative FB to customers through digitalization, which has a positive impact on the image of their products, other FBs' value propositions remained nearly unchanged by digitalization. INTV3 commented as follows on their positive drive through digitalization:

“We want to become more modern in our dealing with our customers and promise innovations through the digitalization of our brand, moving away from the old, traditional newspaper publisher to a versatile, modern company with a broad online offering and new areas of business.”

Furthermore, whereas FB2 conveys a genuine culture of innovation to the customers and offers new digital products with new added value to the customers, also INTV9 stated the following new changed value proposition to the customers as a driver for digitalization:

“By digitizing many work processes and company procedures within our FB, we can save large amounts of energy and thus promise the customer a green offer, which our customers place great value on, especially these days. [...] As requested by the customers in advance, this was also a driver for digitalization in our FB.”

Nevertheless, many of the interviewed FBs kept their value proposition largely unchanged by digitalization and focused instead on communicating the same values to customers as before digitizing, such as modesty, reliability, humanity, respect, and fairness, in combination with a great deal of tradition, as INTV2 noted. Moreover, INTV2 emphasized the importance of these values, which have already

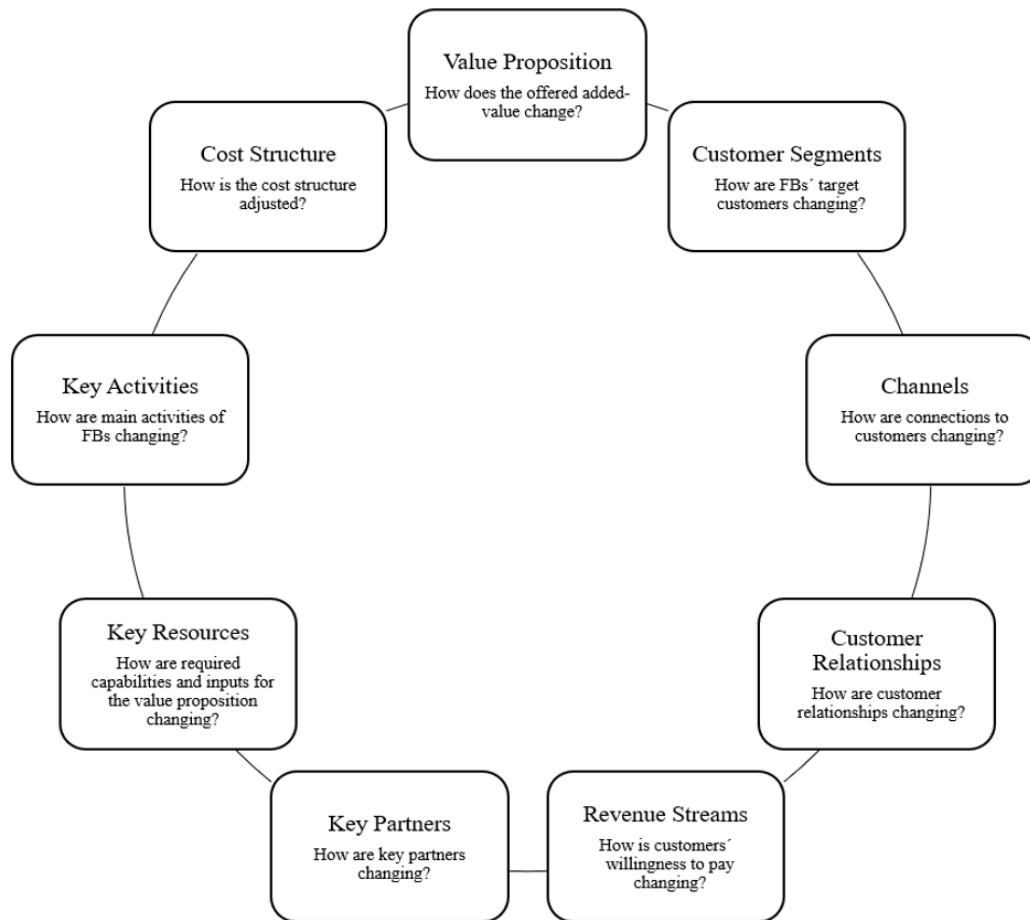


Figure 3: Impact of the drivers and barriers on the development and transformation.

characterized the FB and its activities for many decades and should remain unchanged even with the digitalization of some business processes.

Furthermore, regarding the question of what values FBs add to the market, INTV5 mentioned “the limit of digitalization [that] lies in the characteristics of the product.” Therefore, as INTV5 described, the products of FB3 and the added value for the customers remain the same, as the product must remain a rather simple one, and especially abroad a digitized product is worse. After all, the customer rather wants a robust small, and with little technology-equipped product. Therefore, in summary, for some of the interviewed FBs, the characteristics of the products are hindering the change of the value proposition in the FBs’ business models, but some FBs were already able to change or add certain values to their value proposition.

4.5.2. Customer Segments

The type of customers the FBs want to address with their products and services and their value propositions are defined as customer segments (Muhtaroglu et al., 2013). Generally, none of the interviewed FBs have rapidly changed their customer segments by digitizing their products or services. However, the market and the demands of the market have

become much more in the focus of the FBs due to digitalization, as INTV2 noted. In addition, a very common view in FBs is the great importance of broad positioning in the market to take the lowest possible risks and to finance the core of the FBs. This broad positioning in the market is also a driver for new segments that can be reached by integrating digital technologies, for example, via e-commerce platforms, as it was implemented in FB7’s business model to reach new customer segments, especially outside Germany. In addition, as digitalization brings many new opportunities, especially in terms of globalization and reaching global markets (Autio, Mudambi, & Yoo, 2021), these new opportunities through the adoption of digital technologies have also changed the FBs’ customer segments in terms of location, as four of the seven FBs (FB3, 4, 6, 7) can now also serve international customers.

However, the implementation of digital technologies does not affect every customer segment of FBs, as all of them have had their main customer segments for a long time. Moreover, some of the FBs are constrained by their regionality, while their non-family-owned competitors tend to be national or international and have a broader customer base, FBs are limited to their region by their capabilities and tradition, as INTV3 stated. In addition, on the one hand, FBs often have customers who have been loyal to them for decades, and it

is these customers who are very reluctant to the digitalization of the FBs' sales channels, as INTV5 noted. On the other hand, most FBs are active in traditional industries that involve the processing and finishing of raw materials or intermediate products and are classically driven by a customer's preference to order everything analog, thus preventing digitalization, as INTV5 further noted.

4.5.3. Channels

Channels explain how the FBs connect with their customers and how they deliver their products and services to them (Muhtaroglu et al., 2013). The interviews revealed that the FBs use many new channels to contact and serve their customers, which is enabled by digital technologies and their new capabilities.

As INTV4 noted, "customers want more digital offerings these days", which forces them to digitize their channels to customers by depending on customer challenges. Moreover, INTV4 stated that their FB2 started taking the first steps in e-commerce already ten years ago. In addition, INTV10 noted that the development of their business model in the future will be based on more commerce through digital relationships with customers, such as selling through a website or more digital touchpoints with customers. Furthermore, the majority of the interviewed FBs identified one main objective as making it much easier to place orders through new digital trading platforms. Additionally, INTV6 explained why they do not yet have a website with ordering options: "We are currently in a test phase for our online store because implementing an online store is so labor- and cost-intensive that we have to be at least 95 percent sure that the store will be successful before we make the final decision [for or against], while our main non-family-owned competitor already has one."

Moreover, as the personal relationships with the customers are more pronounced and especially important for FBs and are one of the major drivers of their success, as INTV7 noted, these relationships must remain consistent, if not strengthened through more digital communication opportunities. Precisely because FBs are closely connected to their customers, FB7 is deepening their connection through new online events and product launches via digital channels to be as close as possible to their customers and what they want for existing and upcoming products.

However, digitalization has not only promoted pre-sales channels to customers but has also influenced after-sales channels. Due to the increased numbers of online trade and orders, INTV8 noted that they have massively strengthened their logistics and online product tracking capabilities. Moreover, they introduced a digital after-sales service to save customers from having to visit their site or FB's workshop through the new digital communication channels, saving time and money above all. In addition, INTV5 stated:

"Our repair service for customers is offered through online technical issue sessions, where our employees receive real-time videos of the issues via cameras on the customers' heads, allowing them to fix minor issues without having to fly to South America, for example."

Furthermore, in addition to technical support, as already described in the pre-sales section, the proximity of FBs to their customers is of great importance, as also highlighted by INTV3, and can be fostered by a stronger connection with customers through digital technologies even after the product has been sold. For example, product improvement suggestions are less time-consuming through a short online digital form or social media than through a call.

Nevertheless, there are also barriers that affect the digital transformation of the FBs' channels. As INTV3 stated, "we make less money through digital channels than with the traditional newspaper business", as the product feature of a newspaper has a greater value on the market when sold through traditional channels, such as a newsstand. In addition, INTV6 stated that due to the small size of most products, with an overall average of two Euros per product, a very high number of products need to be sold. However, current online sales through external service providers are only about 20 percent, which tends to limit investments in expanding the online sales channel, as INTV6 pointed out and further stated that customers prefer to buy their small products locally. In addition, the small size of products makes it difficult to sell through digital channels and the associated logistics, and product complaints would also be difficult to implement through digital channels and their logistics. Moreover, as INTV5 noted, many after-sales services such as analytic services or predictive maintenance offered by their non-family-owned competitors are not feasible because they lack IT expertise in these areas and would be forced to rely more heavily on external service providers, which would limit profits in offering these new services as part of the digitized business model.

4.5.4. Customer Relationships

Of particular importance are the customer relationships that FBs have established and maintained with their customers over a long period (Muhtaroglu et al., 2013). By adopting new digital technologies, the FBs can offer a broader service to their customers, which also requires a high level of digitalization. INTV7 described the current transformation in their relationships with customers as follows: "Much of the customer and service experience is undergoing incremental change, and no disruptive changes are expected soon." However, given the FBs' traditional customer-centric orientation, new digital technologies offer the opportunity to further deepen and improve customer relationships, as INTV8 noted. Furthermore, INTV4 highlighted the drive provided by digital communication channels, saying, "through digitalization, a better service can be offered at a higher speed [due to improved connectivity]".

In addition, since the customers trust FBs more than a corporation due to years of consistency, most FBs have very close relationships with their customers, as INTV8 noted. Therefore, many digitalization of processes take place in consultation with customers to drive such digitalization always together in a more efficient way, as INTV9 pointed out. They also have a significantly lower complaint rate than their non-

family-owned competitors due to their closer customer contact and better relationships with customers, as INTV8 mentioned. Moreover, INTV6 sees the greatest potential for the next five years in Big Data, to further deepen their knowledge about their customers and better analyze their customers' buying behavior and thus product wishes.

While on the one hand the relationship with certain customer groups can be deepened by digitalization, on the other hand, the relationship with some supposedly older customer bases could suffer from greater digitalization. In addition, the time spent on-site with the customers, which according to INTV4 is a strong feature within the FBs' business models in terms of customer relationships, could become less due to more digital contact channels. INTV10 highlighted:

"For us, the close also personal customer relationship and not only digital relationship with the customers is still very important. [...] Because human contact is particularly important for FBs and their business models and also a clear advantage as a FB."

Such close contact with the customers is also crucial for the development of new products, as it provides an accurate view of customer needs and is one of the most important indicators of success within FBs, as it was emphasized by all interviewees. The degree of digitalization of customer relationships must therefore be tailored and weighed up entirely according to the FBs' customer groups.

4.5.5. Revenue Streams

The revenue streams state what values the customers are willing to pay for and illustrate how the customers are currently paying (Muhtaroğlu et al., 2013). In terms of generating money, only one of the interviewed FBs (FB2) has so far generated a new business opportunity by implementing an online offering for the customers. This is mainly due to the long-term planning perspectives of FBs from generation to generation, which makes it difficult to generate new business opportunities to make money in a short period. In addition, the other six FBs indicated that they are also not currently planning to change their product range towards digitized products within their revenue stream. Nevertheless, completely new products could emerge in the future because of digitalization, either through further developments using digital technologies or through completely new product developments. INTV6 also highlighted this potential in the future to change the FB's revenue stream:

"That's where I see the greatest potential, especially with the help of digitalization: [...] How can we remove non-value-added activities from processes and work much more in the direction of the customer to discover new ways of making money?"

As described earlier, FB2 has already introduced new structures within its business model to earn money through new revenue streams and new payment options. INTV3 explained: Through new online product lines with an online newspaper, we have generated online sales of our newspaper on the one hand and advertising revenue on the other hand. However, an online product would significantly need

more customers to earn the same money as its non-digitized counterparts.

Furthermore, in addition to generating new revenue streams through new products, improved or new services could also be offered through new digital technologies. INTV11, for example, was already thinking about a premium service pass that could be offered for the sold products and that would guarantee fast service or predictive maintenance solutions, which in turn could be provided by digital technologies. However, a premium service was not implemented after a short test phase because the customers were not willing to pay more than before for an improved service. Nevertheless, the possibility of charging for services provided in addition to the existing product, such as predictive maintenance or a cloud solution tailored to the product, could be a driver for digitalization within revenue streams.

The main reasons why only one of the interviewed FBs has so far partially developed new revenue streams through a digital offering are probably the caution and low risk-taking that are firmly embedded in the FBs' business models. INTV11 noted the following, which applies to all interviewed FBs:

"FBs often wait for the necessary pressure to digitize, especially in the area of new business opportunities. [...] FBs usually wait rather cautiously and then follow the competition when new business fields are successfully implemented, as so-called fast followers."

Moreover, due to the limited capabilities of FBs, the additionally developed revenue streams only improved soft values, for example, through increased customer loyalty, but not any metric in the final calculation, as INTV5 stated. In addition, INTV7 noted that many customers are not willing to pay more for more services offered online via digital technologies and that the development of new digitized products for new revenue streams is still an ongoing process.

4.5.6. Key Partners

Key partners are defined as close relationships with other companies, governments, or other partners that either perform certain activities or supply important resources (Muhtaroğlu et al., 2013). These key relationships are motivated by reducing uncertainties or increasing efficiency, for example, by outsourcing certain work processes. Such key partners of FBs have usually been partners for a very long time and have very close connections to each other. These key partnerships, therefore, become even closer through the integration of digital user interfaces or data connections and are a strong driver for digitalization to increase the aforementioned efficiency, as INTV6 stated. Moreover, INTV8 noted that established test phases have been set up with suppliers and external support to identify any barriers and they already started implementing digital connections through digital technologies in the most stable way to further strengthen their key partnerships. Connecting parts of the ERP systems within key partnerships helps to increase transparency and throughput in the warehouses of key partners through digital technologies, thus improving ordering

and delivery conditions within their partnerships, as INTV11 described. In addition, new technologies and associated external service providers are leading to an increase in new key partnerships, as the FBs' own IT departments are unable to handle large projects themselves, as INTV2 realized.

However, more key partners classically mean more opportunities for conflicts. Added to that, since FBs are usually built on very close and especially personal relationships, the increasing online presence with key partners could lead to these partnerships becoming more fragile because humanity is lost to a certain degree, as INTV10 noted. INTV10 particularly emphasized the importance, for example, of drinking coffee together after business meetings, which would be significantly reduced by increasing digital communication via online meetings.

4.5.7. Key Resources

Key resources describe what capabilities and inputs FBs need for their value proposition, such as financial, physical, or even human capabilities (Muhtaroğlu et al., 2013). The main driver of digital transformation for the FBs' business models is the major shortage of skilled workers, which enables and drives the FBs to invest heavily in further digitalization and automation to increase efficiency and reduce the number of employees, as INTV7 underscored:

“Through modern software and other digital technologies, we can save many employees by increasing efficiency through automation to respond to the shortage of skilled workers in the near future.”

Furthermore, INTV9 highlighted the attractiveness for employees of an agile culture of change and technological drive, in addition to the classical advantages of employment in a FB in terms of low termination rates and long-term employment, usually lifelong employment. Moreover, this attractiveness for employees is becoming more important as FBs are often surrounded by their self-trained employees with dual students or trainees within the FBs, so there is very close contact with the FBs, but also dwindling digital expertise that in some cases would have to come from outside.

While many of the key resources of the FBs remain the same, such as most product features, design, or brand, the core processes along the value chain, such as production or in-house logistics, are being transformed in some of the FBs (FB1, FB4, FB5, FB6) through the implementation of digital technologies. INTV6 explained their integration of Insights as a Service (IaaS) along their entire value chain from production to purchasing and logistics to sales through data from digital technologies that help to measure and define which processes need to be improved or eliminated:

“Without digital technologies, we would not be able to collect the data we need to measure which processes along our value chain need to be improved or completely rethought.”

In addition to IaaS, FB1 has also integrated a digitized inventory as one of the main components of its value creation processes as a logistics service provider, and FB4, FB5, and

FB6 have further implemented data-driven solutions such as predictive maintenance for their large aggregates to reduce their downtimes due to lack of or untargeted maintenance.

One of the main barriers to key resources that affect the development and digital transformation of FBs' business models are the tenured employees, who have grown with the company for a very long time, and have a hard time with change, as all FBs have realized. These employees make it difficult for FBs to transform their business models due to their resistance to change. However, INTV7 stated:

“The majority of employees are open-minded, but it is quite normal that 10-20 percent of employees are rather closed-minded shortly before retirement and resist digitalization. [...] Therefore, employees need to be trained and educated so that they can embrace new systems and not become inhibitors or afraid of digitalization.”

Nevertheless, if employee training is unsuccessful, another major barrier for FBs to the digital transformation of their business model is the increasing shortage of skilled workers and, in particular, digital expertise. As INTV3 described it, “FBs find it extremely difficult to transform because they do not bring the right people into their businesses and they cannot find qualified people because they mostly stay within their industry or network and do not go beyond that.” In addition, their flexibility, which is given by short decision-making paths and fast follow-up strategies, would suffer from increasing automation within their value chains. Moreover, there are still far too many technological innovations and changes, so that firm planning, especially with regard to the financial return on investments, is not possible, as INTV5 noted.

Another barrier to digitizing the FBs' business models are the characteristics of the required resources, as INTV8 of a grocer stated:

“I often compare a cauliflower to an airplane: I can tell you exactly how much the airplane weighs, but the cauliflower is always individual and weighs differently, has a different number of florets, a different proportion of leaves. Just as different as people are so that digitalization and automation of work processes based on product characteristics are not possible.”

In addition, INTV8 noted, that ‘first in first out’ does also not work because the maturity of a food product is always different, which makes certain digitalization approaches simply impossible for now.

4.5.8. Key Activities

The activities that a FB performs to produce, offer, and deliver to its customers and the way it uses them to generate profits are summarized as key activities (Muhtaroğlu et al., 2013). Since each of the interviewed FBs has already digitized at least some work processes within the administration, production, warehousing, or logistics, many key activities in everyday work are already being driven toward more digitalization by an increase in efficiency. One simple example of this is the increase in efficiency through pick-by-voice as a digitized work process, as INTV1 noted.

Furthermore, digital machines with the necessary interfaces do data collection automatically, as INTV7 noted. These data sets are used to get a better overview of the inventory, which can then be given at the push of a button by a digital recording of throughput, goods receipt, and goods issue. INTV9 highlighted the massive increase in efficiency by moving from manual entry to fully automatic inventory correction with digital technologies. INTV4 further noted the acquisition and integration of appropriate systems and inputs such as dashboards, etc., but that FB2 is not yet using these data sets for databased compilations to bring them closer to the customers. Another improved key activity through the integration of digital technologies are the short communication channels and the ability to act quickly within FBs. Increased connectivity with digital communication platforms has further supported cross-departmental and cross-team work processes and increased their efficiency, as all interviewees noted. Moreover, since many FBs are export-oriented (Federal Ministry for Economic Affairs and Energy, 2020) and the interviewed FBs export many of their products, the significantly increased complexity associated with internationalization within key activities can be better managed through digital connectivity via communication channels and fully digitized ERP systems, as INTV5 mentioned.

However, arguably the biggest barrier to digitalization of the FBs' key activities, is the problem that the long growth phase in recent decades, with a long time in the hands of one or a few decision-makers, leads to impediments to digitalization depending on the shareholder(s), as INTV9 noted. Moreover, such processes that have grown over years are not sufficiently questioned, according to INTV7, "why do we do certain things and how can we make them more efficient?" In addition, the limited capabilities of FBs and their small number of product lines compared to large non-family-owned competitors do not allow for further digitalization, as they are too small in some respects to automate cost-effectively, as INTV2 mentioned.

While the size of FBs is a barrier, the state of technology is also still too incomplete in some cases, and INTV5 described their more wait-and-see attitude as follows:

"Currently, technological development is like buying a new cell phone. In the end, you can use it to make phone calls and write messages, but not much else changes in my view. [...] Therefore, we are currently still waiting for the one technological invention that will give us a good advantage in improving our key activities."

This view on the current digital developments of a single shareholder influences the FB's strategic decisions in terms of digitalization of key activities and INTV8 highlighted this influence as a barrier to digitizing the business model with the following words:

"Personally, as a shareholder of my FB, I was a brakeman in terms of digitalization, because that is not my thing at all."

4.5.9. Cost Structure

The cost structure summarizes all costs associated with the FBs' business models to deliver their value propositions

to customers, as well as any other costs for other business activities such as infrastructure or administration costs (Muhtaroglu et al., 2013).

These cost points are, as interviewees agreed, an important and concrete benefit, primarily financial or to improve competitiveness, achieved through the implementation of digital technologies. INTV7 highlighted the importance: "Cost-efficient working was the decisive factor in digitizing most of our work processes within our business model." Furthermore, INTV6 cited many examples of implemented technologies and the associated increase in efficiency: The digitalization mainly took place in the three business areas of logistics, accounting, and HR. While in logistics some work processes were supplemented by pick-by-light, pick-by-voice, or automatic shipment size calculators, all of which increased the productivity within logistics, in accounting many processes such as payment transactions, dunning, asset accounting, and much more were also digitized and experienced a strong increase in efficiency. Moreover, in the HR department, processes such as payroll accounting, applicant management, or time recording were digitized and led to an increase in efficiency too. To these drivers of digitalization through increased efficiency, INTV5 added that more digital technologies can save further immense amounts of time and money, for example through digital meetings or virtual problem analyses through camera transmission to the customer to save a lot of money and travel time.

Furthermore, and especially important in these times of rapidly changing prices in the marketplace, INTV6 stated that they can use their digital, data-driven technologies to monitor price and margin developments, as well as the costs of their raw materials, on a daily basis to counteract any eventualities. This capability can mean massive cost savings through a shorter response time for market-adjusted prices. In addition, INTV11 stated:

"Data is the mega topic of the future for us and can bring us immense business benefits, but it also requires major investments to be able to collect and process the data in a structured way."

This quote brings us to the main barrier to digitalization in the cost structures of the FBs' business models. Since digitalization entails gigantic costs, from licenses to personnel or from hardware to software, the FBs are very constrained with their big steps in terms of digitizing certain areas of their business models due to their limited financial resources and lower risk appetite. In addition, as INTV10 noted, "the process of digitalization is an ongoing process that is never finished and must continue, which in turn brings new and further unknown costs." Moreover, the FBs are growing much more slowly and deliberately than non-family-owned businesses to avoid spending too much money, as INTV11 described. Added to that, INTV5 explained their situation as follows:

"I am basically open to digitalization, but the bottom line is that it is not profitable for our FB at the moment, and it is actually more work in parts. [...] We still need that certain point where we can say, now it is worth it."

Ultimately, the impact on the cost structure through digitalization also depends on the different individual situations of the interviewed FBs and their current financial situation, so it is difficult to make a general statement about all FBs as they differ.

5. Discussion and Conclusion

5.1. Theoretical Contribution

First, further digitalization drivers and barriers in FBs in the Heilbronn-Franconia area and some outliers within a radius of 80 kilometers around Heilbronn were investigated, which is known for its globally successful FBs from many manufacturing industries (Suarsana & Glückler, 2016). These drivers and barriers are a contribution to previous research in the field of digitalization in FBs. The three most important identified drivers of digitalization are the economic opportunities due to increased efficiency and transparency through digital technologies, the customers drive due to the increased technical requirements of the customer markets, and the connectivity drive due to the massively improved connectivity between internal departments and to customers through the digitalization of certain channels. In addition, the three most important barriers that impede the digitalization process are, firstly, the limited financial capabilities, which restrict the immense investments required for digitalization and are also limited by the associated low financial risk appetite of FBs. Secondly, the employees' barrier due to their fear of staff reductions through the digitalization and the associated automation of work processes, which leads to employees' resistance to change. Thirdly, the product characteristics simply impede digitalization, as complexity makes it impossible to digitize or the digitalization of the product would reduce the value of the product due to error-prone technologies and more difficult repair in case of damage.

Second, the impact of these drivers and barriers on the development and transformation of the FBs' business models was examined. The findings suggest that these drivers and barriers impact the BMC in all key elements through new opportunities due to digital technologies, such as new business channels to the customers or improved key partnerships, but the key elements are also hindered by findings such as customer group requirements, existing cost structures, or limited capabilities.

Among the interviewed FBs, there are major differences in the status of digitalization and the different views on digitalization and its advantages and disadvantages. Furthermore, the interviewees have different levels of knowledge on the topic of digitalization, with some dealing with the topic significantly more intensively, while others are just beginning to deal with the topic of digitalization. In addition, there seems to be a correlation between the level of digitalization and the generation of the interviewee. It seems that the younger the interviewee was, the greater the knowledge of digitalization, and this correlation was also supported by some comments of the interviewees on their predecessors

and their view on the digitalization of work processes, product parts, or even FBs' business models. In addition, there is also a notable correlation between FB's industry with its specific customer segments and its level of digitalization. While some of the interviewees indicated that their customers are interested in more digitalization of products and services, some other customer segments of other FBs had a rather negative attitude towards digitalization.

While previous research has highlighted the increasing influence of digitalization on the decision-making process in organizations (Karimi & Walter, 2015), the findings in the FBs affirm the increased interest in digitalization and the associated new technologies and changes within their business processes and models. However, due to the importance of product knowledge and further research and development work in the FBs, digitalization is not mentioned as the highest priority in the interviewed FBs, but rather in third or fourth place in the strategy papers. Furthermore, the continued drive for digitalization by new generations of digital technologies described by Oswald et al. (2022) is consistent with the findings of this thesis. In addition, the importance of digitalization will continue to increase due to new technical possibilities, which was also underscored by the findings that the FBs are planning further implementations or even building up financial reserves for upcoming major investments in digitalization in the near future.

Moreover, the interview results are consistent with the findings of Bharadwaj et al. (2013) and the impact of digitalization on the overall long-term success of organizations. For FBs, the successful integration of digital technologies to increase efficiency in all business processes is also an important driver and will help to ensure long-term success and, most importantly for FBs, keep their production location at their headquarters to preserve their regionality and traditions. In addition, the findings support the claim of Yoo et al. (2010) that digitalization offers many new business opportunities, which has already been recognized by some of the interviewed FBs, while other FBs are still waiting for their initial driver to digitize their business model and value creation, for example, provided by newly developed digital technologies.

A further contribution to the findings of Kammerlander et al. (2020) that the new digital technologies offer immense potential, especially in the industrial sector, is revealed by the interviewed FBs. They have shown that a massive increase in efficiency can be reached through the successful integration of digital technologies into specific work processes and, above all, that an increase in transparency through big data structures helps to exploit the full potential of digitalization in FBs. While previous research has focused on the direct drivers of digitalization, these findings reveal an indirect increase in productivity through digitalization due to improved transparency in the value chain to eliminate or improve certain weaknesses within the processes. Furthermore, the findings affirmed Kammerlander et al. (2020) claim that the introduction of digital technologies is associated with many challenges and requires external support due to the lack of knowledge about digital technologies. Most of the

interviewed FBs either used external support from a service provider or, indirectly contradicting their claim, some FBs employed new staff from external companies and used their knowledge and successfully integrated it into their business processes.

The claim that entirely new capabilities would need to be built in IT or logistics to deal with the newly implemented technologies (Nambisan et al., 2017) was also consistent with the findings in all cases, as most FBs upgraded their capabilities across departments, especially in the IT department, to better deal with the new technologies. However, due to the increase in efficiency from the digitalization of certain work processes, many employees became redundant in their current positions and were retrained in certain areas to avoid hiring new workers and layoffs, which underscores the importance of long-term employment relationships in FBs. Furthermore, the findings are in line with De Massis et al. (2018) and their hypothesis that FBs are particularly affected by challenges posed by digital transformation due to their limited financial capabilities. In particular, the high financial risk due to large investments in digitalization and the need to acquire relevant knowledge either through new employees or through external service providers influences the business decisions of FBs. However, it is not only the limited financial capabilities that hinder digitalization but many other barriers that affect the digital transformation of FBs and their business models, as this thesis shows.

Additionally, the findings are partially at odds with Newbert and Craig (2017) claims that FBs' decisions differ from those in non-family businesses, as some interviewees indicated that there are no major differences between the business decisions of FBs and their non-family-owned businesses counterparts. However, this depends on the degree of influence of the owner families of the FBs and their level of integration into the FB. While some owning families completely lead the decision-making processes and have a massive impact on the development of the FB, other owning families only act to a limited extent within their FB and tend to stay in the background of operations and decisions. On top of that, the findings of this thesis are consistent with Kammerlander et al. (2020) assertion that FBs as such differ greatly in their diverse backgrounds, knowledge, and the influence of the owning families on the businesses, which may provide room for further research on the diversity of FBs and their influence on the success of digitalization. In addition, Duran et al. (2016) claim that family influence is an important determinant of innovation in general, is contrary to the findings of this thesis. Among the interviewed FBs, the degree of family influence varied from FB to FB and was not an indicator of whether a FB was innovative or not. Rather, it depended on the decision makers and their attitudes toward digital technologies, rather than on individual family members and their influence on decisions. Furthermore, the previous literature was extended by adapting the BMC to the digital transformation process of the business models of FBs to not only consider digitalization as such in FBs.

Added to that, according to the findings of George et al.

(2021), the success of businesses that have established digital technologies and continue to respond innovatively to social and organizational change is in line with the findings of this thesis but does not automatically indicate for economic failure due to non-digitalization of business processes and models. Moreover, even interviewed FBs with less digitized work processes can compete with their fully digitized competitors in the market, depending mainly on their older customer segments and their preferences for less digitized channels. However, a change due to demographic change will also drive these FBs to more digitalization in order not to suffer from their dwindling customer groups, which future research could take into account.

Furthermore, based on the findings of Spieth et al. (2014) that FBs would need to adapt their business models to successfully implement digital technologies, the findings of this thesis rather suggest that an adaptation of the entire business model is not necessary. Several of the interviewed FBs have only partially digitized some work processes and left their business model almost unchanged. Moreover, the digitalization of business processes is to a small extent an automatic change within the business model due to the associated work processes that are optimized by their digitalization.

5.2. Practical Implications for FBs

While previous research has focused on the main drivers such as cash opportunities, digital strategy, and early success stories, as well as on the main barriers such as paternalism, inconsistent understanding of digital transformation, and employee resistance to change (Soluk & Kammerlander, 2020), the results of this thesis demonstrate that there are many more drivers and barriers that need to be considered in such complex FBs. Furthermore, the findings of this thesis build on the existing findings of Soluk et al. (2021) that FBs can successfully transform their business models into digital business models, but also additionally highlight the importance of the decision makers' knowledge of digitalization to ensure successful development and transformation of the FBs and their business models. Here, the results have shown that there is a correlation between the generation of the interviewee and the level of digitalization.

In addition, the drivers and barriers found in this thesis can be used to identify the current state of digitalization within the FBs and to implement further steps according to the results of the thesis. Moreover, the analyzed drivers provide FBs' managers with strong incentives to take further measures to digitize work processes or parts of the business model and may reveal completely unknown new investment opportunities with new revenue possibilities. In addition, given their limited financial and human resources, the results provide insights into the importance of each driver and help identify the specific order of implementation of new digital technologies in FBs that best suits the businesses and their strengths and weaknesses. The analyzed drivers and barriers help to avoid unnecessary issues or complications in the digitalization process, contributing to the specific needs of their businesses.

Additionally, the results can reveal unknown barriers that have already occurred in other FBs and are most likely to occur in certain business processes as well to address them as early as possible to save financial resources or avoid conflicts within the FBs through early detection. Furthermore, the knowledge gained about other FBs can help to support problems beyond the knowledge and network of managers through early detection. Further, the results of this thesis contribute to a better understanding of the consideration of external help or knowledge for specific problems, as some of the drivers are not solvable due to their limited capabilities and need external support. Moreover, acquiring external knowledge by expanding their network through educational institutions or centers of excellence helps FBs in terms of their limited financial resources and capabilities. Such expanded knowledge then also helps to develop a concrete plan or digitalization strategy to avoid certain problems such as employees' fear or lack of structures.

5.3. Limitations and Future Research

The thesis has some limitations that provide further room for future research. Due to the case-based semi-structured interviews, statistical generalizability is not possible. However, with the given definitions in the interview guideline to increase external generalizability, some degree of generalizability is still achieved and makes it reasonable to apply the results and findings to other FBs. The number of interviewees and their characteristics further limit generalizability and encourage further research in the economically important area of FBs to deepen the given insights and even find further drivers and barriers of digitalization and their impact on the development and transformation of FBs' business models. Also, the influence of family member CEOs and their generational dependency on the integration of new digital technologies limits the generalizability due to the number of interviewees. Nevertheless, this can be another research point for future studies to investigate the specific relationship between the generation of CEOs and the associated knowledge of digital technologies and the strategic positioning of FBs in the topic of digitalization. Furthermore, as digitalization is an ongoing process, this thesis is only a snapshot of the current state of the FBs in their digitalization process, which is sure to change in the coming years. This provides further room for research to measure the success of the implemented digital technologies and the overall digitalization of FBs and, in particular, the development and transformation of their business models.

In addition, the correlation between the generation of the CEOs in the FBs and their attitude towards digitalization in terms of development and digital transformation offers room for further research and needs to be investigated in more detail. The current pandemic situation as a driver for digitalization in FBs can also be further taken into account by future studies. Additionally, further research should broaden the view on FBs outside of Europe to take further different traditions, decision-making processes, and degrees of digitalization into account.

5.4. Conclusion

The digitalization in FBs is both a great opportunity and simultaneously a major challenge for the resource-constrained FBs. Therefore, the right actions in the decision-making processes are even more important for their long-term economic success. This thesis supports this process by contributing to previous research by increasing the knowledge about the drivers and barriers to digital transformation and the related processes in FBs. In addition, this thesis bridges previous research on business models and digital transformation in FBs to provide deeper insights into the process of digitalization of business models in the field of FBs. Moreover, the thesis analyzes the changes within the business models using the BMC and summarizes the impact of the drivers and barriers' of digitalization on the overall value proposition of FBs to their customers.

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