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Principles for innovation management in family firms

An analysis of long-term successful good practices with a practitioner validation of the principles

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Abstract

Purpose – Family firms (FF) reveal a considerable heterogeneity in their innovation behavior. Due to the successful long-term preservation of their innovation capacity via special resources and routines, multi-generational FF are of special interest in terms of learning from good practices. Against this background, the purpose of this paper is to ascertain principles for successful innovation behavior in long-term successful FF and to contribute to bridging the theory-practice gap.

Design/method/approach – Results are generated by analyzing innovation and innovation processes in five cases of long-term successful FF. On the basis of these good practice cases, the "rules of the game" of innovating are re-constructed using fine and system analyses based on narrative interviews with the FF CEOs.

Findings – Intense reflection on the innovation characteristics of the five good practice cases along with a critical examination of the literature on innovation in FF were used to derive practical suggestions for FF in the form of 11 principles for FF taking a proactive interest in innovation.

Practical implications – The 11 generated principles of successfully innovative FF were validated by FF CEOs who confirmed the practical relevance of these principles as valuable guidelines for successful innovation. Owners and managers may reflect on these principles against the background of the innovation behavior of their firms and adapt them to their contextual conditions.

Originality/value – These principles serve as tangible suggestions for developing adequate innovation management strategies for individual FF. Furthermore, two FF CEOs were invited to comment on the viability of principles based on their comprehensive practical experience.

Keywords Family business, Qualitative research, Good practices, Practitioner validation of principles, Principles of successful innovation

Paper type Research paper

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Introduction

Innovation is a key factor in the success of a company, especially since innovative companies tend to make more profits and grow faster (Geroski *et al.*, 1993; Hatak *et al.*, 2016; Kraiczy, 2013). Family firms (FF) play a central role in this regard because of their position as "hidden champions" in many industries. As a result of their leading role as innovators they are frequently competitive in niche markets (Simon, 2009). In this paper, FF are defined as companies that are 100 percent family owned (at least in the second generation) and in which the business family is involved in top management (for the components of this definition see e.g. Zellweger, 2018). However, when it comes to innovation, being an FF can be both advantageous and disadvantageous: on the one hand, FF are often portrayed as conservative forms of enterprise because of their strong, regional roots, their stable relationships with stakeholders and their long-term vision based on traditions. As such, they are often seen as reluctant to implement innovative projects (Duran *et al.*, 2016; *Economist*, 2009). On the other hand, they frequently show concentrated structures of property and control (Lee, 2006) that allow them to reach and implement decisions more quickly. In addition, many FF display a great deal of self-sacrifice to secure the continued existence of the company (Glover and Reay, 2015) by predominately financing investment plans with their own assets (Blanco-Mazagatos *et al.*, 2007). Hence, FF demonstrate the necessary prerequisites for the development of innovation.

Despite a variety of studies on innovation in FF (see the literature reviews of Calabrò *et al.*, 2018; De Massis *et al.*, 2013; Duran *et al.*, 2016; Feranita *et al.*, 2017; Filser *et al.*, 2016; Fuetsch and Suess-Reyes, 2017; Roed, 2016), so far, research has not provided a coherent overall picture. One of the major causes lies in the choice of methodology. The predominantly quantitative research methods are only somewhat helpful in understanding the complex and innovation-related logic behind certain actions of FF (Fuetsch and Suess-Reyes, 2017). The nature of quantitative studies – with the goal of testing (causally formulated) hypotheses – results in a lack of deep understanding concerning the inherent logic and dynamics of the innovative actions in the research results (Wolf and Rosenberg, 2012). Additionally, a quantitative methodology implies an emphasis on the statistical mean. Businesses that are doing particularly well or poorly – a factor that is pertinent for learning processes inherent to individual companies – do not tend to receive attention. Consequently, few studies exist about successful FF in terms of innovation. When the applied statistical methods become more complex, it becomes increasingly difficult to derive concrete and practical recommendations for action (Fuetsch and Suess-Reyes, 2017; Frank and Landström, 2016).

The operationalization of the variables shows weaknesses as well. Many studies reduce the complexity of the explored variables by using proxies, which influences the information value of the results. For example, the influence of the business family on the company is frequently measured in terms of the individual shares in the assets and management of family members (Fuetsch and Suess-Reyes, 2017). This approach, however, does not depict the actual influence of the business family, but at best the prerequisites for typical behavior and strategies for FF. Moreover, variables are being examined that the business family cannot, or can only marginally influence. The generation, for example, that currently runs the company, is a determined parameter that cannot be altered (Fuetsch and Suess-Reyes, 2017).

The present study tries to reconstruct the behavior patterns of successfully innovative FF and to derive recommendations of action for other FF, based on the concept of learning from good practices. The research question reads as follows:

RQ1. What constitutes particularly successful innovators among FF and what can be learned from their innovation behavior?

This research question is addressed using a qualitative research approach by conducting five good practice case studies and applying hermeneutic analysis methods (Frank and Lueger, 1995;

Froschauer and Lueger, 2003; Lueger *et al.*, 2005). These methods help to uncover latent structures of meaning and to identify the "rules of the game" of successful innovation behavior.

This paper provides several important contributions to innovation research in FF: by using a qualitative approach we are able to uncover the profound "rules of the game" of successful innovation behavior, thereby providing more depth than quantitative studies. This paper expands the level of knowledge about long-term successful and innovative FF by using good practices enabling us to examine the FF that provide the highest learning potential. Practical implications in FF innovation literature are often vague and need to be more concrete (Calabrò *et al.*, 2018). By deriving principles for successful innovation behavior in FF, which can serve as general recommendations, we contribute to bridging the gap between theory and practice.

A brief overview of the status quo in FF innovation research will provide the initial context for the present study. Subsequently, the methodology – including case selection, data acquisition and data analysis – is presented. This is followed by a brief characterization of the analyzed firms without going into the results of the analyses of the individual cases. The focus lies on the 11 principles for innovation in FF that were identified as commonalities of good practice in the case studies, and the validation of these principles by two FF CEOs. Finally, the conclusion reflects on the results, the limitations of this study and avenues for future research.

Innovation in family firms

In FF research, innovation is becoming increasingly important as a strategic instrument to increase company success and survivability (Fuetsch and Suess-Reyes, 2017; Roed, 2016). In this paper, innovation is defined as a process of searching, exploring and learning that results in FF implementing procedures, products, marketing methods, supply sources and/or organizational models (Lundvall, 1995) which are new to them (Zaltman *et al.*, 1973). Analysis of existing literature shows that the focus lies on the particularities of the innovation process, the influence of the business family on this process, as well as measuring the success of innovation (De Massis *et al.*, 2013; Duran *et al.*, 2016; Fuetsch and Suess-Reyes, 2017; Kraiczy and Hack, 2017; Roed, 2016). Though FF invest less in research and development, a meta-analysis shows that they receive better outputs from innovation (Duran *et al.*, 2016). Being aware that the differences between innovation behavior in FF and non-FFs are gradual, the following section briefly points out three typical characteristics of innovation behavior in FF frequently mentioned in the literature. This provides a context for the empirical part of this study (see also Süss-Reyes and Röd, 2018).

The interplay between long-term vision and risk prevention in innovation decisions

Compared to other companies, FF rarely invest in innovation. This practice applies to listed (Block, 2012; Chen and Hsu, 2009; Matzler *et al.*, 2015; Munari *et al.*, 2010; Muñoz-Bullón and Sanchez-Bueno, 2011) as well as privately managed FF (Kotlar *et al.*, 2014). In general, however, FF demonstrate a greater disposition for innovative activities (Classen *et al.*, 2014). They often employ highly qualified researchers (Llach *et al.*, 2012) and initiate diverse innovative ideas (Gudmundson *et al.*, 2003). In addition, they tend to increase their spending on innovation when certain conditions urge them to, for example when profits are threatened, despite a general tendency to preserve resources (Chrisman and Patel, 2012; Gómez-Mejía *et al.*, 2014; Patel and Chrisman, 2014).

Investment in innovation depends to a large extent on the objectives of the FF since these objectives often conflict with one another. For instance, securing the long-term existence of the FF is a major goal. The desire to pass the company on to the next generation, as well as the emotional connection to the past, play a major role in this regard. Traditions can generate path dependencies that hamper innovation; however, when these traditions are shaped by innovation, they promote innovation behavior in FF (Broekaert *et al.*, 2016).

This long-term perspective can have a positive impact on decisions concerning innovation (Cassia *et al.*, 2011, 2012; Kammerlander and Ganter, 2015). This attachment, however, can also be an obstacle when it comes to making risky decisions about innovation, because they influence not only the current but also future assets of the next generations (Cassia *et al.*, 2011, 2012; De Massis *et al.*, 2015). Furthermore, the FF's sense of independence (Gómez-Mejía *et al.*, 2007) can lead to a reduced willingness to enter collaborations with external stakeholders that sponsor innovation, which results in more limited financial funds for innovation (Cassia *et al.*, 2011, 2012; Classen *et al.*, 2012; Nieto *et al.*, 2015). Given that innovation is implemented with external partners, FF favor vertical partnerships with universities or research institutions which do not threaten the social and emotional values of the company (De Massis *et al.*, 2015). Conversely, fear of losing control can also stimulate an FF to become more adventurous and to be more innovative if the future of the company is threatened (Gómez-Mejía *et al.*, 2014).

The interplay between long-term vision and risk prevention favors prudent incremental innovation, based on established firm competencies that have evolved over a long time. These competencies are strengthened and developed incrementally to approach new business opportunities in an exploitative sense (Shane and Venkataraman, 2000). Due to their traditionalism, FF are particularly predestined for exploitative innovation behavior.

Continuous innovation through flexible informal structures

The management team, frequently influenced by the business family, is central to the innovation process. Heterogeneous teams, which include more than one generation of the family or non-family managers, positively affect the direction of innovation in the company (Kraiczy *et al.*, 2014, 2015). The family members' affiliation with the company, as well as a common understanding, can strengthen the ability for innovation (Chirico and Salvato, 2016; Craig *et al.*, 2014). At the same time, the interdependence of family and company can lead to conflicts. However, family conflicts can mean that accumulated experiences and knowledge are not used in the innovation process (Chirico and Salvato, 2016). Conflicts between family and company may also occur, if, for example, strategically important positions are filled with under-qualified family members rather than innovative external personnel (Miller *et al.*, 2015). Company-related conflicts do not necessarily have a negative impact on the innovation process but can result in innovative solutions (Cassia *et al.*, 2011).

FF are characterized by a close interdependence of employees, partners and the local community (Cassia *et al.*, 2011, 2012). These links are frequently reflected in the flexible structures of an innovative organization (Craig *et al.*, 2014). The culture of innovation is shaped by an informal work environment (De Massis *et al.*, 2015; De Massis, Kotlar, Frattini, Chrisman and Nordqvist, 2016) and employees, who are actively involved in the innovation process (Bammens *et al.*, 2015). Such relationships can, however, also inhibit innovation, because high-risk innovation activities can lead to conflicts and might consequently be avoided (Kammerlander and Ganter, 2015).

In small and medium-sized FF, the business family also fulfills an important function in regard to spontaneous and radical innovation. Besides creating structures and instructions for the innovation process (enabling exploitation), it also frequently initiates radical innovation (i.e. exploration). Due to the typical coincidence of management and ownership in FF, they have direct access to resources and are fast in decision making. Furthermore, the business family can act as an "innovation incubator" that comprises a safe space where innovative ideas can evolve and develop whilst being protected from external disturbances (Frank, Güttel and Weismeier-Sammer, 2010; Weismeier-Sammer, 2014). Thus, this business type shows potential advantages as regards quick implementation of innovations, particularly radical ones (Frank, Güttel and Weismeier-Sammer, 2010).

A focus on incremental innovation results positively affects business success

It cannot be clearly discerned from existing research if FF are more or less successful in terms of innovation than other companies. A balance of exploration and exploitation activities (organizational ambidexterity) is vital for successful innovation (Goel and Jones, 2016). The business family fulfills a key role in this context. Taking into account the specifics of the development of organizational ambidexterity in FF, it is important to consider different levels of family and non-family involvement in ownership and management (Hiebl, 2015). Furthermore, family control is an important determinant of both the ability and the willingness of FF to achieve organizational ambidexterity (Veider and Matzler, 2016). Stubner *et al.* (2012) also considered the performance effect of organizational ambidexterity in FF and showed that family influence leads to higher degrees of ambidexterity which has a positive impact on financial performance.

FF will often focus on incremental innovation (Alberti and Pizzurno, 2013; De Massis *et al.*, 2015; Nieto *et al.*, 2015). They are even more likely to implement these innovations than companies that are not family owned (Nieto *et al.*, 2015). In this context, it seems that FF engage more strongly in "invisible" innovation such as process innovation (Zellweger and Sieger, 2012). This practice is advantageous compared to other companies, because FF often achieve a higher level of cost savings from process innovations (Classen *et al.*, 2014). On the other hand, when it comes to more radical innovation, such as patent filings, listed public companies are ahead of listed family-owned companies.

Of particular interest is the question of the relationship between innovation and corporate success in FF. Existing studies uniformly show that innovation affects performance indicators, i.e. it positively affects the success of FF (Casillas and Moreno, 2010; Craig *et al.* 2014; Eddleston *et al.*, 2008; Kellermanns *et al.*, 2008; Kraiczy *et al.*, 2014; Spriggs *et al.*, 2013). FF which are in the process of commercialization seem to benefit from a greater acceptance of products and a leap of faith due to the family brand (Beck and Kenning, 2015). A focus on incremental innovation is by no means detrimental, since studies suggest that high-risk tolerance, which is necessary for radical innovation, can negatively impact the FF's success (Naldi *et al.*, 2007).

Whether the family's influence impacts innovation results positively or negatively depends, among other things, on the current generation of an FF. While first generation FF are seen as very innovative (Block, 2012; Kraiczy *et al.*, 2015; Pittino and Visintin, 2009), the following generation tends to avoid risky innovation projects (Beck *et al.*, 2011; Cucculelli *et al.*, 2016). The generational change can constitute a phase in boosts of innovation (Grundström *et al.*, 2012; Hauck and Prügl, 2015; Zellweger and Sieger, 2012). A promising model is the simultaneous involvement of older as well as younger generations, whereby the younger generation can benefit from the experience of the older one (Kellermanns *et al.*, 2008). Intra-family succession often leads to incremental innovation, while external succession can result in new ideas and radical change (Grundström *et al.*, 2012).

These three thematic clusters in the literature synthesize the key characteristics of innovation behavior in FF. The findings from existing literature illustrate the fragmented nature of innovation research in the FF field (see also Calabrò *et al.*, 2018). This hampers the identification of an integrative picture of successful innovation behavior which is a prerequisite for the derivation of meaningful practical implications.

In addition, FF show characteristics that may affect innovation in a positive, negative or even ambivalent way (see also Calabrò *et al.*, 2018). Familial influence can be advantageous (e.g. in terms of long-term vision, generational innovation boosts) or disadvantageous (e.g. in terms of fewer innovation collaborations, high-risk avoidance). The goals and characteristics of the business families mean that the strategies, processes and results of innovation differ to those of other companies. Recent evidence indicates these idiosyncrasies do not mean that FF are less innovative than non-FF, they might even generate higher innovation outputs (Duran *et al.*, 2016). It is, however, to some extent this kind of ambivalences which impede the derivation of practical implications. This paper aims to provide more clarity by providing an integrative picture of the “rules of the game” that account for long-term innovation success. We address this aim by conducting qualitative in-depth case studies that allow for a contextualization of innovation behavior in FF. The commonalities in the “rules of the game” of these good practice cases are synthesized to provide principles for successful innovation to serve as practice-oriented general recommendations for FF interested in improving their innovation capacity.

Methods

This study is based on a number of specific cases and an integrative reflection used to develop recommendations for action. These recommendations are based on a broad concept of innovation in terms of content (e.g. innovation in products, services, processes, markets and marketing) and the degree of innovation (incremental, radical). The internal and external contextual conditions which influence the innovation decisions of the respective FF form the starting point. Then we investigate the organization of innovation activities. These aspects form a background for the respective case, which help to reconstruct the specific logics and dynamics of innovation of particularly successful FF. The study is based on an analysis of good practice cases, which are briefly illustrated, followed by a description of the case selection, data collection and analysis.

The concept of good practice

The concept of good practice is based on the idea of best practice and benchmarking methodology. These strategies help to comprehend and imitate (adapted) processes, structures and models of “the best.” Benchmarking exceeds the simple comparison of companies since it aims to increase competitiveness. To do so, it focuses on outstanding practices of the benchmark partner and strives to adapt these to the company, so it will also be regarded as one of the best (Lamla, 1995).

For a number of reasons, describing the ideal qualities of best practice is often not feasible on a practical level. Identifying “the best” can be an almost insurmountable task, while the concept also assumes a mechanistic understanding of organizations that presupposes clear cause–effect relationships. However, the context of and within a company is complex and ambiguous. Factors, such as the attitude of the management and employees, as well as the corporate culture are also relevant. Similarly, the implicit knowledge of a company is, by definition, not simply transferable from one company to another (Frank, Lueger and Korunka, 2012). Consequently, for this study, the concept of best practice is exchanged for the more realistic concept of good practice. The latter considers the complexity of organizational conditions and the unique momentum of processes. The present study aims to provide illustrative material and ideas for companies, not in the sense of “best” solutions but as possible recommendations for action which necessitate adaptation to differing environments. Innovative FF are thus the subject of this study. A comprehensive picture of behavior patterns of innovation will be presented based on case analyses and will reveal major components of the innovation success of these good practices. This paper focuses on their commonalities and develops 11 principles of successful innovation that need to be selectively adapted to each individual case if applied. The aim is not to impart “recipes for innovation” but reference points for companies.

Case selection, collection and data analysis

Our aim is to understand the innovation behavior of exceptionally innovation-successful FF. The selection of cases is based on theoretical considerations and focuses on companies that are well-suited for the devised questions. The following selection criteria were defined for the sampling strategy: ownership: companies are 100 percent family owned; age: at least second generation; FF that have been successful innovators for multiple generations; industry: manufacturing industry. In addition, variation was included in the sample based on the following criteria: management: family and mixed management; types of innovation: product, process, market, marketing and business model innovation; degree of innovation: incremental vs radical; enterprise size: small to large. These variation criteria were used to identify successful approaches to innovation in different contexts. By comparing the cases and identifying commonalities between them, we draw a comprehensive picture of innovation behavior and establish principles of successful innovation.

To cover all of these selection criteria, we adhered to a two-level approach: initially, we preselected 22 Austrian FF that are well-known for their innovative behavior throughout multiple generations based on media coverage and innovation awards. Based on this pre-selection, we evaluated the degree and types of innovation in these firms using their company websites. In a second step, we asked the interviewed family CEOs to assess the degree and types of innovation of their own firm, which confirmed our assessment.

Ten companies that best met the sampling strategy were contacted, and five companies were willing to participate in the study (see Table I). This sample size is in accordance with accepted standards of theory building based on case study research (Eisenhardt, 1989). Besides the number of cases, the data quality and method of data analysis are also particularly relevant factors for qualitative studies.

Data collection took place from November 2016 to March 2017 in the form of one narrative interview with one or more managing family members in each case. The persons interviewed possess a comprehensive and in-depth overview of the functioning of the FF and its innovation behavior. Due to their reflected expertise, they hold strong information power regarding our research question. The interviews were conducted in a way that allowed us to gain access to this expertise. Narrative interviews are suitable for asking open questions and give the interviewees enough leeway to structure content as

Case No.	Ownership and management structure	Age of company	Size of company	Industry	Type of innovation	Degree of innovation
1	100% family owned and managed	2nd generation	350 employees (12 locations worldwide)	Pharmacy	Business model, production, process and marketing	Radical and incremental
2	Formally a private foundation (100% family owned), family managed	2nd and 3rd generation	110 employees (one location)	Office furniture	Process, product, and design	Radical and incremental
3	100% family owned (two families), mixed management	3rd generation	500 employees (in this division of the corporation) in one location (total of 4,800 employees worldwide in 19 locations)	Construction material	Market, product and process	Radical and incremental
4	100% family owned and managed	2nd generation	20 employees (one location)	Viticulture	Market, marketing, product and process	Radical and incremental
5	100% family owned and managed	9th generation	110 employees (one location)	Production of enamel products	Product and socio-ecological	Incremental

Table I.
Case overview

they see it. An open entry question encourages a longer story that can be maintained without interruption as needed. The three thematic clusters identified in the literature review provided a rough framework for the interviews. On the basis of a narrative interview strategy and immanent and "exmanent" (questions considered to be relevant to the research topic but not mentioned in the interviewee's narrative) in-depth questioning, we generated complex, high-quality data.

The interviews lasted between one-and-a-half and three hours. Following these interviews, they were transcribed verbatim and analyzed with the aid of two objective hermeneutic methods.

The transcribed interviews were analyzed and interpreted by the project team. In addition, secondary data, such as the corporate website, news articles or video material from different sources, were analyzed. In the course of the evaluation, two hermeneutical techniques – fine analysis and system analysis – were combined (for the use of objective hermeneutics in marketing research see also Wagner *et al.*, 2010). Initially, a fine analysis was conducted following the five-step procedure according to Lueger *et al.* (2005). This method assumes that the objective structure of the latent contexts is established regardless of the intentions and motives of the interviewed persons (Froschauer and Lueger, 2003). Then, system analysis was conducted following the five-step procedure according to Lueger *et al.* (2005) to analyze the complete interviews. The underlying assumption of this method presumes that context and the connected view of reality shape statements (Froschauer and Lueger, 2003). Both methods focus on the reconstruction of latent meaning structures. Thus, they do not aim to summarize the manifest content of the interview data but to determine the latent "rules of the game" for each case. The term "rules of the game" is used in the sense of a "rule-like, or grammar-like manner" (Smircich, 1983, p. 349). This social grammar approach is well-suited for in-depth analysis of organizational phenomena (Smircich, 1983), e.g. innovativeness. Consequently, we do not provide direct citations from the transcribed interview, because this would contradict the applied methods.

The latent "rules of the game" identified in the five case studies were analyzed and categorized by three researchers independently. In a further step, the categories agreed upon by the researchers, were compared across the cases in order to identify commonalities formulated as recommendations. Based on the cross-case relevance of the 11 principles, they imply a certain level of generalizability for the population of good practices and require abstraction. Due to the theoretical sampling within the population of good practice cases and the analytical generalization (see also De Massis and Kotlar, 2014), the 11 principles are valid beyond the five analyzed cases. Consequently, these 11 principles have a role model function for the development of firm-specific learning strategies for FF which are interested in improving their innovation performance. By offering these principles, we aim to bridge the ivory divide between research and practice in FF innovation research (see also Fuetsch and Suess-Reyes, 2017). Thereby we address practitioners' demands for more practice-oriented findings (Frank and Landström, 2016).

Findings

The findings presented in this section were generated based on the fine and system analysis and are structured according to three sub-sections beginning with brief descriptions of the good practice cases and their innovation behavior. Subsequently, we present a comparison of the characteristics of innovation inputs, processes and outputs in the five cases. The brief descriptions and comparison of innovation behavior (Table II) summarize comprehensive case analysis protocols consisting of 161 pages in total. Both sub-sections provide contextual information to aid understanding of the generated principles for successful innovation. Finally, on this basis we identify commonalities of the innovation behavior in the cases and derive 11 principles for successful innovation.

Table II. Comparison of good practice cases

Criteria for comparison	Case 1: pharmaceutical company	Case 2: office furniture manufacturing and design	Case 3: construction material production and trading	Case 4: vineyard	Case 5: enamel product manufacturing
Firm characteristics					
Industry dynamics	Pharma industry: very high innovation dynamics	Office furniture industry: high innovation dynamics	Construction material industry: low innovation dynamics	Viticulture: traditional but with significant innovation dynamics	Cookware production: traditional, long-time shrinking industry with low innovation dynamics
Management and controlling structures	Family managed	Family managed	Mixed management	Family managed	Family managed
Innovation activities					
Types of innovation	Business model, product, process and marketing	Process, product and design	Market, product and process	Market, marketing, product and process	Product and socio-ecological
Degree of innovation	Radical and incremental	Radical and incremental	Radical and incremental	Radical and incremental	Incremental
Characteristics of innovation input	Comprehensive, specialized know-how of management and key employees; high R&D spending; entrepreneurial ability to think and observe (beyond industry); courage for (repeated) changes (culture of experimenting); solid resource base	Very strong self-image about standards of products; constructivist company philosophy; entrepreneurial ability to think and observe (beyond industry); philanthropic engagement in region; high level of trust in self-organization of employees/teams; parsimony/resource efficiency, establishment of an innovation center	Claim to pioneer in innovation (target for innovation quota) creates atmosphere conducive to it; historical role model effect of family as innovators in company and region; entrepreneurial ability to think and observe (beyond industry); good sense for user problems and solutions; solid resource basis, establishment of an innovation center	High standards for product quality and traditions combined with good sense for international market development – conducive to market and marketing innovation; family displays high willingness for risk and development; good ability for observing	Unique, historically evolved core competencies that continue to evolve; awareness of traditions and values as drivers for sustainable, continual improvements; regional anchoring is central; economical/resource efficiency
Characteristics of innovation processes	Combination of optimization of core competencies (exploitation) and (repeated) proactive, radical	Routinized daily communication between entrepreneur and departments; innovation	Fairly low degree of formalized innovation process; expectation toward developers of ideas to	High degree of centralizing decision making in innovation process (i.e. business family); clearly	Conservation and recovery of traditions and values as central starting point in innovation process – goal:

(*continued*)

Criteria for comparison	Case 1: pharmaceutical company	Case 2: office furniture manufacturing and design	Case 3: construction material production and trading	Case 4: vineyard	Case 5: enamel product manufacturing
	reorientation (exploration), i.e. organizational ambidexterity; high-quality awareness; innovation cooperation/open innovation; significant role of business family in innovation process; distinct areas of responsibility for management, but coordination of innovation decisions; autonomous access to innovation (strong customer integration and direct feedback from own clinic)	cooperation/open innovation; key role of manager and long-time, intensive exchange with key employees as drivers of innovation; clearly demarcated areas of responsibility, but coordination for larger decisions; autonomous access to innovation (constructivism and vision of sustainability)	analyze risk of innovation projects; autonomous access to innovation (innovation quota is unusual for industry; openness to ideas from other industries)	demarcated areas of responsibility in management, but coordination for innovation decisions; intensive exchange with customers and competitors; autonomous access to innovation (extraordinary interplay of a sense of down-to-earth, tradition, and ability for development)	continuous (instead of groundbreaking) improvement; mission of quality and sustainability; external ideas are welcomed while protecting own know-how; autonomous access to innovation (conscious rejection of traditional concept of innovation for continuous improvement; flexible innovation teams are guided by manager)
Characteristics of innovation output	Multiple, radical innovation of business model and pioneer in proactively created niches (product innovation), additional incremental innovation	Regularly surprises customers with innovation/ new designs; unique and radical process innovation in the industry (delivery time of nine days)	Based on successful historical, radical innovation, claims for pioneering innovation in the industry with a focus on healthy living continue	Extraordinary growth of company due to quality, market and marketing innovation as well as diversification of market and involved spreading of risk	Unique core competencies are cultivated and further developed to revitalize traditional products and their innovative usage in new special areas; long-term successful survival due to continuous improvement in a strongly declining industry

Table II.

The five good practice cases are reflected upon using existing knowledge about innovation in FF. An integrative consideration of case analyses' results takes the innovation process into consideration (Fuetsch and Suess-Reyes, 2017). As such, it is possible to condense the findings into a complete picture based on a reflection on the similarities between the cases. Due to the purposeful diversity of cases, similarities among them are particularly relevant since they imply a validity beyond individual cases. On the basis of these comparisons, learning potentials and starting points for possible action strategies (principles) are considered. The development of concrete options for action for the individual FF requires a methodically sound diagnosis of one's initial situation and resources, as well as the desired family and company goals. The learning potential for individual FF derives from a comparison of one or more good practices. The object of the comparison is subject to the decision of the individual FF and can range from detailed aspects of the innovation process and its context characteristics to the entire process. Comparisons within industries as well as between them can uncover learning potential.

Good practice case descriptions

Case 1: pharmaceutical company. This is a second-generation company, managed by two brothers. They do not highlight the fact that it is an FF, even though it can be considered one based on formal criteria. The company is characterized by its courage to change the business model and by consistently acting as a pioneer in a niche market. The two managing directors have relevant university degrees and can therefore contribute well to the company's extensive R&D activities. They combine the roles of power and specialist promotor (Witte, 1973) with a long-term vision that is necessary in this sector. Combined with the extensive know-how of their employees, they manage to use the company's core competencies to hone products and processes (exploitation) with a repeated radical reorientation (exploration). The repeated and successful change of their business model, starting with the founding generation, has created a pronounced confidence in terms of change and innovation. At the same time, the company succeeds in transferring the culture of experimentation that is typical for pharmaceutical companies into strategic decisions in this line of business – without a profound change in the corporate culture. An entrepreneurial mindset is a central value of the business family. It is passed on from generation to generation and combined with the professional knowledge of the family. Past success creates a solid resource base and entrepreneurial confidence. This, in turn, facilitates radical reorientation and enables proactive behavior (see also Röd, 2018).

Case 2: office furniture manufacturing and design. The company is currently in the process of transitioning from the second to the third generation. Its self-image goes far beyond the mere production of office furniture and includes special designs, as well as fast, individualized production. In addition, the company attaches importance to philanthropic commitment in the region. Although it has remained in the original industry, it has changed its focus several times without losing sight of the aspiration for pioneering work. It has had to respond quickly to market changes, but also continually surprises the market as a proactive leader. The company management attaches great importance to and has trust in the capabilities of its employees and teams to self-organize. Routine communication plays a pivotal role in the different departments. The business family functions as a driver for innovation and involves experienced and leading employees to introduce new product varieties onto the market quickly. Comprehensive system solutions for the office routine are central, yet it is also common to radically question existing solutions. The solutions are developed in cooperation with clients (architects or customers), which allows for a strengthening of the partnerships and a quicker, lower risk realization of innovation (see also Altenburger, 2018).

Case 3: construction material production and trading. This is a company that belongs to a large corporation, which is family owned in the third generation. The industry is characterized by a comparatively low degree of innovation dynamics. The analyzed company claims to be a pioneer in innovation in the industry. The pioneering practices focus on healthy living. One person informally represents the business family in this company. This person defines the role as supporter and creator of the framework for innovation, since the company is run by non-family managers. The family member acts as the owner representative in the management holding company. The regular presence and acceptance in the analyzed company is an expression of a historically grown patriarchal culture that actually conflicts with the corporate structure. As a consequence, the familial culture remains and offers stability and commitment to and with the business family, as well as appreciation for the company. The company positions itself as a promising, long-term employer for the region and stresses its solidarity with the region. At the same time, the family sees the firm as a successful international company. In the innovation process, the provider of ideas needs to deal with risks and financial consequences early on, despite the low degree of formalization the innovation process itself exhibits. The company's innovation success is based on historical and radical innovation. The innovations of each generation are accompanied by a permanent search for new markets on the basis of a good sense of user problems and their solutions (see also Bachner and Altenburger, 2018).

Case 4: family vineyard. This company was founded as a large mixed agricultural company and later specialized in viticulture. The second-generation family vineyard is owned and managed by two siblings. The company operates in a traditional yet dynamic industry. The company's understanding of innovation is based on high-quality products combined with market and marketing innovation driven by a keen sense for market developments in an international context. In this light, attention should be drawn to the growth of the company. The business family is down-to-earth and displays a strong sense of team spirit with a clear division of responsibilities. On the one hand, this gives the products an authentic and traditional image and assures the company stays grounded despite its success. On the other hand, decisions, as well as the implementation of innovation, are facilitated. A high degree of centralization marks decision making, both in general and in terms of innovation, since these types of decisions are made exclusively in the business family. Consequently, direct contact with the clients (end customers and distributors) is maintained and their feedback and market expertise can be useful. The decision to focus on quality is closely related to the company's internationalization; however, risks are spread through market diversification. The transferring generation, which does not formally hold any ownership or leadership functions, is highly recognized for its past success and is fully involved in decision making. Thus, the knowledge and experience of two generations can be combined and despite a manageable size, tasks and specializations are clearly divided. Important ideas for further development are drawn from intense exchange with competitors (see also Fuetsch, 2018).

Case 5: enamel product manufacturing. This is a ninth-generation family-owned company that is managed by three family members from two family branches. It mainly operates in a historically very strong industry that has been in decline for some time, as well as in some new fields of application for enamel products. A realization of the positive characteristics of enamel for cooking, as well as for special parts for the automobile and engineering industries, are the driving forces of innovation in the company. It is central to the company to keep traditions and values alive or revive them. The company has succeeded – thanks to its management's unique understanding of innovation beyond trends and high-quality standards – in surviving in an industry where most competitors have disappeared from the market in the last decades. It is characteristic of the company's innovation process that many external ideas are collected while simultaneously focusing on internally developed know-how. Innovation is seen as continuous, incremental improvement within the company. It provides an understanding of innovation in the sense that new procedures or technologies are not necessarily better than older or simpler solutions. This attitude has saved the company from big investments in the past. The company utilizes its well-developed awareness concerning its own strengths as well as an authentic down-to-earth quality. A regional anchoring and its own apprenticeship training program are paramount. For generations, investments in the region have been implemented that are frequently only profitable in the long run but are important for the company's and business family's self-image. Employees are highly valued, but they are also expected to be committed and responsible for the further development of their products (see also Bachner, 2018).

Comparison of good practice innovation behavior

In the comparison, the following aspects are outlined: general company and contextual characteristics (industry dynamics, management and controlling structures); characteristics of innovation activities (types of innovation, degree of innovation); characteristics of innovation input; characteristics of the innovation process; and characteristics of innovation output.

Table II shows commonalities of good practice cases as well as features specific to single cases in a compact form.

Principles for successful innovation – learning potentials for family firms

Using the comparative analysis of good practice cases (summarized in Table II), we derived 11 principles for successful innovation in FF (as described in the method section). These principles are presented and described in the following section and provide learning potential for FF interested in improving their capacity to innovate (see also Altenburger *et al.*, 2018).

Despite the different approaches to innovation in the individual FF, commonalities regarding the "rules of the game" have emerged (Altenburger *et al.*, 2018). These common "rules of the game" are condensed and formulated as principles (and, as such, also simplified). The principles are a heuristically gained condensation of common characteristics of the cases and are formulated with overlaps. They are connected and represent a frame of reference that can be found in all cases. However, the way in which these principles manifest themselves varies from case to case.

We formulated the principles as recommendations to address practitioners' needs for more action-oriented findings (Frank and Landström, 2016). In doing so, FF owners and managers may reflect on these principles against the background of their own innovation behavior and apply those most relevant to their contextual conditions of innovation. Thus, these principles should not be taken as prescriptive recommendations, but rather as suggestions for generating adequate (depending on the situation) strategies for companies (see also Altenburger *et al.*, 2018).

Principle 1: innovate in manageable steps starting from a solid basis!. Due to the long-term orientation of the analyzed cases, their responsibility to pass the FF on to the next generation, and their consequent approach to risk-taking, these FF strive to operate from a solid foundation. Whilst most of the case studies tended to develop and use core competences, preferring tried and trusted technologies, they still continuously looked for new opportunities to employ these core competences in new markets. For instance, Case 1 continuously developed its core competences in pharmaceutics cosmetics according to changes in market demands starting with retail continuing with the production of pharmaceuticals and finally developing medical technologies in the area of cosmetics in cooperation with physicians. Similarly, Case 5 utilized its core competences in enamel cookware production to develop special components for the automobile and mechanical engineering industry. This often cost intensive advancement of core competences is enabled by a solid resource basis resulting from success in the core business. Thus, prior innovation success facilitates further innovation. In this context, the business family plays a central role. It screens the market for entrepreneurial opportunities which correspond to its core competences and has the overview of the market and the business so as to be able to make strategic decisions regarding innovation and it also orchestrates the necessary resources. Although family members have clearly demarcated areas of responsibility in management, they combine their knowledge to make coordinated strategic innovation decisions.

In order to innovate in manageable steps the business families take great care to stay close to their core competences, using their resources in an efficient and resourceful manner and keeping risks at bay. This is particularly striking in Case 5. Such behavior ensures that innovation is compatible with the organizational culture and that employees are committed to innovation projects and contributes their own ideas. This approach fits well with the risk aversion of FF (see also Hiebl, 2012).

Principle 2: observe the environment and yourself for innovation inspiration!. The FF in our analysis develop routines to decide which aspects of the internal and external environment should be observed and which kind of stimuli are of note and which are irrelevant. The relevant aspects of the external environment are systematically observed for developments and this forms the basis for the early development of innovative solutions. These can be trends such as new forms of work, new developments in healthy living (e.g. Case 2) or requirements for comparable products on international markets (e.g. Cases 1 and 4). Various forms of environmental scanning are used, for example, contacts outside the industry are seen as valuable leads and are frequently sought. Other FF, as well as leading companies from other industries, are approached and experiences exchanged. Providing insight into one's own production processes can intensify the learning process for both sides. Customers are a further source of suggestions and business families maintain close customer contacts. This practice demonstrates a high appreciation of the customers while the business family receives important, unfiltered feedback. Complaints are an especially important form of customer feedback.

In terms of the internal environment, regular feedback from employees is used to reflect on existing processes, products and new ideas. For instance, in Case 2 the FF manager holds routine daily meetings with key employees of the major business departments (work preparation/production planning, production and sales). These meetings are used to identify any weaknesses, potential for improvement and market trends in these business departments so as to develop ideas for future solutions and products. These daily routines provide stability whilst still ensuring adaptability to a rapidly changing environment. Employees are seen as intrapreneurs and the business family explicitly stands for a constructivist business philosophy. This means that creative and open-minded thinking is allowed and encouraged.

The business families in the five cases constitute the major interface for the observation and evaluation of the external and internal environment. Their entrepreneurial ability and mindset enables them to select and combine relevant information in terms of opportunities for innovation. This evaluation of opportunities is not only generated from systematic and comprehensive analysis, but also based on entrepreneurial intuition. Through the inclusion of external and internal stakeholders in the innovation process, the business families create the preconditions for and promote open innovation.

FF CEOs demonstrate a holistic approach. They manage to combine a focus on the long-term with great attention to operational details. This holistic perspective means external ideas, production processes, development of material and one's own resources are quickly connected. Family members actively seek new opportunities, such as possible new markets, opportunities for modernization, as well as the development of new products (see also Frank, Kessler and Korunka, 2012).

Principle 3: use your values for your vision in the innovation process!. Values serve as a central anchor for innovation priorities and the direction of innovation. It is not usually competition but the company's values which drive and determine the focus of innovation. Strong values and long-term innovation thinking are signs of successful family-owned companies. Tradition is a valuable source of innovation in the cases (see also De Massis, Frattini, Kotlar, Petruzzelli and Wright, 2016). A balance between tradition and innovation needs to be developed by each generation for it to be a valuable resource for sustainable innovation. A particularly striking example is Case 5 which is marked by a strong sense of tradition and the revival of traditional cookware products via modernization.

Reliability, trust, continuity in decisions and regional anchoring are important values in all cases. In the face of volatility and uncertainty in many industries, consistency, familiarity and security are paramount not only for employees, but also for other stakeholders. These values frame the entire innovation process and guarantee that innovations are compatible with them. In this way, customers can for instance depend on consistently high-quality company products even if these have only recently been introduced to the market.

Business families convey a sense of meaning and are important for job motivation. They constitute a central emotional anchor point. Rituals strengthen the connection between employees, the family and the company while also providing a sense of mission. Customs, historical role models and historical story-telling help to strengthen core values. Shared experiences enhance the company's culture and central values are conveyed through activities. This creates understanding and affects the whole company.

Principle 4: consider quality in your innovation and use it to set yourself apart from others!. Our successful innovators put a strong emphasis on quality which is coherent with the typical values that we can find in these FF. Their solid competence and resource basis enables them to materialize these claims of quality into high-quality innovation outputs. This high quality enables FF to compete on international markets in their specific industries. This is especially apparent in Case 4 as the company exports to more than 30 countries worldwide and has won several international awards for the high quality of its wine despite its relatively small business size. These awards have helped the company's reputation as a high quality provider which in turn further facilitates internationalization.

Innovation teams are a key element of the self-conception of the analyzed FF. Employee training and development are considered to be important prerequisites for high-quality innovation output. One implication of this team-based innovation approach is a broad acceptance of quality values combined with a high degree of freedom in terms of idea generation and implementation. A shared understanding of quality values reduces the potential for conflict and promotes a solution orientation in innovation teams. This independence is encouraging for employees and leads to a desire to experiment whilst still focusing on quality. A continual examination of what makes the company unique supports the development of authentic products and leads to heightened competitiveness (see also Tokarczyk *et al.*, 2007).

When mistakes happen, the possible causes are analyzed thoroughly. Finger pointing is avoided; instead, a joint analysis and the development of measures to avoid the same mistakes in the future promote organizational learning and assure quality in the long term.

The visibility and involvement of family members in innovation meetings or in the field of development illustrates just how much these are appreciated and is important for a shared understanding of both innovation and quality (see also Kraiczy, 2013).

Principle 5: take the unknown path, but stay authentic!. Building on tradition and the value of independent leadership, these FF are characterized by their critical reflection of management trends, which helps them to decide which ideas to adopt or to consciously take a different path. This attitude requires courage. The FF are defined by their distinctiveness, lateral thinking, individuality and often doing the opposite of what is expected.

Management trends are considered early on, and there will be an intense questioning of what is really behind trends, such as "what does industry 4.0 really mean?". Both the business family and management intensely discuss such issues to determine whether these trends offer something new and valuable to the company. Simple solutions and independent developments are often wiser. A critical attitude rather than adapting management trends, new methods, and short-term trends without reflection saves the FF from high financial expenses. This is particularly evident in Case 5; a company that survived in a very competitive industry with very traditional products and very traditional production methods. The focus is on incremental innovation through steady revitalization of traditional products as well as new fields of application in completely new markets.

It takes courage to question the current business model, especially when it has been successful over a long period of time (see Case 1). A proactive restructuring can be risky but risk can be minimized by building on available expertise, combining it in a new way, and ensuring the whole business family supports the decision. The analyzed FF also develop their own language and autonomous terms for innovation and processes. This practice is perceived as authentic and strengthens the company's self-understanding and sense of unity (see also Parada and Dawson, 2017).

Principle 6: invest in trusting relationships that enrich and facilitate innovation!. Trust is one of the major resources of FF. Much energy is invested in the building of long-term relationships. This is done to ensure the loyalty of the most important stakeholders. Collaboration with and presence in industry or regional networks is important because, due to the proximity to important stakeholders, trust is built.

Cooperation intensifies when customers or clients belong to the group of lead users (see also Von Hippel, 1986), thereby utilizing their experiences and close relationship to the company and/or the business family. Shared values are important criteria when choosing partners for innovation projects. This selection should ensure that the objectives pursued are consistent with one another. This practice also reduces the potential risks of joint development work. For instance, Case 2 established long-standing relationships with interior designers and customers. The longevity of these relationships enables a joint understanding of specific product characteristics to emerge thereby reducing the risk of disappointed expectations on the part of all cooperation parties.

The loyalty of employees is very important. A shared understanding of values should ensure that innovation activities are in line with corporate and family goals. Rituals and traditions stemming from the history of the business family are valued by employees because they create trust and vision. They offer support and security in uncertain times and times of change. Dependence on traditions often carries the risk that potential developments may not be perceived, or new ideas are not inserted into the innovation process.

Principle 7: regard innovation as a key task of a business family, and create the necessary freedom for it!. The business family is a central part of employee identity. The business family is also a key reference point and an emotional anchor for employees. It is, however, necessary to regularly reflect on the business family's role. Time should be set aside to consider changes in the business family and its positioning in the company (e.g. due to a pending succession of the company). In the course of this, the adoption of family governance may be appropriate (see also Suess, 2014). The ability to regularly review innovation goals, activities and cultural aspects is greatly facilitated by dynamic communication among family members. When the business family is creative, constructive and open to arguments for and against something, it serves as an "innovation incubator" (Frank, Güttel and Weismeier-Sammer, 2010, p. 204). As such, innovation is protected from destructive influences and can develop and mature (see also Frank, Güttel and Weismeier-Sammer, 2010; Weismeier-Sammer, 2014). A company should regularly develop their understanding of innovation through intensive discussion.

It should also consider whether to include long-term external managers (extended "innovation incubator") and whether to wait before confronting other employees with innovation impulses. Through the feedback of experienced managers, who have lived the family values for a long time, the strengths of the business family and managers who feel connected with the business family can be combined. Each family member as well as the managers should take on their respective roles in the innovation process. These may include designing the frameworks, generating ideas, contributing operatively to the innovation process or being the sparring partner or the supervisory body.

The most striking commonality in the analyzed cases is that family members that work in the company are responsible for the framework of the innovation. Due to their professional and substantive competences, they are also directly involved in the innovation process (family-driven innovation). Even in Case 3, a large company that is part of a group of companies, the business family has acted as a role model for innovation from the very first generation onwards and still determines the innovation framework. This provides employees with a sustainable basis for identification with the business family's attitude toward innovation. The business family actively communicates this attitude to its employees. Particularly in large-sized FF, in which the family is actively involved, it is easier to identify with the business family as a personified role model than with the often more anonymous organization. To create a symbol for the exemplary innovativeness of the business family and to fulfill the self-imposed claim to be a global innovation leader in the industry, it established a supersized innovation center.

Principle 8: communicate the importance of innovation internally and externally!. Open communication about innovation in the business family contributes to the reproduction and strengthening of identity-shaping values and goals. A regular exchange about changes and internal company developments as well as (planned) innovation activities helps to identify undesirable developments and missed chances quickly.

Stories about heroic deeds and key experiences during significant company changes are often repeated and support identification and a shared vision. Successful FF have family members who identify with these stories. This, in turn, strengthens solidarity within the business family. These stories provide vitality and shape the image of the company internally and externally, often spanning generations. The family lives a tradition of innovation, which is deeply embedded in their identity. By reproducing the history of the company, where innovation plays a crucial role, the innovation-oriented identity of family and business is strengthened and the entrepreneurial spirit is kept alive (see also Zellweger *et al.*, 2012).

Communicating innovation achievements through tangible means such as innovation centers or research parks is particularly important. As such, innovation is not only visible but also perceptible. In these buildings, customers, suppliers, researchers and other stakeholders partake in a more intense exchange and further development of ideas. Discussing and developing innovative initiatives together with competitors can also lead to sustainable innovation outcomes. For instance, in Case 4 the founder started a common initiative with other wineries to develop a quality label for premium wines from the region. As a form of communication policy, this marketing innovation has led to a significant improvement of the quality image of these wines worldwide.

Principle 9: combine innovation with sustainability in a way that fits your unique competences!. Some of the dominant values in the analyzed FF, which originate largely from the business family's values, include sustainability and parsimony which are expressed in the optimal use of resources and the use of regional resources. These values are typical for FF due to their long-term orientation and the interconnectedness of the family image with the business image. In the face of current discussions about sustainability and social responsibility (see also Altenburger and Schmidpeter, 2018; Campopiano and De Massis, 2017) these values offer FF promising opportunities to find innovative responses to these changed market conditions. The FF in the sample have found their own ways to make use of their resources and competences to cope with these market developments and to create sustainable competitive advantages (see also Teece and Pisano, 1994). They trust in their own methods and do not try to imitate or follow competitors but focus on their own uniqueness and innovative approaches to sustainability.

Case 5 illustrates this combination of sustainability and innovation particularly well. Based on deep-rooted traditional values as regards resource conservation, production technology, regional anchoring and quality orientation (see Principle 4), the FF combines economic, ecological and social sustainability to successfully approach a growing target group of "new traditionalists" with its cookware products. The company carefully scrutinizes whether technological and product innovations are really valuable for its customers instead of uncritically adopting new industry developments. It continuously adapts its machinery to new requirements instead of investing in new cost intensive machinery and actively engages in job creation for the region.

Principle 10: evaluate innovation projects with immediate feedback from multiple sources!. The cases show that the involvement of development partners, such as customers, allows for immediate feedback to gauge reactions to developments. Simple prototypes or the use of a manageable test market permit an acceleration of prototyping and reduce the risk of bad investments. Through joint development work with customers or suppliers, feedback can be provided quickly (see also Feranita *et al.*, 2017). External stakeholders are invited to the firms; a practice which strengthens connections through trust and transparency and facilitates a familiarization with the products as well as the production and management. This, in turn, promotes honest feedback.

The FF seldom expect to perfect an innovation before introducing it to the market. They do not want to lose any time nor develop in a direction that does not comply with customer needs. This approach requires the courage to introduce imperfect solutions to the market in exceptional cases and to adapt or further develop the desired solution in line with customer feedback. A quick rejection of expedient prototypes or designs facilitates the development of appropriate solutions. Case 2 is a prime example of this as the FF strives to surprise its customers on a regular basis with new office furniture solutions. This constitutes an important differentiation criterion. However, new office furniture solutions are initially tested on selected customers who are invited to provide feedback on the functionality and design before they become available to the general public. From this point on, the firm guarantees delivery within just nine days which constitutes a major competitive advantage in the industry.

Feedback from the firm's own experts and managers is also valuable. The invitation for open feedback should already be communicated when new employees are entering the FF to ensure trust and to benefit from critical suggestions. Communication processes between the business family and their network partners can trigger important learning processes and represent a potential for innovation.

Interacting with competitors can be a challenge. On the one hand, companies seek to learn from their competitors, however, they must also strive to surpass them. To strike a balance here, it is beneficial to offer competitors something in return, for example, invitations to the firm and opportunities to share experiences. The potential for conflict in this area means that clear communication is essential to build up trust in the long-term.

Principle 11: learn through openness and creativity as well as structures and processes!. The business family plays a decisive role in finding a balance between a structured approach to innovation via established processes and a more intuitive, open approach to innovation. The cases demonstrate a mixture of established structures and processes to facilitate innovation as well as freedom for *ad hoc* innovation. In Cases 2 and 3, structures for innovation are provided in the form of innovation centers and all the analyzed cases exhibit routinized innovation processes. These processes exhibit different degrees of formalization ranging from rough, often implicit guidelines to clearly standardized procedures. Innovation is often developed in project teams which allow for more flexibility and the combination of specific skills as needed.

Structures and processes provide a frame within which *ad hoc* decisions can be made. In this regard, irritations (i.e. disappointed expectations such as non-achieved goals) play an important role. They can trigger learning processes to break open old patterns and develop innovative, new solutions. A precondition for these processes, however, is that irritation is not ignored or resistance to innovation is not too strong. Conversely, a high level of irritation can be destructive. A balanced relationship of stabilizing and transforming forces is required (see also Lueger and Keßler, 2009). FF that are successful in their innovation have often developed a culture of experimentation, where much can be tried out, mistakes can be made and unsuitable solutions can be quickly discarded.

For instance, Case 1 innovatively developed its business model as a result of continuous screening of the environment. This screening revealed that the original markets of the firm had reached a certain level of saturation in terms of innovation potential and that the pharmacy-related industry of aesthetic dermatology offered additional business opportunities. This irritation led to the decision to enter this new market and to the foundation of an aesthetic clinic which is used for pioneering activities in the area of product testing.

Practitioner validation of the innovation principles

Over the course of the rigor-relevance debate in management research, the development of practically relevant or applicative knowledge has been increasingly called for (e.g. Bartunek and Rynes, 2014). This can range from the development of practically relevant issues to discussing the practical implications of research findings with practitioners (Wolf and Rosenberg, 2012). In the context of this study it was decided to validate the research results with the help of practitioners (see the recommendations of Van de Ven and Johnson, 2006) as practically relevant research results also imply a certain amount of practically relevant problems.

The methodology applied was a qualitative communicative validation (Kvale, 1995; Steinke, 2004; Walther *et al.*, 2012). The options of a fully open validation or a structured validation were considered and the decision was made in favor of the structured validation as it requires more focused responses. Based on three given questions the practical relevance of the 11 principles was evaluated. The present text was made available in advance and its practical relevance was commented on and evaluated. Respondents were also invited to criticize.

In terms of the selection of practitioners, two owning family members who operate in the top management of their FF in the production industry and hold a master's degree in management were selected. Due to the clear differentiation in the size of the analyzed FF, one person from a large company (3,100 employees) and one person from a small company (20 employees) were invited to answer the questions. The FF were selected based on the same criteria as we selected our five cases. In particular, these FF are well-known through media coverage and innovation awards for their innovative behavior through multiple generations. Additionally, they consider themselves to be very innovative. At the same time, the option to invite CEOs of the analyzed FF (sample internal validation) or to approach CEOs whose companies did not participate in the study (sample external validation) was discussed. Both options were adopted since a sample internal validation (Case 4) leads to feedback based on self-provided data, while a sample external validation can provide evidence of the validity of findings beyond the scope of the sample. The external validation was answered in writing, the validation from within our sample was answered orally at the request of the interviewee in the company's office and was recorded and transcribed.

Both FF CEOs initially expressed skepticism regarding the practical relevance of the results of management research and were positively pleased by the extent of the practical relevance of the 11 principles. In the course of the practitioner validation, they answered the subsequent three questions:

- Question 1. From your own company experience are the 11 principles on the whole comprehensible and practicable?

The FF CEOs indicated that all 11 principles were plausible, practicable and relevant to their own business. Both critically assessed the small sample because although the relevance of the 11 principles was confirmed in the context of their own companies, further principles were indicated that can play a major role. This primarily concerns the responsibility of family members and shareholders in the innovation process and the innovation behavior of FF which do not show the same openness to the innovation process as the five analyzed cases, especially very closed FF can be successful in innovation. Furthermore, the CEO of the big company noted that concrete reference to an error culture was missing and felt that this plays a major role in sustainable innovation behavior:

- Question 2. To what extent does your company act in accordance with these principles in terms of agreement to or deviation from these principles?

While the CEO from the analyzed sample confirmed the company acted in agreement with these principles, the CEO of the large company only mentioned that there are several overlaps, but that the issue of the personal influence of shareholders on the innovation process and the potential for conflict that this creates, is not addressed and should therefore be considered in future studies:

- Question 3. Do the 11 principles provide new useful insights into your company's innovation practice?

Both CEOs emphasized that the 11 principles do not provide new insights based on their practical experience, but that the 11 principles can be considered as important fundamental virtues for innovative FF. This indicates that the 11 principles are generalizable beyond the five analyzed good practice cases and provide learning potential for less innovative FF. In addition, it was emphasized that FF interested in improving their innovation need to reflect individually on how to implement these 11 principles dependent on their status quo.

Overall, a high degree of practical relevance of the 11 principles can be determined, especially as a friendly response behavior can be ruled out as both CEOs also provided critical answers that go beyond the scope of the questions posed. At the same time, an input for a new practically relevant problem can be derived from the answers, which views the development of innovativeness in FF as an inter-generational learning process. From our point of view, the criticism of the lack of consideration of an error culture should be put into perspective because it is indicated in several principals, as is the conflict issue, but without explicit reference to conflicts among shareholders.

Discussion and conclusion

Despite the often diagnosed heterogeneity of FF, our analysis together with the practitioner validation shows that FF that have been successful innovators over generations share a variety of common values and approaches in their innovation behavior. These common values and approaches have been identified in the five cases and translated into general recommendations through the 11 principles.

Reflecting on the 11 principles, it becomes evident that the business family has a major influence on the innovation behavior of the FF. The role of the business family ranges from setting the strategic framework for innovation to being directly and operationally involved in innovation activities. This influence of the business family on the innovativeness of FF is defined as "innovation-oriented familiness" (Weismeier-Sammer, 2014, p. 114). This adheres to the widely accepted definition of familiness as the influence of the family on the business (Frank, Lueger, Nosé and Suchy, 2010, 2017; Habbershon and Williams, 1999; Weismeier-Sammer *et al.*, 2013). Dependent on the above-mentioned degree of the business family's influence on the innovation behavior, three simplified types of innovation-oriented familiness can be distinguished logically as shown in Table III (see also Altenburger *et al.*, 2018).

The analyzed cases are categorized as Type 1 and Type 3, once again showing the major importance of the business family for innovation-successful FF. Thus, the results of our case analyses and these three types convincingly reveal the importance of the business family's role in innovation activities, because it makes innovation possible (innovation posture) and provides the necessary resources to innovate (people, money, buildings). Investment in R&D, upholding the company's reputation for innovation, and investing in long-term and stable relations with employees, customers, and suppliers form part of this behavior (Le Breton-Miller and Miller, 2006).

Turning to the practical relevance of the 11 principles for successful innovation, the practitioner validation shows that these principles were regarded as highly relevant for practice, although the practitioners would still have appreciated more concrete recommendations for action. However, the derivation of recipe-like recommendations from research is problematic, because research is based on the principle of cross-case generalizability whereas the production of recipe-like recommendations would require all cases to be identical. The aim or our paper was to identify cross-case commonalities. This requires a certain level of abstraction which means that the resulting principles contain this abstraction and cannot be formulated as recipe-like recommendations. Therefore, it is the task of FF practitioners to reflect on the principles against the background of their specific firm and environmental context and translate them into concrete actions.

The development of highly practically relevant research also depends on the chosen research design which is related to the "knowledge production problem" (Van de Ven and Johnson, 2006, p. 808) in management research. This "knowledge production problem" results from a research approach rooted in natural sciences which typically favors quantitative methods. Generally speaking, the transformation of statistically generated results into how-to-recommendations is problematic in social sciences, because context matters (Welter, 2011). The derivation of practical recommendations is especially problematic in case of a reflective measurement approach (Albers and Hildebrandt, 2006, Diamantopoulos and Siguaw, 2006) which is still predominant in management and FF research. Thus, a

Type 1	FF where family members both shape the strategic framework and are operationally involved in innovation activities (Cases 1, 4 and 5)
Type 2	FF where family–external employees shape the strategic framework, but family members are operationally involved in innovation activities
Type 3	FF where family members shape the strategic framework, but little or no relevant input is provided on an operational level (Cases 2 and 3)

Table III. Types of innovation-oriented familiness qualitative research design is promising for the generation of practice-relevant knowledge in social sciences. Furthermore, a qualitative research design enables to capture contexts in a more nuanced way.

Finally, the 11 principles should be considered against the background of existing literature. Not all studies on innovation in FF do actually derive practical implications (Fuetsch and Suess-Reyes, 2017). Yet, this was the goal of the paper at hand. Our findings are partly in line with the core findings of existing literature as presented in the literature review section of this paper. However, the significant difference and contribution of this paper is that it is based on good practice cases and so whilst avoiding a focus on statistical means, it still provides practical orientation through the derived 11 principles. Thus, we go one step further toward overcoming the theory-practice gap.

Several principles (see in particular 1, 5 and 9) apply or implicitly address the long-term orientation in innovation activities which is also expressed in the literature (Cassia *et al.*, 2011, 2012; Kammerlander and Ganter, 2015). Based on our analyses, FF interested in long-term innovation success should arrange their innovation activities around stable but adaptable core competences and in accordance with their basic values to ensure authenticity (a form of exploitative innovation behavior). Furthermore, literature often emphasizes the strong sense of independence of FF which impedes innovation collaborations with external stakeholders (Cassia *et al.*, 2011, 2012; Classen *et al.*, 2012; Nieto *et al.*, 2015). Yet, our good practice case analyses (see in particular Principle 10) show a different outcome in the sense that innovation-successful FF follow a very open approach toward innovation, e.g. by inviting external stakeholders to provide early feedback on their innovations. With regard to the development of innovations, existing literature points out the importance of informal work environments (De Massis *et al.*, 2015; De Massis, Kotlar, Frattini, Chrisman and Nordqvist, 2016). This was also observable in our good practice cases (see in particular Principle 2) which illustrate, for example, the importance of regular and close informal contact with key employees of different departments to hear and discuss their innovative ideas and suggestions for improvements. Project teams which break up rigid organizational structures and bring together expertise from different areas constitute another approach to informal work environments (a form of explorative innovation behavior), which was found in the cases (see in particular Principle 10). A close relationship with the local community is identified as a further characteristic of FF innovation behavior (Cassia *et al.*, 2011, 2012). In this regard, the analyzed cases dispose of advantages concerning subsidies and access to resources (e.g. highly qualified employees) as a result of their regional reputation as an innovative FF (see in particular Principles 3, 6 and 9). Furthermore, their regional anchoring can support brand building and the utilization of existing regional brands (e.g. for entering new international markets; see in particular Principle 8). In the process of commercialization of innovations, trusting relationships with stakeholders are a major competitive advantage of FF (Beck and Kenning, 2015). Our principles (see in particular Principles 3, 6 and 10) recommend joint product developments with strategic partners, as such partnerships guarantee timely and honest feedback and enable a coherent long-term innovation path together with these partners.

Limitations and future research

This study is of course not without limitations. In terms of theoretical sampling, we cover a wide range of innovation types, business sizes and industries in the production sector and yet, the generalization of our findings may be limited to this sector. Thus, replication studies in other sectors may reveal additional sector-specific principals for successful innovation in FF.

Moreover, this study provides a differentiated perspective on the importance of the business family for innovation success with a focus on two types of “innovation-oriented familiness" (Weismeier-Sammer, 2014; see Table III). It is noteworthy that the distribution of all three types in the overall population of FF is currently unknown. The connection between the types and innovation as well as business success calls for further investigation, especially with a focus on Type 2 as this type was not covered in our sample.

Another interesting option for future research would be to investigate "bad practice" innovation cases so as to contrast them to the good practices in our analysis. These practice cases can serve as a control group and help to identify typical barriers for innovation in FF such as the "ability-willingness paradox" (Chrisman *et al.*, 2015; Steeger and Hoffmann, 2016). However, we acknowledge that it may be challenging to identify and motivate firms to participate in such a research project.

Furthermore, future studies on innovation-oriented familiness could be based on the involvement, essence and identity dimensions of familiness (Zellweger *et al.*, 2010) to provide an even more differentiated view of the types of innovation-oriented familiness. This tripartite understanding of innovation-oriented familiness can be outlined as follows (Altenburger *et al.*, 2018).

An innovation-oriented understanding of involvement of familiness is less about how many family members are involved in top management or control functions in the company or how many shares the family owns, but more about how many family members are in positions of responsibility with regard to the innovation activities of the company. This aspect has only been addressed in a non-specific way in previous studies. For example, studies often refer to "family" or "family members," but in many cases it remains unclear how many family members are managing innovation activities in which positions and areas of responsibility. Active family members that are not involved in the company, but have high levels of expertise, can still have a considerable informal influence on the innovation activities of FF. Based on the presented typology (Table III), family members can influence innovation through the design of a strategic framework or through content-related input on an operational level.

In terms of the innovation-oriented essence dimension of familiness, the focus in future studies on innovation behavior should be on the way of actual influence of involved family members in the context of the possible influence of family–external employees or company–external partners because from a formal perspective, involvement only expresses the potential influence. Family members are usually in the company for longer periods of time and thus have better prerequisites to build trust-based, innovation-related relationships with internal and external stakeholders. This gives them the opportunity to decisively influence the innovation priorities and the degree of innovation, i.e. the innovation strategy, as well as the culture of innovation. The possibility to influence the innovation strategy of the company is probably higher, if family members focus their actions on creating strategic frameworks in the dimension of involvement.

In terms of the innovation-oriented identity dimension of familiness, future research should pay attention to what extent innovation is part of the identity or a central characteristic of the business family. It is of interest which connections between innovation and the success or image of the business family or FF are made in their own perceptions. Innovation success stories told over generations can contribute significantly to creating an identity for the business family and the company. A mission of innovation that is indeed rooted in the identity of the business family or company needs to be distinguished from a rather superficial public image. Due to the long-term involvement of the business family and their essence of innovation behavior that has formed over a long time, FF have particular advantages with regard to the development of an innovation-oriented identity in the sense of a deeply embedded innovativeness that withstands changing contexts.

In order to implement this outlined research concept, further qualitative as well as large-scale quantitative studies are required to reflect on this heterogeneous innovation behavior in the sense of mapping innovation-oriented familiness.

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