Sensing Capabilities of Design-Intensive Family Firms: Case-Based Evidence from Turkish Office Furniture Manufacturing Industry

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ABSTRACT

This study deals with innovation management in design-intensive family firms by researching how sensing innovation capabilities are influenced by family's involvement, named as familiness, and its dimensions (involvement, essence, organizational identity). The combination of dynamic capability and familiness perspective offers a framework to explore the nature of innovation capabilities in FFs. This single case study specifically samples a representative design-intensive FF with strong innovation and financial performance in the office furniture industry at the national and international level, and with changes in resources and capabilities over time caused by operating in an emerging market context, Turkey. The in-depth qualitative approach reveals the positive relationship between sensing capability and familiness, and finds two recurring behaviors categorized as strategies for sensing capability: (1) monitoring trends and international markets, and analyzing changes in industry and business; and (2) managing ideas through support of internal and external stakeholders. The findings contribute to the literature on innovation in family businesses.

Keywords: family firm, dynamic capability, design-intensive industry, innovation management, office furniture

1. INTRODUCTION

This article is based on a PhD study, which is a contribution to the understanding of innovation management in family firms (FFs) from a design-intensive industry. The aim is to explore how and to what extent family plays a role in the development of dynamic capabilities (DCs) and resources, specifically sensing capability, during innovation management and engagement of design-intensive FFs.

There is a vast literature on family business (FB) and innovation. However, literature concerning both fields is still at early stages (De Massis et al., 2013; Duran et al., 2016). Hence much remains unexplored concerning how FBs engage in innovation activities. For instance, Gupta et al. (2008) state most previous studies conducted in developed markets, thus there are few research in emerging markets. In addition, scholars such as Wright et al. (2005) pay attention to the applicability of the contributions from a developed to an emerging market, thus studies in emerging markets have considerable significance for innovation and management. Therefore, this study further contributes to knowledge as it is conducted in an emerging market, Turkey, which is also an under-researched country (De Massis et al., 2012). Notably, this study tries to explore the unique resources and capabilities of a firm resulting from family involvement (Habbershon & Williams, 1999), known as *familiness*. The term familiness is studied and analyzed by its current accepted dimension perspective (Zellweger et al., 2010), including *involvement*, *essence*, and *organizational identity* dimension. Additionally, this

study also explores the management of innovation activities of design-intensive FB by analyzing firm's processes of using resources to adapt to market change (Eisenhardt & Martin, 2000), known as *dynamic innovation capability* (DIC) perspective, and focuses on the capacity to *sense* opportunities (Teece, 2007). Moreover, design-intensive firms, which rely on the creativity and innovative contributions (Dell'Era & Verganti, 2010, 2011), are significant for competitive advantage in dynamic environments. Research on innovation in design-intensive firms highlights the need to manage design, for innovation purposes and to increase recognition in the market (Dell'Era & Verganti, 2007; Dell'Era et al., 2008), since design-intensive firms are utmost significant due to the founding and controlling family members' role and involvement in innovation and their interest in preserving the family name and identity across generations (Dalpiaz et al., 2014).

To sum up, this study contributes to the growing research on innovation in FBs by studying the effect familiness in a business organization on managing innovation, a design-intensive organization's efforts to discover and manage new product and/or service opportunities and to make improvements to existing processes and systems (Cooper and Kleinschmidt, 1987) through a sensing capability perspective. It tries to find a gap in the literature by researching through an in-depth qualitative methodology with a single case study, exploring associations and interactions between the themes of the study, and recommending further research to extend theory and practice.

2. THEORETICAL FRAMEWORK
2.1. Innovation in Family Business
As innovation is acknowledged as the key to competitive advantage as a driver of business performance (Trott, 2017), ensured economic prosperity (Porter, 1980) and long-term survival (Schumpeter, 1934), research on innovation in the field of FB gains interest by the scholars (De Massis et al., 2012; Hatak et al., 2016; Röd, 2016; Fuetsch & Suess-Reyes, 2017). As the goal of long-term survival through the success of generations is one of the basis features of FBs (Chua et al., 1999), innovation becomes very crucial. Since there is an increasing popularity of studying innovation in FFs among the scholars of FB research (Bergfeld & Weber, 2011; Carnes & Ireland, 2013; De Massis et al., 2013), the common consent suggests that the uniqueness created by family involvement is both advantageous and disadvantageous for innovation. FFs are stated as more innovative than non-family firms (e.g., Craig & Dibrell, 2006; Gudmundson et al., 2003; Llach & Nordqvist, 2010), whereas they are found to be less innovative as well (e.g., Chen & Hsu, 2009; Munoz-Bullon & Sanchez-Bueno, 2011). De Massis et al. (2013) mainly associate these indecisive results with the lack of qualitative studies on innovation in FB. Research on innovation in FB is fragmented and rather inconsistent (Duran et al., 2016). FFs are hesitant to risk, conventional and concerned with parsimony through unwillingness for innovation-related investment (Kellermans et al., 2012), innovation-related inquiry (Classen et al., 2014), and external innovation-related knowledge (Nieto et al., 2015), thus they are less innovative than non-FFs with mostly incremental innovations according to some studies. Whereas others indicate that FFs are more innovative (Chirico & Nordqvist, 2010), and take risks through a multifaceted perspective (Gomez-Mejia et al., 2007). FFs have the ability of constant technology and market search through a long-term strategy (Bergfeld & Weber, 2011), while they have diverse attitudes and values for product innovation (De Massis et al., 2016) and are more innovative through high level of control (Duran et al., 2016).

2.2. Family's Involvement: Familiness
Scholars dealing with innovation in FB literature recently address knowledge, resources, and capabilities as requirements of a firm to innovate. According to resource-based perspective, firms develop sustainable competitive advantage using resources that include both tangible and intangible assets with a dynamic approach. Those unique resources and capabilities are represented by *familiness*, as one of the most outstanding theories of family firms, which is fostered through the interaction of family and business system for competitive advantage (Daspit et al., 2017). Familiness, theorized from

resource-based view (RBV) and first introduced by Habbershon and Williams (1999), are proposed to exploit how FFs use embedded links based on family relationship to reach unique resources, thus, to build and to maintain value in the long term (Arregle et al., 2007). Chrisman et al. (2003) later offer the involvement of family and the essence of that involvement to explain the dimensions of familiness. Firstly, *involvement* dimension highlights the structural aspects of the term and deals with the existence and contribution of family members in the ownership, management/governance, and control of the firm. The distribution of ownership and the count of active family members are examined by involvement dimension (Sharma et al., 2014). This dimension brings an impartial appraisal and establishes a starting point to describe a business as FF (Pearson et al., 2008; Zellweger et al., 2010). Secondly, *essence* dimension highlights the system interactions between family and business involving family's unique methods, arrangement and integration of its synergistic resources and capabilities, as well as its transgenerational intention and vision (Chua et al., 1999; Chrisman et al., 2003; Irava & Moores, 2010). This dimension analyses family's goals and its actual engagement (Sharma et al., 2014), and explains different FF samples and their behaviors to apprehend their heterogeneity (Westhead & Howorth, 2006; Zellweger et al., 2010). In short, involvement dimension evaluates the family firm objectively, while essence dimension reveals the FF behavior. Thirdly, *organizational identity* dimension highlights how FF is explained and seen by family involving its pride, long-term orientation, social ties with community and its image. This dimension focuses on unique identity and collective behavior of family firm, embedded in firm's history and values, and projects its image towards internal and external stakeholders (Zellweger et al., 2010). The shared understanding of methods, actions and culture of the firm developed by firm members and the effect of this understanding on members, firm's strategy and change is described by the organizational identity dimension (Ravasi & Schultz, 2006). Organizational identity, recognized by Zellweger et al. (2010) as an additional dimension to involvement and essence dimensions by Chrisman et al. (2003), helps to apprehend the business perception of the family.

The issue of *familiness*, defined by the decision-making process affected by family, builds the innovation behavior in family businesses (Frank et al., 2010; Weismeier-Sammer et al., 2013), such as the positive effect of their goal of sustainability and long-term survival (Le Breton-Miller & Miller, 2006), their vision of creating trust and strong social networks (Bennedsen & Foss, 2015), and their informal but efficient structures in organization (Daily & Dollinger, 1992). Despite those positive attributes of the family firms towards innovation, the studies on the innovation outputs show some inconclusive results (De Massis et al., 2015), and the reasons would be the paradoxical issues of *familiness*; such as avoiding the take risks in order to protect family legacy (Gómez-Mejía et al., 2007), keeping the traditions and not trying new things (Miller & Le-Breton Miller, 2005), being averse to increase external capital (Poutziouris, 2001) and to receive skills and knowledge from an external actor (Garcia & Calantone, 2002).

2.3. Innovation Capability Perspective

Dynamic capability (DC) theory was first introduced by Teece and Pisano (1994) as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece et al., 1997, p. 516)" since they incorporate previously identified dimensions of innovation strategy to corporate strategy as a new approach called DC to highlight the significance of corporate learning. DC approach emphasizes (1) constantly changing business environment and (2) adaptation, integration, and reconfiguration of organizational ability, resource, and capacity roles of strategic management, which are associated with unique and inimitable needs (Tidd and Bessant, 2020). The term *dynamic* is defined as renewal of capabilities and critical timely responses of innovation to adapt business environment and rapid technology change, where competitiveness and future market is unverified. Whereas the term *capability* is linked to the adaptation, integration, and reconfiguration of organizational abilities, resources, and capacities to adapt changing environment (Teece et al., 1997). DCs are

later defined as firm's processes of using resources in order to adapt to market change (Eisenhardt & Martin, 2000), as capacity to sense/shape and seize opportunities, and to orchestrate resource manipulation (Teece, 2007), shared organization activity generating and modifying operation practices for competitive advantage (Zollo & Winter, 2002), and also capacity for a purposeful organization of resource base creation, extension, and modification for survival in changing conditions (Helfat et al., 2007).

Teece (2007, 2014) identifies three essential dimensions of dynamic capabilities approach: (1) *sensing/shaping* new opportunities by learning, interpreting, and browsing, diagnosis of activities, environment, and technology, (2) *seizing* market/technology opportunities through new products, processes, services, resource mobilization, value capture; and (3) *reconfiguring/transforming* existing resources through alteration and alliance, which all three a firm's *dynamic innovation capability* (DIC). Since DC perspective contains diverse levels of analysis from management, organizational procedures, and decision-making processes to changes in business environment and competitiveness relations (Helfat & Peteraf, 2009), the bases of DCs introduced by Teece (2007) provide a comprehensive framework including processes and structures of organization and management. This study focuses on the *sensing* capabilities, which are related to identification, exploration, and interpretation of activities, and considered as processes of (1) internal R&D expression and new technology selection, (2) supplier and complementary innovation use, (3) advanced external science and technology use, and (4) target market, customer need change identification (Teece, 2007).

3. METHODOLOGY

This study is part of a PhD study, and this article is based on an in-depth qualitative research, which enables a multiple-level analysis within a single case study (Yin, 2013), regarding the call in the literature for such comprehensive approach to understand the complex and unique features in FB innovation (e.g., Classen et al., 2014; De Massis et al., 2013). Since the aim of the study is to advance the knowledge of a phenomenon through exploration, the research strategy involves a grounded theory perspective where a preliminary conceptual framework is built as a theory-based guidance for the study (deductive strategy), then builds its own theory with the collection and analysis of data (inductive strategy) (Strauss and Corbin, 1997). This single case study is used for a representative case (Yin, 2009), even though it has limitations for validity (De Massis et al., 2014). The sampling in this study focuses on a design-intensive FF with strong innovation and financial performance in the office furniture industry (Capaldo, 2007; Dell'Era & Verganti, 2010), at the national and international level, and with substantial changes in resources and capabilities over time caused by operating in an emerging market context. The criteria used to select the case are (1) being owned and governed by a family (at least 2nd generation), (2) operating in an emerging market, (Turkey for convenience and familiarity, and one of CIVETS countries), (3) operating in a specific-industry context for design and innovation (office furniture manufacturing industry in Turkey for its significance), (4) having clear innovation activities and strong financial performance at the national and international level (being in top 100 list in Europe, having innovation/design awards), and (5) availability for open access.

This single case study approach rests on in-depth interviews, which enable to comprehend experiences and their meanings for the interviewees (Muske & Winter, 2001), on and semi-structured interviews, which provide a flexible, systematic, and reliable research at the same time (Fitz-Koch & Nordqvist, 2017). The primary data is retrieved through in-depth, semi-structured interviews with individuals from the sampled FF case (*Office Co.*), whilst secondary data is collected through document analysis of the sampled cases including firm websites, archival files, project reports, corporate presentations, and videos. The primary data from the interviews is then triangulated with secondary data for reliability and validity. The interview guide is built around key variables and concepts of the study and has four main parts, focusing on (1) historical evolution of the firm, (2) family involvement in firm's decision-making processes, and (3)

sensing capabilities created/changed through managing innovation. *Office Co.* is contacted via e-mail, the interview guide including the aim of the study and interview questions, and the consent form ensuring the confidentiality of the firm and the interviewees are sent digitally. The interviews take 60 minutes for each meeting, are conducted via online meeting platform (Zoom) because of Covid-19 pandemic between April and December 2020, recorded through the platform, transcribed verbatim, and translated into English by the researcher (approximately 18 pages – 15000 words). The interviewees from *Office Co.* include two second-generation family members with the roles of CEO and Design and Brand Director.

The overall data analysis technique adopted by this study includes a within-case analysis to explore the unique and emergent patterns (Yin, 2009) and it is structured as case narratives and coding for *familiness* and *sensing capability* (Yin, 2009). The analysis of the themes is performed through the coding elements based on prior literature and is facilitated by MAXQDA 2020, a qualitative data analysis software program. A three-step coding process is adopted from Strauss and Corbin (1997) for this study: (1) *open coding* to break down, identify and categorize data regarding its features and dimensions; (2) *axial coding* to regroup and link previously categorized data in a logical way, and (3) *selective coding* to select main category, link it with the others, and confirm the links between them. The case narratives are then prepared, and the text is broken into several parts according to the initial conceptual framework (three dimensions of familiness and one form of dynamic innovation capability as sensing), which is followed by the interview structure.

4. EMPIRICAL FINDINGS
4.1. Company Background: Office Co.
Office Co., founded in 1970s, is a privately owned second-generation FF from office furniture manufacturing sector in Turkey. The family holds 100% ownership rights, first-generation founder and second-generation three children of the founder (two sons and a daughter) manage the company as board members while the founder is still the Chairman of the Board, and the second-generation eldest son occupies the CEO position. All four family board members have active positions in the company as Chairman of the Board, CEO, Design & Brand Director, and Managing Director in Customer Relations (Table 1). The interviewees from *Office Co.* are (1) the second-generation eldest brother acting as CEO (Interviewee OC1), and (2) the second-generation middle brother acting as board member and Design & Brand Director (Interviewee OC2). The father of Interviewee OC1 and OC2 is the founder of *Office Co.*, represents first-generation of the firm, shows long-term involvement, and still acts as chairman of the board. The two interviewees, the sons of the founder, together with their sister represent the second-generation of the firm.

Table 1. Structure of Office Co.

Size	Founding Date	Number of generation	Family members	Professional role	Interviewee ID
Large (>600)	1970s	1	1	Founder Chairman of the Board	
		2	2-1	CEO	OC1
			2-2	Board Member Design & Brand Director	OC2
			2-3	Board Member Managing Director - Customer Relations	

The founding process of *Office Co.* starts with the first-generation father during 1970s in Ankara, the capital of Turkey. He studies architecture at the top rank university in Turkey. In his senior year, he decides to operate in furniture industry and established a small workshop manufacturing home furnishings in a small industrial area called Siteler in Ankara. The operation of *Office Co.* first begins with manufacturing, then adds project works (e.g., hospitals), and later sets up a retailing process. After the first five years, a

showroom-like store is opened on Ataturk Boulevard near Tunali Hilmi, at a central location in Ankara. The founder of *Office Co.*, the father of the two interviewees, sees modern furniture in the US and Europe, and at that time furniture designers are mostly architects such as Le Corbusier and Mies van der Rohe, since they are the fathers of that time. Hence, the architect founder follows the process of making furniture and turns the business to a furniture brand. After the store opens in Ankara, *Office Co.* forms the environment for the industry and a new axis for business, both commercially and culturally.

During the growing process, when the business is moved to Istanbul (i.e., industry and economy capital of Turkey), there are only classical furniture makers in the sector following the period of reproductions of European furniture in Turkey (e.g., 17th-18th century French furniture, gilded pieces, and velvet armchairs). The new sales store of *Office Co.* in Nisantasi, a central district in Istanbul, helps to boost the market, when it lacks the design awareness. Then, after the mid-1980s, *Office Co.* adds office furniture to its operation. Because of the development of business life and industry in Turkey, together with the new organization norms in major cities (e.g., Istanbul, Ankara) and with the growth of the business centers, a new channel arises. And the fact that *Office Co.* does this job professionally, designing and producing furniture for offices gains a special meaning, thus the firm mainly turns to office furniture. According to Interviewee OC2, since then, a heavy growing process continues in office furniture industry, with the income being earned mainly from the office.

At the time of transition to office furniture, the production is scattered in four to five locations in Ankara for different materials and techniques (e.g., wood, upholstering, and craftsmanship). Towards the end of 1980s, *Office Co.* decides to gather everything under the roof of one integrated factory, thus a new factory, covering a total area of 90.000 m2, is established in 1990 in Tekirdag, a significant furniture manufacturing district in Turkey. In the mid-1990s, *Office Co.* moves the headquarters to Istanbul after the big moves in production and sales. As specified by Interviewee OC1, as of 2010s, *Office Co.* performs new configurations in the UK, the US, and Germany within the framework of carrying this business to a more global dimension and this is still an ongoing transformation for the firm. This large FF currently operates with 600 people (i.e., 500 in Tekirdag, 70 in Istanbul, and 30 in Ankara), and 80% of total business includes office furniture while 20% is home furniture.

4.2. Sensing Capabilities in relation with Familiness Dimensions
The findings and related interpretations of sensing capabilities are differentiated between three dimensions of familiness (involvement, essence, and organizational identity), and presented below.

4.2.1. Involvement Dimension
Using design as management process, method, and inquiry model: According to Interviewee OC2, design can be defined as the management of a process to establish a way of doing something differently, and to ensure the cause-effect relationship through theoretical and practical data. In *Office Co.*, all processes such production, planning, communication, finance model, and sales channels are designed:

> So, the design here is something very different from the product now. We can say it is like method. It is a look, an interpretation, a way of seeing, and an inquiry model that can be applied to anything. Did we have to do it like this? Because it is the biggest thing of design, the question of why we do it this way. Did we have to connect it that way? Do we have to use this material? Do we have to give this answer to that question? In all this process, the most important feature of design is to question. Could not it be done differently? Could not there be a better solution? After all, this is the trigger of all development and evolution, questioning and saying whether this can be thought or looked at in another way. (Interviewee OC2)

Office Co. acts on the belief that major breakthroughs are achieved during or right after hard times. For instance, great disasters, poverty, and pain in the world lead to the experience of huge breaks, questioning, and renewals (e.g., the change in the US during and after the Great Depression), as stated by Interviewee OC2. Thus, the current pandemic period relatively triggers the inquiry model of design in *Office Co*.:

> We are not going through something that big relatively. But even recent situations again lead to questioning and restructuring. Returning to your question, what design brings here is questioning. Questioning the way of doing business, managing, and communicating. And that is the ability to offer a new solution. (Interviewee OC2)

The role and effect of design is seen through national and international awards received by *Office Co*. with a total number of 40 since 2007.

The first-generation design-educated family founder in *Office Co*. has a constant leadership in the firm. The founder himself describes *Office Co*. as 'a firm in the service of design' with the aim of creating innovative designs through collaborations with architects/designers and guidance of family's art direction. Interviewee OC2 points out the difference between doing or producing something and giving life to it while explaining the design awareness of *Office Co*. as a conception, a birthing process. Design process is not finalized when the product is launched and stands passively on his own, but the product is later revived with every customer and can take different forms. Additionally, in the work culture of *Office Co.*, the founder mostly directs and speaks his own mind, and sometimes even imposes them very strongly since he has a specific opinion on that matter. According to Interviewee OC2, either that persistence often turns out to be right decision and right thing to do, or he sometimes leaves things as they are and lets others do whatever they want. He describes the general structure in this way, which does not have a written order or a system. The order includes a captain – the founder – and the managers actively bringing ideas and making most of the decisions.

Managing design ideas through conflict in dialogue, research, and inspiration: Since *Office Co.* believes that the association of people thinking differently but gathering around despite not agreeing with each other is very valuable, they tend to manage the positivity of this conflict. Interviewee OC2 initiates the sense of design ideas by creating a dialogue where there is appropriate level of communication, respect for different views, and appreciation for listening and understanding others:

> This is where the design starts. It is not just a mathematical or as it is taught in the university that a table should look like this, that material comes on top, it is molded, and screws are tightened, etc. Design is the ability to understand people's troubles, to intend to cure them and to produce solutions in this way. This is the main goal of design. (Interviewee OC2)

Additionally, *Office Co.* is conscious about the reality that the future of the office cannot be known rather it can only be suggested. Thus, they adopt some strategies to develop the ability to make the most accurate proposition for design by approaching it as a scientific study and writing own theories through integrating the logic of theory and grounding the predictions to basic principles. Moreover, the significance of inspiration in managing design ideas is approved by *Office Co*. For instance, Interviewee OC2, the designer of many awarded products in Case C, sometimes gets an inspiration as a reflection of emotion intuitively (i.e., like composing a song) and transforms it into an innovative design.

The involvement of the second-generation in *Office Co.* starts around 2000s. Interviewee OC1, the second-generation eldest brother, is graduated from the university towards the end of 1990s and directly steps in the firm. However, he already begins commuting to work while he is still studying in the university. He also goes through a one- to two-month internship process every summer, spending at least one month in accounting, sales, marketing, and production since he is 15 years old. The other two second-

generation siblings go through the same gradual involvement. As defined by Interviewee OC2, the involvement process of the second generation is not planned but is affected by the culture in the family since the mother is a sociologist and the father is an architect. Therefore, the parent's passion for their business creates the culture of dialogue and transferred from the parents' passion for their business affects the culture of dialogue and research for idea generation in the firm.

Making sense of customer feedbacks by whole firm: Office Co. mostly uses social channels to review comments from where they promote products and firm information. In addition, an internal department collects customer feedback, takes questions, conveys demands and problems, and reports them to the factory. Interviewee OC2 also receives feedback about the missing issues in the portfolio or the need for some products in one-to-one meetings with external architects. There are even some individual end-users writing tweets, posting, or sharing stories on Instagram about their comments on products or services of the firm. *Office Co.* tries to see, read, listen, and make sense of each feedback as the whole firm; thus, the feedback system goes towards de-departmentalization since it is not one person's job. Therefore, the communication department of *Office Co.* embraces an attitude of listening rather than talking within and outside the firm.

The duration of the decision-making process differs according to the family's risk appetite, as it is pointed out by Interviewee OC1. Since the team of managers and partners in the firm work in harmony, the teams sometimes meet extraordinarily often whereas run with the regular business routine if there is no urgent agenda. In *Office Co.*, there is no written rule and a formal process for decision-making. Since there is a group of actors including the professionals from production management, finance management, purchasing management, and design involved in the process, all actors engage in proposing, giving ideas, and directions. Besides, not everyone gets to make any decisions in the firm and the captain usually has the right to do it for advanced issues. As explained by Interviewee OC2, the formal institutional structures need many approvals for even a question to reach from bottom to up, and it mostly dissolves in the process. In *Office Co.*, there is no such structure, it is rather dynamic. The family occupies open spaces in the office area of the firm, which allows them to be transparent without barriers. Thus, all actors talk, ask, and consult whenever they want. This dynamic decision-making process facilitating engaging and open communication in *Office Co.* affects how the firm makes sense of customer feedbacks, by the whole firm.

4.2.2. Essence Dimension
Making customer-oriented decisions through non-family professional support: When Interviewee OC1 first starts working in the firm, *Office Co.* has a professional manager at that time, coming from a large international hypermarket group. This manager has a motto that everything is a lie, but selling is real, which he always tells the first-generation father, the founder of *Office Co.* Thus, the firm adopts this understanding that everything depends on sales figures, customer makes the last decision, and people bring innovation to the firm, to its agenda. Thus, the basic functioning of the firm is customer-oriented (i.e., human-oriented). *Office Co.* moves forward with an effort to reflect all information such as customer feedback, sales figures, or knowledge transfer from customer to salesperson, to product or process.

Interviewee OC1 claims that *Office Co.* has a progressing institutional structure, where they include non-family professionals at all levels of the firm (e.g., board of directors with two non-family members, executive board with all non-family members). The average seniority of these colleagues in *Office Co.* is 20 years, and these non-family professionals constitute 60% of the firm's integrity. According to the firm, the word family business indicates a bond not just by blood but also by labor, thus *Office Co.* family involves those professionals as well as their own families. The family never defines the firm as a family business, rather a business managed by professionals and includes the family, as

specified by Interviewee OC2. This intention to provide a professional structure sometimes results in a positive, sometimes in a negative way. Interviewee OC2 acknowledges that the family cannot be an objective judge in that manner, nevertheless the long-term commitment of *Office Co.* to the professionals, who love their jobs and motivated to work, progresses that process. The family have been working with its clients, suppliers, and architects at least 20 years. As Interviewee OC1 explains, *Office Co.* supplies good quality raw material with a reasonable price rather than the cheapest one in the market, and both parties get their claimed share. Thus, the family never wants to leave or change a good supplier. This long-term commitment of *Office Co.* affects how the firms makes customer-oriented decisions and get supported by non-family professionals.

Observing irrelevant changes in business and design: Office Co. follows the changes and trends not only within the profession but also outside the profession, which they foresee might affect the profession in near future as well. For instance, the firm plans and thinks even according to the economic changes in cities. The observation of these changes not only affect design but also the structure of the firm, as it is stated by Interviewee OC2. Additionally, *Office Co*. predicts that there would be an economic depression worldwide for the last five years while they are preparing a new home brand. Interviewee OC2 explains that the prediction indicates the decrease in people's purchasing power with the acceleration of injustice and the unfair distribution of income, however nobody could have predicted the pandemic. Therefore, *Office Co*. wants this new home line to be more affordable and accessible even though there is a possibility to regulate the structure according to the high-end customer since there is always people with high-purchasing power during economic crisis. Moreover, the firm looks at the business with a critical thinking since the high-rise office buildings hosting thousands of employees recently become inoperable because of not being sustainable, as it is understood especially during the pandemic period. Therefore, *Office Co*. diligently follows these discussions about new opportunities (e.g., open space, daylight, and fresh air).

Interviewee OC2 describes vision as a world view and a perspective, where *Office Co*. is focused on the dialogue as a state of communication and gathering around. The family significantly manages this dialogue involving the encounter, attraction, activation, and explosion of ideas, opinions, and dynamics. Interviewee OC2 explains the reason of fast development in some regions as the energy released through the conflict and friction of different ideas coming together. This co-existence of ideas positively affects the level of communication with the ability to respect different views, and to listen and understand others. That conflict and friction of ideas lead to design, which is the ability to understand people's troubles, to intend to cure them and to produce solutions in this way. Interviewee OC2 adds that the role and duty of a designer is shaped accordingly. Hereby, a designer must understand the society, make sense of it, and criticize certain things; similarly, his duty is pointing out what is wrong, sharing his suggestions, and opening discussions, as it is supported by the vision of *Office Co*. family. Since design can develop and change the realities of the world as well as the needs of the users, *Office Co*. adopts the vision of designing a product with an open dialogue. Therefore, the firm adopts the sensing capability to observe even the irrelevant change in business and design.

4.2.3. Organizational Identity Dimension
Observing trends and inners structures through international brainstorming: Office Co. adopts an observation process at international level through generating platforms for dialogue, where Interviewee OC2 especially travels abroad, meets with designers, makes presentation, and later opens discussion about any subject and current trends. During this brainstorming session, *Office Co*. makes the necessary observation that is inaccessible through research and information given by traditional media:

> At the end, we start talking face to face for one hour, everyone is throwing ideas, saying something about the issues there, and this is the explosion of this observation, and we talk about what is

happening in the world for example. How they solve it in Australia, how Singapore approaches this, whether these places are really being a problem in America, whether there is a need, what is changing, whether these areas not being produced anymore, why the workstations are decreased too much, and whether people are now working in other spaces. Different feedbacks are coming for all these issues. (Interviewee OC2)

Additionally, this environment of idea exchange establishes a link for *Office Co*. leading to an ongoing communication for collaborative projects, book exchange, share of sketches, informal get-togethers, and coffee or wine sessions. Interviewee OC2 defines it as an unstoppable feeding process of getting the information on changes and future trends:

> For instance, there was a plan in Hamburg, for example, we work one-on-one with the architect and talk about things that the people there do not even know about. The plan was to allocate this place to houses and dismantle an entire port and return to the housing completely. The infrastructure for this project is discussed now, but I saw it 15 years ago, for example. So, I saw where the residences would go in the future and made a proposal for the project there. (Interviewee OC2)

The biggest opportunity of this observation is to be able to meet people, share ideas, get involved in the creation of trends, and to be fed by any new information. According to *Office Co*., it is possible to follow the current events, projects, and people through traditional media (e.g., television, magazines) as well, but it is almost impossible to find a radical innovation this way. Moreover, the observation process in *Office Co*. is to see the acquaintances, encounters, different needs, and big changes emerging in countries (i.e., mega trends). They observe the changes in sites and premises in big cities, in structure of offices, in the way the institutions do business, and in the inner structures. Therefore, *Office Co*. makes designs accordingly since these observations act as design briefs:

> For example, we are doing three projects of Google. One in San Francisco, one in Google DeepMind London, and one in San Diego. We know about the dynamics that all of them go through inside, and they can give us signals about what will be done differently, and what will change. (Interviewee OC2)

The behavior of dialogue within firm, as well as at national, and especially at international level brings wealth, according to Interviewee OC2. The co-existence of ideas and maintaining dialogues at international level enrich the design with opinions, knowledge, and propositions from different geographies around the world:

> And I had the opportunity to crosscheck these thoughts from many different places. Because there isn't only one right. This brought a wealth in my opinion. And at the end of that process, many international projects came out. We made solutions for many offices, and none are alike. We offer a lot of projects, none of them are alike. (Interviewee OC2)

Interviewee OC2 individually creates a platform of dialogue by travelling abroad and sitting up with designers. During these trips, he makes a presentation, called 'design and pathos', to many architectural groups from Australia, Europe, and the US, where he later opens a discussion about semiology, language, and even music. This explosion of observations where everyone is throwing ideas creates an opportunity to meet professionals of the business and to get the necessary information which cannot be found by research:

> There is a serious interaction going on there, in fact, an exchange of ideas. Thus, a link is established. This is such an unstoppable feeding process and I always get prior information on what will change. (Interviewee OC2)

Consequently, they believes that this identity of international dialogue throughout the family, and the firm leads to radical innovation. Therefore, *Office Co.* observes trends and inners structures through international brainstorming. The sensing capabilities affected by familiness in Office Co. are summarized in Table 2.

Table 2. Summary of sensing capabilities affected by familiness in Office Co.

Findings related with familiness	Sensing capability affected

Involvement dimension	Design-educated family founder with constant leadership	. Using design as management process, method, and inquiry model
	Gradual involvement of generations: Culturally embedded	. Managing design ideas through conflict in dialogue, research, and inspiration
	Dynamic decision-making process: Engaging and open communication	. Making sense of customer feedbacks by whole firm
Essence dimension	Long-term commitment to non-family professionals and external stakeholders	. Making customer-oriented innovation decisions through non-family professional support
	Co-existence of ideas in business leading to radical design	. Observing irrelevant changes in business and design
	Design awareness as producing life vs giving life	. Using design as management process, method, and inquiry model
Organizational identity dimension	Dialogue at international level for radical innovation	. Observing trends and inner structures through international brainstorming

4. DISCUSSION

This study explores the sensing capabilities of design-intensive FFs to manage innovation in an emerging market with a qualitative approach. This aim of the study addresses the lack of qualitative studies and varied findings on FB innovation (De Massis et al., 2013; Duran et al., 2016). Thus, in this study, the capabilities and their decision-making processes are analyzed through the development of sensing capability and it is found that they are positively affected by familiness within *Office Co.*, the FF case. Drawing on DC perspective, the findings related to sensing capabilities are differentiated between three dimensions of familiness (involvement, essence, organizational identity). Then, these findings reveal two recurring behaviors categorized as strategies for *sensing* capability: (1) *monitoring trends and international markets, and analyzing changes in industry and business*; and (2) *managing ideas through support of internal and external stakeholders*.

Regarding the first strategy, *Office Co.* monitors trends and international markets via social media and news on the internet rather than traditional media, and through critically analyzing the industry to sense the potential opportunities and act on them. Since the family's high ability to innovate is influenced by family members as successors and their choices (Grundström et al., 2012) and this influence grows as the FF case evolves (Mitchell et al., 2003), family members assess the emerging trends and modify organizational actions if necessary (De Massis et al., 2015). In contrast to the widely mentioned attitude of being close to external environment (Cassia et al., 2011, 2012; Bennedsen & Foss, 2015; Chrisman et al., 2012), the findings of the study supports that FF is able to make continuous market search through the strategy of long-term orientation (Bergfeld & Weber, 2011). This strategy differs from those of Classen et al. (2014), who state that FFs are conventional through unwillingness for innovation-related inquiry.

Regarding the second strategy, *Office Co.* manages ideas for design and innovation with the help of internal and external stakeholders, including external designers and design teams, in-house designers and design team, external consultancy companies, suppliers, sales team, R&D team, customers, industrial associations, public institutions, dealers/franchises, and all internal family and non-family professionals. Since the family trusts in professionals, puts non-family professionals in management positions of the firms, and family members are even trained and raised by them, the FF case gets consultancy and support from all actors. Similar to the discussions in the literature, since

FF has the goal of long-term orientation (Cassia et al., 2011, 2012; Kammerlander & Ganter, 2015), they keep the connections with internal and external stakeholders (Miller et al., 2015), and trust all professionals to receive the skills and knowledge needed to innovate (Garcia & Calantone, 2002). Whereas, this strategy differs from those of Nieto et al. (2015), who state that FFs are hesitant to risk and concerned with parsimony through unwillingness for external innovation-related knowledge.

Additionally, this study identifies that the ability to detect innovation opportunities through sensing capabilities are mainly provided by the family's control and influence over the firm. Besides, DC perspective emphasizes the changes firms' resources and capabilities over time through the succession of generations and sensing capability enables to renew the innovation processes. Thus, this long-term and flexible feature of sensing capability is facilitated by the social ties within the family and the firm (Miller and Le Breton-Miller, 2005). Moreover, the founder's, the long-term leader in *Office Co.*, passion for continuously sensing new product, industry, and market opportunities, and strong influence within the firm by imposing his own opinions, positively affects the sensing capability of the firm and acts as a motivation for the actors in the firm towards more innovative activities. This authority affect by family members with strong position is emphasized in the literature (Zellweger et al., 2010). However, this finding different from those of Fitz-Koch and Nordqvist (2017), who identifies that the founder's authority negatively affect the sensing capability in the firm, as an overwhelming factor for the people.

Consequently, this study shows that effective sensing capabilities enable the FF to grow, and to evolve by adding new knowledge and resources for competitive advantage. The contradictory findings of this study might be resulted because of *Office Co.*, being a rather young FF (second-generation) and operating in an emerging market context, where the industry is still in the growing phase and the leading (representative) firms are willing to expand for competitive advantage in the global market.

5. CONCLUSION
This study extends the innovation literature in FB context, since there are few previous studies with in-depth perspective focusing on the relationship between family involvement and sensing strategies, drawing on a capability-based view (e.g., Fitz-Koch & Nordqvist, 2017; Gomez-Mejia et al., 2011; Sciascia et al., 2015). The findings of this qualitative study reflects that innovation capabilities, sensing capability specifically, positively benefit from family's involvement, the familiness dimensions specifically. Regarding the familiness dimensions, it is found that family's involvement is not setback for innovation, as it is widely mentioned in the literature (e.g., Classen et al., 2014; Fitz-Koch & Nordqvist, 2017; Nieto et al., 2015). This result contributes to innovation in FB research (e.g., Chrisman et al., 2012; De Massis et al., 2013).

Additionally, this study highlights that FFs are willing to take risks and offers a framework of how FFs develop sensing capabilities through revealing several strategies, and behaviors. Besides, this study particularly reveals how a FF from an emerging market context shows strong capabilities for innovation through a strategic commitment. Herein, FFs, adopting long-term commitment and design awareness perspectives, monitor trends and international markets, analyze changes in industry and business, and manage ideas through support of internal and external stakeholders. Thus, this result contributes to innovation literature as well.

Moreover, since the design-intensive firms rely on the creativity and innovative contributions and are significant for competitive advantage in dynamic environments (Dell'Era and Verganti, 2007, 2010, 2011; Dell'Era et al., 2008), this study samples a design-intensive FF from office furniture manufacturing industry and highlights the role of designer/founder and the vision of design awareness in creating and developing sensing capabilities. This insight extends the controlling family members' role and involvement in

innovation (Dalpiaz et al., 2014), and contributes to the knowledge of design-intensive industry context.

This study has limitations since the theoretical framework is narrowed to one form of dynamic innovation capability, sensing, and the influence of familiness dimensions. Moreover, the analysis of empirical data relies on an in-depth single case research, and the methodology prevents the cross-case comparison among firms, sectors, and markets. Thus, future research is suggested to extend the findings of this study with both qualitative and quantitative perspectives, and to examine different industries and/or several FFs with multiple-case approach.

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