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Socioemotional wealth and innovativeness in small- and medium-sized family enterprises: A configuration approach

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Abstract

What enables small- and medium-sized family enterprises (family SMEs) to engage in innovation? Some family firm dynamics promote innovation, yet others hinder it, and it t remains unclear whether combinations of family firm dynamics allow family SMEs to innovate. Our configurational perspective of socioemotional wealth (SEW) unravels determinants of family SMEs' innovativeness. We conduct a fuzzy set qualitative comparative analysis on a sample of 452 Swiss family SMEs. In doing so, we categorize relevant antecedents of innovativeness based on socioemotional wealth dimensions into configurations of necessary and sufficient conditions. These findings offer important implications for the development of theory regarding family SMEs' innovativeness because they reveal that focusing on the effect of the interplay of individual SEW dimensions is appropriate, and multiple SEW configurations can lead to high innovativeness. Moreover, the insight that SEW and its dimensions are not inherently negative for family SMEs' innovativeness is of practical relevance since it offers practitioners a better framework to acknowledge the possible implications of family owners' non-economic, socioemotional goals for innovation.

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1. Introduction

Research on innovation in small- and medium-sized family enterprises (family SMEs) is growing rapidly, seeking to determine how family ownership affects innovation inputs as well as innovation outputs (Block, Miller, Jaskiewicz, & Spiegel 2013; Carnes and Ireland 2013; Kassicieh, Kirchhoff, Walsh, & McWhorter 2002; Kotlar, De Massis, Frattini, Bianchi, & Fang 2013). Yet, existing studies report inconsistent findings when it comes to the effect of family ownership on innovation (De Massis, Sharma, Chua, & Chrisman 2012).

For example, studies show that family SMEs focus strongly on innovation as a result of their unique family heritage and dynamics, promoting research and development (R&D) investments and process innovation (Classen, Carree, Van Gils, & Peters 2014). Other studies, however, report that family SMEs' desire to carry the firm on to the next generation (Mahto, Ahluwalia, & Khanin 2014), favoring family interest over business interests (Koiranen 2003), leads to more risk-averse and less

innovative behavior (Craig, Pohjola, Kraus, & Jensen 2014; Mahto and Khanin 2015). Accordingly, family SMEs devote fewer resources to R&D processes and technology acquisition and create innovations with lower economic and technological importance compared to their non-family counterparts (Block et al. 2013; Carnes and Ireland 2013; Kotlar et al. 2013). The inability to understand how and under what conditions family ownership affects innovation constitutes a significant gap in our understanding of family SMEs. In order to survive and to preserve the family's and firm's wealth for multiple generations, family SMEs need to remain innovative (c.f., Cassia, De Massis, & Pizzurno 2011). In this article we respond to recent calls to 'unravel' this relationship (see, e.g., Kellermanns, Eddleston, Sarathy, & Murphy 2012) and do so by focusing on the relation between family ownership and a family SMEs' *innovativeness*, i.e. their "tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes" (Lumpkin and Dess 1996, p. 142).

Extant research on family firms suggests that family SMEs' innovation behavior is likely to be different from that of their non-family counterparts due to the affective value family owners derive from their firms (Block et al. 2013; Carnes and Ireland 2013). In this respect, the concept of socioemotional wealth (SEW) (Gómez-Mejía, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes 2007) has recently sparked attention in the academic domain due to its focus on the behavioral dimensions that are unique to family firms (Mensching, Kraus, & Bouncken 2014). SEW refers to the firm-owning families' "affective endowment" and the non-economic value they derive from their ownership and/or management position in the firm (Berrone, Cruz, & Gómez-Mejía 2012; Cennamo, Berrone, Cruz, & Gomez-Mejia 2012). SEW explains differences in firms' level of innovativeness because the aim of protecting the family owners' socioemotional wealth may result in a conservative approach characterized by risk-aversion and fewer investments to develop innovations (Gómez-Mejía et al. 2007). Yet, as an owner's desire to protect the family's socioemotional wealth may manifest itself in different ways (Berrone et al. 2012; Miller and Le Breton-Miller 2014; Songini and Gnan 2015), some manifestations of SEW may adequately address the paradoxical tendency to protect the family goals while ensuring the long term viability and prosperity of the firm. For example, retaining family influence

in key strategic positions may create an inward-looking, non-innovative approach but, at the same time, facilitate decision making. When combined with the knowledge-sharing that strong family ties facilitate, family SMEs may be able to identify more opportunities for innovation and internal (process) improvements and can act quicker than non-family counterparts. Previous study has typically neglected such interactions, and we seek to contribute to the understanding of innovativeness within family firms by using a multidimensional model of SEW that includes the goal to (1) exert influence on the firm, (2) uphold a strong family identity with the firm, (3) preserve binding social ties, (4) maintain emotional attachment, and (5) ensure intra-family succession (Berrone et al. 2012; Gómez-Mejía et al. 2007) to explore the unique dynamics associated with family ownership. Fuzzy set qualitative comparative analysis (fsQCA) on a sample of 452 Swiss family SMEs is used to identify distinct sets of causal configurations observed across cases. In contrary to regression-based methods, which assume symmetric relationships, fsQCA assumes asymmetric relationships (i.e., different combinations of independent variables can lead to the same outcome). As such, the added value of this technique stems from its ability to improve existing theories by analyzing interrelations between variables that result in distinct causal conditions (Fiss 2011). We particularly focus on family SMEs in which innovation is important as well as difficult to achieve (De Massis, Frattini, & Lichtenthaler 2013). Family SMEs play a crucial role in most economies (Memili, Fang, Chrisman, and De Massis, 2015) and they tend to behave differently from their larger counterparts (Classen et al. 2014) making it important to investigate the role of innovativeness in family SMEs in detail (also see Sciascia, Nordqvist, Mazzola, & De Massis 2015).

From a theory perspective, we advance existing work on innovation in family SMEs by incorporating the notion of *equifinality* (Katz and Kahn 1978). Equifinality puts forth that "a system can reach the same final state from different initial conditions" (Katz and Kahn 1978, p. 30). Building on the notion of equifinality, we propose that the mere presence of SEW may not yield high or low levels of innovativeness in SMEs. Rather, family SMEs can yield unique SEW configurations (Harms, Kraus, & Schwarz 2009) that are characterized by differences in the intensity of family control, identification, binding social ties, emotional attachment, and dynastic succession. Indeed, our results show that SEW should not be considered as a higher order construct, but that a focus on the individual dimensions is

appropriate and that the interrelations between these individual dimensions of SEW are not as clear cut as previous research suggest. These insights hold value for family SME owners, managers, and advisors that want to understand how tendencies to derive emotional value from owning a stake in an SME affect their approach to innovation.

2. Theoretical foundations

2.1 Innovativeness in family SMEs

Due to potentially conflicting goals such as economic efficiency versus family interests, family SMEs' tendency to engage in innovation is rather complex (Astrachan and Jaskiewicz 2008; Vandemaele and Vancauteren 2015; Chirico and Bau 2014). Family-owned SMEs are typically guided by unique norms, cultures, and processes that rarely exist in non-family counterparts (Kellermanns et al. 2012) and determine family SMEs' decision-making processes, including innovation. In addition to factors such as nepotism, rigidity, and conflict potential, which are all said to limit these firms' tendency to innovate (Roessl, Fink, & Kraus 2010), risk aversion tends to play a crucial role (e.g., Cassia, De Massis, & Pizzurno 2012). These characteristics generally originate from: (1) blurred boundaries between family and firm equity, since owning families typically invest most of their wealth in their firms (Carney 2005) to avoid external sources of financial capital (Chrisman and Patel 2012); (2) an overly strong emphasis on personal interests of the different involved family members; or (3) the desire to carry the firm on to the next generation (Koiranen 2003). Often, the family SME represents "the lifeblood of the family" (Kellermanns et al. 2012, p. 89). Consequently, the possible costs of a failed innovation in terms of lost financial capital or reduced reputation in the market, tend to outweigh benefits of a potential success. Because keeping the business strong and alive across generations is a main desire of family owners (Miller, Le Breton-Miller, & Scholnick 2008), they are more likely to avoid market opportunities that have a higher probability of failure (Habbershon and Williams 1999).

Nevertheless, innovation is crucial for the continuity of family SMEs (Filser, Brem, Gast, Kraus, & Calabrò 2016). They must continuously find ways to identify and seize opportunities as well as refine and exploit existing resources to grow and successfully compete. Some research notes that the family

SMEs' goal to keep the business in the family for generations, their reciprocal altruism, and their social capital have been identified as family-based characteristics that facilitate their tendency to engage in the development of innovations (Naldi, Nordquist, Sjoeberg, & Wiklund 2007; Classen, Van Gils, Bammens, & Carree 2012). As a result, family SMEs may possess access to the resources and capabilities needed to innovate and can thus develop their innovativeness (Newbert, Kirchhoff, & Walsh 2007).

Another factor that typically favors innovativeness within family SMEs is their decision-making ability (Kraus, Filser, Götzen, & Harms 2011), which makes them more agile with respect to their decision-making processes than their non-family counterparts. This holds true especially when competitors introduce innovations to the market and family SMEs have to react to such competitive actions (König, Kammerlander, & Enders 2013). Although the decision-making process can be slowed down by conflicts within the family or divergent family interests, family firms gain experience with such conflicts over time and their processes become more flexible, less hierarchical, and therefore faster. Such flexibility is vital for innovation since it facilitates change in response to developments in the internal and external environment (Craig and Dibrell 2006).

2.2 Dimensions of socioemotional wealth as determinants of family SMEs' innovativeness

Firm-owning families typically possess a deep economic dependence on their firm for earnings, reputation, and job opportunities, as well as a significant socioemotional attachment to it both of which stem from the intense connection between family and business (Miller et al. 2008). This socioemotional attachment is captured by the concept of SEW (Xi, Kraus, Kellermanns, & Filser 2015) and refers to an "all-encompassing approach that captures the affective endowment of family owners" (Berrone et al. 2012, p. 5). SEW thus focuses on the non-economic value family firm owners obtain from their controlling and owning position in their firm, and contains the following five dimensions: the owning family's intent to 1) exert influence on the firm, 2) maintain a strong family identity with the firm, 3)

preserve clan membership within the firm, 4) retain emotional attachment and 5) ensure intra-family succession (Berrone, Cruz, Gomez-Mejia, & Larraza-Kintana 2010; Berrone et al. 2012).

Generally, innovations "renew companies, enhance their competitive advantage, spur growth, create new employment opportunities and generate wealth" (Hayton and Kelley 2006, p. 407). They thus represent a strategic approach to preserve the family firm's economic and non-economic wealth but remain a risky endeavor which may not always lead to successful outcomes. The family's motive to preserve their SEW potentially influences the firm's decisions, leading to different strategic orientations from those observed within non-family counterparts (De Massis, Kotlar, Chua, & Chrisman 2014) including their tendency to engage in innovations.

Firm owners' propensity to take risks plays a crucial role when discussing innovativeness from an SEW perspective, and two lines of argumentation are possible. On the one hand, family SMEs may be eager to take the risks associated with innovation, seeking to protect and improve their economic and non-economic utility in the long run (Classen et al. 2014). On the other hand, family SME owners may act cautiously and may reveal a passive attitude towards innovativeness due to the inherent risk associated with innovation (De Massis, Frattini, Pizzurno, & Cassia 2015). In particular, risk aversion concerning necessary but risky investments in innovation and R&D can hinder opportunity exploration and exploitation processes (Craig et al. 2014). Below, we discuss the relationship between the different dimensions of SEW and innovativeness in more detail.

2.2.1 Family control and influence

The extent to which family control is exhorted within family SMEs depends on the family members' power to control key strategic decisions as CEO, member of the top management team, or the board of directors (Block et al. 2013). Substantial family influence may result in a desire to retain control and transfer the firm to the next generation (Chen, Hsu, & Chang 2014). Family owners tend to embrace a long-term orientation as a result (Le Breton-Miller and Miller 2006), which induces them to follow their

family agenda rather than making risky decisions (Gómez-Mejía et al. 2007) with respect to innovation. This long-term orientation may be associated with high risk aversion that can impede innovativeness.

In family SMEs, such behavior might be even more present. The typical resource limitations in human and financial capital faced by family SMEs constrain their innovativeness. First, controlling families that value their influence in decision making processes are unlikely to make use of external human capital, as they do not like to hire external/non-family managers (Colombo, De Massis, Piva, Rossi-Lamastra, & Wright 2014) or delegate decision-making responsibilities to them. In fact, this may endanger the distribution of power and reduce their influence. Second, controlling families may be suspicious when it comes to external sources of financial capital, as providers of capital typically demand involvement and influence in decision-making processes (Chrisman and Patel 2012). Accordingly, family members often invest most of their personal wealth in their firm (Carney 2005). Fearing the risk of failure, family members are rarely willing to jeopardize their financial stake and their SEW in favor of innovativeness.

2.2.2 Family members' identification with the firm

When family members strongly identify themselves with their firm, which is often the case given family owners' vocational fulfillment, economic dependence, and socioemotional connection (Miller et al. 2008), boundaries between family and firm fade (Stevens, Kidwell, & Sprague 2015). In most cases, family owners' identity is inevitably tied to the organization, especially when the firm carries the owner's family name. The reputation of family and firm are then interrelated (Leitterstorf and Rau 2014) and any harm to the firm also results in a reputational loss for the family, hence damaging their SEW (Deephouse and Jaskiezicz 2013). In this case, families that identify with the family SME and focus on SEW protection may primarily concentrate on the preservation of the status quo and reveal a less proactive attitude towards risky decisions (Gómez-Mejía et al. 2007) resulting in an innovation-averse and conservative orientation (Morck and Yeung 2003). Second, because of the close link between family and firm reputation, any damage caused by unsuccessful innovations equally damages the family's and firm's reputation as well as the family's SEW, which may lead to a lower degree of innovativeness.

2.2.3 Binding social ties

Binding social ties refer to social relationships of the family firm, family members, and internal and external stakeholders (Miller and Le Breton-Miller 2005; Uhlaner 2006), which may encourage the sharing of information and experience and the creation of social capital with the help of the family or the broader community (Gómez-Mejía et al. 2007). By means of binding social ties, knowledge networks are created that are vital to innovativeness, since they facilitate the access to knowledge and knowledge-sharing by transferring expertise, insights, and experiences among network members (Sirmon and Hitt 2003). Such an open attitude towards social capital and networks plays a crucial role for the tendency to innovate (Spriggs, Yu, Deeds, & Sorenson 2013).

Due to the "liability of smallness" of family SMEs in terms of resources and assets, they may feel induced to develop an open attitude to gain access to additional external resources, capabilities, and skills, seeking to further advance their tendency to innovate. As Miller et al. (2008) reveal, family SMEs score higher on networking activities, which leads to high levels of community and customer connections. Such a close relationship with external and internal stakeholders, aligned with the "openness" towards knowledge-sharing, may provide family SMEs with a higher propensity to take the risks associated with innovativeness, since they possess greater access to resources, experiences, expertise, and information that increase the likelihood of innovation success.

2.2.4 Emotional attachment

Families' emotions are shaped by their aim to protect their heritage, which typically influences their decision-making (Berrone, Cruz, Gómez-Mejía, & Larraza-Kintana 2010). A family's emotional attachment is determined by shared emotions, history, and knowledge, including jointly experienced events that affect how family members are behaving as firm owners.

As a result of strong emotional attachment, family executives typically reveal a strong sense of responsibility for the longevity of their firm (Lumpkin, Brigham, & Moss 2010). They also reveal a high

job continuity which helps them build up a deep knowledge of the firm and its activities (Miller et al. 2008). Accordingly, they focus on the long-run survival of their firm (Miller et al. 2008) and attribute high value to close ties, strong emotional bonds, and harmony, making them reluctant to put those relationships at risk by engaging in risky activities like innovativeness (Li, Griffin, Yue, & Zhao 2013).

2.2.5 Renewal of family bonds through dynastic succession

A central element of SEW is the family's desire to keep the firm up and running over multiple generations and to protect the family's wealth, traditions, and values. To facilitate intra-family succession, family SMEs often apply long-term planning horizons and aim to make sustainable, long-term decisions (Levenburg, Schwarz, & Almallah 2002). On the one hand, research shows that a long-term orientation can increase family SMEs propensity to invest in innovation development (Classen et al. 2014). On the other hand, owners of family SMEs may regard the change associated with innovations as risky and undesirable because it may put the family's legacy at stake (Ford, Ford, & D'Amelio 2008). Furthermore, in long-term oriented family firms, risky business actions are deterred by continuity concerns and a stronger preference for predictable, conscious actions is found (De Massis et al. 2015).

In particular, the goal to transfer the firm over generations may restrain the family SMEs' readiness and capability to take the risks associated with innovativeness (Lumpkin et al. 2010). Kellermanns, Eddleston, Barnett, and Pearson (2008, p. 2) argue, for instance, "the greatest concern is that, in order to protect the firm over the long run, family leaders may become too strategically conservative, thereby minimizing entrepreneurial behaviors".

3. Methodology

3.1 Sample

We randomly selected 2,000 Swiss family SMEs from the Schober database, which provides access to an extensive collection of SMEs and contact details of their business owners/CEOs in German-speaking countries. We define family SMEs based on the family's ownership, which is the most adopted

criterion in family business literature (De Massis et al. 2012). Accordingly, the sample includes family SMEs with less than 250 employees (see European Commission 2005) in which more than 50% of the voting shares belong to one family (Donckels and Fröhlich 1991). Business owners and CEOs are targeted as these individuals are most familiar with a firm's strategic decisions, activities and innovativeness (Zahra 1991). Telephone interviews with 452 companies were carried out, yielding a response rate of 22.6% (see table 1).

To examine a potential non-response bias, we randomly split the sample into two groups and compared the variables between the groups, following Armstrong and Overton (1977) concurrent waves for extrapolation. The two-tailed t-statistics showed that all variables were insignificantly different between the two groups ($|t|=0.40\sim1.21$, $p>.05$), suggesting that a non-response bias is not present.

Table 1: Sample characteristics

Item	Frequency	Percentage	Item	Frequency	Percentage
Gender			**Legal form of the business**		
Male	378	83.63%	One-man business	61	13.50%
Female	74	16.37%	Ltd	116	25.66%
Education			Stock corporation	259	57.30%
Vocational training	85	18.81%	Institution	6	1.33%
High school	25	5.53%	Trust	3	0.66%
Higher professional examination	134	29.65%	Other	7	1.55%
Bachelor	66	14.60%	**Industry of the business**		
Master	90	19.91%	Other	68	15.04%
Doctorate	17	3.76%	Agriculture and forestry / Fishing	3	0.66%
Others	35	7.74%	Manufacturing / Production of goods	99	21.90%
International activity of the business			Construction industry	76	16.81%
Yes	262	57.96%	Trade	91	20.13%
No	190	42.04%	Traffic	6	1.33%
Operating country of the business			Financial and insurance services	16	3.54%
Germany	23	5.09%	Provision of professional, scientific and technical	37	8.19%
Austria	3	0.66%	Hospitality and catering	16	3.54%
Switzerland	401	88.72%	Information and communication	36	7.96%
Liechtenstein	25	5.53%	Education & teaching	4	0.88%

3.2 Measures

Innovativeness was measured based on previously validated scales developed by Eggers, Kraus, Hughes, Laraway, and Snycerski (2013). The authors adapted items from existing scales to suit the specific context of SMEs. This innovativeness scale included items about the firms' innovations as well as their efforts to stimulate innovativeness and enhance creativity within their organizations (Eggers et

al. 2013). To measure SEW as a multidimensional construct, we used the scale proposed by Berrone et al. (2012).

Table 2 summarizes the results of the factor analysis used to assess the measurement properties of the two scales. While a one-factor solution was obtained for innovativeness (accumulative variance explained=60.43%), a five-factor solution emerged for SEW with eigenvalues greater than 1 (accumulative variance explained=61.32%). Factor loadings for all items passed the recommended threshold of .50 (Hair, Black, Babin, & Anderson 2010). Cronbach's alphas for all factors were greater than .60, suggesting high internal consistency reliability (Drasgow 1984; Nunnally 1978). Composite variables were created to represent innovativeness and each of the five dimensions of SEW.

Table 2: Results of Exploratory Factor analysis

Construct/Factor	Number of retaining items /Number of items [a]	Factor loadings	Accumulative variance explained	Cronbach's alphas
Innovativeness	5	.71~.82	60.43	.83
SEW			61.34	
Family Control and Influence	5/6	.54~.70		.70
Family Members' Identification with the Firm	5/6	.71~.79		.89
Binding Social Ties	4/5	.55~.80		.67
Emotional Attachment	5/6	.82~.54		.85
Renewal of Family Bonds	5/6	.58~.87		.84

[a] The items with low factor loadings were deleted from the analysis. The retaining items had factor loadings greater than .50.

3.3 Common method bias

According to Podsakoff, MacKenzie, Lee, and Podsakoff (2012), we employed the confirmatory factor analysis (CFA) marker technique, developed by Williams, Hartman, and Cavazotte (2010) to examine whether common method bias (CMV) exists and what effects it has. Several CFA models were analyzed, including (1) a CFA model without a latent method factor, (2) a CFA model with a latent method factor in which the latent method factor was unrelated to the research items, (3) a Baseline model in which the latent method factor was unrelated to the research constructs, (4) a Method-C model with

restricted associations between the latent method factor and the research items, (5) a Method-U model with unrestricted associations between the latent method factor and the research items, (6) a Method-R model using restricted correlation parameters among the constructs. Each model was developed by adding conditions to its previous model. Please see Podsakoff et al. (2012) and Williams et al. (2010) for a more detailed description of these models. Table 3 displays the model fitness and comparisons between the models.

Table 3 Model Comparison Tests for CMV

Model		χ^2	df	CFI	Model comparison	$\Delta\chi^2$	Δdf
1	CFA model without a latent method factor	1101.81	362	0.87	-	-	-
2	CFA model with a latent method factor	1218.50	443	0.88	Model 1 vs. Model 2	116.69*	81
3	Baseline model	1253.14	454	0.88	-	-	-
4	Method-C model	1691.48	453	0.81	Model 3 vs. Model 4	438.34*	1
5	Method-U model	1137.68	425	0.89	Model 4 vs. Model 5	553.80*	28
6	Method-R model	1138.73	440	0.89	Model 5 vs. Model 6	1.06	15

* $p<.05$

We first compared Model 1 and Model 2 to detect the existence of CMV. Table 3 indicates that the fit for Model 1 was worse than the fit for Model 2 ($\Delta\chi2=116.69$, $p<.05$). As CMV is significant, one must investigate whether it biases the estimates of factor loadings and correlations between the constructs. As the difference of the chi-square fit statistics between the Baseline model and Method-C model was significant ($\Delta\chi2=438.34$, $p<.05$), CMV may cause a bias. However, a comparison between the Method-C and Method-U models indicates that the Method-U model is significantly better ($\Delta\chi2=533.80$, $p<.05$), suggesting that the CMV model is not supported. Finally, the difference of the chi-squire fit statistics between the Method-R and Method-U models did not reach significance, suggesting that the effects of the latent method variable did not significantly bias correlation estimates between the constructs. Therefore, the risk of CMV does not appear to be a considerable threat.

3.4 Method of analysis

FsQCA represents a powerful analytical tool for testing theories (Bell, Filatotchev, & Aguilera 2014). It is a diversity-oriented approach which yields alternative solutions to understand the construct of a particular outcome (Kent 2005). Further, building on set relationships rather than correlations, fsQCA allows for systematic cross-case comparisons instead of comparing individual variables (Ragin 2009) and produces several logical statements describing combinations of conditions that are sufficient for the outcome to occur (Ragin 2008). By means of Boolean algebra, fsQCA analyzes cases with distinct causally important conditions (Woodside and Zhang 2012). It helps to identify the causal combinations of conditions sufficient to produce the outcome (Ragin 2009). Specifically, these combinations are alternate sufficient causes that are capable of producing the outcome but are not the only cause with this capability (Ragin 2008). Please see Kraus, Ribeiro-Soriano, and Schüssler (forthcoming) for a more detailed description and application of the fsQCA technique.

This technique has been receiving significant attention recently (Kraus et al. forthcoming). With roots in political science and sociology, fsQCA is now widely applied for the analysis of social science theories (Ragin 2009) relevant to fields of business, management, entrepreneurship, marketing, finance, innovation, and economics (e.g., Bell et al. 2014; Kraus et al. forthcoming; Misangyi and Acharya 2014). Also in family firm research, first scholars applied this technique to identify, for instance, different configurations of family firms based on components of family involvement (Garcia-Castro and Casasola 2011) or to explore family firm internationalization (Kraus, Mensching, Calabrò, Cheng, & Filser 2016). We use fsQCA to examine and combine antecedents in the form of the individual SEW dimensions into distinct causal recipes leading to high innovativeness.

Following best practices for fsQCA, we transformed all variables with ordinary data into fuzzy scores at first. The process of calibrating variables requires the specification of full membership (95%), cross-over anchors (50%), and full non-membership (5%). We set the original values of 5.0, 3.0, and 1.0 from five-point Likert scales to correspond to these memberships, respectively based on suggestions from Ragin (2008, 2009) and Woodside (2013). The next step is to recognize configurations that are

sufficient to the outcome from those that are not by specifying the number-of-cases threshold as 7 and the consistent cutoff value as .85.

4. Results

Table 4 displays the five causal configurations for high innovativeness based on our fsQCA. Two types of indices signal the strength of each causal configuration and the solution. First, the *consistency* value is similar to significance metrics in statistical hypothesis testing and assesses the extent to which the cases with a given configuration lead to the outcome. It thus indicates whether a solution is a significant sufficient condition for the outcome (Ragin 2008; 2009). The consistency values for each configuration and overall solutions exceed the required level (i.e., .75), demonstrating that these configurations are sufficient conditions leading to high innovativeness. Second, *coverage* is examined, which is similar to the effect size in statistical hypothesis testing and indicates the extent to which the outcome is explained by a given configuration (Woodside 2013; Ragin 2008). According to Table 4, each configuration with greater-than-zero unique coverage can solely explain innovativeness. The overall solution coverage exceeds .90, suggesting that these solutions can explain a large proportion of high innovativeness (for enhancing the readability and ease of comparison among the different solutions, see Figure 1).

These five solutions indicate several patterns of causal configurations. First of all, the SEW dimension 'family control and influence' is a core condition for high levels of innovativeness, since it is present in all solutions. In addition, solution S1 denotes that the presence of both SEW dimensions 'family members' identification with the firm' and 'binding social ties', aside from 'family control and influence', can be sufficient for achieving high levels of innovativeness.

However, the dimensions 'family members' identification' and 'binding social ties' become substitutes when one accounts for the remaining two SEW variables, 'emotional attachment' and 'renewal of family bonds through dynastic succession'. Specifically, along with the presence of family influence and family members' identification, either the presence of the two SEW dimensions 'emotional attachment' and 'renewal of family bonds' (S2) or the absence of both (S3) can result in

innovativeness. Likewise, when ‘family control and influence’ and ‘bonding social ties’ are present, innovativeness can rely on either the presence of emotional attachment and renewal of family bonds (S4) or the absence of both (S5).

Moreover, solutions S2-S5 all demonstrate that the two SEW variables ‘emotional attachment’ and ‘renewal of family bonds’ are complementary to each other. Put differently, the simultaneous presence or absence of these two dimensions is the requirement for increasing the family SMEs’ tendency to innovate. Accordingly, influence, identification, and binding social ties are more contributive to innovativeness, compared to other dimensions of SEW.

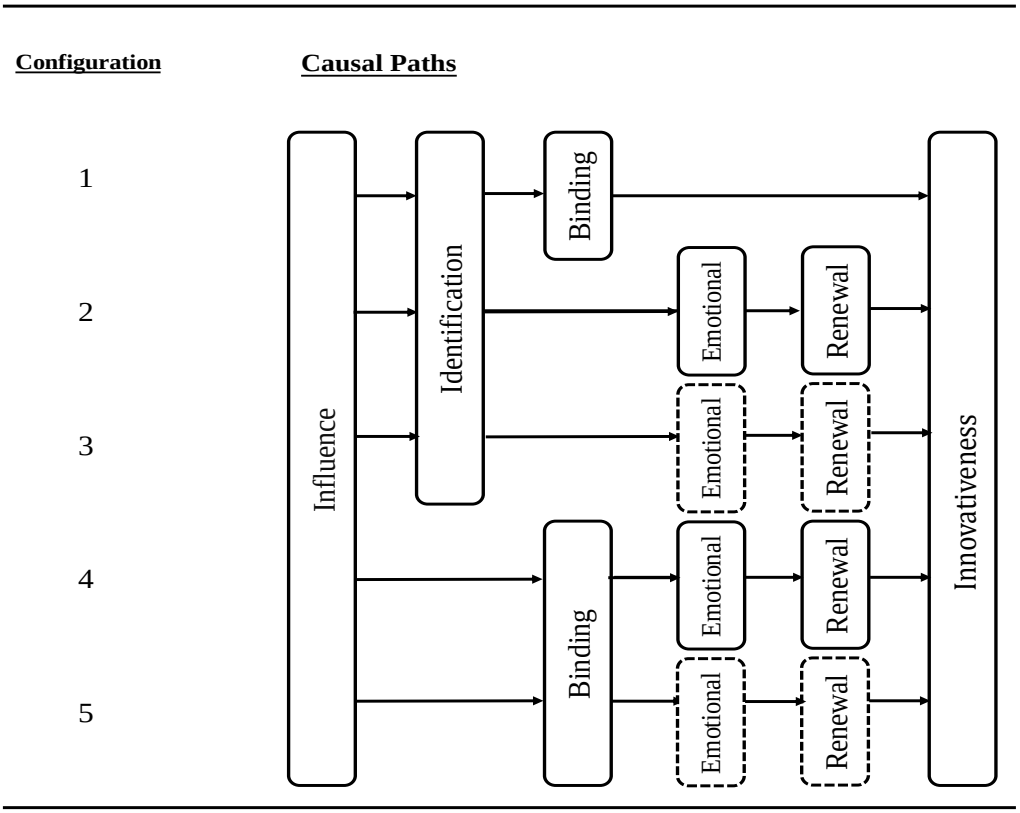
To examine whether the findings are robust to the use of alternative specifications of the analysis, we further conducted several fsQCA analyses using different samples (i.e., randomly splitting the sample into two groups), criterion for data calibration (i.e., different crossover point), and criteria for thresholds that were used for editing the truth table (i.e., the number of cases equal to 10 and the consistency threshold equal to 0.87). The results confirm the solutions of S1-S5. Although minor changes were observed, the interpretation of the results remains unchanged.

Table 4: Causal Configurations for Innovativeness

Conditions	Causal Configurations				
	S1	S2	S3	S4	S5
Family Control and Influence	●	●	●	●	●
Family Members' Identification with the Firm	●	●	●		
Binding Social Ties	●			●	●
Emotional Attachment		●	○	●	○
Renewal of Family Bonds Through Dynastic Succession		●	○	●	○
Raw Coverage	.85	.71	.43	.70	.43
Unique Coverage	.07	.02	.01	.01	.02
Consistency	.82	.86	.90	.88	.90
Overall Solutions' Coverage	.92				
Overall Solutions' Consistency	.80				

Notes: Black circles "●" indicate the presence of causal conditions (i.e., antecedents). White circles "○" indicate the absence or negation of causal conditions. The blank cells represent "don't care" conditions.

Figure 1: Causal Paths Leading to Innovativeness for Family Firms



5. Discussion

This study explores how SEW and its individual dimensions affect family SMEs' innovativeness. Although previous research has addressed innovation in family firms, it remains unclear why different levels of innovation are observed. To address this gap, we analyzed a sample of 452 family SMEs by applying the fsQCA technique and we identified five different configurations of the SEW dimensions leading to high levels of innovativeness. Our results help to explain the complex relationship between innovation in family firms, as both the presence and absence of individual SEW dimensions can lead to innovativeness. In addition, we show that innovativeness does not depend on one crucial dimension of SEW but rather on how the different aspects of SEW interact and complement each other to create innovativeness, meaning that different ways in which family owners may derive affective value from their SME can lead to high levels of innovativeness.

Comparing the individual configurations shows that each configuration includes the presence of the SEW dimension 'family control and influence' – i.e., the family's power to control key strategic

decisions (Chua, Chrisman, & Sharma 1999) – which has important implications for our understanding of the role of a family owners' controlling power on innovativeness. Family influence has been associated with the tendency to embrace a long-term orientation (Le Breton-Miller and Miller 2006) and the type of risk aversion that prohibits making risky decisions with respect to innovation (Gómez-Mejía et al. 2007). Based on our analysis, family control is not inherently negative for innovation and can even be considered as crucial as long as it is accompanied by the presence or absence of other conditions. Next to prohibiting risk taking, positive implications of family influence include that family involvement in top management or board positions can lead to more flexible decision-making processes and structures (Craig and Dibrell 2006). When combined with, for example, binding social ties (i.e. close relationships with internal and external stakeholders), such structures allow family SMEs to identify more opportunities for process innovation through the higher levels of knowledge-sharing among network members associated with the SEW dimensions 'binding social ties' leading to higher levels of innovativeness. In addition, when combined with the SEW dimension 'family members' identification' – i.e., a situation where the identity of the family and the firm are strongly intertwined – any innovation-related decision may be framed in a long-term perspective and urge family SMEs to invest in innovation to remain competitive and to retain positive identity endowments from the firm in the long run.

A comparison of configurations S2, S3, S4 and S5 reveals that the SEW dimensions 'family members' identification with the firm' and 'binding social ties' seem to be substitutes for each other when also considering the absence or presence of 'emotional attachment' and 'renewal of family bonds'. In the presence of family influence *and* identification or family influence *and* binding social ties, either the presence of emotional attachment and renewal of family bonds or the absence of both SEW dimensions can lead to higher innovativeness. Put differently, the existence as well as the absence of strong levels of emotional attachment and renewal of family bonds can facilitate innovativeness. Interestingly, both dimensions need to be simultaneously high or low to affect innovativeness, which points towards the complementarity of these two dimensions SEW. We further argue that strong emotional attachment together with a strong desire for intra-family succession may result in the application of long-term planning horizons (Miller et al. 2008) that lead the firm to make sustainable,

long-term decisions (Levenburg et al. 2002) and support the family SME's likelihood of investing in the development of their tendency to innovate (Classen et al. 2014).

6. Implications and limitations

Our focus on the individual dimensions of SEW on family SMEs' innovativeness and the identification of five different causal configurations which lead to a high level of innovativeness has important implications for theory and practice. Regarding theory, we show that SEW, in the context of innovativeness, should not be considered as a higher order construct, but that a focus on the individual dimensions is appropriate. The interrelations between the dimensions of SEW are not as clear cut as previous research suggests. For example, when considered in isolation from one another, family influence and identification may have negative implications for innovativeness (see, e.g., Gómez-Mejía et al. 2007; Miller et al. 2008; Morck and Yeung 2003). We have not found evidence that the absence of one of these dimensions or of a combination of them leads to innovativeness. Instead, the dimensions interact in complex ways so that their combined effects on innovativeness are positive. In addition, our results show that there is not one configuration that leads to high levels of innovativeness, creating a need to consider multiple configurations of SEW and alternative ways in which owning families initiate and sustain innovation in SMEs (Katz and Kahn 1978). As such, we add to the growing body of literature on the role and relevance of SEW for strategic decision-making (Chua, Chrisman, & De Massis 2015; Mensching et al. 2014) and innovation in family firms (Chrisman, Fang, Kotlar, & De Massis 2015). For practitioners we show how the SEW dimensions and their interplay can lead to an enhanced or reduced predisposition to innovation. A family's tendency to derive emotional value from their SME is largely exogenously given and our study provides family SME owners, managers, and advisors with practical insights into how such tendencies might shape a firms' innovativeness. By creating awareness and illustrating that neither SEW nor any of its sub-dimensions is inherently negative, this provides practitioners with a better framework to reflect on the implications of family-centered non-economic and socioemotional goals in relation to a firms' innovativeness.

As with any study, certain limitations have to be considered that come along with the chosen research design and method. Firstly, there are numerous variables that are said to influence innovativeness and by focusing on the SEW dimensions, we only integrate a small number of variables in our research. Even though this enables us to examine the effects of these dimensions individually, future studies can expand our result by including other variables that are said to affect innovativeness like a firms' organizational structure (O'Connor and Ayers 2005) or marketing-related resources (Covin, Eggers, Kraus, Cheng, & Chang 2016). In addition, since all variables were collected in one questionnaire, our study might be subject to a common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff 2003). Even though we are interested in the interactions between the different dimensions of SEW and our factor analysis does not indicate any common method problems, collecting the data through two independent surveys would alleviate such a bias. Finally, when interpreting our results, it should be kept in mind that we explicitly focused on family SMEs in this study. As those typically differ from large family firms in terms of organizational goals and resources (Kotlar, Fang, De Massis, & Frattini 2014), it is plausible that the casual configurations of SEW dimensions leading to innovativeness might differ as well. Future research should examine these differences by comparing the influence of the SEW dimensions on innovativeness in different contexts, e.g. small versus large firms.

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