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Efficacy of market sensing and family-controlled board in the new product development performance of family firms in an emerging market

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The efficacy of market sensing capabilities and family-controlled board in the new product development performance of family-owned firms in emerging markets

ABSTRACT

A call has recently been made for scholarly research aimed at understanding how family-owned firms can enhance their performance. Only a handful of studies have hitherto examined the capabilities of such firms in relation to innovation-related outcomes. In addition to this gap, past studies have either examined the mediation or moderation model, which did not fully elucidate the essence of how these firms can improve their new product development performance. Addressing these critical gaps by using survey data collected from 253 family-owned small-medium enterprises (SMEs) based in the UAE, we found that market sensing capabilities mediate the influence of socio-emotional wealth on new product performance. The mediated influence was also found to be positively moderated when a firm's board is controlled by family members. Our conceptual model is underpinned by the dynamic capability and upper echelons theoretical perspectives. Our findings offer useful insights for both practice and theory.

Keywords: *socio-emotional wealth, market sensing, family control, non-family control, dynamic capability, new product development performance, emerging markets*

1. Introduction

The established standing of family-owned firms in different economies has prompted scholarly research to investigate the conditions under which their performance can be enhanced (Hernández-Perlines et al., 2017; Hernández-Perlines et al. 2019; Hernández-Perlines et al. 2021). In this regard, scholars have proven that the socio-emotional wealth (hereafter, SEW) possessed by these firms is a unique characteristic that contributes to their superior performance. SEW is defined as an *“affect-related value that a family derives from controlling its position in a particular firm”* (Berrone et al., 2012, p. 259).

Despite the burgeoning literature on SEW, the findings of those studies that have examined SEW and its performance-related outcomes have been contradictory and inconclusive. For example, Berrone et al. (2010) argued that family-owned firms engage less in environmental-related activities than non-family-owned ones in order to preserve their SEW. The authors did not relate SEW to performance outcomes because many studies had already confirmed the positive effects of environmental-related activities on firm performance (Ağan et al. 2016; Gupta and Gupta 2020). Hence, their study merely hints at the fact that SEW may contribute positively to firm performance. Conversely, Gómez-Mejía et al. (2007) argued that family-owned firms prioritize the perpetuation of their SEW, consequently placing less emphasis on profitability. Limited studies have related SEW to financial performance (Glover and Reay 2015; Dyer 2018; Alonso-Dos-Santos and Llanos-Contreras 2019; Hernández-Perlines et al. 2021) and to the family-owned firms' propensity to take risks (Gomez-Mejia et al. 2011). Besides the inconclusive findings of these studies, there is a significant theoretical gap in linking SEW specifically to innovation-related outcomes (e.g., new product development performance) and to the conditions under which they can enhance new product performance. To address these critical gaps, the first objective of our study was to answer the following question: *“Does SEW positively influence new product performance in family-owned firms?”*

In addition to the gaps outlined above, little scholarly work has applied the dynamic capability perspective (Teece et al. 1997)—*how well the dynamic capabilities of a firm help to*

reconfigure its existing resource base to deal with a dynamic condition—in understanding the theoretical phenomenon of family-owned firms. A call has recently been made to extend the dynamic capability perspective in understanding the key capabilities that can contribute to the performance outcomes of family-owned firms (Daspit et al. 2019), in particular, the drivers of innovation-related outcomes (Park et al. 2019). Meanwhile, in the business management literature, marketing sensing—*the dynamic capability of the firm to acquire market knowledge*—has been identified as a unique capability that facilitates the development of innovative products for performance (Zhou et al., 2019). Berrone et al. (2012) acknowledged that the preservation of family values fosters a firm’s commitment to learning and capability development. In this regard, SEW represents the mainframe of reference for strategic actions (Berrone et al., 2012). Hence, it may be plausible that SEW may be able to influence new product development performance (hereafter, NPD performance) via the mediating role of the market sensing capability. Thus, our study attempted to answer another critical question: “Does SEW influence new product performance via market sensing capability?”

Another critical gap found in the family firm literature pertains to the boundary conditions for effective performance. In this regard, scholars have examined the role of different compositions of top management teams in the innovation-related outcomes of family-owned firms; however, these studies have also yielded mixed results. For example, Duran et al. (2016) compared family-owned and non-family-owned firms and found that the former tend to invest less in innovation but have an increased conversion rate of innovation input to output. Furthermore, they found that this effect is stronger when the CEO of the firm is a later generation family member. Conversely, family ownership has been observed to have a negative impact on innovation (Decker and Günther 2017). The degree of family involvement has been found to act as a moderating variable between entrepreneurial activities and performance outcomes (Casillas and Moreno 2010). We thus argued that a moderating-mediating mechanism might provide a full picture in terms of *how family-controlled boards strengthen the indirect effect of SEW on new product performance through the market sensing*

capability. This theoretical phenomenon is underpinned by the upper echelons perspective, which argues that top management composition affects business activities (Hambrick and Mason 1984); in such a context, scholars have called for an examination of the dynamics found in top-management teams (TMTs) and their connection with SEW and the enhancement of family-owned firm performance (Naldi et al. 2013). To the best of our knowledge, ours is amongst the few studies to apply upper echelons theory to the family-owned firm context. In addition, it is the first study to examine the moderating role played by board composition on the SEW and NPD performance perspective, considering the market sensing mediating mechanism. By doing so, it contributes useful insights to the extant literature.

Overall, the findings of our study make several important contributions to the current literature. First, they extend the literature on family-owned firms by integrating key insights drawn from the dynamic capability and upper echelons theories. Given the recent critical line of enquiry on how SEW contributes to new product development (Christofi 2021), we applied the dynamic capability perspective to the end of offering fresh insights by highlighting an important capability that enhances the effect of SEW on the NPD performance of family-owned firms. In this respect, we recognized the dynamism expressed by family-owned firms through a market sensing mediating mechanism. This extends the current theoretical body of knowledge beyond static resource endowment to capability utilization (market sensing) in value creation activities (Sharma et al., 2014; Barros et al., 2016). For instance, Khan (2020) found that market sensing is influential in marketing mix adaptation. By testing the mediating mechanism of this capability, our study offers fresh insights into its usefulness in NPD performance in the context of emerging market family-owned firms. Second, we applied the upper echelons theory to explain the boundary conditions (of a family- vs non-family-controlled boards) under which SEW can enhance NPD performance via the market sensing capability. By applying the upper echelons theory, our study adds value by offering new theoretical perspectives in the context of family-owned firms and addresses calls made for research on the role played by CEO composition in SEW (Berrone et al., 2012; Kraiczy et al. 2015). By

integrating the boundary conditions of a family- vs non-family-controlled boards, the findings of our study offer implications for governance-related issues in family-owned firms (Lubatkin et al. 2005; Aguilera and Crespi-Cladera 2012), and for the differential effect of non-family-controlled boards on NPD performance (García-Ramos and García-Olalla 2011). Overall, our study makes a novel contribution by enhancing our understanding of the role played by the market sensing capability in the family- vs. non-family-controlled board conditions. In doing so, it contributes to the body of knowledge regarding the particular governance conditions under which dynamic capability has a greater efficacy in NPD performance in family-owned firms.

Methodologically, the moderating-mediating mechanism provides deeper insights into the effectiveness of the conceptual phenomenon by shedding light on the underlying capabilities and boundary conditions that enhance NPD performance in family-owned firms. Contextually, we contribute by examining the underexplored context of family-owned small and medium-sized enterprises (SMEs) based in the United Arab Emirates (UAE). In the UAE, scholars have called for work in resolving the governance issues found in family-owned firms in relation to dealing with performance-related challenges (Bodolica et al., 2015). In this market, family members usually hold high levels of ownership in businesses, which makes them the most influential stakeholders and shapes board composition (Samara 2020). Hence, it is critical to examine whether family- vs. non-family-controlled boards may have differential effects on NPD performance via dynamic capabilities.

From the managerial perspective, the managers of family-owned firms not only have to preserve their SEW—which is indeed a unique non-financial resource for value creation—but also have to pay greater attention to the vital capabilities suited to enhancing the value of non-financial resources for NPD performance. By leveraging such unique capabilities, managers can turn SEW into effective value creation. Second, family-owned firms should be careful in selecting non-family board members by considering board diversity in order to enhance the effects of SEW and capabilities on family-owned firms' NPD performance. Last,

given the strong impact of the presence of family members on the board, managers need to nurture and preserve family resources for better performance.

2. Conceptual Background and Hypotheses Development

2.1. The influence of socio-emotional wealth on the new product performance of family-owned SMEs

Family-owned firms are known for operating in unique phenomenological settings. Conceptualized as an *“affect-related value that a family derives from controlling its position in a particular firm”* (Berrone et al., 2012), SEW has been identified as an attribute and endowment unique to family-owned firms. Gómez-Mejía et al. (2007) developed a SEW theoretical model to explain the behaviours of such firms. In view of the behavioural and agency theories, scholars have argued that these firms are strongly committed to protecting their SEW mainly due to the underlying theoretical assumption that firms make strategic choices subject to the reference point of their dominant owners. This phenomenon underlines that family firm owners make decisions aimed at preserving non-financial aspects or ‘affective endowments’ (Berrone et al., 2012). For example, if a family firm encounters any risk to its endowment, the decisions are motivated by protecting such endowment, as opposed to gaining financial returns. Hence, SEW is a distinct trait of family-owned firms that highlights the unconstrained power held by family members. Scholarship has also asserted that SEW is deeply rooted in the psychological and intrinsic values of the family members’ identities, which they associate with the firm (Berrone et al., 2010).

Although some scholarly research has linked SEW with firm performance (Glover and Reay 2015; Dyer 2018; Alonso-Dos-Santos and Llanos-Contreras 2019; Hernández-Perlines et al. 2021), there is still a considerable gap in our understanding of the role played by the SEW of family-owned SMEs in NPD performance. In the context of our study (the UAE), the SME sector accounts for 92% of the total GDP. According to the Middle-East family business survey conducted by PwC (2019), the family business contributes 60% of the GDP. This

implies that family SMEs account for a significant contribution to the country's economy. This is in line with the Forbes (June 2020) report, which highlights that family-owned businesses substantially support the country's economy. The PwC (2019) survey also mentions that Dubai's Chamber of Commerce has been supporting family-owned SMEs (hereafter, F-SMEs), considering their sizable growth (Deloitte 2017).

According to Mohammed (2019), UAE SMEs emphasize continuous innovation and development, and this is also the case for F-SMEs (PwC 2019). Scholars have confirmed that, compared to their non-family-owned counterparts, family-owned firms invest less in innovation but have an increased conversion rate of innovation input to output (Duran et al., 2016). Another study that systematically analysed articles on technological innovation found a direct influence of family involvement on innovation-related activities (De Massis et al., 2013). Consistently, family ownership has been positively linked to innovation-related activities due to their owners' sensitivity to reputation (Bammens and Hünermund 2020). Specifically, SEW has been related to product diversification (Bloch et al. 2012) and capital efficiency (Ramírez et al. 2020). Research also shows that family business group affiliates—the establishment of which arguably increases SEW—have a positive effect on R&D investment (Min 2021). These studies hint at a positive relationship between SEW and the NPD performance of F-SMEs. Hence, against the backdrop of the SEW literature, we speculated that:

H1. *Socio-emotional wealth is positively related to the new product development performance of family-owned firms.*

2.2. The mediating impact of market sensing capabilities on new product performance in family-owned SMEs

SEW might not enhance the performance of family-owned firms due to conflict arising amongst family members; there could therefore be additional underlying mechanisms that can shape the impact of SEW on firm performance. Earlier studies also find both positive (Dyer 2018; Alonso-Dos-Santos and Llanos-Contreras 2019) and negative impacts of SEW on performance (Kellermanns et al. 2012; Memili et al. 2020), which suggests that we need to

pay greater attention to the underlying mediating mechanisms in order to gain a better understanding of the means through which SEW influences family-owned firm performance. To address this gap, we zoomed in on one of the vital mechanisms—i.e., the market sensing capability—that may enhance the impact of SEW on NPD performance.

Dynamic capabilities are different from routine ones (Schilke et al. 2018) in that the former is used to reconfigure resources in order to help a firm align with a dynamic environment (Teece et al. 1997). Capabilities consist of a firm's intangible resources and can be defined as *“complex bundles of skills and collective learning, exercised through organizational processes, that ensure superior coordination of functional activities”* (Day 1994, p. 38). As such, capabilities, which are central to developing a sustainable competitive advantage, are deeply rooted in firms and develop over time (Helfat and Martin 2015). It has been established that capabilities enable value creation through innovation, as the existing advantages lose relevancy (Lepak et al., 2007). This value creation is often pursued by seeking external knowledge and transforming the acquired one for strategic purposes (e.g., product development) (Zhou et al. 2019; Khan 2020). On a similar notion, a recent study has hinted that firm families may influence innovation performance via absorptive (dynamic) capabilities (Daspit et al., 2019).

Market sensing—*a key capability of the business to obtain market knowledge*—has been defined as a dynamic capability that is often related to product innovation, adaptation, and development (Zhou et al. 2019; Khan 2020). Firms with market sensing capabilities are often more responsive to external environmental conditions and are more likely to succeed in new product development (Weerawardena et al., 2015; Liang and Frösén, 2020). Day (1994) highlighted that new product development is a critical activity that must be informed by market sensing. Family-owned firm scholarship acknowledges that the preservation of family values fosters a firm's commitment to learning and capability development (Berrone et al., 2012). In this regard, SEW represents as a main frame of reference for strategic actions (Berrone et al., 2012). Hence, it can be argued that SEW may be positively related to market sensing. As

family members are closely involved in managing the day-to-day operations of family-owned firms (Hoffman et al. 2006; Gomez-Mejia et al. 2011; Campopiano and De Massis 2015), they are in a better position to sense any marketing opportunities for new product and service offerings. The involvement of family members—and their presence on the board—leads to more control over the business affairs of family-owned firms, and the preservations of SEW will enhance such firms' market sensing capabilities. Having a greater market sensing capability will attenuate the effect of SEW on new product development performance in family-owned firms. Family member involvement may also create conflict and negatively impact the performance and survival of family-owned firms. Therefore, there could be important underlying mechanisms in place that may improve the impact of SEW on performance, including NPD performance in family-owned firms.

Dynamic capabilities are important for firms to sense and seize market opportunities. Through such capabilities, firms can effectively deploy and leverage their resources for superior performance (Teece et al. 1997; Teece 2007). In fact, prior research pays particular attention to the role of the market-sensing capability as a mediator between an organization's resources and its innovation performance (Fang et al. 2014; Lin et al. 2020). Hence, by utilizing their dynamic capabilities, family-owned firms may be able to effectively deploy their SEW to improve their NPD performance. Firms commonly capitalize on market sensing to understand current and latent market needs, which feed into new product development processes and performance (Kostopoulos et al., 2011). This is in line with the view that family-owned firms are distinct from non-family-owned ones based on their willingness and ability to innovate (Chrisman et al., 2015). Against this backdrop, we speculated that market sensing might mediate the effects of SEW on new product development performance.

H2: *Market sensing capabilities mediate the effect of socio-emotional wealth on family-owned firms' new product development performance.*

2.3. The moderating role played by family- vs. non-family-controlled boards

A review of the family-owned firm literature suggests that the strategic actions of such firms are driven mainly by the preservation of their SEW, even if at the cost of profitability. Hence, it is vital to understand the conditions under which their SEW can be more influential in enhancing performance. The existing studies recognize that the board of directors plays a different role depending upon the type of family business (Jaskiewicz and Klein 2007; Brenes et al. 2011). Some studies have called for the introduction of a board of directors selected from outside the family. They have motivated this call with reasons such as experience and the ability to provide alternative perspectives and to bring to the table information and valuable knowledge that a family-owned firm could not otherwise access (Johannisson and Huse 2000; Addae-Boateng et al. 2014). On a similar note, Randolph et al. (2021) found that reliance on non-family management is a primary source of knowledge diversity in family-owned firms. Le Breton–Miller and Miller (2006) argued that family CEOs need to be long-sighted in regard to investments. Non-family directors are better able to enhance firm value as they are more capable of management (Herdhayinta et al., 2021). Conversely, family CEOs have been associated with superior performance (Villalonga and Amit 2006; Minichilli et al. 2010). In particular, in the context of F-SMEs, a greater presence of family members in the TMT has been positively related to performance (González-Cruz and Cruz-Ros 2016; Lwango et al. 2017). However, the findings of these studies can be deemed inconclusive due to their testing of either direct or moderated relationships.

Family vs non-family social capital has been linked with innovation. In this regard, a negatively moderating effect has been confirmed for family ownership (Sanchez–Famoso et al., 2015). Conversely, recent research has argued that family firm board chairs invest more in R&D activities (Jiang et al. 2020). Similarly, Calabrò et al. (2021) show that the ratio of family vs. non-family board members positively moderates the relationship between human capital and family-owned firm innovativeness, i.e., the relationship is stronger when such ratio is high—unless family-owned firms have a multi-generational involvement. On the other hand, a negative impact of family ownership on innovation has also been found (Decker and Günther

2017). There is also evidence that having a family member as CEO can be either detrimental or beneficial to reaping the performance benefits from entrepreneurial orientation, depending on the level of board engagement in serving the CEO (Bauweraerts et al. 2021). Therefore, whether family-controlled boards positively or negatively moderate the mediating influence of SEW on NPD performance via market sensing capability remains questionable, given that past studies did not take into account the perspective of SEW and the mediating mechanism of dynamic capability (i.e., market sensing in the context of this study). This is in line with the argument that, in F-SMEs, the relationship of SEW with innovativeness may be contingent upon other factors, such as a family configuration in the top management (Gast et al., 2018). Particularly in the context of the UAE, family members occupy major stakes in family-owned businesses and are highly involved in their boards (Samara 2020). Hence, it is important to examine whether non-family control may result in more fruitful outcomes in terms of NPD performance. Our study is in line with the recent call to extend theorization and research on family-owned firms in Arab countries (Krueger et al., 2021).

The upper echelons theoretical perspective postulates that TMT compositions affect business activities, with the impact of board risk-taking propensity on new product development being stronger when executive power is high (Hambrick and Mason 1984; Hambrick 2007). High levels of board discretion are reflected in strategic choices and outcomes. From this perspective, we speculated that family-controlled boards exert a positive moderation on the mediating mechanism of market sensing capability. By continuing to renew its product portfolio, a firm remains competitive and independent over time (Kraiczy et al., 2015). Non-family-controlled boards may take less risky decisions than family-led ones in order to protect their private gains. The involvement of family members preserves SEW; thus, greater family control on the board enhances the impact of SEW on performance. Given the importance of SEW for family-owned firms, the presence of non-family members on the board may not create more value due to the agency problems arising from the mix of family and non-family members, which could create conflicts in relation to the firm's strategic direction, which

might affect its performance. In order to preserve SEW, family-owned firms aspire to stay independent (Gómez-Mejía et al., 2007) and will be better positioned to integrate the tacit knowledge stemming from the involvement of several generations of family members. Thus, family control strengthens the impact of SEW on a firm's performance, enhancing its effects on new product performance via the market sensing capability. Thus, we proposed that:

H3. *Family control strengthens the indirect effect of socio-emotional wealth on new product development performance through the market sensing capability.*

3. Methodology

3.1. Study context and data collection

Family-owned enterprises contribute between 70% and 90% of the international GDP, accounting for more than 50% of overall employment in developed economies (Salvato and Aldrich 2012), and make up no less than 67% of enterprises worldwide (FOBI 2021). Therefore, the significance of family-owned SMEs for the international economy should not be underestimated. Among the Gulf Cooperation Council (GCC)¹ countries, F-SMEs represent more than 90% of the private sector and about 80% of non-oil GDP and are responsible for more than 70% of the employment (Pierce 2016). More specifically, in the UAE setting, 90% of private businesses are family-owned (Strike 2012). On this basis, we argued that F-SMEs are of substantial importance to the UAE economy. Therefore, we gathered data from family SMEs operating in Dubai, the UAE.

Following previous studies (Claver et al. 2007; Bhaumik et al. 2010), we defined a family-owned firm as one in which the majority (51%) of the voting share is owned directly or indirectly by a family—i.e., a group of people related by marriage or blood (Chrisman and Patel 2012; Del Bosco and Bettinelli 2020). In addition, we defined SMEs as privately-owned firms with fewer than 250 employees (UAE 2020).

¹ GCC is a regional body established in 1981 to underpin economic cooperation and development in the Arabian Peninsula (Al-Shammari, Brown, & Tarca, 2008).

The sampling frame of the study was derived from the directory of the Dubai Chamber of Commerce and Industry and Eye of Dubai. We adopted the following criteria to identify the appropriate firms: (1) firms that were family-owned; (2) firms that were independently owned and not part of any bigger group; (3) firms that had less than 250 employees; and (4) firms that frequently engaged in innovation. These criteria returned 615 family-owned SMEs for our study sample. Accordingly, 615 copies of our questionnaire were sent by email and hand delivery. The key respondents included business owners, chief executive officers (CEOs), R&D or innovation officers, and finance managers. Due to their heterogeneous nature, we assessed the respondents' competency levels by means of three questions: (1) their knowledge of the issues encompassed in the questionnaire; (2) their level of confidence in the provided answers; and (3) the extent to which their answers reflected the situation of their firms. After many rounds of visits to the F-SMEs and reminder emails, we received a total of 276 questionnaires. Twenty-three of these were not complete, which left us with a usable sample of 253 completed questionnaires, providing a valid response rate of 41.14%.

3.2. Measures

Table 1 provides the measurement items used to operationalize the study's constructs. All the measures were adopted from previous studies. Following DeVellis (2003), the measures were refined through in-depth interviews with scholars and by pre-testing the questionnaire with managers. The measurement items were measured on a 7-point Likert-scale, except in the case of family control, in which the range of responses was coded as 0 and 1.

---- *Insert Table 1 About Here* ----

3.2.1. Socio-emotional wealth

We operationalized SEW—which represents “an affective endowment’ that is intrinsically attached to kinship ties” Cruz et al. (2012)—by means of a four-item scale adopted from Vandekerckhof et al. (2018).

3.2.2. Market sensing capability

Market sensing capability refers to the ability to gather and filter market information from both inside and outside the firm to reduce uncertainty and increase opportunities for successful commercial innovation (Teece 2007). It was operationalized using a five-item scale adapted from Lin and Wang (2015).

3.2.3. Family control

Family control is defined as family involvement in SME control, such as by holding the positions of CEO or board chair (Del Bosco and Bettinelli 2020). This was measured as a dichotomous variable set to 1 when the CEO or board chair was a member of the owning family, and to 0 otherwise (i.e., when neither the CEO nor the board chair was an owning family member) (Chu 2011).

3.2.4. New product development performance

We conceptualized NPD performance as a formative second-order construct with the two first-order dimensions of effectiveness and efficiency (Souder et al., 2017). Effectiveness, which covered the commercial success and technical quality of the products (Olson et al. 1995), was measured using a five-item scale adopted from Brettel et al. (2011). Efficiency, which comprised the timeliness and amount of resources allocated to the product’s development (Souder et al., 2017), was measured using a five-item scale adopted from Brettel et al. (2011).

3.2.5. Control variables

In line with the previous innovation and family SME literature (Chrisman and Patel 2012; D’Angelo et al. 2016), we controlled for managerial experience, firm size, firm age, R&D

intensity, and industry as these variables may influence NPD performance (Mauerhoefer et al. 2017). Managerial experience was captured by means of the number of years in which the manager/CEO had been employed in his/her current position (Boling et al., 2016). Firm size was measured by the number of employees in a firm. Firm age was measured as the number of years since a firm had been founded. R&D intensity was calculated as the ratio of R&D employees to total ones (D'Angelo et al., 2016). Industry was used as a dummy variable set to 0 for manufacturing and to 1 for services.

3.3. Assessment of biases

First, non-response bias was assessed to determine the statistical representation of the F-SMEs that had agreed to take part in the study. Specifically, we compared early and late respondent groups in regard to the demographic and main variables of the study. The results of the *t*-test revealed no significant difference ($p > 0.05$) between the two groups (Armstrong and Overton 1977), suggesting that nonresponse bias was not an issue in our data.

Second, the cross-sectional nature of the study could have caused common method bias (CMB) in the data. Accordingly, we followed statistical procedures to test for the presence of such bias. Following previous studies (Boso et al., 2012; Adomako et al., 2019), we estimated three competing confirmatory factor analysis (CFA) models. Model 1 was a method-only one in which all items were loaded on a single latent construct; we obtained a poor model fit: $\chi^2/D.F. = 9.23$; CFI = 0.60; TLI = 0.50; RMSEA = 0.18; SRMR = 0.18. Model 2 was a trait-only one in which each item was loaded on its respective latent construct, we obtained a good model fit: $\chi^2/D.F. = 1.39$; CFI = 0.98; TLI = 0.98; RMSEA = 0.04; SRMR = 0.04. Model 3 was a method- and- trait one in which a single factor was included and linked with all the items in Model 2; we obtained an acceptable model fit: $\chi^2/D.F. = 1.31$; CFI = 0.99; TLI = 0.98; RMSEA = 0.03; SRMR = 0.04. Subsequently, the comparison of the three models suggested that Model 2 and Model 3 were superior to Model 1 and that Model 3 was not substantially better than Model 2. Hence, we concluded that our study dataset was not affected by CMB.

4. Analyses

4.1. Validity and reliability assessment

We performed a CFA to evaluate the reliability and validity of the measures. The CFA measurement model was found to fit the data well: $\chi^2/D.F. = 1.39$; CFI = 0.98; TLI = 0.98; RMSEA = 0.04; SRMR = 0.04. The results further suggested that all standardized factor loadings were significant ($p < 0.001$), positive, and high in magnitude (> 0.65), thus confirming convergent validity (Kline 2015).

Next, we evaluated Cronbach's alpha (CA), composite reliability (CR), and average variance extracted (AVE). As shown in Table 1, the values of CA, CR, and AVE were found to exceed their respective recommended thresholds of 0.70, 0.70, and 0.50 (Bagozzi and Yi 1988). Thus, all our individual measures demonstrated adequate reliability and convergent validity.

Further, we assessed discriminant validity using the procedure defined by Fornell and Larcker (1981). We found that the square root of AVE for each construct exceeded the correlation of each pair of constructs. Thus, we concluded that the study's constructs had achieved discriminant validity. The descriptive statistics and correlation of the constructs are presented in Table 2.

---- *Insert Table 2 About Here* ----

4.2. Structural model estimation

Having established the reliability and validity of our multi-item constructs, the hypothesized relationships were tested using structural equation modelling in the form of path analysis. We estimated seven models, with market sensing capability as the dependent variable in Models 1 and 2 and NPD performance as the dependent variable in Models 3 to 7. Models 1 and 3 were baseline models with only control variables. In Model 2, the direct effect of SEW on the market sensing capability was tested. Model 4 included the direct effect of SEW

on NPD performance. In Model 5, we tested the direct effect of the market sensing capability on NPD performance. Model 6 included the direct effects of both SEW and the market sensing capability on NPD performance. In Model 7, we added the interaction effect variables (market sensing capability x family control). The results are presented in Table 3.

---- *Insert Table 3 About Here* ----

Hypothesis 1 argued that SEW is positively related to NPD performance. The findings from Model 4 (see Table 3) indicate support for hypothesis 1 due to a significant and positive relationship between SEW and NPD performance ($\beta = 0.27, p < 0.05$).

Hypothesis 2 posited that market sensing capability mediates the effect of SEW on NPD performance. The results of Model 2 (Table 3) showed that the relationship between SEW and market sensing capability is significant ($\beta = 0.28, p < 0.001$). Model 4 suggested that the structural path from SEW to NPD performance is significant ($\beta = 0.27, p < 0.05$). Model 5 showed that the market sensing capability is positively and significantly related to NPD performance ($\beta = 0.54, p < 0.001$). Importantly, the positive association between SEW and NPD performance ($\beta = 0.14, p < 0.10$) was found to disappear when the effect of SEW on NPD performance is channelled through the market sensing capability ($\beta = 0.47, p < 0.001$). This finding provides empirical support for hypothesis 2, i.e., that the market sensing capability mediates the relationship between SEW and NPD performance.

Hypothesis 3 further postulated that family control strengthens the indirect effect of SEW on NPD performance through the market sensing capability. To examine the moderated-mediation relationship, we used path analysis to evaluate the moderating effect. As Model 7 (Table 3) shows, the effect of the market sensing capability on NPD performance is strengthened for family-controlled SMEs ($\beta = 0.59, p < 0.001$), which supports hypothesis 3. To further confirm hypothesis 3, we performed a multi-group analysis for non-family- and family-controlled SMEs. The results (Table 4) show that the market sensing capability

mediates the relationship between SEW and NPD performance in family-controlled SMEs ($\beta = 0.12, p < 0.01$) but not in non-family-controlled ones ($\beta = -0.01, p > 0.10$). This confirms hypothesis 3, i.e., that the indirect effect of SEW on NPD performance through the market sensing capability is strengthened when family control is high.

---- *Insert Table 4 About Here* ----

To check for the robustness of our findings, we further estimated the hypothesized moderated-mediation mechanism using PROCESS macro Model 14 (Hayes 2013). We found positive and significant effects of SEW on both NPD performance ($\beta = 0.10, p < 0.01$) and the market sensing capability ($\beta = 0.22, p < 0.001$). In turn, the market sensing capability was found to be positively related to NPD performance ($\beta = 0.26, p < 0.001$). More importantly, the indirect effect of SEW on NPD performance, which we tested by using 5,000 bootstrap samples at a 95% confidence interval, is significant [$\beta = 0.06, LLCI = 0.02 - ULCI = 0.10$]. Thus, hypothesis 2 is formally confirmed. For the moderated-mediation, the results suggest that the conditional indirect effect of SEW on NPD performance is only significant for family-controlled SMEs [$\beta = 0.08, LLCI = 0.03 - ULCI = 0.14$]. These findings provide formal support for hypothesis 3 (see Table 5).

---- *Insert Table 5 About Here* ----

5. Discussion and Implications

The key aim of this study was to examine the impact of SEW and of the market sensing capability on the NPD performance of family-owned firms, which are playing an important role in the socio-economic development of many countries across the globe. These firms are unique compared to other forms of organization, given the important role that SEW plays in them (Gomez-Mejia et al., 2011). Existing studies have well documented the impact of SEW

on family-owned firm performance, with some suggesting a positive impact (Dyer 2018; Alonso-Dos-Santos and Llanos-Contreras 2019) and others negating it (Kellermanns et al. 2012; Memili et al. 2020). In this study, we leveraged a unique dataset of family-owned SMEs from the UAE and examined the impact of SEW on NPD performance. Given the positive or negative impact of SEW on performance reported by extant studies, we incorporated some important mediating and moderating variables that could shed light on the conditions whereby SEW enhances NPD performance in family-owned SMEs. We incorporated market sensing as one of the key mediating variables through which F-SMEs could leverage and effectively deploy their SEW to enhance their NPD performance, finding that SEW is positively related to NPD performance. This is in line with those earlier studies that had suggested such a positive impact (Dyer 2018; Alonso-Dos-Santos and Llanos-Contreras 2019). Our findings further indicate that the market sensing capability acts as an important mechanism capable of enhancing the impact of SEW on NPD performance. This provides important insights on the underlying mechanisms of the SEW-performance link, complementing those earlier studies that had noted a negative impact of SEW on NPD performance (Kellermanns et al., 2012; Memili et al., 2020). This is a unique finding of our study, given that the market sensing (dynamic) capability has mainly been applied in the business management literature.

We further incorporated the boundary conditions and examined their moderating impact on family- vs non-family-controlled boards; we found support for family control enhancing the indirect effect of SEW on NPD performance through the market sensing capability. This is another unique finding that offers a very fine-grained understanding of the moderated-mediation impact, showing that the market sensing capability mediates the relationship between SEW and NPD performance in family-controlled SMEs rather than in non-family-controlled ones. These findings are in line with the extant literature that has advocated the need to preserve SEW for better performance. However, our findings add to the existing body of literature by suggesting the conditions under which NPD performance can be attained via the market sensing capability in a family-controlled environment.

5.1. Implications for theory

Our article contributes theoretically to the nexus of the product innovation, dynamic capability, and SEW literature by drawing key insights from the dynamic capability and upper echelons theoretical perspectives. First, prior research had not fully examined how SEW can contribute to innovation-related outcomes and the conditions under which these outcomes are effective. Our findings reveal that SEW is positively related to the market sensing capability, which mediates its influence on new product performance. These findings differ from those of Hauck and Prügl (2015), who argued for the dark side of SEW, whereby intergenerational authority is negatively associated with innovation. We found that the influence of SEW on new product performance via the market sensing capability is stronger when a firm is controlled by family members. Our research advances the knowledge of how the market sensing capability can create value when a company is managed by family board members. This is one of our study's central contributions, given that the prior literature had yielded mixed results for the relationship of SEW with performance outcomes. Thus, we highlighted an important mediating variable (market sensing) suited to explicate the role played by SEW and its connection to NPD performance. By testing a moderated-mediation model, we offer valuable insights into the phenomenon through which NPD performance can be enhanced in family-owned firms. Specifically, our study shows the importance of a dynamic capability (marketing sensing) through which SEW can create more value. These findings underscore that family businesses can make a strategic commitment to innovation activities by developing the key unique capabilities that are essential for innovation-related outcomes.

A considerable body of research has focussed on dynamic capabilities in the strategic management field (Teece et al. 1997; Eisenhardt and Martin 2000; Teece 2007); yet, few studies have examined the role played by such capabilities in family-owned firms (Chirico and Salvato 2008; Salvato and Melin 2008; Chirico et al. 2012). Overall, besides integrating important boundary conditions, our study provides a very fine-grained view of how family-

owned firms can capitalize on the non-financial resources inherent in SEW by leveraging vital dynamic capabilities. By doing so, it provides useful insights into the governance issues of family-owned firms (Aguilera and Crespi-Cladera 2012) and their value-creating activities in the form of NPD performance through mediating and contingency variables. Carnes and Ireland (2013) argued that the unique capabilities and resources possessed by family-owned firms do not necessarily have a direct influence on firm performance. By applying a dynamic capability theoretical perspective in our conceptual model, we provided empirical support and extended the theoretical findings that the effect of SEW on product innovation performance is mediated by dynamic capabilities. Chua et al. (2012) suggested broadening the perspective of governance and capabilities in innovation-related outcomes for family-owned firms; hence, our study contributes theoretically by considering the moderating role played by family- vs. non-family-controlled boards (governance) and the mediating role played by the market sensing capability. The upper echelons theory has been widely applied in the context of TMTs in the business management literature (Hambrick 2007; Chen et al. 2015). By applying this theoretical perspective to family- vs non-family-controlled board conditions, we contribute answers to the critical line of theoretical enquiry regarding how board composition affects innovation-related outcomes. Overall, our findings provide important insights drawn from the relatively underexplored context of the UAE, in which—as is also the case in other similar markets of the Middle East—the governance issues found in family-owned firms are underexplored. We thus shed light on the role played by family- vs. non-family-controlled boards and on the important capabilities that are conducive to NPD performance in family-owned firms in emerging markets.

5.2. Implications for Practice

Family-owned firms are becoming increasingly important in the global economy, especially as there are now more family-owned SMEs than any other form of organization. Our findings provide important insights to the managers of such firms. First, they suggest that

managers need to preserve the SEW of family-owned firms as a vital non-financial resource for value creation. Managers need to leverage the knowledge and experience of family members in order to enhance the NPD performance of such firms. Second, they suggest that market sensing capabilities are vital to enhancing the impact of SEW on NPD performance. Managers need to work on developing and strengthening unique capabilities such as market sensing capabilities in order to effectively compete in the market. Such capabilities are extremely important to sense market changes and could aid firms in developing sustainable competitive advantages. Non-family-controlled boards may prioritise their private gains and the mix of family and non-family board members may lead to conflict; thus, despite their diverse knowledge and experience, non-family-controlled boards may not prove to be of much value to family-owned firms.

Innovating products and services is critical for long-term performance and is thus one of the core practical issues for business managers. The dispersion of control of the board can potentially be a function of an innovation booster. This study's findings further provide managers with insights into an important contingency factor that can enhance the impact of SEW and the market sensing capabilities for NPD performance in family-owned firms. Managers need to carefully select both family and non-family members to serve on the board. Our findings suggest that family-controlled boards in SMEs are in a better position to leverage market sensing capabilities compared to firms run by the non-family-controlled board; this suggests that the tacit knowledge possessed by family members is extremely valuable for the utilisation of dynamic capabilities, through which family-owned firms can exploit and preserve their SEW.

5.3. Implications for Policymakers

Family-owned firms have been recognized across both developed and emerging markets as engines of economic growth and development. In the UAE, such firms have been significantly contributing to the national socio-economic development. In this regard, this research's findings provide the important and timely understanding that family-owned firms

can enhance their NPD performance via the market sensing capability under conditions of family control. Policymakers should support family-owned firms by offering development programmes to their management and providing subsidies to such firms involved in innovation activities such as new product development. In addition, the government may also provide its support by organizing networking, industry, and knowledge dissemination events to enable these businesses to develop better market sensing capabilities related to innovation-related activities within their respective sectors and to engage with the industry to seek knowledge. Our findings also indicate that the governance of family-owned firms is important for the realization of their innovative potential in terms of NPD performance. Thus, policymakers need to formulate governance policies whereby both family- and non-family board members are encouraged to be part of family-owned firms. In addition, the policymakers in emerging markets should support the establishment of family-owned firms—given their role in the local economic development and NPD performance—and investment in such firms should be facilitated.

5.4. Limitations and Future Research Directions

While our study offers valuable theoretical and managerial contributions, it also has some limitations. It only examined marketing sensing—a key dynamic capability—as a mediator and the family vs non-family control of boards as a moderator. Future research could thus consider other key dynamic capabilities such as configuration and seizing (Teece et al. 1997). Studies could also consider the potential mediating role of meta-dynamic capabilities such as marketing agility (Khan, 2020) and outside-in capabilities (such as customer engagement and networking) versus inside-out ones (e.g., product development, pricing, and planning) in NPD performance (Mu et al. 2018). Studies could also consider other factors, such as board member interaction with marketing managers for innovation-related outcomes. Such studies could examine the interactions of various TMT members—such as marketing and R&D directors—and how such interactions enhance NPD performance. Another possible

research avenue suited to extending this research would involve examining how family-owned firms can create value through innovation-related activities during and in the wake of the pandemic era; such studies could focus on both the financial and non-financial performance of family-owned firms. Scholars could also consider testing the model in relation to other types of innovation-related activities, such as responsible and collaborative innovation. Our study was focused on a single emerging market; therefore, to improve the generalizability of our findings, future studies could compare the model across the family- and non-family-owned firms in advanced vs. emerging markets or in weak vs. strong institutional settings.

References

- Addae-Boateng Samuel, Xiao Wen, Brew Yaw. Reasons for Work Performance in Family Businesses: Opinions of Non-Family-Member-Employees, Family-Member-Employees, and Managements. *European Journal of Business and Management* 2014; 6 (34): 237-244.
- Adomako Samuel, Amankwah-Amoah Joseph, Dankwah George Obeng, Danso Albert, Donbesuur Francis. Institutional voids, international learning effort and internationalization of emerging market new ventures. *Journal of International Management* 2019; 25 (4): 100666.
- Ağan Yavuz, Kuzey Cemil, Acar Mehmet Fatih, Açıkgöz Atif. The relationships between corporate social responsibility, environmental supplier development, and firm performance. *Journal of Cleaner Production* 2016; 112: 1872-1881.
- Aguilera Ruth V, Crespi-Cladera Rafel. Firm family firms: Current debates of corporate governance in family firms. *Journal of Family Business Strategy* 2012; 3 (2): 66-69.
- Alonso-Dos-Santos Manuel, Llanos-Contreras Orlando. Family business performance in a post-disaster scenario: The influence of socioemotional wealth importance and entrepreneurial orientation. *Journal of Business Research* 2019; 101: 492-498.
- Armstrong J. Scott, Overton Terry S. Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research* 1977; 14 (3): 396-402.
- Bagozzi Richard P., Yi Youjae. On the evaluation of structural equation models. *Journal of the Academy of Marketing Science* 1988; 16 (1): 74-94.
- Bammens Yannick, Hünermund Paul. Nonfinancial considerations in eco-innovation decisions: The role of family ownership and reputation concerns. *Journal of Product Innovation Management* 2020; 37 (5): 431-453.
- Barros Ismael, Hernangómez Juan, Martin-Cruz Natalia. A theoretical model of strategic management of family firms. A dynamic capabilities approach. *Journal of Family Business Strategy* 2016; 7 (3): 149-159.
- Bauweraerts Jonathan, Pongelli Claudia, Sciascia Salvatore, Mazzola Pietro, Minichilli Alessandro. Transforming entrepreneurial orientation into performance in family SMEs: Are nonfamily CEOs better than family CEOs? *Journal of Small Business Management* 2021: 1-32.
- Berrone Pascual, Cruz Cristina, Gomez-Mejia Luis R. Socioemotional wealth in family firms: Theoretical dimensions, assessment approaches, and agenda for future research. *Family Business Review* 2012; 25 (3): 258-279.
- Berrone Pascual, Cruz Cristina, Gomez-Mejia Luis R, Larraza-Kintana Martin. Socioemotional wealth and corporate responses to institutional pressures: Do family-controlled firms pollute less? *Administrative science quarterly* 2010; 55 (1): 82-113.
- Bhaumik Sumon Kumar, Driffield Nigel, Pal Sarmistha. Does ownership structure of emerging-market firms affect their outward FDI? The case of the Indian automotive and pharmaceutical sectors. *Journal of International Business Studies* 2010; 41 (3): 437-450.
- Bloch Alain, Kachaner Nicolas, Stalk George. What you can learn from family business. *Harvard business review* 2012; 90 (11): 1-5.
- Bodolica Virginia, Spraggon Martin, Zaidi Sahar. Boundary management strategies for governing family firms: A UAE-based case study. *Journal of Business Research* 2015; 68 (3): 684-693.
- Boling J. Ruben, Pieper Torsten M., Covin Jeffrey G. CEO Tenure and Entrepreneurial Orientation within Family and Nonfamily Firms. *Entrepreneurship Theory and Practice* 2016; 40 (4): 891-913.
- Boso Nathaniel, Cadogan John W., Story Vicky M. Entrepreneurial orientation and market orientation as drivers of product innovation success: A study of exporters from a developing economy. *International Small Business Journal* 2012; 31 (1): 57-81.
- Brenes Esteban R, Madrigal Kryssia, Requena Bernardo. Corporate governance and family business performance. *Journal of Business Research* 2011; 64 (3): 280-285.

- Brettel Malte, Heinemann Florian, Engelen Andreas, Neubauer Steven. Cross-Functional Integration of R&D, Marketing, and Manufacturing in Radical and Incremental Product Innovations and Its Effects on Project Effectiveness and Efficiency. *Journal of Product Innovation Management* 2011; 28 (2): 251-269.
- Calabrò Andrea, Torchia Mariateresa, Jimenez Daniela Gimenez, Kraus Sascha. The role of human capital on family firm innovativeness: the strategic leadership role of family board members. *International Entrepreneurship and Management Journal* 2021; 17 (1): 261-287.
- Campopiano Giovanna, De Massis Alfredo. Corporate social responsibility reporting: A content analysis in family and non-family firms. *Journal of Business Ethics* 2015; 129 (3): 511-534.
- Carnes Christina Matz, Ireland R Duane. Familiness and innovation: Resource bundling as the missing link. *Entrepreneurship Theory and Practice* 2013; 37 (6): 1399-1419.
- Casillas José C, Moreno Ana M. The relationship between entrepreneurial orientation and growth: The moderating role of family involvement. *Entrepreneurship & regional development* 2010; 22 (3-4): 265-291.
- Chen Shouming, Bu Miao, Wu Sibin, Liang Xin. How does TMT attention to innovation of Chinese firms influence firm innovation activities? A study on the moderating role of corporate governance. *Journal of Business Research* 2015; 68 (5): 1127-1135.
- Chirico Francesco, Nordqvist Mattias, Colombo Gianluca, Mollona Edoardo. Simulating dynamic capabilities and value creation in family firms: Is paternalism an “asset” or a “liability”? *Family Business Review* 2012; 25 (3): 318-338.
- Chirico Francesco, Salvato Carlo. Knowledge integration and dynamic organizational adaptation in family firms. *Family Business Review* 2008; 21 (2): 169-181.
- Chrisman James J, Chua Jess H, De Massis Alfredo, Frattini Federico, Wright Mike. The ability and willingness paradox in family firm innovation. *Journal of Product Innovation Management* 2015; 32 (3): 310-318.
- Chrisman James J., Patel Pankaj C. Variations in R&D Investments of Family and Nonfamily Firms: Behavioral Agency and Myopic Loss Aversion Perspectives. *Academy of Management Journal* 2012; 55 (4): 976-997.
- Christofi M., Effers, F., Hadjielias, E., Hughes, M. Special Issue: Marketing and Consumer Research in Family Business. *Journal of Business Research* 2021.
- Chu Wenyi. Family ownership and firm performance: Influence of family management, family control, and firm size. *Asia Pacific Journal of Management* 2011; 28 (4): 833-851.
- Chua Jess H, Chrisman James J, Steier Lloyd P, Rau Sabine B. Sources of heterogeneity in family firms: An introduction
- Claver Enrique, Rienda Laura, Quer Diego. The Internationalisation Process in Family Firms: Choice of Market Entry Strategies. *Journal of General Management* 2007; 33 (1): 1-14.
- Cruz Cristina, Justo Rachida, De Castro Julio O. Does family employment enhance MSEs performance?: Integrating socioemotional wealth and family embeddedness perspectives. *Journal of Business Venturing* 2012; 27 (1): 62-76.
- D’Angelo Alfredo, Majocchi Antonio, Buck Trevor. External managers, family ownership and the scope of SME internationalization. *Journal of World Business* 2016; 51 (4): 534-547.
- Daspit Joshua J, Long Rebecca G, Pearson Allison W. How familiness affects innovation outcomes via absorptive capacity: A dynamic capability perspective of the family firm. *Journal of Family Business Strategy* 2019; 10 (2): 133-143.
- Day George S. The capabilities of market-driven organizations. *Journal of marketing* 1994; 58 (4): 37-52.
- De Massis Alfredo, Frattini Federico, Lichtenthaler Ulrich. Research on technological innovation in family firms: Present debates and future directions. *Family Business Review* 2013; 26 (1): 10-31.
- Decker Carolin, Günther Christina. The impact of family ownership on innovation: evidence from the German machine tool industry. *Small Business Economics* 2017; 48 (1): 199-212.

Del Bosco Barbara, Bettinelli Cristina. How Do Family SMEs Control Their Investments Abroad? The Role of Distance and Family Control. *Management International Review* 2020; 60 (1): 1-35.

Deloitte. A new age for family businesses in the Middle East: Managing change and expectations

DeVellis R. F. Scale development: theory and applications. Thousand Oaks, CA: SAGE, 2003.

Duran Patricio, Kammerlander Nadine, Van Essen Marc, Zellweger Thomas. Doing more with less: Innovation input and output in family firms. *Academy of management Journal* 2016; 59 (4): 1224-1264.

Dyer W Gibb. Are family firms really better? Reexamining “examining the ‘family effect’ on firm performance”. *Family Business Review* 2018; 31 (2): 240-248.

Eisenhardt Kathleen M, Martin Jeffrey A. Dynamic capabilities: what are they? *Strategic management journal* 2000; 21 (10-11): 1105-1121.

Fang Shyh-Rong, Chang Enchi, Ou Chueh-Chu, Chou Chia-Hui. Internal market orientation, market capabilities and learning orientation. *European journal of marketing* 2014.

FOBI. Family Firm Facts

Forbes. The UAE’s Top 10 Family Businesses 2020

Fornell Claes, Larcker David F. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research* 1981; 18 (1): 39-50.

García-Ramos Rebeca, García-Olalla Myriam. Board characteristics and firm performance in public founder-and nonfounder-led family businesses. *Journal of Family Business Strategy* 2011; 2 (4): 220-231.

Gast Johanna, Filser Matthias, Rigtering JP Coen, Harms Rainer, Kraus Sascha, Chang Man-Ling. Socioemotional wealth and innovativeness in small-and medium-sized family enterprises: A configuration approach. *Journal of Small Business Management* 2018; 56: 53-67.

Glover Jane L, Reay Trish. Sustaining the family business with minimal financial rewards: How do family farms continue? *Family Business Review* 2015; 28 (2): 163-177.

Gomez-Mejia Luis R, Cruz Cristina, Berrone Pascual, De Castro Julio. The bind that ties: Socioemotional wealth preservation in family firms. *Academy of Management Annals* 2011; 5 (1): 653-707.

Gómez-Mejía Luis R, Haynes Katalin Takács, Núñez-Nickel Manuel, Jacobson Kathryn JL, Moyano-Fuentes José. Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. *Administrative science quarterly* 2007; 52 (1): 106-137.

González-Cruz Tomás F, Cruz-Ros Sonia. When does family involvement produce superior performance in SME family business? *Journal of Business Research* 2016; 69 (4): 1452-1457.

Gupta Amit Kumar, Gupta Narain. Effect of corporate environmental sustainability on dimensions of firm performance—Towards sustainable development: Evidence from India. *Journal of cleaner production* 2020; 253: 119948.

Hambrick Donald C. Upper echelons theory: An update

Hambrick Donald C, Mason Phyllis A. Upper echelons: The organization as a reflection of its top managers. *Academy of management review* 1984; 9 (2): 193-206.

Hauck Jana, Prügl Reinhard. Innovation activities during intra-family leadership succession in family firms: An empirical study from a socioemotional wealth perspective. *Journal of Family Business Strategy* 2015; 6 (2): 104-118.

Hayes AF. The PROCESS macro for SPSS and SAS (version 2.13)[Software], 2013.

Helfat Constance E, Martin Jeffrey A. Dynamic managerial capabilities: Review and assessment of managerial impact on strategic change. *Journal of management* 2015; 41 (5): 1281-1312.

Herdhayinta Heyvon, Lau James, Shen Carl Hsin-han. Family Female Directors versus Non-family Female Directors: Effects on Firm Value and Dividend Payouts in an Extreme Institutional Environment. *British Journal of Management* 2021.

Hernández-Perlines Felipe, Covin Jeffrey G, Ribeiro-Soriano Domingo E. Entrepreneurial orientation, concern for socioemotional wealth preservation, and family firm performance. *Journal of Business Research* 2021; 126: 197-208.

- Hernández-Perlines Felipe, Moreno-García Juan, Yáñez-Araque Benito. The influence of socioemotional wealth in the entrepreneurial orientation of family businesses. *International Entrepreneurship and Management Journal* 2019; 15 (2): 523-544.
- Hernández-Perlines Felipe, Moreno-García Juan, Yáñez-Araque Benito. Family firm performance: The influence of entrepreneurial orientation and absorptive capacity. *Psychology & Marketing* 2017; 34 (11): 1057-1068.
- Hoffman James, Hoelscher Mark, Sorenson Ritch. Achieving sustained competitive advantage: A family capital theory. *Family business review* 2006; 19 (2): 135-145.
- Jaskiewicz Peter, Klein Sabine. The impact of goal alignment on board composition and board size in family businesses. *Journal of Business research* 2007; 60 (10): 1080-1089.
- Jiang Fuxiu, Shi Wei, Zheng Xiaojia. Board chairs and R&D investment: Evidence from Chinese family-controlled firms. *Journal of Business Research* 2020; 112: 109-118.
- Johannisson Bengt, Huse Morten. Recruiting outside board members in the small family business: An ideological challenge. *Entrepreneurship & Regional Development* 2000; 12 (4): 353-378.
- Kellermanns Franz W, Eddleston Kimberly A, Zellweger Thomas M. Article commentary: Extending the socioemotional wealth perspective: A look at the dark side. *Entrepreneurship Theory and Practice* 2012; 36 (6): 1175-1182.
- Khan Huda. Is marketing agility important for emerging market firms in advanced markets? *International Business Review* 2020; 29 (5): 101733.
- Kline R.B. Principles and practice of structural equation modeling. New York: Guilford Press, 2015.
- Kostopoulos Konstantinos, Papalexandris Alexandros, Papachroni Margarita, Ioannou George. Absorptive capacity, innovation, and financial performance. *Journal of Business Research* 2011; 64 (12): 1335-1343.
- Kraiczy Nils D, Hack Andreas, Kellermanns Franz W. What makes a family firm innovative? CEO risk-taking propensity and the organizational context of family firms. *Journal of Product Innovation Management* 2015; 32 (3): 334-348.
- Krueger Norris, Bogers Marcel LAM, Labaki Rania, Basco Rodrigo. Advancing family business science through context theorizing: The case of the Arab world. *Journal of Family Business Strategy* 2021; 12 (1): 100377.
- Le Breton-Miller Isabelle, Miller Danny. Why do some family businesses out-compete? Governance, long-term orientations, and sustainable capability. *Entrepreneurship theory and practice* 2006; 30 (6): 731-746.
- Lepak David P, Smith Ken G, Taylor M Susan. Value creation and value capture: A multilevel perspective. *Academy of management review* 2007; 32 (1): 180-194.
- Liang Xiaoning, Frösén Johanna. Examining the link between marketing controls and firm performance: The mediating effect of market-focused learning capability. *Journal of Business Research* 2020; 109: 545-556.
- Lin Cai-Hui, Sanders Karin, Sun Jian-Min, Shipton Helen, Mooi Erik A. HRM and innovation: the mediating role of market-sensing capability and the moderating role of national power distance. *The International Journal of Human Resource Management* 2020; 31 (22): 2840-2865.
- Lin Jie-Heng, Wang Ming-Yeu. Complementary assets, appropriability, and patent commercialization: Market sensing capability as a moderator. *Asia Pacific Management Review* 2015; 20 (3): 141-147.
- Lubatkin Michael H, Schulze William S, Ling Yan, Dino Richard N. The effects of parental altruism on the governance of family-managed firms. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior* 2005; 26 (3): 313-330.
- Lwango Albert, Coeurderoy Régis, Roche Gabriel A Giménez. Family influence and SME performance under conditions of firm size and age. *Journal of Small Business and Enterprise Development* 2017.

- Mauerhoefer Timo, Strese Steffen, Brettel Malte. The Impact of Information Technology on New Product Development Performance. *Journal of Product Innovation Management* 2017; 34 (6): 719-738.
- Memili Esra, Patel Pankaj C, Koç Burcu, Yazıcıoğlu İrfan. The interplay between socioemotional wealth and family firm psychological capital in influencing firm performance in hospitality and tourism. *Tourism Management Perspectives* 2020; 34: 100651.
- Min Byung-seong. Heterogeneity of R&D in family firms. *Journal of Business Research* 2021; 129: 88-95.
- Minichilli Alessandro, Corbetta Guido, MacMillan Ian C. Top management teams in family-controlled companies: 'familiness', 'faultlines', and their impact on financial performance. *Journal of management studies* 2010; 47 (2): 205-222.
- Mohammed Abdul Quddus. Barriers and enablers of innovation in United Arab Emirates (UAE) small and medium enterprises (SMEs) sector. *International Journal of Entrepreneurship* 2019; 23 (3): 1-9.
- Mu Jifeng, Bao Yongchuan, Sekhon Tejvir, Qi Jiayin, Love Edwin. Outside-in marketing capability and firm performance. *Industrial Marketing Management* 2018; 75: 37-54.
- Naldi Lucia, Cennamo Carmelo, Corbetta Guido, Gomez-Mejia Luis. Preserving socioemotional wealth in family firms: Asset or liability? The moderating role of business context. *Entrepreneurship Theory and Practice* 2013; 37 (6): 1341-1360.
- Olson Eric M., Walker Orville C., Ruekert Robert W. Organizing for Effective New Product Development: The Moderating Role of Product Innovativeness. *Journal of Marketing* 1995; 59 (1): 48-62.
- Park Hong Y, Misra Kaustav, Reddy Surender, Jaber Kylie. Family firms' innovation drivers and performance: a dynamic capabilities approach. *Journal of Family Business Management* 2019.
- Pierce C. What's Holding Back Family Businesses in the GCC?
- PwC. Future-proofing Middle East family businesses: Achieving sustainable growth during disruptive times
- Ramírez Yolanda, Dieguez-Soto Julio, Manzanque Montserrat. How does intellectual capital efficiency affect firm performance? The moderating role of family management. *International Journal of Productivity and Performance Management* 2020.
- Randolph Robert V, Fang Hanqing 'Chevy', Memili Esra, Nayir Dilek Zamantili. Family and non-family sources of knowledge diversity in family firms: The role of causation logics. *International Small Business Journal* 2021; 39 (1): 64-85.
- Salvato Carlo, Aldrich Howard E. "That's Interesting!" in Family Business Research. *Family Business Review* 2012; 25 (2): 125-135.
- Salvato Carlo, Melin Leif. Creating value across generations in family-controlled businesses: The role of family social capital. *Family business review* 2008; 21 (3): 259-276.
- Samara Georges. Family businesses in the Arab Middle East: What do we know and where should we go? *Journal of Family Business Strategy* 2020: 100359.
- Sanchez-Famoso Valeriano, Iturralde Txomin, Maseda Amaia. The influence of family and non-Family social capital on firm innovation: Exploring the role of family ownership. *European Journal of International Management* 2015; 9 (2): 240-262.
- Schilke Oliver, Hu Songcui, Helfat Constance E. Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research. *Academy of Management Annals* 2018; 12 (1): 390-439.
- Sharma Pramodita, Salvato Carlo, Reay Trish. Temporal dimensions of family enterprise research
- Souder David, Zaheer Akbar, Sapienza Harry, Ranucci Rebecca. How family influence, socioemotional wealth, and competitive conditions shape new technology adoption. *Strategic Management Journal* 2017; 38 (9): 1774-1790.

- Strike Vanessa M. Advising the Family Firm: Reviewing the Past to Build the Future. *Family Business Review* 2012; 25 (2): 156-177.
- Teece David J, Pisano Gary, Shuen Amy. Dynamic capabilities and strategic management. *Strategic management journal* 1997; 18 (7): 509-533.
- Teece David J. Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal* 2007; 28 (13): 1319-1350.
- UAE. National SME Programme
- Vandekerckhof Pieter, Steijvers Tensie, Hendriks Walter, Voordeckers Wim. Socio-Emotional Wealth Separation and Decision-Making Quality in Family Firm TMTs: The Moderating Role of Psychological Safety. *Journal of Management Studies* 2018; 55 (4): 648-676.
- Villalonga Belen, Amit Raphael. How do family ownership, control and management affect firm value? *Journal of financial Economics* 2006; 80 (2): 385-417.
- Weerawardena Jay, Mort Gillian Sullivan, Salunke Sandeep, Knight Gary, Liesch Peter W. The role of the market sub-system and the socio-technical sub-system in innovation and firm performance: A dynamic capabilities approach. *Journal of the Academy of Marketing Science* 2015; 43 (2): 221-239.
- Zhou Jing, Mavondo Felix T, Saunders Stephen Graham. The relationship between marketing agility and financial performance under different levels of market turbulence. *Industrial Marketing Management* 2019; 83: 31-41.

Appendix-I

Table 1. Measures and reliability/validity results.

Details of measures and results of the reliability tests for multi-item constructs	Standardized factor loadings
Socio-emotional wealth (CA = 0.90; CR = 0.90; AVE = 0.69)	
1. It is essential to preserve the family control and independence of the family firm.	0.88
2. Family members have a strong sense of belonging to the family firm.	0.92
3. Non-family members are treated as part of the family.	0.76
4. Successful business transfer to the next family generation is an important goal of the family firm.	0.75
Market sensing capability (CA = 0.87; CR = 0.87; AVE = 0.56)	
Our firm possesses the ability to ---	
1. --- acquire and use market information.	0.71
2. --- anticipate rivals' actions.	0.74
3. --- predict consumer demand.	0.82
4. --- establish a database to serve customers.	0.71
5. --- integrate market and technology information.	0.75
NPD performance	
Effectiveness (CA = 0.85; CR = 0.86; AVE = 0.56)	
The new product fully met all objectives in terms of ---	
1. --- return on investment	
2. --- revenue	0.71
3. --- unit cost	0.89
4. --- competitive advantage	0.75
5. --- market share	0.71
Efficiency (CA = 0.91; CR = 0.91; AVE = 0.66)	
1. The development phase was shorter than we expected.	0.83
2. The commercialization phase was shorter than we expected.	0.80
3. We accomplished market introduction as scheduled.	0.81
4. The market introduction was in line with the projected budget.	0.82
5. The new product development was in line with the projected budget.	0.79
Goodness-of-fit statistics: $\chi^2/D.F.$ = 1.39; CFI = 0.98; TLI = 0.98; RMSEA = 0.04; SRMR = 0.04.	

Abbreviations: AVE, average variance extracted; CA, Cronbach alpha; CR, composite reliability.

Table 2. Descriptive statistics and correlations.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Managerial experience	1.10	0.26	1.00									
2. Firm size [‡]	1.88	0.40	0.04	1.00								
3. Firm age [‡]	1.11	0.37	-0.10	-0.10	1.00							
4. Industry [†]	1.41	0.49	0.05	0.18 ^{***}	-0.04	1.00						
5. R&D intensity	0.17	0.19	0.03	-0.02	-0.06	-0.02	1.00					
6. Family control	0.67	0.47	-0.09	0.04	0.01	0.05	0.00	1.00				
7. Socio-emotional wealth	4.64	1.37	-0.02	0.02	0.00	0.10	0.07	-0.01	0.83			
8. Market sensing capability	4.91	1.12	0.02	0.06	-0.03	0.07	-0.05	0.04	0.27 ^{***}	0.75		
9. Effectiveness	5.10	1.22	0.04	0.14 [*]	0.01	0.11	-0.06	-0.03	0.03	0.27 ^{***}	0.75	
10. Efficiency	4.94	1.35	0.15 [*]	0.13 [*]	0.05	0.18 ^{***}	-0.02	0.02	0.21 ^{***}	0.27 ^{***}	0.22 ^{***}	0.81

Note. ‡ = natural logarithm; † = dummy variable; S.D. = standard deviation; square roots of AVE in diagonal; significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.01$ (2-tailed test).

Table 3. Results of the structural model estimation.

Independent variables	Dependent variables						
	Market sensing capability		NPD performance				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Control paths							
Managerial experience	0.03 (0.39)	0.02 (0.34)	0.24* (2.05)	0.23# (1.86)	0.23* (2.26)	0.23* (2.38)	0.23* (2.49)
Firm size	0.04 (0.58)	0.04 (0.68)	0.20# (1.69)	0.16 (1.51)	0.21* (2.01)	0.19* (2.03)	0.18* (1.98)
Firm age	-0.02 (-0.26)	-0.03 (-0.48)	0.13 (1.26)	0.12 (1.26)	0.15 (1.47)	0.15 (1.58)	0.12 (1.32)
Industry	0.06 (0.82)	0.03 (0.49)	0.28* (2.10)	0.22# (1.82)	0.26* (2.46)	0.24* (2.43)	0.22* (2.39)
R&D intensity	-0.05 (-0.74)	-0.07 (-1.15)	-0.05 (-0.49)	-0.05 (-0.61)	-0.03 (-0.36)	-0.03 (-0.38)	-0.04 (-0.44)
Direct paths							
Socio-emotional wealth		0.28*** (4.29)		0.27* (1.99)		0.14 (1.47)	0.13 (1.41)
Market sensing capability (MSC)					0.54*** (4.31)	0.47*** (3.96)	0.43*** (3.65)
Family control (FC)							0.01 (0.08)
Moderating path							
MSC x FC							0.59*** (4.89)
Goodness-of-fit statistics							
$\chi^2/D.F.$	1.62	1.42	1.38	1.22	1.37	1.27	
CFI	0.97	0.98	0.97	0.99	0.99	0.99	
TLI	0.95	0.96	0.96	0.98	0.97	0.98	
RMSEA	0.05	0.04	0.04	0.03	0.04	0.03	
SRMR	0.04	0.03	0.04	0.03	0.03	0.03	

Note. T-values are reported in parentheses; significance levels: # $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.01$ (2-tailed test); abbreviation: NPD = new product development.

Table 4. Results of multi-group analysis.

Paths	Non-family controlled SMEs	Family controlled SMEs
Socio-emotional wealth → NPD performance	-0.04 (-0.36)	0.19* (2.53)
Socio-emotional wealth → Market sensing capability	0.18# (1.72)	0.30*** (3.97)
Market sensing capability → NPD performance	-0.07 (-0.69)	0.41*** (5.91)
Socio-emotional wealth → Market sensing capability → NPD performance	-0.01 (-0.12)	0.12** (2.69)

Note. Significance levels: # $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.01$ (2-tailed test).

Table 5. Results of PROCESS macro.

Paths	Estimates	LL 95% CI	UL 95% CI
Direct effects			
Socio-emotional wealth → NPD performance	0.10*	0.02	0.19
Socio-emotional wealth → Market sensing capability	0.22*	0.12	0.32
Market sensing capability → NPD performance	0.26*	0.15	0.37
Indirect effects			
Indirect effect	0.06*	0.02	0.10
Total effect	0.10*	0.02	0.19
Conditional indirect effects			
Group 1: Non-family control	-0.01*	-0.06	0.03
Group 2: Family control	0.08*	0.03	0.14

Note. Abbreviation: SD = standard deviation; * Nonzero within the boundaries (significant).

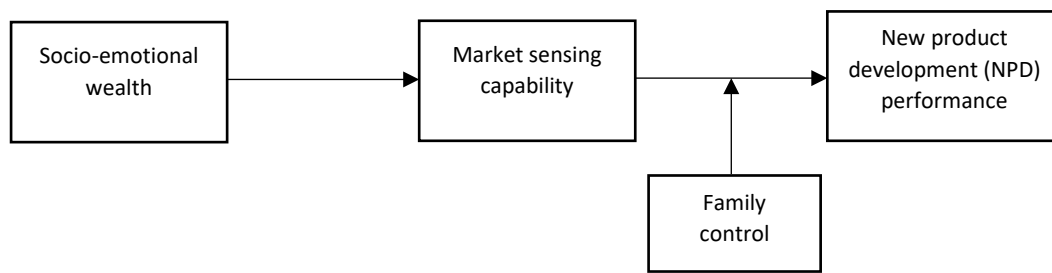


Figure 1. Conceptual framework of the study.

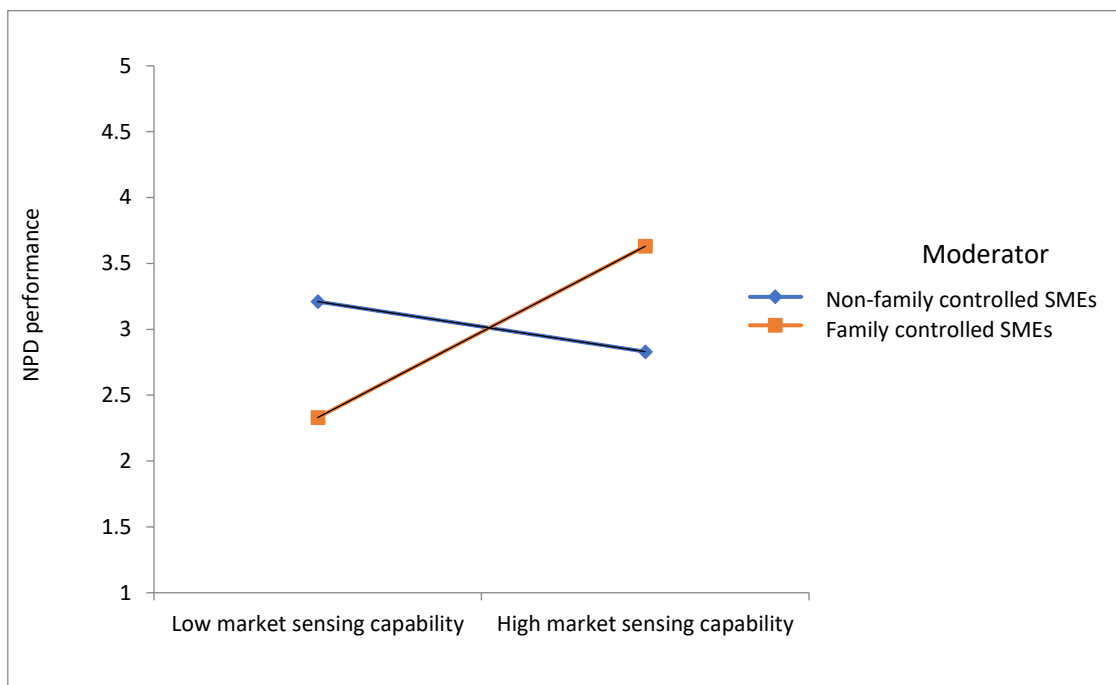


Figure 2. Two-way interaction between market sensing capability and family control.