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Effectiveness of Management Control Systems in Pakistani Family and Non-family Businesses: The Role of Family Social Capital

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Abstract

Fertile social capital in the family firms (FFs) is predicted to give a competitive advantage to them over nonfamily firms (NFFs). In this study, we examined the role of social capital for the effectiveness of Simons levers of control in FFs and NFFs. Using data collected from an online survey in Pakistani SMEs, this study demonstrates that association among levers of controls and organizational performance differs between FFs and NFFs. The findings reveal that boundary and interactive controls are directly associated with organizational performance in NFFs. On the other hand, we cannot find a significant direct association between levers of control and organizational performance in FFs. Our findings lead us to support the view that fertile social capital does not provide a competitive advantage to FFs over NFFs for the effectiveness of management control systems. Therefore, we find a disconnect between the theory and empirical evidence.

Keywords: Management control systems, Family firms, Levers of Control, Family social Capital, SME, organizational performance

Introduction

In recent decades, management control issues in family firms (FFs) have attracted the attention of many scholars. According to them, the claims of management control systems (MCS) research have remained universalistic and findings of these studies cannot be generalized to FFs due to their documented distinct features (Craig & Moores, 2010; Moores & Mula, 2000; Senftlechner & Hiebl, 2015; Speckbacher & Wentges, 2012). Contingency research in management controls literature also stresses that proposing universal propositions for control systems are likely to bring weaker and conflicting results as contextual and structural variables in one configuration can be totally unrelated or inversely related in another (Bedford & Malmi, 2015). Naturally, this calls for various scientific inquiries in the management controls domain to be analyzed both in the family and nonfamily systems to foster the theories of management control systems and FFs.

To address the said challenge, various formal management controls have been placed for empirical testing in both family and nonfamily firms contexts. Helsen, Lybaert, Steijvers, Orens, & Dekker (2017) in their literature review study, provide research focuses on prior studies on MCSs in FFs. As the topic of management control falls within broader management accounting field, there have been other studies as well who provide reviews on prior management accounting research in FFs (Prencipe, Bar-Yosef, & Dekker, 2014; Salvato

& Moores, 2010; Songini, Gnan, & Malmi, 2013). Their findings reveal that management accounting studies in FFs employ agency framework in the majority of relevant scientific inquiries. They all also acknowledged that the adoption of a variety of other theoretical lenses can provide many innovative and appealing opportunities to further our understanding of management accounting issues in FFs. Further, they also recognized that this stream of research can expand and improve the research horizons of general MCSs literature as well.

Recently, social capital in FFs has gained considerable attention from family business researchers. Many of them propose social capital in FFs as a resource that is hard to imitate, rare, valuable, without substitutes and this resource can provide competitive advantage to FFs. Pearson et al., (2008) suggest that the social capital perspective in FFs can provide fruitful avenues for investigating the sources and consequences of competitive advantages held by FFs. There seems growing consensus among scholars that ultimate FFs competitive advantage lies in how well FFs perform the daily practice of strategy (Lee, Phan, & Ding, 2016; Pearson et al., 2008; Salvato & Melin, 2008). Despite this agreement, still, there is little awareness of the potential role of social capital in creating value with respect to MCS for FFs. This work relies on Simons levers of control framework who has left an important mark on management controls' research pursuits. This study wants to examine whether FFs can capitalize on their social capital to emphasize MCSs in a way that brings more performance benefits relative to the NFFs in Pakistani SMEs. Social capital theory in FFs stresses that they are characterized by distinct social capitals at various levels of the organizations and that can be a source of competitive advantage or disadvantage for FFs. Family firm research has witnessed various studies trying to validate the notions of this growing theory and therefore, we want to make a step ahead and try to address the following research question: Do the effects of MCSs implementation on organizational performance differ in FFs and NFFs?

Relied on Pakistani SMEs sample, the study's findings reveal several key insights regarding the effectiveness of MCS in FFs versus NFFs. The results indicate that formal controls, particularly levers of control, are not significantly associated with organizational performance in family businesses. Instead, the study found that boundary and interactive controls demonstrate positive associations with organizational performance specifically in NFFs, suggesting that non-family firms may derive greater benefits from formal control mechanisms through enhanced organizational participation, learning, and strategic idea generation. Notably, diagnostic and belief controls showed no direct association with

organizational performance in either organizational type, while the complex nature of performance measurement in FFs—where family goals often compete with firm performance objectives—may explain why traditional MCS frameworks appear less effective in family business contexts. These findings challenge the assumption that family firms possess inherent competitive advantages through their social capital when implementing management control systems, instead suggesting that the unique dynamics of family businesses may require alternative control approaches beyond formal MCS frameworks.

There are at least three emerging contributions to the literature. This has extensively been argued that social capital brings competitive advantages to family firms (Pearson et al., 2008; Sorenson, Goodpaster, Hedberg, & Yu, 2009). But this idea has never been empirically compared in FFs and NFFs within management controls literature. Family firm identification in connection to distinct social capital should reflect distinct resources and behaviors (Herrero, 2018; Sorenson et al., 2009). Secondly, if NFFs could reflect the same distinct resources and behaviors of FFs then this study will contribute to debate the potential of social capital in NFFs (De Massis, Kotlar, & Frattini, 2013; Ensley & Pearson, 2005; Herrero, 2018). Third, the findings of this study will help us to understand the effects of MCS on performance in two distinct types of organizations and contribute to social capital research on Simons levers of control (Bedford, 2015; Su, Baird, & Schoch, 2015).

The rest of the paper is structured as follows. The next section illustrates the foundations of social capital theory in family firms and briefly discusses the implications of social capital as a resource for FFs. Then the same section discusses the relevant hypothesis for this study. Section 3 discusses the method used for the collection of data and further highlights the variables of this study. This is followed by the results section where we provide the results of data analysis along with debate on results. This is followed by a discussion and concluding section where we discuss the contribution of our study, its implications, and insights for future research.

Theory and Literature

Theoretical assumptions: Family Social capital as a Resource

Many scholars argued that economic capital is not the only important form of capital and suggested that social capital should be taken as important form of capital in industrial capitalism (Bourdieu, 1986; Coleman, 1988; lin, 2002). In recent decades, the concept of social capital has received the attention of many family business scholars who maintained

that family can be a source of various capitals and one of them is social capital (Cabrera-Suárez, de la Cruz Déniz-Déniz, & Martín-Santana, 2011; Danes, Stafford, Haynes, & Amarapurkar, 2009; Sorenson et al., 2009; Zahra, 2010). The family can be resource builder and user of social capital (Bubolz, 2001) and Coleman(1988) identifies family as key institution through which social capital is transmitted. Similarly, FFs can create much denser social capital which is hard for NFFs to replicate (Pearson et al., 2008). Family business literature not only identifies the development of social capital in family firms (Arregle, Hitt, Sirmon, & Very, 2007), but also relate this resource to identify the uniqueness of family firms (Arregle et al., 2007; Cabrera-Suárez et al., 2011; Hoffman, Hoelscher, & Sorenson, 2006; Pearson et al., 2008; Zellweger, Eddleston, & Kellermanns, 2010).

Nahapiet & Ghoshal (1998) maintain that four conditions (stability, closure, interdependence, and interaction) are necessary for the creation of social capital in a collective. Drawing on Nahapiet & Ghoshal (1998) antecedent factors for the creation of social capital, Pearson, Carr, & Shaw (2008) document that the family firm is a unique case of fertile social capital. According to them, long-standing internal relationships and existed structure in family members provide stability to the organization by providing a recurring opportunity for more interdependence and interaction throughout the life of the family firm. Presence of bloodlines in ownership and management of the organization provides unique closure to FFs, unlike NFFs where higher turnovers and additions severely damage closure within the organization. Nahapiet & Ghoshal (1998) also maintain that social capital in a collective can be conceptualized in three dimensions: structural capital, relational capital and cognitive social capital. Similarly, family business researchers have examined these dimensions in FFs and provide that these dimensions are not only unique in FFs but can be regarded as elements of familiness (Pearson et al., 2008). For instance, structural social capital describes the density and connectivity of social ties among the members of a collective and in family, this is manifested through established patterns of interaction and involvement among members of the family (Hoffman et al., 2006). Relational capital presents the quality of personal relationships developed among the members of a collective through a history of interactions which can provide various resources such as trust, perceived trustworthiness, obligations, norms, and identity (Nahapiet & Ghoshal, 1998). These attributes are essential in FFs to achieve economic goals and identify other goals specific to the family (Cabrera-Suárez et al., 2011; Zahra, 2010). Lastly, cognitive social capital reflects

the extent to which players of a collective can promote common values, beliefs, goals and a shared vision. This dimension not only reflected in the family's shared vision and purpose but also manifests through unique language, culture, and stories that facilitate shared communication (Pearson et al., 2008).

In another seminal work, Arregle, Hitt, Sirmon, & Very (2007) document the co-existence of two distinct social capitals in FFs: family and organizational social capital where family social capital refers to goodwill resulting from relationships and interactions among the family members while organization social capital reflects the character of social relations of the FFs with diverse stakeholders. In their analysis, they also provide how family social capital shapes the creation of (family firm) organizational social capital. Similarly, Zahra (2010) also differentiates two types of distinct social capitals in family firms: familial and organizational but his conceptualization of organizational social capital is outward, unlike, Arregle et al., (2007) where their conceptualization organizational social capital covers both internal and external levels of the organization. Therefore, prior family business literature emphasizes that social capital in FFs is unique at two levels which cannot be hired or employed unlike other capitals (financial and human), hard to imitate, rare, valuable, without substitutes and provides competitive advantage to family firms (Carr, Cole, Ring, & Blettner, 2011; Herrero, 2018; Hoffman et al., 2006; Sorenson et al., 2009). FFs' social capital resources are advantageous for superior firm performance as these resources enhance efficient action and exchange of information and further promote collective goals and collective actions in the organization (Pearson et al., 2008).

Hypothesis Development

According to Simons, for successful implementation of the strategy, top management must put their attention to four strategic issues: critical performance measurements, strategic uncertainties, core values, risks to be avoided which ultimately provide the basis for his four levers. In this section, we do not hypothesize the general relationship between Simons levers of controls and performance as these relationships have already gained considerable attention in management control systems literature. Rather, we are eager to investigate the role of social capital for stimulating the effectiveness[1] of four levers of controls in FFs and NFFs. In line with our research objectives, we shall relate four Simons levers with organizational

[1] By effectiveness of a lever of control we imply that to what degree a lever of control brings desired performance.

performance in FFs and NFFs by engaging the family firm's social capital.

Diagnostic Control Systems and Organizational Performance: Family Vs Nonfamily Businesses

Diagnostic control systems (DCS) are formal feedback systems who are employed by top management for measuring and monitoring pre-determined organization outcomes and also guide on corrective actions when results deviate from preset standards (Simons, 1995). According to Widener (2007), "critical success factors" are embedded in this control system and this system allows managers to constantly focus their attention on a variety of organizational drivers to realize their intended strategy. Management control systems literature also has identified challenges associated with this control which can hinder the effectiveness of this control. For example, Su, Baird, & Schoch (2014) identify that the effectiveness of this control is related with designing clear, stable and well-understood critical success factors. The diagnostic system will suffer if the top management team does not know what are important critical success factors for the organization and such state of affair, will offer difficulty for employees to understand organizational priorities (Sheehan, 2006). Similarly, Bedford (2015) relates the effectiveness of this control with clear managerial preferences and the degree of unambiguously codifying critical success factors into quantitative metrics. "Measurement is a powerful tool because what gets measured gets managed; and what gets managed, gets done"(Sheehan, 2006).

FFs can capitalize on family social capital which can improve the effectiveness of this control. Based on the theoretical underpinnings of social capital theory in FFs, we propose that rich cognitive and structural social dimensions within family members (Arregle et al., 2007) are the most relevant dimensions for comparing the effectiveness of this control in the FFs and NFFs. DCS is considered a top management device wherein FFs, rich cognitive (common goals) and structural (interactions) social dimensions within the top management team (TMT) can facilitate the development of clear and stable critical success factors. Cabrera-Suárez, Déniz-Déniz, & Martín-Santana (2015) find that the presence of family social capital is directly associated with the formulation of corporate goals and influencing other strategic decisions. In family systems, social ties among the family members are one of the key features that can have a great impact on the daily operations of the firm (Nahapiet & Ghoshal, 1998). In FFs, rich cognitive dimension implies that family members share a shared vision for the firm and thereby reflects in important decisions for the firm such as desired

business domains, performance, and growth rates (Nahapiet & Ghoshal, 1998). Rich cognitive dimension also reflects that players of a collective are characterized with "shared representations, interpretations and systems of meaning to create common understanding " (Nahapiet & Ghoshal, 1998). Family firm parental TMTs pursue greater consensus on strategic issues and lesser engagement in determinantal conflicts and relationship conflicts than the nonfamily TMT firms (Ensley & Pearson, 2005). Furthermore, the strength of shared vision among family members improves strategic decision quality and commitment (Nahapiet & Ghoshal, 1998). In line with their family and organizational goals, a greater family interaction enables the family firm to develop more accurate expectations about performance in the family business (Mahto, Davis, Pearce , & Robinson , 2010). Close interactions allow to share and discuss important information and promote a common understanding of goals, issues, and tasks (Sanchez-Famoso, Maseda, & Iturralde, 2014). Family members (both owners and executives) use their close relationships with employees to reinforce their views on key strategic and operational goals (Speckbacher & Wentges, 2012). Therefore, prior literature leads us to assume that the family social capital can improvise the stability, clarity and understandability of critical success factors within the top management team in FFs which can make the usage of this control more effective relative to NFFs. We propose that unlike NFFs, fertile family social capital in FFs can better address several challenges associated with control which can further improvise its effectiveness. These arguments are formalized as follow:

Hypothesis 1: Diagnostic control systems will have a greater effect on performance for FFs than NFFs.

Interactive Control Systems and Organizational Performance: Family Vs Nonfamily Businesses

According to Tessier & Otley (2012), the objective of this control to constantly focus on the strategic uncertainties (for example, competitors tactics, customers changing demands, technological changes, market changes, etc.), informing the managers about the strategic adequacy of strategy and ensuring the performance of the strategy. To resolve and communicate strategic uncertainties, this control seeks subordinate's involvement, face-to-face discussions and non-invasive management style within the organization (Sakka, Barki, & Côté, 2013). This is pivotal to constantly monitor and proactively respond the environmental threats and opportunities by updating the firm's strategy (Simons, 1995).

According to Sheehan (2006), the desired performance results of this control depend well beyond just monitoring a small set of metrics. For deriving effective results of this control, managers of firms are needed to meaningfully interact both at external and internal levels of the firm.

Both at internal and external levels of the organization, FFs are in a unique position to capitalize on their organizational social capital (OSC) for the effectiveness of this control. Family firm OSC can boost interactive control effectiveness by promoting its focus and integration. OSC can be fruitful in recognizing new opportunities and better coordination within the organization (Adler & Kwon, 2002; Herrero & Hughes, 2019). We propose that relational and structural perspectives of family firm OSC are most relevant perspectives while comparing the effectiveness of this control in FFs and NFFs. Family firm OSC resembles the family social capital as the family firm is heavily dependent on family, therefore, reflection of family social capital on family firm OSC as a consequence is inevitable (Arregle et al., 2007). FFs can use their enduring social relationships and trustworthiness with diverse stakeholders for managing strategic uncertainties about the family firm's industry future (Zahra, 2010). FFs can create much denser social capital which is hard to replicate in NFFs (Pearson et al., 2008). External ties can act as advise networks that can provide a wider variety of information to the FFs. External interactions facilitate the flow of vital information into the organizations and allow better business decisions. Henri (2006) describes this control as organic control, therefore, at internal level collaboration and coordination among the top managers and subordinates through dialogue and debate become crucial. The distinct relational OSC in FFs can facilitate coordination and collaboration at various units' levels and further can benefit in effective decision making and ensuring the results of decisions. Pearson et al., (2008) also provide unique family firm capabilities that arise from distinct family firm social capital which are efficient information access, efficient exchange and collective goals that ultimately provides a competitive advantage to FFS. Therefore, family firm OSC can impede several challenges associated with this control and benefit the FFs for its more effective results in terms of performance. Hence, our arguments lead to following expectation:

Hypothesis 2: Interactive control systems will have a greater effect on performance for FFs than NFFs.

The objective of this control is to motivate employees to adopt the core values and objectives of the organization (Widener, 2007). Senior management through this control not only communicate but systematically reinforce the basic values, purpose, and direction of the organization to subordinate employees (Simons, 1995). According to Mundy (2010), this control not only promotes shared vision and values among the employees in the organization but also keep them inspired and motivated. Marginson (2009) implicitly describes that this control can be more effective if "realm of collective mind" can be achieved as there can be a conflict between the employee's personal and organizational values (Chenhall, Hall, & Smith, 2010). This conflict can also be more pronounced when an organization could not produce an internally consistent belief system (Mundy, 2010). Bedford (2015) also implicitly describes that more effective results of this control can be achieved if there is a "collective frame of reference" within the organization.

In FFs, a shared mission and purpose signify the degree of collective ideas about the future (e, g. desired future domains, economic and non-economic goals) of family business among family members (Nahapiet & Ghoshal, 1998). Despite having advantages in structural and relational capitals, the most relevant capital for the effectiveness of this control seems to relate with rich cognitive social capital in FFs at family and organizational levels. Cognitive social capital reflects the extent to which players of a collective can promote common values, beliefs, goals and a shared vision. When considering this dimension in FFs, this is unique in FFs and often deep-rooted in founders values and family firm history (Pearson et al., 2008). FFs research also reflects that founders play a key role in harvesting core values of the business, during and beyond to their long tenures (Craig & Moores, 2010; Duh, Belak, & Milfelner, 2010). Similar research also reflects that family employees often have a collective understanding of the shared vision and purpose where for NFFs, this is hard to develop and imitate (Carr et al., 2011; Herrero, 2018). Prior research seems to indicate that unique cognitive social capital gives FFs the capability to develop internally consistent, enduring mission and purpose, especially among the family members. Realm of collective mind can be achieved when nonfamily employees also identify with this system of shared meaning. Shared vision and mission promote common goals and reduces the individualist and opportunistic behaviors (Pearson et al., 2008). Arregle et al., (2007) in their framework explain the development of family firm OSC from a strong FSC and also highlight those

factors which enable the transmission of social capital from one group to another. For instance, they explain why the family is embedded in *organizational identity* and how organizational identity shapes the creation of family OSC to mirror FSC. Further, they explain that organizational employees will evidently share the *family's goals and values* because the organization will support and promote those employees who are in line with family's goals and values. In family research, empirical evidence on this transmission is sparse. Herrero (2018) empirically finds that FSC is unique and stronger in family members while comparing it with nonfamily members but do not provide any evidence on the development of unique family OSC than nonfamily OSC. Hence, we propose that family social capital in FFs not only give advantage to reach at a consistent belief system but shapes family OSC as well towards creating a realm of collective mind. Thereby, this capital can address the challenge associated with this control and when this control is emphasized, this can bring more performance benefits in FFs than NFFs. Thus, our expectations are as follows:

Hypothesis 3: Belief system will have a greater effect on performance for FFs than NFFs.

Boundary control and Organizational Performance: Family Vs Nonfamily Businesses

The boundary systems are based on risks that employees should avoid (Simons, 1995). This control communicates to employees the actions that they should avoid both at operational and strategic levels of the organization (Tessier & Otley, 2012). This control emphasizes the compliance of prescriptive rules, codes, and activities by establishing rules of game (Speklé, van Elten, & Widener, 2017). By restraining the behavior of employees, this control acts as an opposition to a belief system to curb any potential wastage of organizational sources and energies (Widener, 2007). According to Mundy (2010), the effectiveness of this control depends on the "ex-ante cataloguing of acceptable and unacceptable activities" within the organization. Chenhall et al., (2010) suggest that this control is more relevant in an environment where employees cannot be trusted.

Influential commentaries on social capital such as Adler & Kwon (2002) and Nahapiet & Ghoshal, (1998) recognize the risks of rich social capital in a collective. Despite advocating on the rich side of rich social capital, family business literature also recognize the dark side of rich social capital in FFs (Arregle et al., 2007; De Massis et al., 2013; Pearson et al., 2008). The relevant theoretical underpinnings lead us to propose that family firm relational social capital at the organizational level (Pearson et al., 2008) is the most relevant theoretical dimension for comparing the effectiveness of this control in FFs and NFFs.

Family firm relational capital reflects the strength of relationships built over the course of time which eventually leads to trust, respect, friendship and reciprocity within the FFs. In this background, Leana & Van Buren (1999) categorize trust into two subdimensions: fragile and resilient trust. Pearson et al. (2008) also differentiate these two subdimensions in their analysis and relates resilient trust (governed by norms and values) with FFs and fragile trust (governed by formal contractual means) with NFFs. Presence of high level of trust in a collective may lead to reduced efforts for vigilance, monitoring and safeguarding the unacceptable activities (Villena, Revilla, & Choi, 2011). FFs are very capable of utilizing trust (Eddleston, Chrisman, Steier, & Chua, 2010), however, there are dark sides of higher trust in a collective too which can lead to blind faith, complacency and amoral familism (Eddleston & Kidwell, 2012; Eddleston & Morgan, 2014; Stanley & McDowell, 2014; Sundaramurthy, 2008). The design of boundary control seems to best fit in an environment where fragile trust is prevalent as the case with NFFs. As suggested by Pearson et al. (2008), FFs are characterized by the resilient trust where norms and values glue the people together, therefore, family firm relational social capital seems to hinder the effectiveness of this lever of control for the following reasons. The family firm relational social capital embedded in the resilient trust may call for reducing efforts for vigilance and monitoring of unacceptable activities. In this background, FFs may feel less prepared for a structure of last resort unlike NFFs where prevalent fragile trust embedded in nonfamily relational social capital, may call for established rules of the game. The benefits of this control cannot always apparent to senior managers and too often, they learn hard way (Simons, 1995). Therefore, we formalized our arguments as follow:

Hypothesis 4: Boundary systems will have a greater effect on performance for NFFs than FFs

Methodology

Data and Sample

In this study, we want to examine and compare the effects of MCS implementation on organizational performance in FFs and NFFs. We choose to conduct our research in setting of Pakistani Small and medium enterprises (SMEs) for following three reasons. SMEs are often characterized with limited resources and capital relative to larger firms, therefore, these organizations are particularly interested in investing in social capital (Aragón, Narvaiza, & Altuna, 2016; Spence & Schmidpeter, 2003).

In order to produce a list of companies for our workable sample, we selected Orbis database and thereby, adopted three criteria: availability of top management contacts in said database; 50-250 employees ranged organizations and finally, the corporate status of the firm. With above-mentioned criteria, we sought those private companies who are in line with European commission definition of Pakistani SMEs and could be approached for online survey. This exercise gave us a workable sample of 2761 companies. Then we explore the contacts of top management teams on LinkedIn. However, we could not find any top management team contact in 771 firms in their LinkedIn accounts and eliminated those companies in our final sample of 1987 companies. We followed the definition of top management team proposed by Henri (2006) and decided to contact one member of top management team (CEO, CFO, COO, Sales Director, GM) by maintaining a similar order of mailing preference. In line with the guidelines of our protocol, we contacted one of top management team members through a personalized invitation at the start of March 2023.

Before sending our web-based questionnaire, we sent the initial version of the questionnaire to four academicians who held substantial psychometric expertise. Further, in order to avoid response error, the questionnaire was pre-tested by five professionals (not part of final responses) and finally, we made minor amendments.

To maximize our response rate, we followed the Dillman (2011) survey implementation strategies. In our first email to our target respondents, we introduced the purpose of the research and requested them to participate in the survey. Further, three follow-ups were made by promising total confidentiality and a summary of the project. In this whole data collection activity, we received 210 responses with an initial response rate of 10.56 per cent. We had to drop 17 responses because we found the quality of responses was not acceptable for further analysis. We also wanted to avoid any artificial rise or decline within the relationship of variables due to missing values within the variables and further declined 10 responses for hypothesis testing. This step improved our completion rate of survey from 77 per cent to 97 per cent, as indicated by our emailing software. Thus, our final data set was comprised of 183 responses with a response rate of 9.21 per cent.

According to Van der Stede et al., (2006), even in low response rate, results can even be generalizable if there is low non-response bias. To test non-response bias in our results, we classified respondents as early and late respondents and compared the mean values of the survey items using Man-Whitney-U-Test. No significant mean differences revealed.

To identify family vs non-family businesses, we used self-assessment criteria where respondents were asked certain questions about the nature of the firm. Different cultural and legal aspects shape the general characteristics of FFs across the countries, thus, no universal definition exists for defining a family firm. Defining a family firm for this work, we sought those characteristics of FFs, especially, in context of social capital that can be in line with the definition of Arregle et al., (2007). Thus, to accept business as a family business, we set two criteria. The first criterion reflects the nature of the concentration of ownership and management within the family business unit. To capture this, we asked three related questions where respondents had to answer either in yes or no. Our questions were:

(i) Does your enterprise conceive as a family enterprise?

(ii) Does majority ownership of the enterprise lie in the hands of a family?

(iii) Are family members actively involved in top management team?

Above-mentioned questions touch upon the spirit, ownership and management of the firm in context of Pakistani SMEs. This combination provides a family with the power to influence the strategic and daily boundaries of the enterprise. In traditional family business research, there seems consensus on defining family ownership and family management as important attributes for a family firm. However, there exist a disagreement on quantifying these aspects due to various cultural and legal aspects prevalent in the different parts of the world. In this research, we sought majority ownership and active involvement of family members in top management team as sufficient conditions for quantifying these aspects especially in context of Pakistani SMEs.

Our second criteria reflect the presence of FSC in the family unit. Hence, we asked further three questions on relational, structural and cognitive dimensions, respectively. We asked our respondents to answer, whether, overall family members in the organization:

(iv) Trust each other

(v) Share the same vision

(vi) Willing to share information with one another

These resources combination provides family social capital. Thus, in this study, we consider FFs who qualify all the above-mentioned questions.

Second-order Construct, Validation and Mean Comparison

We also introduced questions on social capital for both FFs and NFFs for quantifying the magnitude of social capital in both organizations. We used Carr et al., (2011) questionnaire to

measure FSC and further it adopted to measure social capital in NFFs. To do so, we performed changes in the questionnaire as suggested by Herrero(2018) where we changed family firms with firms and family members with firm members. Our next step was to validate the scales. We performed exploratory factor analysis and three dimensions emerged corresponding to structural, relational, cognitive dimensions respectively. The standardized factor loadings indicated a good fit for both analyses coupled with satisfactory values of goodness of fit of models (Table 1).

Table 1. Items And Factor Loadings For First And Second-Order Construct

		Factor Loading	
	Item/Factor	**FSC**	**NFSC**
	Structural dimension: Cronbach alpha =	**0.79**	**0.85**
S1	Members who work in this firm engage in honest communication with one another	0.77	0.81
S2	Members who work in this firm have no hidden agendas.	0.81	0.76
S3	Members who work in this firm willingly share information with one another.	0.77	0.77
S4	Members who work in this firm take advantage of their family relationships to share information	0.69	0.75
	Relational dimension Cronbach alpha =	**0.91**	**0.85**
R1	Members who work in this firm have confidence in one another	0.83	0.78
R2	Members who work in this firm show a great deal of integrity with each other	0.73	0.69
R3	Overall, members who work in this firm trust each other	0.78	0.71
R4	Members who work in this firm are usually considerate of each other's feelings.	0.79	0.81
	Cognitive dimension: Cronbach alpha =	**0.85**	**0.93**
C1	Members who work in this firm are committed to the goals of this firm	0.85	0.88
C2	There is a common purpose shared among members who work in this firm	0.81	0.81
C3	Members who work in this firm view themselves as partners in	0.8	0.78

	charting the firm's direction		
C4	Members who work in this firm share the same vision for the future of this firm	0.79	0.81

Loadings for the first-order latent factors on the second-order factor are given in boldface. FSC = family social capital; NFSC = social capital in nonfamily Firms.

Then, we tested whether these three dimensions are sufficiently correlated so that construction of second-order construct could be justified. All correlations showed appropriate levels where average correlation among factors were more than .60. Then ,we perform checks to test the second order structure by analyzing set of alternative models (Carr et al., 2011).The first model we assumed was one-factor model assuming all the items loaded on the single factor. Other alternative models assumed two different factors. ln every case, likelihood ratio suggested that in alternative models were worse than the hypothesized model (Table 2 and 3).

Table 2. Social capital in FFs. Tests for Second-order Model

Model	**Chi-square**	**Degrees of freedom**	**Δ Chi-Square**
model 1:one-factor model (three dimensions combined)	347.56	54	210.25***
Model 2: two-factor model (three dimensions combined)	258.25	53	140.58***
Model 3: two-factor model (structural + cognitive combined)	257.32	53	154.65***
Model 4: two-factor model (relational + cognitive combined)	215.25	53	84.57***
Hypothesized model (second-order model)	145.87	52	

** and *** denotes significance at .05 and .01 levels using two-tailed test.

Table 3. Social capital in NFFs. Tests for Second-order Model

Model	**Chi-square**	**Degrees of freedom**	**Δ Chi-Square**
model 1:one-factor model (three dimensions combined)	317.51	54	250.25***

Model 2: two-factor model (three dimensions combined)	258.25	53	150.78***
Model 3: two-factor model (structural + cognitive combined)	207.31	53	174.85***
Model 4: two-factor model (relational + cognitive combined)	205.14	53	104.57***
Hypothesized model (second-order model)	135.77	52	

** and *** denotes significance at .05 and .01 levels using two-tailed test.

Then, we performed various convergent and discriminant validity tests for all three of second-order constructs. Convergent validity was measured by using average variance explained (AVE) and convergent validity was measured by using average variance explained (AVE) measure. We obtained satisfactory internal and convergent reliability solutions for both analysis covering social capital dimensions in FFs and NFFs (Hair, Hult, Ringle, & Sarstedt, 2016). Further, discriminant validity was found when none of confidence interval of the correlation among factors included 1.

As we were quantifying the magnitude of social capital in our set of FFs with other set of NFFs, next step was to compare the means of second-order construct to establish the uniqueness of social capital in FFs with social capital in NFFs. To do so, we performed invariance testing among two second-constructs for both family and non-family firms' samples. In our analysis, the concept of invariance implies that the two-second factors correspond to similar concepts. To perform invariance analysis, three types of invariances must be tested which are configurational, metric and scalar invariances(Milfont & Fischer, 2010). In case of presence of all three invariances in our models, we could assume that factors correspond to similar concepts in our two samples and we could proceed to compare the means of samples. As guidelines provided by Milfont & Fischer (2010), we compared the two samples by conducting multigroup analysis in MPlus software. We engaged two samples twice in our analysis in three steps (once for one factor analysis and again utilized one factor and second-order factors). We found measurement invariance which allowed us to compare the means of samples by assuming that mean of one group was 0 (in our case, sample related with social capital in FFs). Results revealed that when we set social capital in family firms equal to 0, the means of social capital in NFFs was not only negative but highly significant indicating that social capital existed in sample of FFs was much larger than social capital

existed in members of NFFs. Hence, this analysis indicated that FFs reveal higher extent of social capital as compared with NFFs. Thus, we proceed to test our hypothesis based on the premise that FFs are repository of much higher social capital compared to NFFs.

Independent Variables

In this study, we adopted all measures which had already been validated. We adopted Bedford (2015) validated questions to measure all Simons levers of control. Bedford (2015) measured three levers of controls (Interactive, Belief, Boundary) through a formative measurement model, whereas, diagnostic control was measured through a reflective measurement model. Formative measures are different from reflective measures because unlike reflective models, causality runs from indictors to the construct and relevant indicators are not interchangeable in formative models because they define the construct (Jarvis, MacKenzie, & Podsakoff, 2003).

Bedford (2015) measures interactive control through five indicators, belief system through four indicators and boundary control system through four indicators (See appendix A). Diagnostic control was measured through five items (See appendix A). To validate formative measurement models, Coltman, Devinney, Midgley, & Venaik (2008) suggest examining the weights and multicollinearity of the construct. Very low or negative weights can suggest that indicators are irrelevant to the construct and higher correlation among the indicators can suggest that they are tapping into same facet of the construct (Coltman et al., 2008). Principal component analysis and further statistical analysis for formative measures suggest that all weights were positive and significantly contribute to the construct. We examined the multicollinearity of indicators for each construct through variance inflation factors (VIFs) where all relevant indicators were found below the tolerance of 5 (Jarvis et al., 2003). For the diagnostic control construct, a single-factor solution was obtained with satisfactory internal reliability of $\alpha = .96$. In line with Bedford (2015), we limited the scope of diagnostic and interactive control systems by opting only budgets and performance measurement systems in the measurement models because there can be other control systems who can also be incorporated in control package in either diagnostic or interactive manner (Simons, 1995). See Appendix A.

Dependent Variable

Organizational performance is the dependent variable of our study. As literature, both endorsed subjective and objective measures of performance and recommend to choose either

of them on the basis of objectives and settings of the study (Van der Stede, Mark Young, & Xiaoling Chen, 2006). We opted for the subjective measures of performance and measured this variable through a reflective measurement model. The subjective measures of this study have already been validated in the relevant literature (Bedford, 2015; Govindarajan & Gupta, 1985; Widener, 2007). All five items of this variable loaded on a single factor and indicated satisfactory internal reliability (α= .87). These five items capture (a) financial performance (b) sales growth of new (less than 2 years) product or service into existing markets (c) sales growth of existing (older than 2 years) product or service into new markets (d) relative market share for primary products/services (f) overall performance. For greater clarity, see Appendix A

Control Variables

In this study, environmental dynamism, middle manager's empowerment, size, and industry are used as control variables because these variables are expected to be associated with organizational performance. There are number of studies that have documented a link between environmental dynamism and performance (Li & Liu, 2014; Priem, Rasheed, & Kotulic, 1995; Simerly & Li, 2000). Environmental dynamism (Environm) is interpreted as the unpredictability in the environment, originating from changing in various external factors (Li & Liu, 2014). For measuring environmental dynamism (Environm), five indicators were involved (Bedford, 2015; Chenhall & Morris, 1993; Li & Liu, 2014). We opted for the formative route to measure environmental dynamism with five items reflecting unpredictability in the following dimensions (a) customers (b) suppliers (c) competitors (d) technological advances (e) economic/regulatory changes. Principal component analysis indicated that all weights were positive and variance inflation factors (VIFs) among the indicators found below the threshold level of 5, indicating no multicollinearity issues (Jarvis et al., 2003).

Middle manager empowerment is measured this variable through a reflective measurement model (Stefan Linder & Torp, 2017).. All four items of this variable loaded on a single factor and indicated satisfactory internal reliability (α= .77). Four items were used to assess how often are middle managers (managers below top management) autonomous (without prior acceptance by top management) in making the following decisions: (a) Sales to new segments or markets performance variables (b) Activities aiming at increasing market share (c) Development of important new products (d) Development of new competences.

Prior family business research has also stressed on industry and size as variables that can be associated with organizational performance. Thus, industry sector was operationalized through a dummy variable where 1 is coded for services firms and 0 is coded for manufacturing firms. The industry variable in our study does not correspond with the standard industrial classification code. We rather used a dummy variable that captures the main activity of the organization in terms of manufacturing or services focus of the firm. The size of the company was measured with the log transformation of the total number of full-time employees in the organization.

Each respondent identified the industry of the organization and provided us with the number of employees working in the organization. Table 4 provides the demographic characteristics of the organizations involved in this study.

Demographic characteristics of our sample indicate that 46 percent and 54 percent of firms involved in this work are family businesses and nonfamily businesses, respectively. Demographic characteristics of the firms indicate that the average number of employees and the average age of FFs and NFFs do not alter significantly. Demographics also reveal that most FFs and NFFs firms have less than 50 employees. It also indicates that most firms in FFs and NFFs sub-samples belong to the manufacturing sector followed by services sector.

Table 4: Demographic Characteristics of firms

Attributes	**Overall**		**Non-Family firms**		**Family firms**	
	# of Firms	**%**	**# of Firms**	**%**	**# of Firms**	**%**
Family firm's vs Non-family firms						
Family businesses	83	46				
Nonfamily Businesses	98	54				
Total	181	100				
Firm size based on # of employees						

Less than 50	71	39	38	35	33	36
50-100	57	31	33	36	24	32
101-200	35	20	17	19	18	22
More than 200	18	10	10	10	8	10
Average size	82.43		84.29		80.22	
Firm Age (Years)						
Less than 10 years	20	11	13	16	7	7
10-20 years	44	24	25	25	19	23
21-30 Years	73	40	39	39	34	43
More than 30 years	44	25	21	20	23	27
Average age	25.38		28.42		21.79	
Business Sector						
Manufacturing	93	51	59	55	35	42
Services	88	49	39	45	48	48
Total	181	100	98	100	83	100

RESULTS

We used structural equation modeling with partial least squares for investigating our hypothesis. We considered this method appropriate because this can handle various problematic modeling issues such as small sample size and validation of formative measurement models (Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014). PLS model was interpreted in two stages wherein the first stage validity and reliability of the measurement models were assessed. In the second stage, assessment of the structural model was assessed (Hair et al., 2014). Table 5 and Table 6 provide the descriptive and correlations among the latent variables involved in this study for FFs and NFFs respectively. All correlations are below r =.60 except for interactive and diagnostic controls. However, this relatively strong positive association is in line with prior studies on these controls (Bedford, 2015; Linder & Torp, 2017; Widener, 2007). Further, we find no evidence of multicollinearity between the

two variables in both family and nonfamily firms. Moreover, we also witness relatively lower mean values for emphasis on four levers of control (except for the boundary control) in FFs.

Table 5: Descriptive and Correlation Matrix for Family Firms N (83)

		Theoretical Range	M	SD	1	2	3	4	5	6	7
1	Interactive	01-07	4.113	1.548	1.000						
2	Diagnostic	01-07	4.581	1.669	.653**	1.000					
3	Belief	01-07	4.311	1.510	.329**	.335**	1.000				
4	Boundary	01-07	3.762	1.297	.452**	.402**	.271**	1.000			
5	Performance	01-07	4.240	0.992	.206**	.181*	.135	.200*	1.000		
6	Environm	01-07	3.539	0.976	.194*	.198*	.144	.180*	.030	1.000	
	Social			0.976	.214*	.188*	.134	.170*	.020	.35	1.000
7	capital		4.587								

* and ** denotes significance at .05 and .01 levels respectively by using two-tailed test.

Table 6: Descriptive and correlation matrix for Non-family firms N (98)

		Theoretical Range	M	SD	1	2	3	4	5	6	7
1	Interactive	01-07	4.573	1.277	1.000						
2	Diagnostic	01-07	5.273	1.191	.641**	1.000					
3	Belief	01-07	4.653	1.566	.479**	.379**	1.000				
4	Boundary	01-07	3.737	1.131	.012	.058	.053	1.000			
5	Performance	01-07	4.528	1.031	.137	.165*	.238**	.065	1.000		
6	Environm	01-07	3.747	1.137	-.032	-.080	.033	.557**	.103	1.000	
	Social		3.645	0.937	.162	.070	.073	.357**	.153	.587	1.000
7	capital										

*** and ** denotes significance at .05 and .01 levels using two-tailed test.**

To test the hypothesis, PLS structural model was estimated. As PLS structural model does not assume distributional assumptions, bootstrapping (5000 samples) is performed to evaluate the statistical significance of the path coefficients.

R^2 and Stone-Giesser Q^2 reflect the overall incidence of significant relationships and models' capability to predict respectively. Our motivation to adopt these measures rather than model fitness statistics is based on the nature of the PLS structural model where emphasizes

is placed on maximizing the variance explained (Hair Jr et al., 2014). The results for our base model along with R^2 , Stone-Giesser Q^2 and control paths are shown in table 04. Though our voiced hypothesis reflects the association of levers of control and performance between FFs and NFFs, we also provide results for all the firms. While examining the effects of levers of control on performance for all firms, our results indicate that coefficient of boundary control (β=0.284, P < .00) is positive and significant. But for FFs we could not find evidence to indicate a significant association between levers of control and performance. But for NFFs results indicate that coefficients of interactive control (β=0.315, P < .05) and boundary control (β=0.446, P < .05) are positive and significant. Further, our results suggest that our model has good predictability. Stone-Giesser Q^2 greater than 0 indicates than our explanatory variables have predictability relevance in all of our PLS structural models presented in table 7.

Table 7: PLS Structural Model

Paths from	**Paths to**		
	Performance	**Performance**	**Performance**
	Overall firms N=183	**Family firms N=83**	**Nonfamily firms N =98**
Diagnostic Control	0.107 (0.973)	0.075 (0.485)	-0.121(1.154)
Interactive			0.315 (1.981)
Control	-0.071 (0.561)	0.186 (0.485)	**
Belief Control	0.109 (1.323)	0.038 (0.306)	0.013 (0.105)
Boundary	0.284 (3.499)		0.446 (3.912)
Control	***	0.121 (1.073)	***
Control Paths			
Environm	0.166 (1.093)	-0.217 (0.744)	0.23 (1.329)
		0.241 (2.435)	
Size (Log)	0.071 (0.994)	**	-0.061 (.573)
		-0.182 (2.176)	
Industry	-0.059 (0.929)	**	-0.044 (0.486)
Middle	0.081 (0.794)	0.241 (1.435)	0.061

managers empowerment			(2.573)***
R^2	0.23	0.281	0.276
Q^2	0.126	0.133	0.063

Each cell reports path coefficients and (t-value). ** and * denotes significance at .05 and .01 levels using two-tailed test.**

We could not provide evidence for our hypothesis 1, where we predicted that the influence of emphasis on diagnostic control on performance is more pronounced in FFs than NFFs. In hypothesis 2 we predicted that emphasis on interactive control on performance is more pronounced in FFs than NFFs. Against our prediction, results suggest that such association exists for NFFs but there is no evidence for such association in FFs. For our hypothesis 3, we could not find any evidence to support the more pronounced influence of interactive control on performance in FFs than NFFs. However, in hypothesis 4, we predicted that the influence of boundary control on performance is more pronounced in NFFs than FFs. But for FFs we could not find a significant association. Therefore, we can partially corroborate our hypothesis 4.

Discussion and Conclusion

Social capital theory in FFs stresses that they are characterized by distinct social capitals at various levels of the organizations and that can be a source of competitive advantage or disadvantage for FFs. This research examined and compared the effectiveness of MCS in both FFs and NFFs by maintaining that fertile family social capital in FFs can better address several challenges associated with MCS that can ultimately improvise the effectiveness of MCS in FFs.

However, findings of this study generally do not confirm our hypothesis voiced for FFs. Findings indicate that emphasis on levers of control is not associated with organizational performance in FFs. Put it differently, enhanced organizational performance in FFs is not associated with emphasis on formal controls. There can be at least three theoretical explanations for these results. Firstly, there has been a prior recommendation by family business researchers that formal controls do not fit well within the unique setting of family businesses. Further, they propose that social controls rather than formal controls are more effective in the setting of FFs (Dekker, Lybaert, Steijvers, Depaire, & Mercken, 2013;

Helsen et al., 2017; Nahapiet & Ghoshal, 1998). Secondly, there have been cautionary voices too who draw attention to the dark sides of the social capital in FFs (Ensley & Pearson, 2005; Herrero, 2018; Herrero & Hughes, 2019). As evident by these studies, high levels of family social capital yield negative outcomes for the firm. Thirdly, measurement of organizational performance is much complex in FFs because in this setting there exists both firm and family goals (Chrisman, Chua, & Sharma, 2005). Family members in FFs can be more inclined towards family goals (e.g., family satisfaction and family values) and can overlook important firm performance goals.

Our results indicate that boundary and interactive controls are positively associated with organizational performance in NFFs. A positive significant association between interactive control and performance in NFFs can be explained with at least two plausible reasons. Firstly, many observers have noted that high family social capital can limit and hinder the induction of new ideas in the FFs as family members overwhelmingly drive the behavior of the organization (Herrero & Hughes, 2019). While emphasizing interactive control NFFs may better induct new ideas to its underlying strategy through internal and external interactions. Secondly, recent empirical evidence suggests that bonding social capital in NFFs should not be underestimated as NFFs can bring various benefits through their social bonding capital (Herrero, 2018). Therefore, to enhance organizational performance, managers can place more emphasis on improved organizational participation and learning by encouraging face-to-face discussions and debates in NFFs.

Similarly, our findings establish that emphasis on the boundary control system can be associated with improved organizational performance for NFFs. Therefore, for superior performance in NFFs, top managers can consider placing more emphasis on this control by defining the appropriate conduct of employees and limiting search and experimentation activities.

Diagnostic and belief controls appear to be not directly associated with organizational performance both in FFs and NFFs. A possible explanation can be found in Ouchi (1979) framework, where social and cultural controls rather than formal controls can be more effective in SMEs setting. Our findings generally conclude that FFs do not have competitive advantage over NFFs when they emphasize MCS.

This study aimed to improve our understanding of Simon's levers of control and organizational performance within FFs and NFFs. There are emerging voices by management

accounting researchers who accentuate the neutrality nature of management controls (Tessier & Otley, 2012), implying that the effectiveness of management controls can depend on a variety of factors. Prior family business research indicates that FFs holds distinct social capital that can give a competitive advantage to them (Pearson et al., 2008). We conclude that boundary and interactive controls are directly associated with organizational performance in NFFs. On the other hand, we cannot find a significant direct association between levers of control and organizational performance in FFs. Our findings lead us to support the view that fertile social capital does not provide a competitive advantage to FFs over NFFs for the effectiveness of MCS. Therefore, we find a disconnect between the theory and empirical evidence.

This study is subject to limitations as well. First, this study collects data through a survey instrument, therefore, this study may be affected by common method bias. We took considerable attention towards construct development and survey implementation where diagnostic tests suggested us that there was no considerable bias of significant concern. Second, this study constitutes first attempt to compare the effectiveness of MCS in FFs and NFFs through a family social capital perspective, therefore, we only relied on most influential theoretical frameworks (Arregle et al., 2007; Pearson et al., 2008) rather than empirically identifying social capital in FFs and NFFs. This choice improves the empirical expressiveness of these frameworks at the cost of generalizability of the study as family firm's social capital can vary within different FFs as well. We identify FFs with a conservative definition of FFs so results may not be generalizable to other notions of FFs endorsed in family business literature for SMEs. Third, diagnostic and interactive controls are measured in terms of accounting-based controls. Though this conceptualization is comparable able to many influential studies (Bedford, 2015; Widener, 2007) but it would be interesting to document future results with different control mechanisms. Fourth, this study is limited to firm-level analysis rather than the operational level of analysis. Therefore, future studies can provide interesting insights into the operational level of analysis. The fifth limitation relates to the measurement of performance who is assessed through a subjective measure of performance and thereby captures only limited dimensions. Therefore, results should be interpreted with care due to possible biases in this measure of performance. Finally, another limitation of the study is the small sample size of this study. Future studies should attempt to enhance the sample size which can give leverage to SEM for bringing consistency and

generalizability of the findings.

Our finding that social capital in FFs does not determine the effectiveness of management controls, suggests further directions for future research. Another interesting line of future research would be empirically incorporate notions of family and organizational social capital and investigate various outcomes of MCS in FFs and NFFs. Herrero & Hughes (2019) validated various dimensions of social capital in FFs so future studies can incorporate these variables as moderators and mediators for variety of scientific inquiries. To best of our knowledge, this work is first of its kind to incorporate social capital theory for the effectiveness of MCS therefore there is a recommendation for management accounting scholars too. There is very little known about the role of social capital for the effectiveness of management controls. Therefore, future studies can investigate the various combination of social capital in organizations and can try to relate the outcomes of various management controls within these organizations.

Appendix A

Table A1

Construct measures and indicators of loadings/weights.

Measures	Measurement Model	**Loadings** / Weights	VIFs
1. Belief Systems	Formative		
To what extent in your organization….			
1.1 Values, purpose and direction of the organization are codified in formal documents? (e.g. mission or value statements, credos, statements of purpose)		0.28	1.50
1.2 Top management actively communicates core values to subordinates		0.31	2.85
1.3 Formal statements of values are used to create a commitment to the long-term vision of top management		0.28	2.45
1.4 Formal statements of values used to motivate and guide subordinates in searching for new opportunities		0.31	1.62
2. Boundary Systems	Formative		

To what extent in your organization….			
2.1 Codes of conduct or similar statements are relied upon to define appropriate behavior		0.29	1.59
2.2 Policies or guidelines that stipulate specific areas for, or limits on, opportunity search and experimentation		0.22	2.52
2.3 Top management actively communicate risks and activities to be avoided by subordinates		0.31	2.39
2.4 Sanctions or punishments applied to subordinates who engage in risks and activities outside organizational policy, irrespective of the outcome		0.39	3.33
3. Diagnostic Systems (Cronbach alphas=0.964; AVE=0.874; CR=0.97)	**Reflective**		
To what extent does the top management team use budgets and performance measures for….			
3.1 Identifying critical performance variables (i.e. factors that indicate achievement of current strategy)		**0.92**	**5.77**
3.2 Setting targets for critical performance variables		**0.84**	**7.18**
3.3 Monitoring progress toward critical performance targets		**0.96**	**8.16**
3.4 Providing information to correct deviations from preset performance targets		**0.83**	**5.48**
3.5 Reviewing key areas of performance		**0.93**	**4.51**
4. Interactive Control	Formative		
To what extent does the top management team use budgets and performance measures for….			
4.1 Providing a recurring and frequent agenda for top management activities		0.33	4.78
4.2 Providing a recurring and frequent agenda for subordinate activities		0.21	4.58
4.3 Continual challenge and debate of underlying data, assumptions, and action plans with subordinates and peers		0.24	4.31

4.4 Attention on strategic uncertainties (i.e. factors that may invalidate current strategy or provide opportunities for new strategic initiatives)		0.29	4.06
4.5 Providing shared views of the organization to the employees		0.24	2.22
5. Performance (Cronbach alphas=0.815; AVE=0.637; CR= 0.817)	**Reflective**		
Rate performance of your organization on the following dimensions to that of your competitors over the past year			
5.1 Financial performance		**0.82**	**1.62**
5.2 Sales growth of new (less than 2 years) product or service markets		**0.73**	**1.63**
5.3 Sales growth of existing (older than 2 years) product or service markets		**0.78**	**1.83**
5.4 Relative market share for primary products/services		**0.83**	**2.32**
5.5 Overall performance		**0.91**	**3.26**
6. Environmental Dynamism	Formative		
Over the past three years how many changes have occurred that have had a material impact on the nature of your business?			
6.1 Customers (e.g. Customers' requirements)		0.31	1.25
6.2 Suppliers (e.g. Quality of resources)		0.12	1.89
6.3 Competitors (e.g. Competitors entering or leaving)		0.01	2.25
6.4 Technological (e.g. R&D advances)		0.52	1.98
6.5 Economic/regulatory		0.41	1.11
7. Middle-Level Manager Autonomy			
How often are middle managers (managers below top management) autonomous (without prior acceptance by top management) in making the following decisions:(Cronbach alphas=0.805; AVE=0.687; CR= 0.717)	**Reflective**		
7.1 Activities aiming at increasing market share		**0.72**	**6.62**

7.2 Sales to new segments or markets		**0.83**	**5.63**
7.3 Development of important new products		**0.71**	**4.83**
7.4 Development of new competences		**0.73**	**5.32**
8. Social capital (one factor analysis for all firms)			
State how much you agree or disagree for the following statements describing the official company strategy			
Structural dimension (Cronbach alphas=0.914; AVE=0.774; CR=0.91)	**Reflective**		
8.1.1 Members who work in this firm engage in honest communication with one another		**0.74**	**5.72**
8.1.2 Members who work in this firm have no hidden agendas.		**0.69**	**7.63**
8.1.3 Members who work in this firm willingly share information with one another.		**0.75**	**6.43**
8.14. Members who work in this firm take advantage of their family relationships to share information		**0.73**	**5.32**
Relational dimension (Cronbach alphas=0.864; AVE=0.674; CR=0.81)	**Reflective**		
8.2.1Members who work in this firm have confidence in one another		**0.72**	**1.72**
8.2.2 Members who work in this firm show a great deal of integrity with each other		**0.74**	**1.63**
8.2.3 Overall, members who work in this firm trust each other		**0.68**	**1.43**
8.2.4Members who work in this firm are usually considerate of each other's feelings.		**0.85**	**1.32**
Measures	Measurement Model	Loadings/ Weights	VIFs
Cognitive dimension (Cronbach alphas=0.914; AVE=0.847; CR=0.81)	**Reflective**		
8.3.1Members who work in this firm are committed to the goals of this firm		**0.84**	**4.62**

8.3.2 There is a common purpose shared among members who work in this firm	**0.74**	**7.83**
8.3.2 Members who work in this firm view themselves as partners in charting the firm's direction	**0.64**	**4.83**

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