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HOW TIES WITH FAMILY MEMBERS INFLUENCE
PROFESSIONALS' CREATIVITY IN FAMILY
BUSINESSES: THE ROLE OF HIVE EFFECT AND
TRUST

RAMESHWARI RASAMMAH RAMACHANDRA

SINGAPORE MANAGEMENT UNIVERSITY
2019

How Ties with Family Members Influence Professionals'
Creativity in Family Businesses: The Role of Hive Effect
and Trust

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Submitted to Lee Kong Chian School of Business
in partial fulfilment of the requirements for the
Degree of Doctor of Business Administration (Innovation)

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2019

I hereby declare that this Doctorate dissertation is my original work
and it has been written by me in its entirety.

I have duly acknowledged all the sources of information which
have been used in this dissertation.

This dissertation has also not been submitted for any degree in any
university previously.



Rameshwari Rasammah Ramachandra

15 May 2019

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Abstract

Many Asian enterprises are family businesses. In recent years, there has been a growing body of research on creativity in Asian firms, but few studies on the creativity of the professionals working in Asian family businesses. Given the importance of creativity in family businesses for their continued success, I examined how a professional's ties to family members in a family business influenced their creativity. I proposed that the number of family members in a professional's network would positively predict the professional's creativity, and that this effect would be mediated by the family members' affective and cognitive trust in the professional. I further proposed that because of trust transference among family members, the source of trust came not only from family members directly connected to the professional but also from family members outside of the professional's immediate network. I named this phenomenon the 'Family Member Hive Effect'. I tested my hypotheses through (i) a network survey at a family business operating in the construction industry in Myanmar and (ii) semi-structured interviews with selected family members and professionals within the family business. Results from both the network survey and the interviews supported the hypotheses. Implications of the existence of the Hive Effect are discussed.

Key words: Creativity, Innovation, Family Businesses, Trust, Networks, Asia, Myanmar.

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How Ties with Family Members Influence Professionals' Creativity in Family Businesses: The Role of Hive Effect and Trust

1. Introduction

1.1. Motivation of Study

Existing management research highlighted the role of innovation on the overall improved competitive position of firms (Damanpour, Szabat, & Evan, 1989 cited in Kraus, Pohjola & Koponen, 2012) and in fuelling economic growth. Similarly, research on family businesses highlighted the importance of family businesses' contribution to the stability and growth of economies (Kraus et al., 2012). The EY Family Business Yearbook (2014) reported that 85% of the companies in Asia Pacific are family businesses, highlighting their significance in the region.

Kraus et al. (2012) argued that innovation studies in family firms were largely ignored. They cited researchers (Craig & Moor, 2006) who described that most studies focused on large and publicly-traded firms (Zahra, 1993) or high-tech ventures (Koberg, Uhlenbruck & Sarason, 1996). They quoted Rößl, Fink, and Kraus (2010) for a general lack of research regarding the innovative activities of family businesses (p. 368). Family businesses are generally financial capital scarce due to family ownership and control (Llach & Nordquist, 2010). Given that creativity and innovation at both the individual and firm level are critical for its growth and survival, they need to find other resources or capabilities to support their creative performance (Llach & Nordquist, 2010). One approach is to professionalize the family business by bringing in the much needed outside talent for its ongoing business sustainability. Therefore, it is important to understand how the creativity of these professionals can be best

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leveraged in the family firm and how the family members' influence a professional's creative performance.

1.2. Current Gaps in Literature

Although there were some studies on creativity/innovation in family and non-family businesses (Kraus et al., 2012; Anderson, Potočnik, & Zhou, 2014), there were limited studies on the creativity of Asian family businesses (Roessl, Fink, & Kraus, 2010), and even fewer (Tabor, Chrisman, Madison, & Vardaman, 2018) on the creative performance of the professionals working in the family business. Tabor et al. (2018, p. 54) cited family firms' performance as a major topic of study in their review of 82 articles in 34 journals from 1989 to 2017. But these studies focused on the firms' business and financial performance. The only study on increasing the family firm's innovation and internationalisation was examined through the lens of hiring non-family CEOs (Yeoh, 2014 as cited in Tabor et al., 2018). Generally, the studies had also focused on non-family executives' contribution versus the performance of all-types of non-family professionals. I could not find studies which investigated the role of family members in promoting the creativity of the professionals working in the family business. Noticeably missing was the examination of how family members' transfer trust among each other with regards to a non-family professional, especially with whom they have had no contact, and the resulting impact on the professional's creativity. Trust researchers in family businesses argued that family members' trust represented "a fundamental basis for cooperation" (Sundaramurthy, 2008) and a source of competitive advantage for family businesses (Steier, 2001) (p.89). However, Kellermans & Eddleston

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(2004, p.223) cited the following authors who suggested that by professionalising, the family firms gave up trust (Barney & Hansen, 1994; Zaheer, McEvily, & Perrone, 1998) and value consensus (Jehn, 1997b; Jehn & Mannix, 2001) which were the source of family businesses' competitive advantage. In my dissertation, I examined the impact of ties with family members on a professional's creativity in family businesses.

1.3. Aims of Study

The main purpose of this study was to determine whether having more family members in a non-family member professional's network would hinder or help the professional's creativity. My own anecdotal experience with family businesses suggested that the professionals were often conflicted in having to please all family members equally and were constrained in generating novel ideas for fear of losing access to the information, networks, and resources that they enjoyed from the close relationships with family members. Therefore, having more family members in a professional's network could negatively impact the professional's creativity.

However, the opposite might also occur: Having more family members in the professional's network could potentially help the professional become more creative. When a professional has many family members in the professional's network who trust him/her, other family members could become more willing to place their trust in this professional. As a result, they could be more likely to provide the access to valuable resources which the professional could leverage to produce more creative output. I called this phenomenon the Family Member (FM) Hive Effect.

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The aim of this study was therefore to examine whether having more family members in the professional's network decreased or increased the professional's creativity, and the trust processes that underlay this effect.

1.4. Contributions

This study made a few contributions to several lines of research literature. First, it extended the study of creativity in family businesses by testing specific variables around a professional's network ties to family members and the ensuing creativity of the professional.

It also extended the application of social network theory in family businesses, by studying the professional's creativity in a family business and allowing for research comparison against a professional's creativity in non-family businesses. Although there were many studies using social networks to study creativity and trust, there was none that looked at the creativity of professionals working in a family business based on the number of family member contacts in the professionals' network and the family member-professional dyadic relationship pairing and trust transfer. Chua, Morris, and Ingram (2011) suggested that embeddedness engenders trust that, in turn, facilitated information and knowledge flow as the pre-cursor to organisational innovation and creativity (p. 97). This begs the question-will the family members' trust transfer to a professional and resulting embeddedness support the increased creativity of that professional?

In my dissertation, I found that the family members' transfer of affective trust in the professional is then followed by cognitive trust transfer to the professional but not vice versa. I posited that forming affective (relation-based)

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trust was critical for family members to transfer their cognitive (competency-based) trust to the professionals working in the family businesses. Sundaramuthy (2008) proposed that trust development within family businesses was initially based on affective (identification-, value-, or norm-based) trust and then strengthened through cognitive bases (p.91) contrary to McAllister (1995)'s assertions of cognitive trust as an antecedent of affective trust. The fact that family members' transfer their affective trust first as opposed to their cognitive trust was central to my argument. I proposed that affective relations were critical for family members in forming relationships with non-family members.

Finally, the results of this study showed that a professional, by having more family members contacts in his/her network, was more creative. I found an indirect inference that the more family members a professional knew in his/her network, the more trusted the professional was in the family business due to the transfer of the family members' affective trust in the professional amongst the family members. This effect did not hold for non-family senior managers, which suggested that the Hive Effect occurs only among *closely related* people such as those within a family.

1.5. Outline for the Rest of the Dissertation

I first provided a review of the research on the key phenomena and constructs in this study, namely family businesses, creativity/innovation, social networks, and trust. I then developed my conceptual model (i.e., the FM Hive Effect) and described the methodology I used to test the hypotheses in the model. Next, I presented the results and discussed the extent to which they supported the FM Hive Effect. Finally, I concluded with the contributions of

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this research and the implications for family businesses, researchers, and practitioners, especially on family members' trust empowering the creativity of its professionals working in the family business.

2. Literature Review

In this section, I reviewed the existing literature on the key phenomena and constructs of this research, namely family businesses, creativity/innovation, social networks, and trust.

2.1. Family Businesses

“Family businesses are an integral part of most economies in the Asia-Pacific region. Family businesses across the region have developed differently depending on the economic and political conditions that exist in each country. The EY Family Business Yearbook (2014) also references the importance of family businesses in Asia-Pacific by its 85% ownership of companies in the region which generates 32% of the total market capitalization and 34% of the total nominal Asian GDP.”

(The EY Family Business Yearbook, 2014, Source: Family Business Magazine).

The above quote reflects the importance of family businesses for the economic growth of Asian nations. Most family firms are SMEs (Fletcher, 2005, as cited by Roessl et al., 2010) where continuous innovation is the primary element for its success (Kraus et al., 2012).

In this dissertation, I defined family businesses as those that are owned (at least 50% of shares) by family members (Neckebrouck, Schulze, & Zellweger, 2017) and where these family members, whether with ownership rights or not, are involved in its management and/or operations (Athanassiou, Crittenden, Kelly, & Marquez, 2002). Family members are people related to the founders/owners of the company either through birth or marriage and who are working in the business. This was in contrast to professionals who were outside

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talents hired by the family to provide the needed expertise and experience (technical and management) to the family business.

Although most family businesses tended to look first within the family to fill its human capital needs (Chua, Chrisman & Chang, 2004), typically, a large percentage of the labour force (approximately 80%) comprised of non-family members (Mass Mutual Financial Group, 2007 as cited in Tabor et al., 2018). Having family members who were involved in the management and operations of the family business may be detrimental to non-family professionals' performance. For one, family businesses tended to have a 'family like' culture that could pose problems (e.g. group-think, family norms, long-term orientation) for non-family members, especially in terms of adjusting to the family member culture (Lee, Lim, & Lim, 2003; Stewart, & Hitt, 2011). Furthermore, family members' relational familiarity led to idiosyncratic communication styles that could put non-family members at a disadvantage to fit into a family business culture (Marett, Marett, & Litchfield, 2015 as cited in Tabor et al., 2018, p.64). Although less common, family conflicts could create additional challenges in recruiting, assimilating, and retaining non-family members (Beehrs, Drexler, & Sonja, 1997 as cited in Tabor et al., 2018, p. 64).

Yet another stream of family business research looked at family influence in the business as a result of the family members' active roles in the business (Rutherford et al., 2008 as cited in Kellermanns, Eddleston, Sarathy & Murphy, 2012, p.86). The three aspects of family influence include family management involvement, generational ownership dispersion and family member reciprocity. Kellermanns et al., (2012, p.88), proposed that family member reciprocity was the relational aspect of the family members, where the

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family influence was reflected in the family members' support for organisational tasks and reciprocity towards each other. They concluded that the reciprocal behaviours reinforced an individual's sense of belonging and importance to fulfilling the shared purpose and identity (Seers et al., 1995 as cited in Kellermanns et al., 2012).

All of the above created much uncertainty, which then constrained the professionals in risk-taking activities like creativity. Given the importance of creativity to family businesses' survival and growth, it was crucial to examine whether it was possible to mitigate the detrimental effect of the family members' involvement in the family businesses on professionals' creativity.

2.2. Creativity/Innovation and Family Businesses

Creativity is defined as the generation or production of ideas that were both novel and useful (Amabile, 1996; Oldham & Cummings, 1996; Scott, & Bruce, 1994; George, 2007), whereas innovation was the successful implementation of creative ideas (Rickards, 1985; Schaper & Volery, 2004, Kraus et al., 2012). Creativity was thus seen as the first step towards innovation (Anderson et al., 2014). In other words, unless the professionals in a business generate creative ideas, there could be no innovation in the business. Kellermanns et al. (2012, p.96) suggested the need to explore the role of family (family influence) which could both be a help and a hinderance to the family business's innovative performance.

Despite the importance of innovation to businesses' survival and growth, there were generally mixed views about the level of innovation in family businesses (Roessl et al., 2010). Some research suggested that family

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businesses were not as innovative and were more prone to be risk averse compared to non-family businesses due to capital constraints and the closeness of the family members (Allio, 2004; Carney, 2005; Price, Stoica, & Boncella, 2013, Roessl et al., 2010). Other research showed that family businesses which devoted resources to innovation tended to have better business performance and increased growth (Eddleston, Kellermanns, & Sarathy, 2008; Gudmunson, Tower, & Hartman, 2003). This was because innovation led to an improved competitive position (Damanpour et al., 1989; Zahra, Hayton, & Salvato, 2004; Kraus et al., 2012), which in turn resulted in higher business success, the professional's role as the producer of creative ideas was an essential component in the innovation process of family businesses.

2.3. Trust and Family Businesses

Most trust literature referred to interpersonal trust as a necessary prerequisite for effective workplace cooperation, collaboration, and creativity, as a result of the inter-dependence between individuals (Mayer, Davis & Schoorman, 1995; McAllister, 1995; Ferrin & Dirks, 2002). Chua et al. (2011) stated that a key feature of interpersonal trust was the willingness to make oneself vulnerable to another person despite having uncertainties regarding their motives, intentions, and prospective actions (Kramer, 1999; Mayer et al., 1995).

2.3.1. Types of trust.

McAllister (1995) proposed that interpersonal trust enabled people to take risks in organizations. He described it as having both cognitive and affective foundations (Lewis & Wiegert, 1985).

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2.3.1.1. Affective trust.

Sundaramurthy (2008, p.91) suggested affective trust arises when the parties understand the desires and wants of the other. It was derived from the repeated interactions of bonds (Rousseau et al., 1998 as cited in Sundaramurthy, 2008) or where one “thought and felt” like the other because of shared norms and values (Fukuyama, 1995) that could be based on common kinship, familiarity, background or interest (Lane & Bachman, 1998). McAllister (1995) described affective trust as emotional investments in relationships, expression of genuine care and concern for the welfare of partners (p.26), belief in the intrinsic virtue of such relationships and belief in these sentiments being reciprocated (Pennings & Woiceshyn, 1987). In other words, these emotional ties linking individuals provided the basis for trust. Other research suggested that trust could develop from affective bonds with others (Lewis & Weigert, 1985; Rempel, Holmes, & Zanna, 1985), as individuals expressed care and concern for the welfare of another and made emotional investments in their relationships.

2.3.1.2. Cognitive trust.

Sundaramurthy (2008), described cognitive trust as the cognitive bases for interpersonal trust which was grounded in the predictability of the other’s actions. McAllister (1995) described it as cognition-based in that “we chose whom we would trust, in which aspects and under what circumstances, and we based the choice on what we took to be ‘good reasons’ of trustworthiness (Lewis & Wiegert, 1985, p. 970)” (p.25). In other words, it was based on one’s confidence in a person’s reliability and competence in getting a task done. Chua et al. (2011) proposed that this dimension of trust is calculative and based on a

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rational assessment of the other's ability and track record. Such trust grew from the instrumental processing of information about the other party's reliability and competence (Bulter, 1991; Cook & Wall, 1980; Zucker, 1986).

2.3.2. Affective trust was critical for building relationships between family members and non-family professionals.

Given that there were two types of trust; affective trust and cognitive trust, which type of trust would be more critical for building relationships between family members and non-family professionals in family businesses? One view was that cognitive trust was more important as it was the pre-requisite for building affective trust (Jiang, Chua, Kotabe & Murray, 2011). According to this view, the trustors (e.g., family members) needed to assure themselves that the trustees (i.e., professionals) were 'reliable' before making the more risky 'social-emotional' investment (McAllister, 1995). Eddleston, Chrisman, Steier, & Chua (2010) also argued that cognitive trust precedes affective trust in a non-family firm (p.1047). On the other hand, Sundaramurthy (2008) suggested that the opposite occurred in family firms because of the presence of kinship, familiarity, shared values, common history, and extended periods of interaction (p. 92). In other words, trust began as affective trust and developed into cognitive trust inside family businesses. He suggested that family businesses enjoyed a deep level of trust due to common identifying factors such as shared history, experience, rituals, and realities which served as critical bonding mechanisms, fostering interpersonal trust (Gersick, Davis, Hampton, Lansberg, 1997) (p. 93). He cited Gersick et al. (1997) highlighting family members being willing to commit, 'even to the point of self-sacrifices' in the name of general family welfare. Such commonalities (shared experiences and

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understanding) also built emotional bonds which enabled a person to feel as well as think like the others (Lewicki & Bunker, 1996, p.122 as cited in Sundaramurthy, 2008, p.93). On the other hand, cognitive elements of interpersonal trust were grounded in the predictability of another's actions. Given relationship orientation, paternalistic leadership, personalism and role obligation were important in the Asian context (Chen, 1996; Redding, 1990), forging affective bonds before establishing cognitive trust was more likely to occur in Asian family businesses. Therefore, I posited that affective trust was more crucial for building relationships between family members and non-family professionals in family businesses than cognitive trust.

3. Theory and Hypothesis Development

3.1. Conceptual Model

So far, I have argued that family businesses need to leverage their professionals' creativity to achieve growth and long-term survival. However, because family members tended to be heavily involved in the management and operations of the family businesses, their involvement could either impede or enhance the professionals' creativity.

Prior literature suggested that family members' over-cohesiveness could impede the professionals' creativity with 'group think' pressure (McEvily, Perrone & Zaheer, 2003). Other studies suggested that family members acted as gatekeepers of the founder/family values. As such, they had a tendency to be conservative (see for example Roessl et al., 2010). Building on the above argument, one could infer that when a non-family member (i.e., professional) is co-opted from the out-group into the family members' in-group, the individual was pressured not to deviate from group norms in exchange (reciprocal) for the resources such as friendships, information, and task advice that he/she received (Baer, Evans, Oldham, & Boasso, 2015). In fact, Schulze and Gedajlovic (2010) suggested that non-family employees who identify strongly with the family businesses might also operate under the norms of family reciprocity and obligation (Pearson, Carr, & Shaw, 2008) (p.196). Social network literature (Coleman, 1990 as cited in Baer et al., 2015) suggested that a closed network would create strong social norms that inhibited the professional's willingness to take risks when suggesting or implementing new ideas. In short, it could 'suffocate' the professional's motivation to generate and execute risky ideas (p. 197).

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However, I argued that the opposite may be true: having more family members in the professional's network could lead to an *increase* in creativity. When a professional had more family members in his/her network who trusted him/her, that professional is likely to enjoy the trust of family members who were not in direct contact with the him/her. This occurred because other family members were more willing to trust a professional on the basis of a trusted family member trusting that professional

I proposed that when there were more family members in the professionals' network, the network would close quickly with trust transference and the resulting benefits of a closed network would promote the creativity of the professional. I called this the Family Member (FM) Hive Effect. Trust research supported the notion that trust transference between parties was accompanied by resources such as friendship, career advice, access to information and networks (McEvily et al., 2003). These resources could come from different dyadic ties or as increased resources from the same original tie (multiplexity). The professionals could then use these different and multiple resources from family members (in both direct and indirect contact) to achieve their creative output. Obstfeld (2005) found a positive association between network closure and innovation through the mobilization of resources and coordinated action (Coleman, 1988; Obstfeld, 2005).

How does the FM Hive Effect develop? I proposed the following stages of trust development in the 'family hive'. Trust research (Sundaramurthy, 2008) highlighted that trust was dynamic and developed over stages (Lewicki & Bunker, 1996, p. 124) even when studies (Child, 1998) might focus on a particular stage (p. 91).

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First, an individual family member developed affective trust in a professional. When this family member talked about the professional to other family members in their social settings, these other family members gained information about the professional without needing direct contact with him or her. This interaction resulted in other family members also developing affective trust in the professional even if they had no direct contact with the professional (McEvily et al., 2003). Due to such third party trust transfer and network closure between the family members and professional, the professional begins to enjoy a ‘collective’ family group’s affective trust. This was supported by Chua, Ingram, and Morris (2008) who suggested that network closure is positively related to affective trust as the members belonged to a closely-knit group and had each other’s interest at heart (p.447). The authors argued that cognitive trust on the other hand depended more on first-hand experience and less on network closure.

I posited that the high family members’ affective trust (socio-emotional information) developed through repeated interactions which set the stage for the family member to transfer their cognitive trust to a professional. McEvily et al. (2003) proposed that the positive experience and trust developed between parties would allow trustor (family members) to use trustworthiness observed in one facet of their relationship as a proxy for anticipated trustworthiness in another realm of interaction (Gulati, 1995) (p.95). They called it the multiplexity trust transfer. The authors described multiplexity as the same tie becoming thicker with access to additional resources (p.95). For instance, instead of providing friendship, the family member may now be also including access to information and knowledge. I built on multiplexity trust transfer to explain the increased

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resources that the professional enjoyed from family members during this cognitive stage of trust development. In the Chua et al. (2008) paper, they suggested that cognitive trust was accompanied by increases in other resources like access to networks/resources/information, which became the basis for discovering opportunities for fruitful collaboration and the generation of innovations.

When family members developed high cognitive trust in the professional, they were more willing to share information freely with the professional, allowing the professional to economize effort in locating the most relevant and useful knowledge. The professional's access to transferred knowledge from family members then increased the professional's organisational learning, alertness, responsiveness, and creative performance (McEvily et al., 2003). In addition, family members were also likely to relax oversight and grant these professionals autonomy, which liberated family business resources for better use and enabled professionals to exploit opportunities to generate creative output (Zajac & Olsen, 1993). The lower transaction costs and value creation arising from trust became the family business's competitive advantage (Barney & Hansen, 1994).

3.2. Increases in the Number of Family Members in the Professional's Network Increases Family Members' Affective Trust in the Professional

Based on trust transference theory (McEvily et al., 2003), I posited that when a family member developed affective trust in a professional, this family member would transfer the trust to other family members, even to those not in

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direct contact with the professional. Such transference in trust was possible because other family members trust the first family member, and that trust served as a proxy for trust in the (unknown) professional (McEvily et al., 2003). Put differently, the first family member transferred trust in the professional to other family members by providing positive socio-emotional information about the professional. Because family members tended to be affectively close, they readily transferred their trust in the professional to one another (Williams, 2001). McEvily et al. (2003) proposed that closure of the structural holes (Burt, 1992) between the parties would increase their network size, as previously unacquainted individuals form new and trusted relationships. The network closure resulted in the net increase in the affective trust in the professional among the family members (Chua et al., 2008) due to group cohesiveness (McEvily et al., 2003).

With more family members in the professional's network, the professional would enjoy higher family members' affective trust. Also, there was a higher likelihood for other family members with no direct contact to transfer their trust in a shorter time given fewer gaps in the network. Therefore, I proposed that in a family business, as more family members directly and indirectly developed affective trust in a professional, the overall family members' affective trust in the professional became higher.

Therefore, I hypothesized that

H1: The more family members in a professional's network, the higher the professional's creativity.

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I further hypothesized that the relationship between number of family members in a professional's network and the professional's creativity was mediated by affective trust and cognitive trust. Specifically, I hypothesized that

H2a: The more family members in a professional's network, the higher the levels of family members' affective trust in the professional even though some of these family members do not have direct contact with the professional.

The hypotheses were summarized in Figure 1.

----- INSERT FIGURE 1 HERE -----

In the following section, I will go into greater detail about the other two links.

3.3. Increased Family Members' Affective Trust in the Professional Increases Family Members' Cognitive Trust in the Professional

I built on Sundaramuthy (2008) assertion that the sequence of trust development went from affective to cognitive in family businesses to propose that family members similarly formed affective trust with their non-family professional first (p. 91). I proposed that the family members' deep affective trust for each other allowed them to vouch affectively and transferred their trust to someone from the out-group. Sundaramurthy (2008) also noted that trust developed in stages.

Building on Hypothesis 2a, I proposed that due to third party trust transfer and network closure between the family members and professional, the professional began to enjoy a 'collective' family group's affective trust. The

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closing of structural holes allowed the professional to acquire new trusted family member contact and vice versa.

Next, I used McEvily et al. (2003) multiplexity transference, to explain how the shared history and experience developed between parties would allow the trustor (family members) to apply trust from one dimension to trust in another dimension in the relationship with the professional (trustee) (p.95). I hypothesised that the high family members' affective trust (socio-emotional information) developed through repeated interactions allowed for the family members to transfer their cognitive trust to a professional. A high level of family members' cognitive trust in the professional signalled that the family members trust in the professional's reliability, ability and trustworthiness.

I hypothesized that

H2b: The higher the levels of family members' affective trust in the professional, the higher the levels of family members' cognitive trust in the professional.

3.4. Increased Family Members' Cognitive Trust in the Professional Increases Professional's Creativity

Finally, I proposed that increases in family members' cognitive trust in the professional increased the professional's creativity. When the professional enjoyed high family member cognitive trust, it meant that family members recognized the professional's abilities, reliability and trustworthiness and were willing to grant the professional access to intangible resources such as knowledge and networks (McEvily et al., 2003) Using these additional resources, the professional would be able to generate additional knowledge or

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recombine the knowledge in novel ways. For instance, when family members developed high cognitive trust in the professional, they were more willing to share information freely with the professional, allowing the professional to ‘economize effort in locating the most relevant and useful knowledge’ (McEvily et al., 2003, p.97). I proposed that the professional’s access to transferred knowledge (usually idiosyncratic in nature) from family members increased the professional’s organisational learning, alertness, responsiveness, and creative performance (McEvily et al., 2003).

In parallel, due to less oversight by family members. the professional enjoyed increased freedom and autonomy to complete work tasks. Creativity research supported the idea that having personal control over task completion could increase the professional’s creative outputs (Amabile, 1996). Therefore, I posited that the increases in family members’ cognitive trust in the professional increased the professional’s creativity.

I hypothesized that

H2c: The higher the levels of family members’ cognitive trust in the professional, the more creative the professional will be.

4. Method

4.1. Background

This research was conducted in a Myanmar family-owned business group's joint-venture (JV) company with a Japanese partner. The group of companies run by the family business involved construction of power and telecommunications towers. It was set up in 1997 by a husband-and-wife team and their friend as a small-scale trading company, dealing in the import of LPG gas cookers and tyres into Myanmar. In 2002, the trading company transformed into an engineering-based group of companies under the leadership of the couple and a new management team. Since its 2002 restructuring, it had been experiencing rapid growth.

In 2008, the group formed a new company to focus on providing turnkey services in electric power value chains offerings from distribution networks construction to transmission network services and generation equipment. This company was managed by the wife. By 2015, the company was regarded as a market leader in the sectors it operated in and was known for its fast and satisfactory customer service and ethical business conduct. In the meantime, the company had also grown to 500 employees. About 45% of its employees were engineering professionals. Its quality deliverables and business ethics proved to be critical differentiators in Myanmar's pre-transition days into an open economy. Although the company was a market leader with organically-developed operational processes and systems to support its various projects across Myanmar, with an impressive client list and deep local contacts, the managing director (wife) recognized the impending challenges and competition

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that Myanmar's transition to open economy would bring.¹ She assessed that a Joint Venture (JV) with a reputable Japanese partner would be the best strategy for the company to gain experience and technical knowledge via 'internal transfer' diffusion through their partner instead of doing this through the usual learning cycle as an 'external vendor'.

In April 2015, this company entered into a JV with a 133-year-old, publicly listed Japanese company to set-up a new JV company, BFE, focusing on engineering, procurement, and construction, in various sector sectors across Myanmar. The intention of the JV company was to leverage Myanmar's urgent need to meet the infrastructure needs of the country. The Japanese partner was already known as an 'existing vendor' and was chosen for its access to world-class technical knowledge, large international client base, and strong financial support. For the Japanese partner, the ability to enter an emerging market like Myanmar with a strong local partner and the opportunity to expand its business, especially in engineering, procurement, and construction, was exciting. Figure 2 shows the various companies in the group.

-----INSERT FIGURE 2 HERE -----

At the time of data collection, the JV company was run mostly by the wife, who was its Managing Director. In addition to the wife, there were five other family members working in the JV company. Of the six family members (including the wife), two are in the senior management team of the JV company. Another five family members worked in the other subsidiaries of the group, including the other co-founder (husband). The husband was not active in the operations of the JV company.

¹ Myanmar Investment Climate Assessment, (January 2015)

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Most of the family members working in the JV company were the husband's relatives. The wife's relatives worked in the other subsidiaries of the group. Three of her relatives occupied managerial or higher positions. Generally, the couple's family members were distributed across the various management levels. Figure 3 shows the relationship map of the family members who work in the group. Because my focus was on the JV company, I will not discuss further the family members working in the other companies in the group.

-----INSERT FIGURE 3 HERE-----

In addition to the six family members, the JV company had approximately 450 employees, of which 250 were professionals. This large pool of technically trained professionals included those directly involved in the delivery of its engineering services like the engineers, technicians, and supervisors, who were referred to as the operations team. The engineers had a background in electrical, mechanical, civil, aviation, or other engineering specialization. The other professionals in support services included those in accounting, human resources, business development, bidding, and procurement departments. Because of the large number of professionals, the JV company was well-suited to examine my research question of how ties with family members affected the professionals' creativity.

As an engineering company, its work was organised around the unique requirements of each project, namely; in teams requiring specific technical skills and experience to deliver on the inter-dependent tasks (Boxall and Steeneveld, 1999; Malhotra, 2003 as cited in Malhotra & Morris, 2009). The authors cited Hacker, 1997 that the process of engineering design involved a series of iterative and overlapping phases of articulating the requirement,

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developing different conceptual solutions and then designing and delivering the preferred solution. They also proposed that the technical and precise nature of knowledge and decision in a specific aspect of the design could have radical consequences for other areas. However, I would add that the bidding process of securing these projects which necessitates the JV team to interface with the customers to meet their project requirements and to balance that with the internal needs for financial returns pose an additional creative tension in the sourcing and procuring of raw materials that were needed for the project execution. All this coordination required the JV to use multidisciplinary team members to think together from beginning to end, respecting each other's expertise to find ways to identify and solve many complex problems simultaneously (Basudar, 2004, p.118). The JV needed to blend different kinds of knowledge and various kinds of creativity, to implement new solutions for its well-defined problems and opportunities (Basadur (2004).

4.2. Quantitative Survey.

I conducted three online surveys between October 2017 to February 2018. Each survey was conducted over a one-month period with a one-week lag in-between the surveys. I collected a total of 197 responses from 191 professionals and six family members working in the JV company.

4.2.1. Participants.

All professionals working in the JV company, including family members and the senior managers, received an email invitation from the company's human resources (HR) department to participate in three surveys. The email invitation contained a weblink to a network assessment survey (first

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survey). Those who responded to the first network assessment survey ($N = 220$; 88% response rate) were sent follow-up emails with weblinks to an interpersonal measures survey ($N = 204$ for the second survey) and a creative idea generation task ($N = 197$ for the third survey).

The final sample ($N = 197$; 89% response rate among those who completed the first survey) comprised 220 professionals who had responded to the first survey. The final sample included the six family members as well as six out of eight non-family senior managers working in the JV. They comprised 98% Burmese nationals, of which 62% were male. The mean age was 32.02 years ($SD = 13.01$, range = 19–68), with an average tenure of 22.80 months, ($SD = 8.33$, range = 2–36) at the JV company and average working experience as 34.73 months ($SD = 11.49$, range = 2–456). The majority (90.30%) possessed at least a university degree and most (75.00%) earned between 300,001 Kyat (US\$220.00) and 1,000,000 Kyat (US\$733.33).

Participants who completed all three parts of the study were given a 3,000 Kyat (US\$2.20) mobile phone top-up. Those who had the top five most creative ideas in the creative idea generation task were awarded an additional 68,182 Kyat (US\$50.00). Although participants had to complete all questions in the three surveys, they could choose at any time to withdraw from the study without penalty. Please see Appendix A for the details on the questionnaires for all three surveys.

4.2.2. Procedure.

All three surveys were conducted online using Qualtrics. The survey questions were presented in both English and the Myanmar language, Zawgyi font. The Zawgyi font is used by 80 to 90% of Myanmar people compared to

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10%, who uses the Google's font. I developed the questionnaires in English and then had it translated into Myanmar language and translated back to English to ensure consistency and clarity (Brislin, 1970). I had two research assistants work on the translation, with one doing the original English to Myanmar language translation and another doing the back translation. Unless otherwise noted, the participants responded to all items on a Likert 7-scale ranging from 1 = 'strongly agree' to 7 = 'strongly disagree.' The first survey was conducted in October over a one-month period. The second survey started a week after the first survey ended in November. The third survey started a week after the second survey ended in December 2017. For the second and third surveys, only those participants who had submitted the preceding survey got the web-link invitation for the next one.

The participants first completed a network assessment survey which required them to identify a minimum of five to 24 contacts with whom they had communicated for work-related purposes in the past six months. The participants had to furnish the details on each of the contacts identified, such as the nature of the relationship, the gender, rank, age, the frequency of interaction, length of relationship, whether they were a supervisor, and level of affective and cognitive trust.

The second survey contained various individual differences measures that were shown to be related to creativity (Perry-Smith, 2006). I used existing measures validated by other researchers to rate the participants' intrinsic motivation, (Amabile, Hill, Hennessey & Tighe, 1994 as cited in Perry-Smith, 2006), creative self-efficacy (Tierney & Farmer, 2002 as used in Chua et al., 2008), political skills (Ferris, 2005), psychological safety (Edmondson, 1999),

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identification with the organization (Mael & Ashforth, 1992), and promotion-prevention focus (Lockwood, Jordon, & Kunda, 2002).

The third survey was a creative idea task activity, which was judged by two in-house expert judges. To capture actual creativity at work, I used the ‘real-world problem’ method proposed by Burt (2004) instead of self-reported creativity or supervisor’s ratings (Perry-Smith, 2006). Specifically, I created a problem statement which required the participant to provide a creative idea on how to reduce the JV company’s operational costs.

In addition, I obtained the participant background information from the JV company’s archival records. The JV company had conducted a company-wide staff profiling in July 2017. In compliance with IRB’s informed consent requirements [IRB number 17-099-A097(917)], I obtained the relevant work and personal demographics of the participants who consented to participate in my study. See Table 2 for demographics of the participants.

----- INSERT TABLE 2 HERE -----

I drew on social network theory to identify the dyadic work relationships that a professional working in a family business develops with both family members and other non-family member employees. These dyadic interpersonal relationships were referred to as ties in social networks. Social networks allowed us to examine the relationships in one’s network and how it influenced the access to information, resources, and consequently, the performance of an individual (Chua et al., 2008). I used the social network survey to identify the professional’s network of contacts in the family business and to measure the trust (affective and cognitive) in these dyadic relationships.

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4.2.3. Measures.

All the measures were completed by the participants in the three surveys at separate times. The specific measures relating to the predictor (number of family members in the professional's network), the two mediators (family member's affective and cognitive trust) and the dependent variable (creativity score of professionals) are described below. Where constructs such as affective and cognitive trust were measured by multiple items, the item responses were aggregated by taking the mean. I computed the family member's trust score in a professional using three methods described as Model 1: Full model (non-reciprocal ties, which included all instances where the family members identified the professional in their networks), Model 2: Transferred trust model, (indirect ties, which includes only instances where the family members identified the professional as a contact but the professional had not reciprocated) and Model 3: Reciprocal model, (reciprocal ties, which included only instances where both the family member and the professional identified each other in their respective networks reciprocally).

4.2.4. Identification of FMs in professional's network measure.

4.2.4.1. Social network survey.

The social network survey asked participants to identify 5 to 24 colleagues whom they have communicated with about work-related topics in the past six months. The specific wording used was, "Thinking back over the past 6 months, with whom did you communicate about work related topics?" This name generation approach was adapted from Perry-Smith (2006). For ease of name recall, I provided a pull-down scroll menu of the 470 names for the participants to choose from.

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Although typical network assessment surveys limit contacts to the five most important connections, because of concerns regarding recall or fatigue (Perry-Smith, 2006), I allowed participants to list up to 24 contacts. During the pre-survey discussion, I realized that some of the participants, especially those in supervisory roles, could have more than 24 contacts in their networks, due to the nature of work requiring coordination with multiple project teams. Additionally, other network surveys have allowed participants to identify up to 24 contacts (Chua et al., 2008).

4.2.4.2. FMs in professional's network measures.

I computed the number of family members in a participant's network based on the number of family members listed as their contacts.² From the responses, the number of family member ($M = 0.61$, $SD = 0.99$, range = 0 – 4) and non-family senior management, senior management, ($M = 0.69$, $SD = 1.08$, range = 0 – 5) in the professional's direct network were computed. See Table 3 for the distribution of family members and senior managers that the professionals indicated in their networks.

-----INSERT TABLE 3 HERE-----

4.2.5. Computing trust measures.

In this study, I calculated the trust score by aggregating the score from every family member respondent for the respective professional contact and thereby had a family member trust score for the professional.

² In network research, sometimes the variable of interest is tested as a proportion of the network size, so as to control for network size. However, the use of a proportion index has poor construct validity for testing the current hypotheses. Of interest is the number of FM members that acknowledges the PM in their network, and its ability to predict the incremental trust knowing more FMs gains for an individual. Importantly, proportion index is inversely related to the professional's network size. Put differently, for individuals who know the same number of FM, the one who has a larger network receives a poorer score, even though the trust they gain, and its associated benefits are actually comparable.

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4.2.5.1. Affective trust measure.

Two items capture the extent to which participants were willing to be vulnerable to their network contacts through the sharing of personal information. The affective trust items from Chua et al. (2008) which had been selected from the highest factor loadings items on McAllister's trust scale (above 0.80). The participant used a 7-point Likert scale to score each contact (1 = strongly disagree; 7 = strongly agree). The items read, "How comfortable do you feel going to "contact name" to (1) share your personal problems and difficulties, or (2) share your hopes and dreams." The Cronbach alpha (α) for this 2-item affect trust score was 0.90.

Trust scores from the network surveys were aggregated in three different ways so that the FM Hive Effect could be tested. In Model 1 (full model, non-reciprocal ties), I computed the average affective trust score the professionals received from the family members by taking the average of the affective trust items of all the family members who mentioned the professional as a contact. In Model 2 (transferred trust model, indirect ties), trust scores were only aggregated for family members who identified the professional as their contact, but the professional had not directly identified the family member. In Model 3 (reciprocal model, reciprocal ties), trust scores were only aggregated when the family member and the professional reciprocally identified each other as a contact. To examine whether the Hive Effect was seen among non-family senior management, the same computation was done for the senior management networks.

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4.2.5.2. Cognitive trust measure.

To compute cognitive trust, each participant responded to the two-items (Chua et al., 2008) for each contact on the same 7-point Likert scale. The items read, 'To what extent can you rely on "contact name" for the following? (1) completing a task that he/she has agreed to do for you, (2) having the knowledge and competence for getting tasks done.' The Cronbach alpha (α) for this 2-item affect trust is 0.90.

I calculated the average cognitive trust score the professionals received from the family members as well as the non-family senior managers the same way I calculated the average affective trust scores.

4.2.6. Determining professional's creativity measure.

4.2.6.1. Creativity task activity.

Participants were tasked to generate ideas for a problem statement: "From your perspective, provide one creative change to the current operations of the company to cut costs." Following Burt (2004) paper, I developed the problem statement based on a current JV company's business concern. The JV company had expanded its operational team in anticipation of the growth expected from Myanmar's opening of markets and positive change in political leadership. However, by mid-2017, the expected speed of change had slowed down, with fewer new construction orders and existing projects being delayed by clients in order to slow down payments. The slower-than-anticipated market growth required the JV company to actively reduce its costs in a creative manner so that it did not impact its ability to quickly ramp up its operations if the market picked up. Participants were informed that their ideas could be technical or non-technical. The 197 participants contributed a total of 330 ideas.

4.2.6.2. *Creativity task scoring.*

Two in-house experts who were senior managers from the JV company served as judges for the creativity tasks. Burt (2004) proposed ‘top-management as an expert panel,’ as they were familiar with the business operations in the study population and would have sufficient decision rights to reward ideas. Furthermore, the top managers’ careers would rise or fall based on the value of ‘ideas’ they sponsored (Burt, 2004).

The judges, blind to the source of ideas and the study’s hypotheses, were asked to rate each idea for its (1) novelty and (2) usefulness, along with three other criteria. Each criterion was rated on a 7-point scale (from 1 = ‘not at all’ to 7 = ‘extremely’). The criteria were: ‘is it new? (i.e., is it new to the company?), ‘is it useful (i.e., is it useful to solve the problem of cuttings cots in the company),’ ‘Is it creative (i.e., is it both new and useful),’ ‘how likely will the company implement this (i.e., whether this is consistent with the company’s policies/values),’ and ‘is this a feasible idea to be implemented (i.e., how many meetings will it take for the procedures or polices to be created for the idea to be implemented).’ I chose not to use criteria 3, 4 and 5 for the final creativity scoring.³

I met the judges to establish the guidelines (rubric) for the rating process before the first round of judging. The judges raised the following issues, which eventually became part of the judging rubric. For instance, if an idea was related to an established procedure or policy, the judges agreed that the idea would not

³ I did not include the scores from Criteria 3, as the question design was double-barrel and subject to the above sampling bias. Instead I used the average of the two individual measures from Criteria 1 on *uniqueness of idea* and Criteria 2 on *usefulness of idea* to calculate the creativity score. In addition, I decided not to use Criteria 4 and 5, which focused on the ‘*practicality*’ aspects of creativity, namely; Criteria 4 on the *likelihood of implementation* and Criteria 5 on the *feasibility of implementation* as I was investigating the ‘creativity’ and not ‘practicality’ of the professional’s creativity.

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be considered novel. Also, when an idea was related to cost-cutting measures but was deemed harmful to employee morale, the judges agreed to treat these ideas as impractical.

After establishing the guidelines, judges then rated the first 10 ideas independently. While rating the ideas, they also wrote reasons for their ratings. Both judges then shared their ratings and discussed the discrepancies until they came to a consensus on all 10 ideas. After that, the judges rated the remaining 320 ideas independently. Discrepancies in the ratings of two or greater were resolved through discussion. The ratings exhibited good inter-rater reliability across judges, for the novelty criteria ($ICC_{\text{novel}} = .76$), and the usefulness criteria ($ICC_{\text{useful}} = .84$), after three rounds of judging.

4.2.6.2. Creativity measure.

Participants' creativity was operationalized as the average of both novelty and usefulness scores across their ideas. For participants who submitted more than one idea, I took the average score of all ideas that the participant proposed.

4.3. Control Variables

I controlled for key demographic variables that had been found to be significantly related to creativity (Zhang & Bartol, 2010; Perry-Smith, 2006). I obtained age, gender, education, tenure in group of companies, job type, job level and salary of the participants from the company's records with the participants' consent. Age was measured in years. Gender was coded as '0' for men and '1' for women. Education was recoded as "1" for university or higher degree, and "0" for below university level. Job type was categorized as '1' for

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Operations (for those from the three engineering departments and the safety & quality department), and '0' for those in Support services (for employees from administration, finance, procurement, business development, information technology, human resources, and executive office). Work tenure was measured by the actual number of years the employee had been in the JV company and the group; tenure is categorized as '1' for less than 5 years, '2' for 5 to 15 years, and '3' for above 15 years. The job level was recoded in three ascending levels of seniority, '1' being junior staff, '2' being middle managers (section heads and supervisors), '3' being senior management (directors, general managers, head of departments). Salary was self-reported in five tiers (1= 100,000 Ks - 300,000 Ks, 2 = 300,001 Ks - 500,000 Ks, 3 = 500,001 Ks - 1,000,000 Ks, 4 = 1,000,001 Ks - 2,000 000 Ks, 5 = Above 2,000,000 Ks).

Following after past studies (e.g., Perry-Smith, 2006), I also controlled for several constructs that had been previously linked to creativity. These measures included (1) intrinsic motivation, (2) creative self-efficacy, (3) political skills, (4) sense of psychological safety, (5) identification with the organization, (6) and promotion-prevention regulatory focus.

4.4. Qualitative Interviews

The limitation of the surveys was that they cannot show the processes by which family members shared information about a professional and transferred trust of that professional onto another family member without direct interaction with the said professional. Neither could they show the specific resources that a professional received from family members when the professional enjoyed a higher level of family members' cognitive trust. Thus, I

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conducted semi-structured interviews to provide greater insights into the processes underlying the FM Hive Effect.

4.4.1. Participants.

I invited the six family members who worked in the JV company and the five family members who worked in the subsidiaries of the group for one-to-one interviews. Four family members agreed to the interview, with three family members from the JV company and one family member from the group (see table 4 for the demographics of the family members interviewed for qualitative study). To corroborate the information provided by the family members, I also recruited professionals in the JV company for interviews. Five professionals from the JV company agreed to the interview. The interviewees were invited through the company's human resources department. The professionals interviewed had all completed the previous empirical study, while one of the family members did not do the empirical study as they were from the group and not the JV company. I interviewed the participants who were available to do the interviews during a two-day period on a first-come basis due to limited time availability. I had a good cross-section of the family members, with three in the JV company who had high (more than 15 years), medium (5 to 15 years) and low (less than 5 years) tenure in the group respectively. All the family members were in the support services. They were represented in both senior and middle management levels.

-----INSERT TABLE 4 HERE-----

The professional respondents were well represented with low (less than 5 years), medium (5 to 15 years) and high (more than 15 years) work tenure in the group, as well as being in all three management levels of senior, middle and

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junior. In addition, we had more participation from the support services of the business. Table 5 presents the demographics of the professionals interviewed for the qualitative study.

-----INSERT TABLE 5 HERE-----

4.4.2. Procedure.

The interviews were conducted face-to-face to reduce the possibility of translation error. I used a set of structured interview questions (see Appendix A) to ensure that the direction of the conversation and the issues raised were consistent across the participants. I completed the interviews in Myanmar over a 2-day period in March 2019. All interviewees provided informed consent before the interview commenced. I did not offer any incentive to this group of participants but agreed to share with them a summary of the aggregated findings.

Each interview lasted between 60 and 90 minutes, with an average of 75 minutes. All interviews were conducted personally by me. To obtain an accurate record of the interview, I had two research assistants during the interview. One took verbatim notes during the interviews on the spot and the other provided translation from Burmese to English, when necessary. I chose taking verbatim notes over audio recording the interviews to eliminate the need for transcription.

For the interviews with the family members, I explored whether and how family members shared information about the professionals, the type of information shared (work- or social- related) and how family member discussion about the professionals resulted in transfer of trust (positively or negatively) towards the professionals. I explored the link between the family member's cognitive trust in the professional and the promotion of the

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professional's creativity by investigating the kind of information, network or resources provided to the professional. Where possible, to illustrate/demonstrate the kind of and impact of resource allocation or role clarity given to a professional in an assigned task that could have impacted the professional's creativity, I asked the family members to share through a recent work example of a professional who had been creative.

For the interviews with the professionals, I examined whether friendship, career guidance, support or resources in terms of information, knowledge and network received from family members supported the professionals in generating a creative output. I further enquired whether the professionals received similar resources from the senior managers who are not family members. I did this by asking them to recollect a recent activity where they were assigned a task and to recollect the kind of resources made available and from whom (a family member or a senior manager) and the impact that support had on their creative performance.

Finally, I asked both the family members and the professionals for their general view on the importance of one's creativity for the JV company and what they thought were the common drivers and hurdles of individual level creativity. I also asked the professionals to do a self-assessment of their creativity.

5. Results

5.1. Analysis Strategy for Quantitative Survey

Preliminary analyses were conducted using general linear models (e.g., correlations and linear regression), and the hypothesized mediation model was established using path analysis. A two-step approach was adopted where the measurement model was assessed by a confirmatory factor analysis (CFA) before testing the path model to avoid misinterpretation (Anderson & Gerbing, 1988). Across the analyses, model fit was assessed with two indices: comparative fit index (CFI), and root mean square error of approximation (RMSEA). By convention, a model is considered to have good fit if $CFI > .90$, $RMSEA < .06$, and marginal fit if $CFI > .70$, $RMSEA < .08$ (Gefen, Straub, & Boudreau, 2000; Hu & Bentler, 1999; Kenny, 2015). Factor loadings were also examined to ensure that they loaded on their latent variables (i.e., standardized loading $> .60$). The details of each stage of analysis along with its descriptive statistics are presented below. Table 6 presents the descriptive statistics and correlations of the key variables.

-----INSERT TABLE 6 HERE-----

5.1.1. CFA of trust measures.

To confirm the measurement model, I conducted a confirmatory factor analysis on the network survey data at the level of each individual network tie. The two-factor model showed that all items loaded on their factors (standardized loading $> .60$) and the model showed good fit $RMSEA = 0.00$, $CFI = 1.00$, $\chi^2(1) = 0.55$, $p = .46$. The alternative one-factor model was also tested and showed poor fit $RMSEA = .69$, $CFI = .59$, $\chi^2(1) = 87.99$, $p < .001$. This supports the

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model that affective and cognitive trust should be treated as independent factors.

The above CFA is for both trust scores. See Table 7 for the CFA Trust Scores.

----- INSERT TABLE 7 HERE -----

5.1.2. Preliminary Analyses

5.1.2.1. Demographic variables.

I first conducted multiple regressions to see if the various demographic variables will predict creativity, and whether the hypothesized main effect will be significant after including the control. Table 8 showed that individuals from higher levels of management had marginally more creative ideas, $r(195) = .12$, $p = .085$, and older individuals also had more creative ideas, $r(195) = .12$, $p = .088$). Individuals who earned more were significantly more creative, $r(195) = .23$, $p = .001$). However, gender, education, tenure, and job-type did not predict creativity.

----- INSERT TABLE 8 HERE -----

5.1.2.2. Individual difference measures.

Next, I tested whether the individual differences measures were associated with creativity (Perry-Smith, 2006). These measures comprise (1) intrinsic motivation, (2) creative self-efficacy, (3) political skills, (4) sense of psychological safety, (5) identification with the organization, (6) and promotion-prevention regulatory focus. Refer to Appendix A for the details of each measure. Table 9 showed that these individual difference measures were not significantly related to creativity and therefore were not controlled for nor discussed further.

----- INSERT TABLE 9 HERE -----

5.2. Hypothesis Testing

First, I used linear regression to test for the main effect of number of family member in a professional's contact on creativity. Then, I used path analysis to analyse whether this relationship is serially mediated via affective trust and cognitive trust. I conducted three path analyses to test Model 1 (full model, non-reciprocal ties), Model 2 (transferred trust model, indirect ties), and Model 3 (reciprocal model, reciprocal ties). The three models differed in how trust was computed. In Model 1, I aggregated all ratings of family member trust for a professional. In Model 2, I aggregated ratings of family member trust for a professional only when the professional had not identified the family member as a direct contact. In Model 3, I aggregated ratings of family member trust for a professional only when the professional and the family members listed each other as a direct contact. Put differently, Model 1 aggregated all trust ratings, whereas Model 2 and Model 3 compartmentalized those trust scores to whether the professional had identified the family member reciprocally (Model 3) or not (Model 2). See attached Figure 4 which illustrated how I computed the family member trust scores for the Models 1, 2 and 3.

-----INSERT FIGURE 4 HERE-----

5.2.1. Hypothesis 1 – direct effect of network ties on creativity.

First, linear regression was used to test the direct effects of professionals' number of network ties on their creativity scores. Two analyses were conducted, one examining ties with family members and another with senior managers. Supporting the hypothesis, the results revealed a direct effect of network ties on creativity only when those network ties were with family members, but not senior managers. The number of family member in a

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professional's network positively predicted the professional's creativity ($B = .23, SE = .08, p = .005; R^2 = .039, F(1,195) = 8.01$). The number of senior managers in a professional's network did not predict the professional's creativity ($B = .12, SE = .07, p = .077; R^2 = .016, F(1,195) = 3.16$). However, the effect was positive and marginally significant. See Figure 5 for the main effect between the number of family member in a professional's network and the professional's creativity.

-----INSERT FIGURE 5 HERE-----

With Controls. I further checked whether the above-mentioned direct effect remained significant after controlling for demographic variables such as gender, age, education, work tenure in the group of companies, job type, job level, and salary. Controlling for these factors, the direct effect of number of family member in a professional network remained significant in the same direction (see Table 10).

-----INSERT TABLE 10 HERE -----

I also analyzed the relationship between the number of senior managers in a professional's network and creativity. Before controlling for these variables, there was a marginal positive relationship ($B = .12, SE = .07, p = .077$) of number of senior managers in professional's network on creativity. However, after including the same controls in the multiple linear regression analyses, the relationship became non-significant as shown in Table 11 below.

-----INSERT TABLE 11 HERE-----

5.2.2. Hypothesis 2 – indirect effect of network ties on creativity through affective trust and cognitive trust.

Next, the hypothesized indirect effect of participants' network ties on creativity were examined using path analysis. To recapitulate, the hypothesized model predicted that the number of professionals' network ties with family members would increase the level of affective trust family members had for the professional, which would then increase the cognitive trust family members had for a professional, which then increased the professional's creativity.

In each analysis, alternative models were also tested to rule out that the mediation effect occurred in reverse, that is, with network ties increasing cognitive trust first before affective trust. It also demonstrated that this mediation model only held for network ties with family member and the corresponding trust afforded to the professionals, but not with senior management ties and their corresponding trust levels.

5.2.2.1. Model 1: full model.

Model 1 – full model. The first mediation model examined considered the affective and cognitive trust that all professionals' extended network had for them. This included both the trust scores from family members, whom professionals had directly identified in their networks (i.e., reciprocal network ties), and non-reciprocal/indirect extended networks, where professionals had not identified the family member, but the family member had identified and indicated their trust for the professional. Supporting the serial mediation hypothesis, the number of family member in a professional's network positively predicted the extent of their family member networks' affective trust for the professional ($B = .22, SE = .10, p = .027$). This level of affective trust in turn

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predicted the network's cognitive trust for professionals ($B = .43, SE = .12, p < .001$). Lastly, the family member's network's level of cognitive trust for professionals positively connected professionals' level of creativity ($B = .34, SE = .15, p = .021$). Overall, this model exhibited satisfactory fit, $RMSEA = .09, CFI = .73, \chi^2(3) = 7.95, p = .05$. Refer to Figure 6 below for the path model and its coefficients. Notably, the fit statistics here are marginal. The model fit improved later in Model 2 (transferred trust model), where only the indirect (non-reciprocal) networks were considered, which demonstrated support for the Hive Effect hypothesis.

-----INSERT FIGURE 6 HERE-----

Ruling out reverse mediation. Next, I analysed and ruled out alternative models by first reversing the order of mediators. Supporting the original model, the alternative model was not significant because the number of network ties professionals had with family members did not significantly predict their network's cognitive trust for professionals ($B = .14, SE = .08, p = .09$). The networks' cognitive trust for professionals still corresponded with their affective trust for professionals ($B = .68, SE = .21, p = .001$), which in turn predicted professionals' creativity ($B = .24, SE = .12, p = .04$). The model had poor fit, $RMSEA = .11, CFI = .61, \chi^2(3) = 10.12, p = .018$. See Figure 7 for the various path diagrams with path coefficients for Model 1 reverse mediator.

-----INSERT FIGURE 7 HERE -----

Substitute family members with senior managers. Next, I examined the original model with professionals' senior management networks. This alternative model was not statistically significant. The number of senior managers in professionals' network only marginally predicted the networks'

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affective trust for professionals ($B = .18, SE = .10, p = .074$). This level of affective trust corresponded with their level of cognitive trust for professionals ($B = .39, SE = .11, p < .001$). But importantly, the level of senior management's cognitive trust for professionals did not predict the professionals' creativity ($B = .07, SE = .16, p = .67$). Overall, this model showed satisfactory fit, RMSEA = .06, CFI = .84, $\chi^2(3) = 4.94, p = .17$. See Figure 8 for the path diagrams with path coefficients.

-----INSERT FIGURE 8 HERE -----

5.2.2.2. Model 2: transferred trust model - family member hive effect.

In Model 2, the trust scores were aggregated across only the family members whom the professionals had *not* identified in their direct networks. However, these family members had identified and provided a trust score for the professional. It was presumed that they had learnt about the professional through the contacts that were identified in the professional's direct network. Model 2 hence provided an inference that the family members' trust for the professional had been 'transferred' from other family members. By extension, it was posited that the wider the professionals' original network of family members, the more likely this transfer of trust occurs. Supporting these expectations, the number of family members in professionals' network positively predicted the extent that family members from professionals' extended network affectively trusted professionals ($B = .35, SE = .13, p = .007$). This level of affective trust in turn predicted the same network's cognitive trust for professionals ($B = .27, SE = .12, p = .019$). Lastly, their cognitive trust for professionals positively predicted professionals' level of creativity ($B = .51, SE$

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= .16, $p = .001$). Consistent with the hypotheses, this model's fit RMSEA = .08, CFI = .73, $\chi^2(3) = 6.91$, $p = .075$ is better Model 1's (see Figure 9).

-----INSERT FIGURE 9 HERE-----

Reverse order of Mediators (cognitive trust to affective trust). Further analyses were conducted to rule out alternative models. Supporting the original model, the number of network ties professionals had with family member did not significantly predict their network's cognitive trust for professionals ($B = .16$, $SE = .10$, $p = .095$). Neither did the networks' cognitive trust significantly predict affective trust for professionals ($B = .43$, $SE = .23$, $p = .064$), which in turn did not predict professionals' creativity ($B = .08$, $SE = .18$, $p = .66$). The model had poor fit, RMSEA = .14, CFI = .20, $\chi^2(3) = 14.59$, $p = .002$. See Figure 10 below for the various path diagrams with path coefficients for Model 2 reverse mediator.

-----INSERT FIGURE 10 HERE-----

Substitute family members with senior managers. I also tested the same transferred trust model with professionals' senior management networks. The number of senior managers in professionals' network did not predict the networks' affective trust for professionals ($B = .24$, $SE = .15$, $p = .12$). This level of affective trust was associated with their level of cognitive trust for professionals ($B = .29$, $SE = .10$, $p = .004$), but that cognitive trust did not predict professionals' creativity ($B = .38$, $SE = .24$, $p = .11$). This model showed good fit, RMSEA = .01, CFI = .99, $\chi^2(3) = 3.05$, $p = .38$. See Figure 11 for the various path diagrams with path coefficients for Model 2 with senior management trust scores. The results showed that the FM Hive Effect only benefited creativity

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when the transferred trust stemmed from family members, but not from senior managers.

-----INSERT FIGURE 11 HERE -----

5.2.2.3. Model 3: reciprocal model.

To provide a nuanced view, the model was decomposed and analysed separately for reciprocal network ties and non-reciprocal network ties. In the mediation model—the trust scores were aggregated across only family members whom the professionals have identified in their direct networks. In this model, the number of family member in professionals' network was positively related to family members' affective trust for professionals ($B = .43, SE = .20, p = .030$). This level of affective trust was in turn associated with family member's cognitive trust for professionals ($B = .40, SE = .09, p < .001$). Lastly, their cognitive trust for professionals positively predicted professionals' level of creativity ($B = .46, SE = 0.17, p = .008$). However, consistent with the hypotheses, this model generally had poor fit, $RMSEA = .12, CFI = .62, \chi^2(3) = 11.52, p = .009$. See Figure 12 for the various path diagrams with path coefficients for Model 3 for family member group. As this model was not significant, the alternative models were not tested.

-----INSERT FIGURE 12 HERE -----

5.3. Discussion

Overall, the hypotheses were supported. The number of family members in a professional's network positively predicted the professional's creative performance. The professional's creative performance was found to be mediated through the affective then cognitive trust that these family members

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had for them. Furthermore, this mediation was stronger if the source of the trust came from family member that were not in the participants' direct network, relative to those in their direct networks. It was posited that this trust was transferred from other family members in their direct network (i.e., the Hive Effect), and such transferred trust was the more critical element that boosted the participants creativity, as seen by the relative strength of Model 2 versus Models 1 and 3. These similar effects were not found amongst non-family member senior management networks. This meant that the Hive Effect only benefitted creativity if managers in a professional's networks were family members, but not when they were non-family senior managers.

5.4 Qualitative Analyses Results

5.4.1 Findings

Although the quantitative analysis provided support for the FM Hive Effect, the mechanisms underlying the trust transference remained a black box. Thus, I conducted semi-structured interviews to explore the nature of the family member meetings, communication among one another, the communication about the professionals, trust transference for a third party and whether there were additional resources or support that a trusted professional received.

5.4.1.1 Hive Effect – Nature of communication. Pearson et al. (2008) suggested that family members continued to interact and facilitate ties and relationships after working hours and the “frequent and close social interactions permitted actors to know one another, to share important information and to create a common point of view” (Tsai & Ghoshal, 1998, p.465) (p. 962). I found

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this to be true in the interviews where family members described their informal social meetings on a regular basis. These were the excerpts;

FM1 – *“weekends are for family time... chat about family, children... asking about their trips, or go out and eat... if we need to discuss work in some emergency situation, we will step aside to do that.”*

FM 2 – *“we do not discuss about work because not all family members work in the group. We are meeting not just the people who work in the group, but other relatives... Once or twice a month we gather all the brothers for karaoke and drinking.”*

FM3 – *“We meet very often... sometimes at some ceremony. ...I never talk about work when meeting family ... unless very serious situation or if I cannot decide on something important.”*

FM4 – *“I don’t like them to talk about projects or about colleagues because other family members feel left out... [unless we are talking about some colleagues which the family members know about] as I don’t want other relatives to feel left out”.*

The above excerpts pointed to the fact that family members did not discuss work related issues. It appeared that if any cognitive type discussion of the professionals or work issues were raised in these family/social gatherings, the family members would re-direct the topic being discussed. However, two family members said that if there were an urgent need to resolve a pending issue, the family members *“will step aside to do that”*.

Discussions are mainly social. Although the family members avoided talking about work-related issues, they might from time to time discuss social and personal details about the professionals working in the company.

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FM1: *“I sometimes joke with another family member working in the company about them being stingy”*

FM3: *“[I sometimes talk about the professional’s issue to my family members – more like small chat.] But mostly we talk about other family members in the company, like asking when they will get married”*

FM4: *“[Sometimes we may discuss about a professional’s achievements, like their graduation, or bonus or recent vacation etc....] I don’t stop these conversations and allow it to flow if the other family members present know the professional... [But we don’t talk about the small things or like gossip about the professionals.]”*

One of family members gave two explanations for discussing social and not work-related issues of the professionals. One was that the intention of the social/family gathering was to meet and interact with the extended family members and not to exclude anyone. Given that in the gathering, there would be a cross-section of family members who worked in the company, in the group or did not work in either organisation. The second reason was to also ensure that ‘work-related’ or confidential issues were not discussed casually especially when it did not concern the other family members, *“I don’t want family members to discuss the official company matters which can be misunderstood by others not involved in the matter”*

Affective trust arises from social responses. My interview observations were consistent with the trust literature which described affective trust developing out of care and concern about others (Lewis & Wigert, 1985; Wiruchnipawan & Chua, 2018). The social and emotional interactions between family members explained the nature of affective ties and communication

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among the family members in the hive. It was also clear from my interviews that the essence of the family members' communication or discussion in such a social setting, even about the professionals working in the company, were social and relational based. According to one of the family members interviewed, *"about 95% of our conversations about the professionals are friendship-based discussions in family/social gatherings."*

Based on the above data, I posited that the family members engaged in social, emotional and relationship building moments outside the workplace or in their social setting (i.e. hive). This kind of affective interaction allowed for family members to keep close family ties and form new ties and friendships with the non-family professionals.

5.4.1.2 Hive Effect – Transfer of Trust. Next, I asked how the family members get to know the non-family professionals. This appears to be largely an *'informal process'*. This is what the family members said;

FM1: *"when HR announces a new staff, if I need to know them, I will approach them directly"*

FM2: *"[host dinner for senior levels and sometimes with their families in the weekends] ... Now if I need to know them, I will ask them to go karaoke"*

I then asked them whether they would trust another professional that they had no contact with based on the trust another family member had in the professional. All of them agreed that the other family member's trust would influence their trust in the professional, however it varied as follows;

FM1: *"[Yes, I trust based on other family member's trust]" ... "I would also distrust if I get some information from family members."*

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FM2: “[Yes, but depends on which family member]” ... “*However, if another family member distrusts an outsider, I am more willing to listen*”.

FM3: “*Yes, I would trust the outsider based on other family member’s trust. But I would also [never fully trust without my own interaction with the professional]. I look at the [outsider’s sincerity, attitudes and whether they are demonstrating ownership and collective spirit (Level 4)]*” ... “*I am talking about the professional’s intention – [are they coming from the company’s good or their own good!]*”.⁴

FM4: “[Generally, I will accept the assessment of the inner-circle of family members.] *But I will also collect information from other sources to determine whether their assessment is accurate.*”.

Trust comes in stages. The responses above from the family members suggested that they would trust (or distrust) a non-family professional based on another family member’s trust in that person. The trust transfer while happening in a split second may be taking place over several steps. This “stage-wise evolution of trust” (Lewicki & Bunker, 1996, p.124 as cited in Sundaramurthy, 2008) gradually developed as the parties moved from one stage to another.

One of the family members explained “*For me to give trust [the professional need to prove themselves that they could be counted on,] watching them to [see if they are worthy of the next level of trust], and [then go on]. ... It is like a [three-step process]. When you hire someone, you [trust that they will do the job]. Then you [watch them to see if they can take care of the family*

⁴ The company underwent a corporate transformation to create a collective culture. Level 4 was the highest level of ownership that could be demonstrated in communication and action.

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business]. *Then you* [give affective trust], *and then you* [see if you can give them cognitive trust.]”

Is it harder for family members to develop affective or cognitive trust in professionals? It appeared that the trust transfer happened in stages. It might start with trust in one dimension and due to repeated interactions, the trust got transferred to another dimension of trustworthiness. McEvily et al. (2003) argued that repeated social interactions allowed the parties to update their information about their counterpart and learn about each other’s trustworthiness (Lewicki & Bunker, 1996). Below is an extract of what they shared;

FM2: “[It is harder to give affective trust.] *I have gone through outsiders who are not loyal to the company. It really depends on the characteristics of the person.*”

FM3: “[It is harder to give relational trust.] *It is easier to give competency trust to get something done*”.

FM4: “[Cognitive trust is easy to see and measure as it is in the system.] [For affective trust, it is harder to give] *as we have to give extra access to some things. For instance, if I want to do something confidential or I want to judge something or deal with some unethical problem [I need to find a trustworthy person from affective trust and not so much on cognitive trust.] By going to them, [they also get access to some confidential information] – they come into my world.*” ... “[I have to open the door to my world], *so that I can discuss the issue. The perceived risk to opening the door to my world is high. For instance, the trusted professional will get access to personal, confidential information which is good or bad! In Myanmar the turnover rate is very high, I don’t mind if they start their own business. But some try to use this information as a tool to*

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spread rumours that are harmful or go to our competitor. Even though we have a high level of transparency in the company, [there are some information that only the very close trusted people have access to.]” ... “Most of these [trusted people belong to the inner-circle of family members and outsiders who are long-timers in the group.]”

Access to Resources (friendship, career guidance, access to information, resources, networks). Given the ‘same ties are now thicker’ with additional resources, the receiver (professional) also enjoyed new resources. Responses from the interviews provided an indication that family members provided access to information and knowledge to the trusted professionals. Here is an extract of what the family members said;

FM1: *“I give this trusted subordinate [access to information, knowledge, and resources] as compared to another whom I trust less.”*

FM3: *“I give them [time, access to information, tell them to meet others (access to networks) and economic resources.]”*

FM4: *“when I trust I give [a lot of resources, extra support, sometimes with small things that they get stuck I will try to resolve for them to reach their potential.] On the other hand, if I distrust someone I close out and only have normal transactional reporting and instruction.”*

In my interview with the five professionals, they shared the following with regards to the resources they obtained from the family members (versus the senior managers) in the company. Three out of the five professionals said they received friendship, career guidance, access to information, knowledge, economic resources and networks from family members. One professional mentioned that access to networks was a key resource that family members

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provided. In contrast, only one professional mentioned that the above resources were provided to them by non-family senior managers.

Resources from family members versus senior managers. Below is an extract of what the professionals said about the type of resources or support they received from a family member and senior manager;

PM1: *“I have direct access to a family member and senior manager. Both people support me to improve my performance. But [the family member is more direct to tell me how to improve.]”*

PM5: *“In my job function/department we don’t have secrets as we need all information, so I get [access to knowledge from the family member and also my senior manager].”*

See the Figure 13 below which depicts the distribution curve of these resources provided by family members versus senior managers.

-----INSERT FIGURE 13 HERE -----

How do professionals earn family member trust? In response to a question as to how the professionals earned the family member’s trust, this is an extract of what some of them said;

PM2: *“The family member gave me trust [when I took ownership, they start to appreciate me and did that publicly.] If something is confidential, I take as confidential. [It is important to keep it confidential.] When I started work here, I was a junior and was promoted.... Now I have the knowledge as the family members have been developing me. And I am developing the company to become bigger. [My ability is not for other companies, but it is for this company.]”*

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PM3: *“I started worked with a relative of the founder. When I joined this company, [I was assigned to do projects with short time delivery and was successful.] My salary was increased, and I was assigned new projects.”*

PM4: *“[Family member gave me more jobs even though there is a senior person above me.] Gave me more responsibility. [They give me information on whom I can trust and whom I should not. I get such information and knowledge.] The family member takes care of me. Recently they heard I was thinking of lending someone money and they called me and told me not to lend to that person as this person cannot be trusted. So, I did not.”*

PM5: *“Although close to us, the family member put pressure on the team to meet target. [I can see he trust me when he accepts my proposal with very little amendments. Some people he does not accept easily.]”*

What resources are important for a professional's creativity? As the final question, I asked the professionals what resources were important in encouraging their creativity. The professionals' rated recognition and acknowledgement, access to information, and access to knowledge as important resources for one's creativity. The resources deemed important for one's creativity was similar for both the family members and professionals. Based on this, I posited that the family members' cognitive trust which was accompanied by intangible resources like access to information, knowledge, networks which supported the professionals' creative performance.

Creativity. The responses from the interviews also provided an indication that the way in which family members encouraged and welcomed ideas from professionals might be associated with the trust perception of family member's continued 'acknowledgement and recognition' in the professional's

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creative performance, as such trust played a significant role in motivating the professionals to be creative.

5.4.1.1. Summary

I imagined that the family members in a social setting operated like bees buzzing in a beehive. There was something going on inside the hive with family members of a family business in their social settings. I have conducted two studies to test my hypotheses. To summarize this Family Member Hive Effect phenomenon and how it impacted the professional's creativity, I broke it up into the following steps.

Step 1: when there were more family members in the professional's network, it created a family buzz within the family member hive whose communication and trust were social-emotional in nature (Eddleston et al., 2010). The quantitative analyses in the first study could not provide details on how to unpack the nature or details of the idiosyncratic communication in the family hive, but I observed in my interviews that the communication included social, emotional and affective references, especially discussions about the professionals. Chua et al. (2008) suggested that the social, emotional ties demonstrate the heart-based, relational and affective trust. Trust research also suggested that in family businesses, individuals form affective trust first (Sundaramurthy, 2008). I posited that the socio-emotional information exchange supported the formation of affective trust between family members and a professional.

How do family members who have no direct contact with the professional transfer trust to them? I posited that this trust transference happened through "*the sometimes discussion of a professional in a social*

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context by family members". Once the family members started to transfer their affective trust based on the trust another family member (third party vouching) had in the professional, the structural holes in the network closed. In fact, the more family members there were in a professional's network, the denser or quicker the structural holes between family members and professional would close. This process allowed the professional to acquire new, trusted contacts (family members) and both parties grew their networks as a result. In addition, the tight embeddedness between the professional and the family members created an in-group cohesiveness, cooperation and social support. I have observed these dynamics in my interviews.

Step 2: At this point, another transference called multiplexity happens. It is the transfer of additional resources to the same ties. Due to the positive experience and affective trust developed, the trustor was willing to transfer trust to another dimension. This transfer was accompanied by additional resources. This was consistent with Sundaramurthy (2008)'s observation that trust developed in stages, with affective trust preceding cognitive trust in an individual. Based on this, I proposed that high family members' affective trust in professional developed into high family members' cognitive trust in the professional. This trust conversion signalled the family members' trust in the professional's reliability, competency and trustworthiness. This was observed in the interviews where one participant even described the trust development as 'a 3-step process'. The professional benefitted from the access to additional resources like information, knowledge and networks from the various family members. I proposed that all these resources set the stage for new ideas to be

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sparked or at the very least, the beginning of creative collaborations (Chua et al., 2011).

Step 3: The final step was the transfer of idiosyncratic knowledge in the family business to the professional. The family members started to share information freely and with the transferred knowledge, allowed the professional to economise the effort to locate relevant and useful knowledge to generate additional knowledge. This knowledge acquisition would support the professional's organisational learning, alertness and responsiveness. Concurrently, the family members relaxed oversight and as a result, freed up the family business's resources for better use. Thus, the professional enjoyed autonomy and along with the additional resources, and knowledge was able to pursue opportunities to generate creative output. This was illustrated by the family member who said "I give [information]" ... "[share new knowledge about what is going on and going to happen]" and "I give [access to networks – like who is trusted]. While the professional who said "[my suggestions are easily accepted without comments]" ... "the family member tells who the trusted party is to work with"]].

Unfortunately, I was unable to determine in my interviews how the family members' affective trust in the professional flowed to cognitive trust in the professional. Perhaps future research can address this gap. In conclusion, the interviews allowed me to determine how the family members transferred their affective trust to a professional based on repeated social-emotional information exchanges and interactions. As result of these affective ties, the family members transferred their cognitive trust to the professional. The cognitive trust was accompanied by additional resources like access to

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information, knowledge and networks. The transfer of additional resources, idiosyncratic knowledge of the family business, and autonomy combined to support the professional's creativity.

What was surprising was that the non-family senior managers do not demonstrate the same hive effect as family members (demonstrated in Study 1). There could be various reasons for this, from the fact that the senior managers were probably not part of the family in-group, or that they did not have access to resources like information and knowledge which were idiosyncratic to the family firm. However, this finding about senior managers had implications for trust building and creativity in family businesses.

6. Discussion

In this dissertation, I investigated an unexplored aspect of trust in family businesses, that is, how the family members developed trust in professionals with whom they might not have direct interaction, based on the trust by another family member in the professional and its effect on the professional's creativity. To build my arguments for the Family Member hive effect in family businesses, I built on existing social literature on embeddedness, trust and creativity.

Social network research (Burt, 2004; Perry-Smith, 2006) suggested that there are two ways an individual's network enabled their creativity (as cited in Chua et al., 2011, p.85-86). They proposed it is either by providing exposure to divergent ideas and perspectives (Burt, 2004) to make connections or through the discussion of these ideas with others in their social networks to see it through to realization. Prior research proposed that social networks have the ability to influence creativity by ensuring the 'flow of ideas' in the organisation and that trust was central to this. Additionally, trust research (McEvily et al., 2003) highlighted how trust between two people was strengthened if it were embedded by ties to a common third person (Burt, 2004; Coleman, 1988) as it promoted increased transfer of knowledge and information between people (as cited in Chua et al., 2011, p.86). The authors stated that embeddedness influenced the surfacing of new ideas in the workplace as a precursor to organisational innovation and creativity. They cited an earlier 2008 study that demonstrated affective trust built from socio-emotional exchanges; genuine friendship developed in embeddedness and the network enjoyed the flow of information as new ideas. The same study concluded that cognitive trust did not promote

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embeddedness as it depended on the need for first-hand experience and less on third party monitoring.

My own finding was consistent with research (Obstfeld, 2005; McEvily et al., 2003) where dense networks increased employee innovation as embeddedness improved coordination and the flow of resources. For instance, Staber (2004) suggested that embeddedness provided continuity in markets where intermittent projects were common and project workers were embedded in cohesive networks to engage in more innovation-related behaviours (as cited in Chua et al., 2011, p.98).

6.1. Theoretical Contribution

Family Member Hive Effect. The FM hive effect was about the transfer among family members to a professional, social-emotional information, resources and tacit or idiosyncratic knowledge of the family business. This trust transfer happened in stages but was one directional (affective to cognitive). I used McEvily et al. (2003) transference theory to explain the three kinds of transfer between the family members and professionals in a family business that promoted the professional's creativity called the FM Hive Effect. These transfers were of a different nature, happening at different stages of the relationship which I have termed Transfer 1, 2 and 3 below. While I observed the positive effect of this, I supposed it could be negative. Perhaps future research could examine this effect.

Transfer 1: Socio-Emotional Information Transfer. I observed in the semi-structured interviews that the family members shared social-emotional information and friendship with the professionals. The affective exchange

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allowed family members to transfer their affective trust to the professional with whom they had no direct contact, based on the trust they had in the said family member (third party). This transference was supported by the background of deep trust that the family members had for each other, and which had developed over repeated interactions. This resulted in the closing of the structural holes between the family hive and the professional. The resulting high affective embeddedness or cohesiveness set the stage for enhanced performance. Additionally, the professional increased his/her network size with new trusted contacts and vice versa for the family members. I posited that this was the co-opting of the professional into the family in-group.

See attached Figure 14 for the Step 1 in the *Family Member Hive Effect* Trust Transfer which illustrated the transfer of socio-emotional information among family members about the professional.

-----INSERT FIGURE 14 HERE -----

Transfer 2: Access to Valuable Resources from Family Members. With repeated interactions and trust developed (affective) between the family members and the professional, another form of transfer happens. Multiplexity (McEvily et al., 2003) allowed for additional resources to be transmitted to the same tie. This meant that family members could give access to information or networks or knowledge in addition to the friendship they gave in Transfer 1. Generally, the family members sharing information freely with professional set the stage for the opportunities for fruitful collaboration and the generation of innovation (McEvily et al., 2003). At this point, the family member's affective trust in the professional developed into the family member's cognitive trust in the professional.

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Transfer 3: Access to Transferred Knowledge and Increased Autonomy from Family Members. For ease of explanation, I have separated this transfer, although in reality, this was a natural extension of the Transfer 2. The professional received transferred knowledge usually considered idiosyncratic in nature in family businesses. This allowed the professional to take shortcuts in locating the relevant and useful knowledge for further use. The family reduced their oversight and which then gave additional autonomy to the professional. At the firm level, reducing the need to monitor against potential loss allowed the firm's resources to be used elsewhere. This transferred knowledge stage explained how the high level of family members' cognitive trust promoted the professional's creativity as it was accompanied by resources that supported it. See attached Figure 15 illustrating these additional resources and idiosyncratic family business knowledge transfers.

-----INSERT FIGURE 15 HERE-----

6.2. Practical & Managerial Implication

There was an urgency to understand how family businesses could best leverage the creative outputs of its professionals as family businesses professionalized and brought in outside talent for their survival. My results had implications for family businesses who thus far, had been unable to extract the desired creative output from their professionals. My study allowed firms to identify ways of improving the average level of trust between the various employees from family members to senior managers to the rest of the staff members working in the family firm. The family business could look at the health of these networks and at which trust transfer stage it is at, so as to improve

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the flow of information, resources and knowledge and build its embeddedness.

This would be of special assistance to the senior manager group who did not demonstrate the hive effect in promoting the professional's creativity.

The company could also develop the professional's creativity through appropriate training in creativity skills. Given the importance of demonstrating pro-activeness or initiative and identification with the organisation, the firm could undertake a culture change process which would allow these to become formal values and behaviours. The professionals who wished to demonstrate their pro-activeness could participate in the firm's social and informal committees which would then send a clear message to the family members of his/her engagement in the company. The firm could also create a culture of transparency to mitigate the negative effects of family like culture and family influence. For instance, it could reduce the number of informal rules, processes and regulations in order to create a climate of certainty. For the family members, the firm could consider regular job rotation and involvement in the social and welfare committees of the company. The interactions that the family members had with more professionals would support building the desired affective cohesiveness. Generally, all the staff could be involved in general trust building exercises like retreats and travels so that they could create a common bond, especially with family members. A more formal approach would be to engage the staff (family and non-family members) in a visioning exercise which would provide clarity on the firms' future, strategy and promote a culture of ownership. Some research (Perry-Smith, 2006) had suggested the need to formalise the employee's creative performance as part of the key performance indicators instead of simply encouraging it. While others (Björk & Magnusson, 2009) had

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suggested the formalisation of the ideation activities like the use of a suggestion box which would require the management to explicitly support the employees' creative development. This could support the non-family senior management group to empower the other non-family professional's creativity.

Perhaps the key question remaining for family members, senior managers and professionals might be how to grow/extend their respective networks in a family business. I would recommend a network approach. However, the focus for family members, non-family senior management and non-family professionals should be different. For instance, the question for professionals might be whether to target one family member or multiple family members so that they could be co-opted into the in-group and benefit from the transfer of resources that would enable their creativity. I think this would depend on the specific family businesses' characteristics like the level of family involvement in management, degree of generational dispersion and level of family reciprocity. It would be fair to say that if there was no conflict in an environment of high family reciprocity, then knowing one family member would be sufficient for the hive effect to happen. However, if there were high levels of conflict, especially with generational dispersion and less family reciprocity, there could be 'warring factions' and it would then depend on which faction the professional aligned with. Not all factions would have equal power or say in the business and therefore access to resource would depend on who the professional aligned with.

Given that the non-family senior management group did not exhibit the hive effect in empowering the professionals, their focus had to be on creating and strengthening opportunities for the exchange of ideas and knowledge (Björk

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et al, 2009). For instance, formalising creativity as a performance measure, legitimised the senior management's involvement in promoting the professional's creativity as part of the organisational culture. Some other practical suggestions included creating formal collaboration between individuals from different departments or using knowledge management systems that promoted sharing of information and knowledge (Björk et al, 2009).

In the case of the family members, the key question was how they could maximize their influence to harness the professional's creativity. Should the family members attempt to know all the professionals or just focus on a select few? Baer et al (2015, p.213) proposed that expanding one's network was important as it allowed one to add people to one's social sphere, which in turn would allow one to benefit from access to a variety of people with different information and knowledge. They cited others (Baer 2010; McFadyen & Cannella, 2004) stating that the demands of an increasing web of contacts posed cognitive and time resources demands on the focal individual. The authors proposed that the key was to nurture a manageable number of direct relationships to 'super-connectors' (Uzzi & Dunlap, 2005). Their key argument was that quality should not be sacrificed for quantity. My observation in family businesses with no conflict and high level of family reciprocity was that there was a lesser need for every family member to have a large network of contacts as the closing of structural holes among the family members would happen quickly and effortlessly. It was crucial that each family member had a diverse network of contacts, as it allowed for the family group to potentially acquire all these diverse contacts as new trusted contacts when the structural holes closed.

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On the other hand, in the case where there was a high level of conflict and lower level of family reciprocity, each family faction might have their own trusted networks within the firm. Whether the information and knowledge flowed among these ‘factions would depend on the founder or the controlling party’s influence and authority. In this instance, the high uncertainty in the firm would impact the professional’s creative performance negatively. In conclusion, given that each family business had different characteristics and operated in different situations, it was critical that the relevant and appropriate strategy which empowered the professional’s creativity effectively should be adopted by each group. Unfortunately, a cookie-cutter approach was not going to work for every family business.

6.3. Limitations

The lack of a clear definition of family businesses was a limitation to consider as it did not allow for direct like-for-like comparisons of the existing literature on family businesses. For instance, while I looked at several dimensions of family like culture such as groupthink, family norms and long-term orientation (Lee et al., 2003; Stewart & Hitt, 2012), these posed adjustment problems to the family business culture. However, there were other dimensions of family influence (Kellermanns et al., 2012, p.86) that I did not use in my study which might offer a different perspective to this study. For instance, Kellermanns et al., 2012, p.95) suggested that generational ownership dispersion of a family firm influenced its innovativeness. I also did not consider conflict in the family business. Literature (Kellermanns & Eddleston, 2004, p. 221) suggested that relationship conflicts had a detrimental effect on the family firm’s performance

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and therefore the need to consider the generational involvement and control distribution.

Another key limitation was the limited sample of family members working in a company. Family members are a finite resource in their businesses especially as they grow. This was especially so when only one company was sampled. I am also unable to ascertain causality given no experiment was conducted. Lastly, I conducted my research in Myanmar which is still transitioning into open market and has limited research studies that benchmarked the people and its culture and performance.

6.4. Future Research

There are many possible future research studies that can be done in this area concerning the professional's creativity in family businesses and the family member's role.

Qualitative Studies. My work provides the basis for other researchers to develop testable hypotheses on studying the impact that the family members' trust on the professional's creativity. Qualitative techniques would be especially useful to explore and illuminate how transferred knowledge from family members and the corresponding resources flow empowers the professional's creativity in comparison to the non-family senior managers. This can highlight the differences in the various types of relationships like those between family members and their senior managers and professional within a family firm, and the optimal intersection that promotes the professional's creativity. Study 2 is a step in this direction.

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Longitudinal studies. A longitudinal study could be done on the professionals' creative ideas to investigate which of the ideas are implemented successfully in the family business. This will shed light on the effectiveness of the professional in harnessing the organizational resources to implement their creative ideas.

Using Network Perspective. It would be worth using the network approach to examine how, what and where of the current characteristics of creative ideas generated. This approach would be useful to shed light on where the senior management are positioned viz the family members and how to realign the senior managers' network to better impact the professionals' creativity as a hive.

Baseline of professional's creativity. Future research can also address the issue of whether the professional's connection to family members increases their baseline creativity or buffers creativity from dropping below baseline due to the negative forces associated with family businesses culture.

Can senior managers be a substitute for family members? In this study, senior managers' trust in a professional has no Hive Effect impact on the professionals' creativity. This may be problematic for family businesses as it shows that only members of the founding family have power and influence over the professionals. Perhaps further study can explore how senior managers could promote the creativity of non-family professionals working in family firms. Another area of interest worth exploring is how senior managers in family businesses build trust, and embeddedness effects when they do not have the shared experience and history that family members enjoy. Perhaps it may point to the kind of resource and knowledge transfers they need to make.

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What does this mean for managers? – should they ‘suck up’ to family members to be creative? Will this be counter-productive and create inefficiency to the promise of what the professionals are supposed to provide with their experience and expertise?

What does this mean for the family members? Family members are a finite resource. How can family businesses create and sustain the Family Member Hive Effect with the appropriate people management systems, training, and mentoring. If this is indeed true, then is it good or bad for family businesses? I believe it all depends on several other factors and mostly on the founding family’s own motivation, commitment, and aspirations for their business. Perhaps future research can explore these possibilities looking at this from the motivations of the founding family.

7. Conclusion

This study contributes to research literature on trust and creativity in family businesses by demonstrating how the family members' hive effect is serially mediated by the family members transfer of (affective to cognitive) trust in the professional enhances the professional's creativity. Additionally, the two-step transfer of trust from affective to cognitive trust flows in that one direction. Most literature linked either affective or cognitive trust to one's creativity, but never both in a two-step transfer as discovered in my study. The family members' hive effect also illuminates the kind of resources that accompany the family members' trust as it develops in stages. The interview highlighted that the transfer of socio-emotional information, additional resources like access to networks, information and knowledge to trusted professionals could empower the professionals' creativity. Perhaps further research can be done to explore how non-family senior management can encourage the creativity of the other non-family professionals as they did not exhibit the hive effect.

This study also makes several contributions to the creativity literature by first extending the study of creativity of professionals in family businesses, by developing and testing specific hypotheses about a professional's network ties to family members and the ensuing creativity of the professional. As a result of using the social network approach of measuring the professional's ties with family members and the effect on the professional's creativity in a family business, it allows for comparison against the creativity of professionals working in other corporates, namely non-family businesses.

Finally, knowing how to enhance professional's creativity is crucial for family businesses in order to innovate and grow especially for the family

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businesses in Asia. However, given each family business is different with its family-like culture and influences, it is imperative that family businesses curate their strategies appropriately in order to get the desired creative performance from their human capital. No one size fits all!

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Tables

Table 1

Research Studies on Characteristics of Family Business

Others research studies on family businesses vs. public corporations	Studies by
Being conservative	Habbershon et al., 2003; Ward, 2004
Less risk taking	Morris, 1998
More long term oriented	Sharma & Irving, 2005
Reluctant to grow and slow growing	Taiguiri & Davis, 1992; Poxa et al., 1997
Unable to react or change in accordance with markets	Schulze et al., 2003; Lubatkin et al., 2007
Less entrepreneurial	Kraus, 2012
Lack of innovation in family businesses	Cabrera-Suares et al., 2001; Carney, 2005

Note. From Kraus et al., 2012.

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

Table 2

Key Demographics of the Participants

	Mean	SD	Min	Max
Gender (Male)	0.62			
Age	32.02	13.01	19	68
Tenure for JV company (months)	22.80	8.33	2	36
Work experience (months)	34.73	11.49	2	456

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

Table 3

Distribution of FM and SM in Professional's Network

Frequency	0	1	2	3	4	5
No. of family members in networks	124	45	19	7	2	0
No. of senior management in network	113	57	13	7	3	4

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Table 4

Demographics of family members interviewed

	Management Level	Tenure (Years in Group)	Job Type
FM1	2	1	0
FM2	1	3	0
FM3	1	2	0
FM4	1	3	0

Note:

Tenure (1 = less than 5 years, 2 = 5 to 15 years, 3 = more than 15 years)

Job Type (1 = operations, 0 = support)

Job Level (1 = junior, 2 = middle management, 3 = senior management)

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

Table 5

Demographics of professionals interviewed

	Management Level	No. of Years (Group)	Job Type
PM1	1	1	0
PM2	3	3	0
PM3	2	2	1
PM4	1	1	0
PM5	2	2	1

Note:

Tenure (1 = less than 5 years, 2 = 5 to 15 years, 3 = more than 15 years)

Job Type (1 = operations, 0 = support)

Job Level (1 = junior, 2 = middle management, 3 = senior management)

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

Table 6

Descriptive Statistics and Correlation Tables Across Key Variables in this Research

#	Variable	M	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	Creativity	2.11	1.01	1	5															
2	No. FM in Network	0.61	0.99	0	6	.20**														
3	No. SM in Network	0.69	1.08	0	5	.13	.51**													
4	FM Affective Trust (Overall)	4.33	1.26	1	7	.23	.24	.44**												
5	FM Affective Trust (Reciprocal networks model)	4.79	1.37	2	7	.46*	.19	.46*	.95***											
6	FM Affective Trust (Transferred trust model)	4.34	1.23	1	7	.04	.35*	.42*	.95***	.34										
7	FM Cognitive Trust (Overall)	5.59	0.80	4	7	.25	.18	.42**	.40**	.53**	.29									
8	FM Cognitive Trust (Reciprocal networks model)	5.86	0.83	4	7	.15	.09	.56**	.54**	.58**	.20	.91***								
9	FM Cognitive Trust (Transferred trust model)	5.60	0.87	4	7	.35	.26	.31	.33*	.13	.29	.95***	.29							
10	SM Affective Trust (Overall)	3.90	1.34	1	6	.06	.13	.22	.18	.25	.34	.14	.38	-.10						
11	SM Affective Trust (Reciprocal networks model)	4.34	1.38	2	7	.10	.17	-.02	.25	.25	.17	.08	.16	-.09	.91***					
12	SM Affective Trust (Transferred trust model)	3.52	1.28	1	6	.09	.13	.19	.18	.47	.24	.12	.60*	-.25	.94***	.35				
13	SM Cognitive Trust (Overall)	5.56	0.81	2	7	.03	.18	.24	.37	.23	.34	.29	.30	.21	.39**	.25	.43*			
14	SM Cognitive Trust (Reciprocal networks model)	5.76	0.76	3	7	-.03	.31	.26	.49*	.24	.42	.42	.39	.25	.22	.26	-.09	.96***		
15	SM Cognitive Trust (Transferred trust model)	5.38	0.84	2	7	.14	-.02	-.05	-.10	.03	-.12	.06	.01	.22	.38*	.11	.41*	.93***	.10	

Note. * $p < .05$, ** $p < .01$, *** $p < .05$. FM = family member managers, SM = non-family member senior managers.

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Table 7

CFA Trust Scores

Item	Two-Factor Model Loading	One-Factor Model Loading
Share my personal problems and difficulties	.82	.84
Share my hopes and dreams	1.00	.96
Completing a task that he/she has agreed to do for you.	1.00	.49
Having the knowledge and competence for getting tasks done.	.74	.34

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Table 8

Regression of Demographic Variables That Predict Creativity

	Min	Max	M	SD	Correlation with creativity	
					<i>r</i>	<i>p</i>
Gender (0=male, 1=female)	0	1	.39	.49	-.04	.607
Age (years)	19	68	31.33	6.56	.12	.088
Education (1=degree, 0=lower)	0	1	.91	.28	.06	.429
Tenure (1= less than 5 years, 2= 5 to 15 years, 3=more than 15 years)	1	2	1.13	.34	.11	.119
Job Type (1=operations, 0=support)	0	1	.56	.50	.03	.670
Job Level (1=junior, 2=middle management, 3=senior management)	1	3	1.46	.58	.12	.085
Salary	1	5	2.72	.97	.23	.001

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Table 9

Regression of Individual Difference Measure That Predict Creativity

	Min	Max	M	SD	<i>Correlation with creativity</i>	
					<i>r</i>	<i>p</i>
Intrinsic Motivation	1	7	5.94	1.09	-.11	.131
Creative Self-efficacy	2	7	5.29	.86	.02	.758
Political Skills	2	7	5.27	.72	-.05	.472
Sense of Psychological Safety	2	7	4.19	.81	.00	.957
Identification with Organization	1	5	1.70	.80	-.04	.601
Prevention Focus	1	9	6.80	1.28	-.10	.174
Promotion Focus	1	9	7.63	1.26	-.11	.133

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Table 10

Main Effect Controlling For Demographics (FM Group)

Dependent Variable	Creativity		
	B	SE	p
Gender (0=male, 1=female)	.01	.16	.973
Age (years)	.00	.01	.744
Education (1=degree, 0=lower)	.19	.26	.457
Tenure (1= less than 5 years, 2 = 5 to 15 years, 3=more than 15 years)	-.10	.25	.687
Job Type (1=operations, 0=support)	.09	.16	.556
Job Level (1=junior, 2=middle management, 3=senior management)	-.15	.17	.387
Salary	.22	.11	.052
Number of family members in network	.20	.10	.048

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Table 11

Main Effect Controlling for Demographics (SM Group)

Dependent Variable	Creativity		
	B	SE	p
Gender (0=male, 1=female)	.04	.17	.812
Age (years)	.00	.01	.802
Education (1=degree, 0=lower)	.24	.26	.368
Tenure (1= less than 5 years, 2 = 5 to 15 years, 3=more than 15 years)	.07	.25	.777
Job Type (1=operations, 0=support)	.02	.16	.902
Job Level (1=junior, 2=middle management, 3=senior management)	-.09	.18	.604
Salary	.25	.12	.034
Number of senior managers in network	.01	.08	.923

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Figures

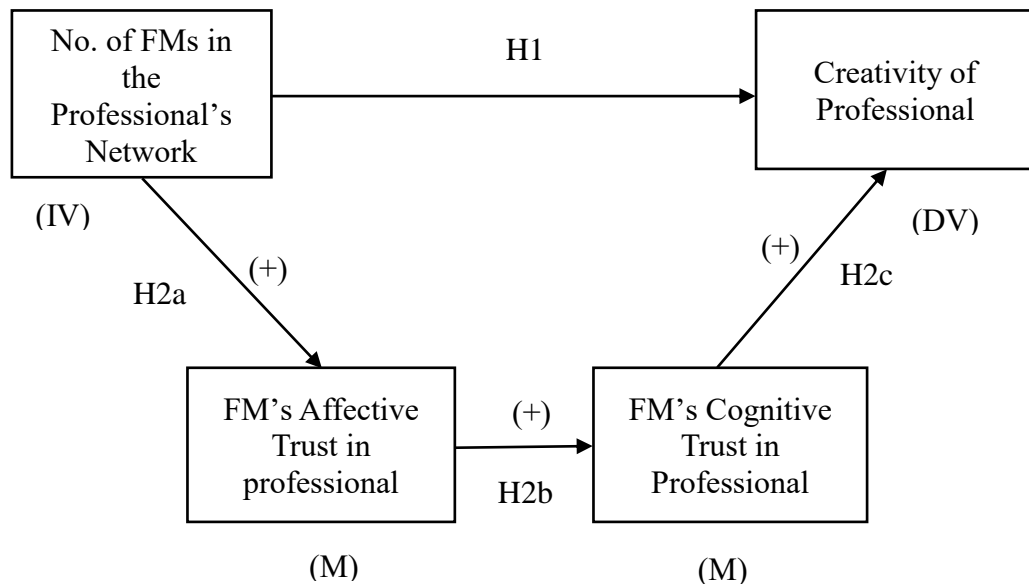


Figure 1. The hypothesized model.

H1: The more family members in a professional's network, the higher the professional's creativity.

The above is broken into three Sub-Hypotheses as follows.

H2a: The more family members in a professional's network, the higher the levels of family members' affective trust in the professional, even though some of these family members do not have direct contact with the professional.

H2b: The higher the levels of family members' affective trust in the professional, the higher the levels of family members' cognitive trust in the professional.

H2c: The higher the levels of family members' cognitive trust in the professional, the more creative the professional will be.

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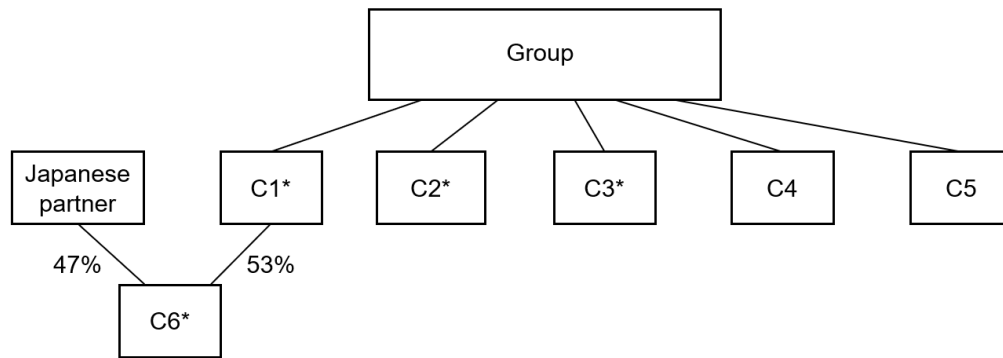
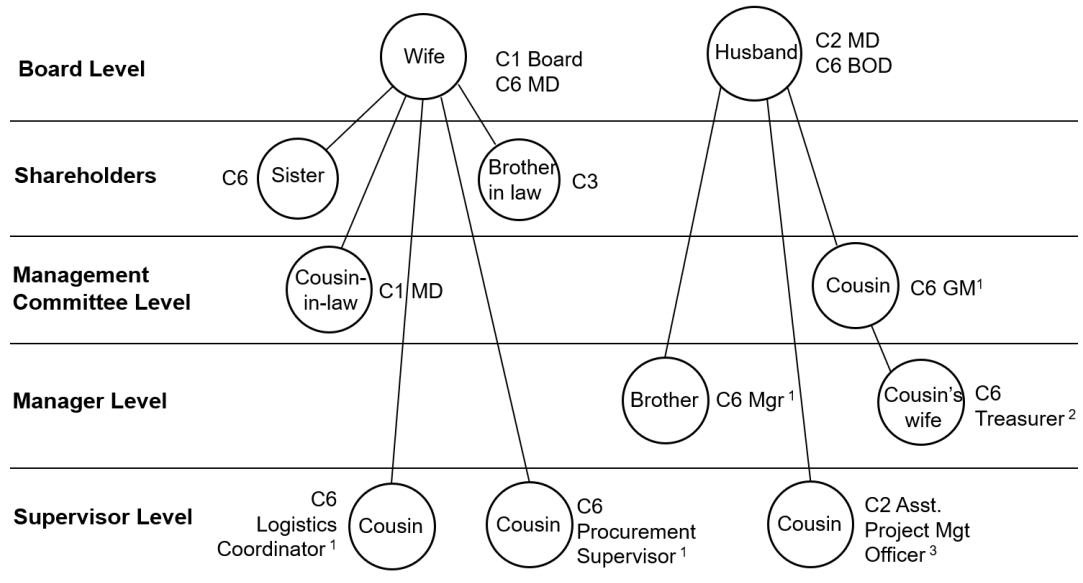


Figure 2. Organizational chart of the Group.

Note.

- i. * indicates where the Founders and FMs are involved as employees or shareholders.
- ii. C1 to C6 are the various companies in the Group.

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Remarks:

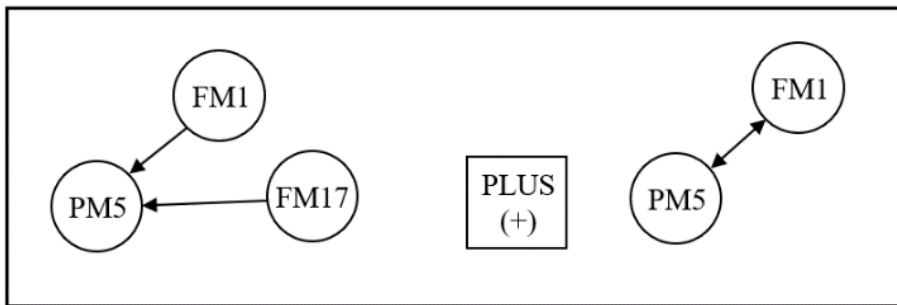
¹ Bidding & Procurement Department

² Finance Department

Figure 3. Relationship map of the family members who work in the group.

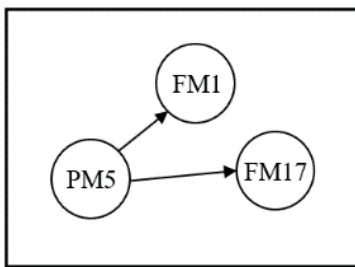
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Model 1 – FULL MODEL



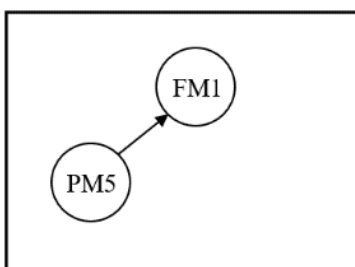
Note. This includes the instances where FM mentions PM and vice versa, or reciprocal AND the FM only mentions PM but not vice-versa, unpaired (also called indirect).

Model 2 – TRANSFERRED TRUST MODEL - FM Hive Effect



Note. This includes instances where FM mentions PM but PM does not mention FM, unpaired. Also called indirect.

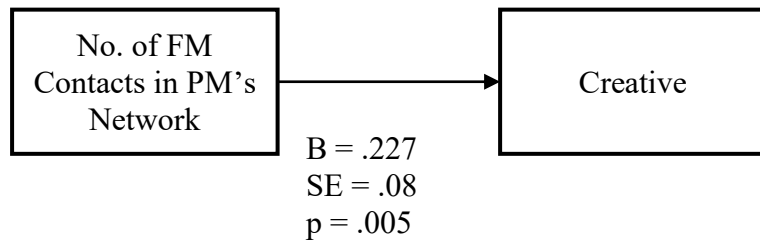
Model 3 – RECIPROCAL MODEL



Note. This includes instances where FM mentions PM, and PM mentions FM, paired.

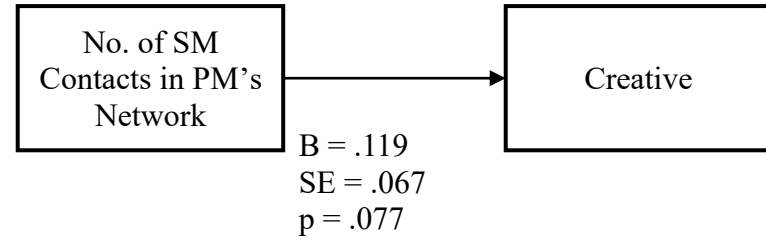
Figure 4. Calculating the FM Trust Score for Models (1, 2, 3).

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Linear Regression

$$R^2 = .039, F(1, 195) = 8.011, p = .005$$

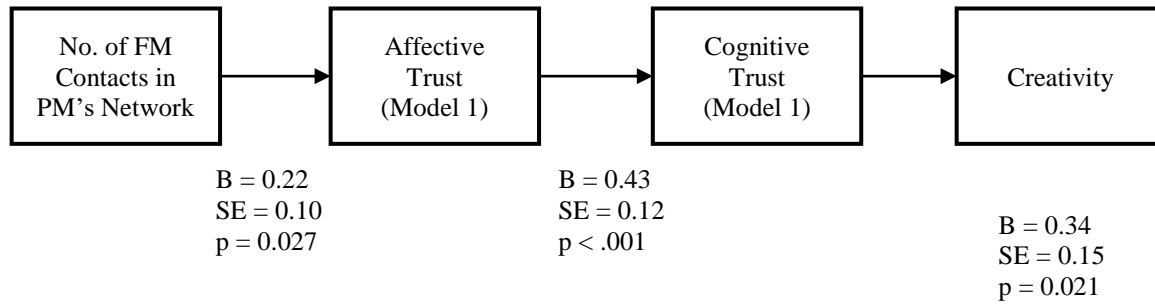


Linear Regression

$$R^2 = .016, F(1, 195) = 3.160, p = .077$$

Figure 5. Main effect between the number of FMs and SMs in a PM's network and PM's creativity.

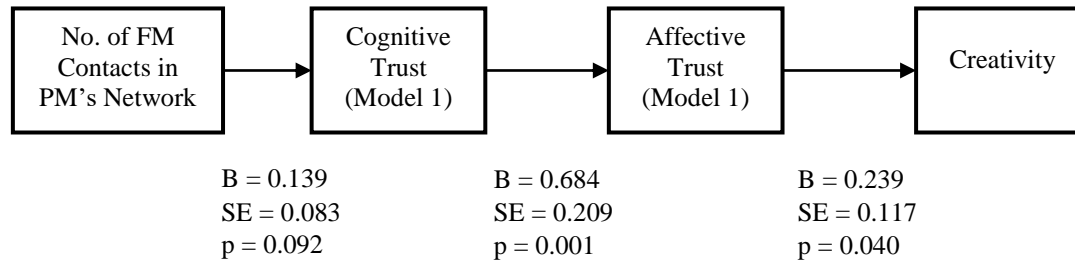
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Note. CFI = .73; RMSEA = .090; $\chi^2(3) = 7.95$, $p = .047$.

Figure 6. Path diagrams with path coefficients for Model 1 - Full Model (FM group).

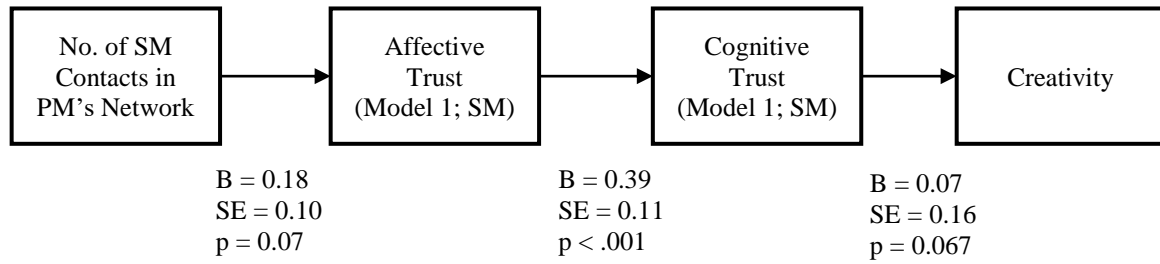
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Note. RMSEA = .11, CFI = .61, $\chi^2(3) = 10.12$, $p = .018$.

Figure 7. Path diagrams with path coefficients for Model 1-Full Model (reverse mediation).

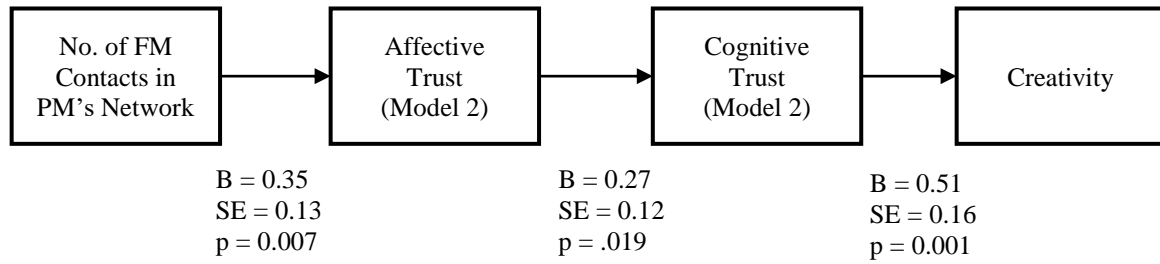
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RMSEA = .06, CFI = .84, $\chi^2(3) = 4.94$, $p = .17$.

Figure 8. Path diagrams with path coefficients for Model 1 – Full Model (substitute FM with SM group).

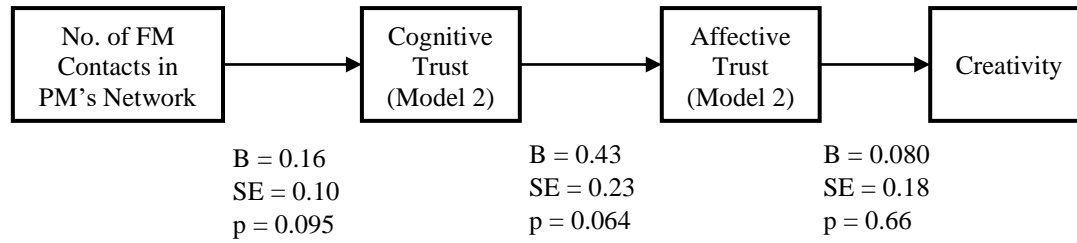
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Note. RMSEA = .08, CFI = .73, $\chi^2(3) = 6.91$, $p = .075$.

Figure 9. Path diagrams with path coefficients for Model 2 – Transferred Trust Model (FM group).

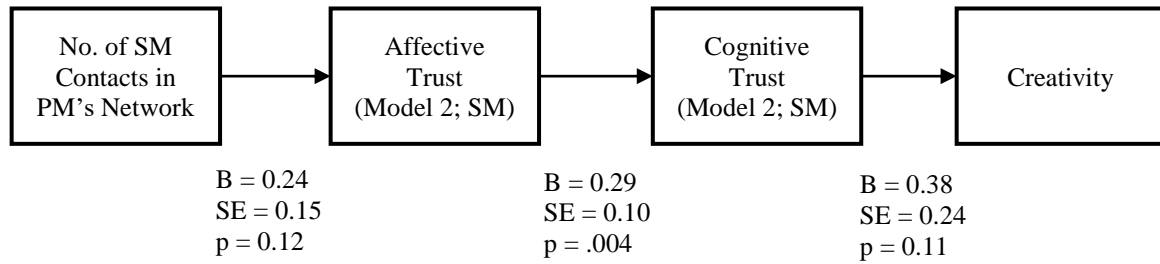
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Note. RMSEA = .14, CFI = .20, $\chi^2(3) = 14.59$, $p = .002$

Figure 10. Path diagram with path coefficient for Model 2 – Transferred Trust Model (reverse mediation)

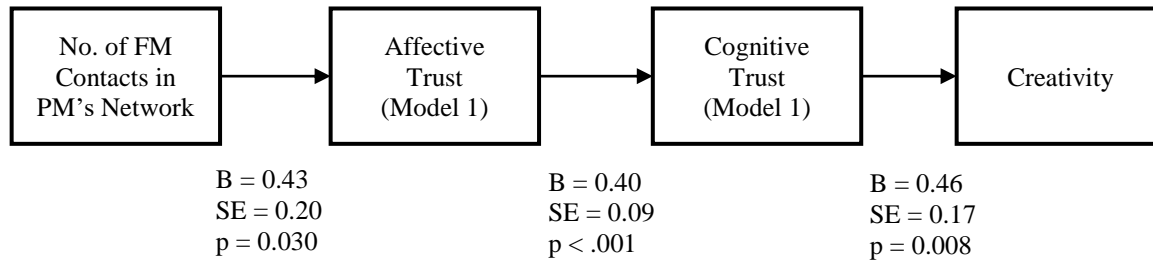
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Note. RMSEA = .01, CFI = .99, $\chi^2(3) = 3.05$, $p = .38$

Figure 11. Path diagram with path coefficient for Model 2 – Transferred Trust Model (substitute FM with SM group)

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Note. RMSEA = .12, CFI = .62, $\chi^2(3) = 11.52$, $p = .009$.

Figure 12. Path analysis of indirect effect for Module 3 - Reciprocal Model (FM group)

Note: None of the alternative models were tested as this Model was not significant.

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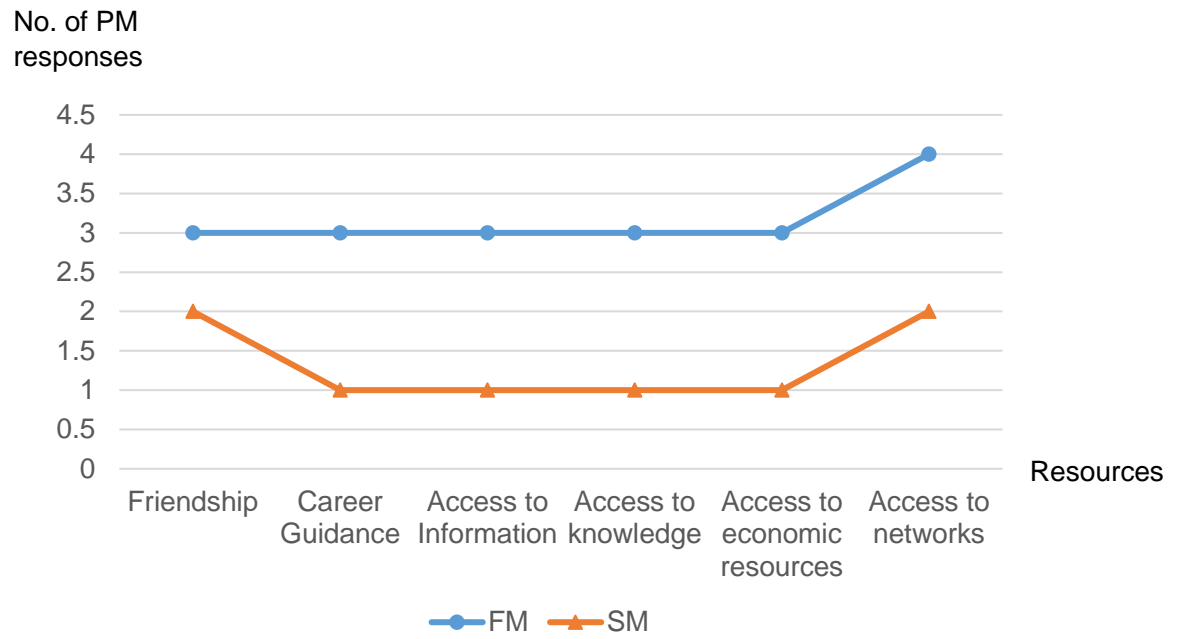


Figure 13. Types of resources provided to professionals (FM vs SM)

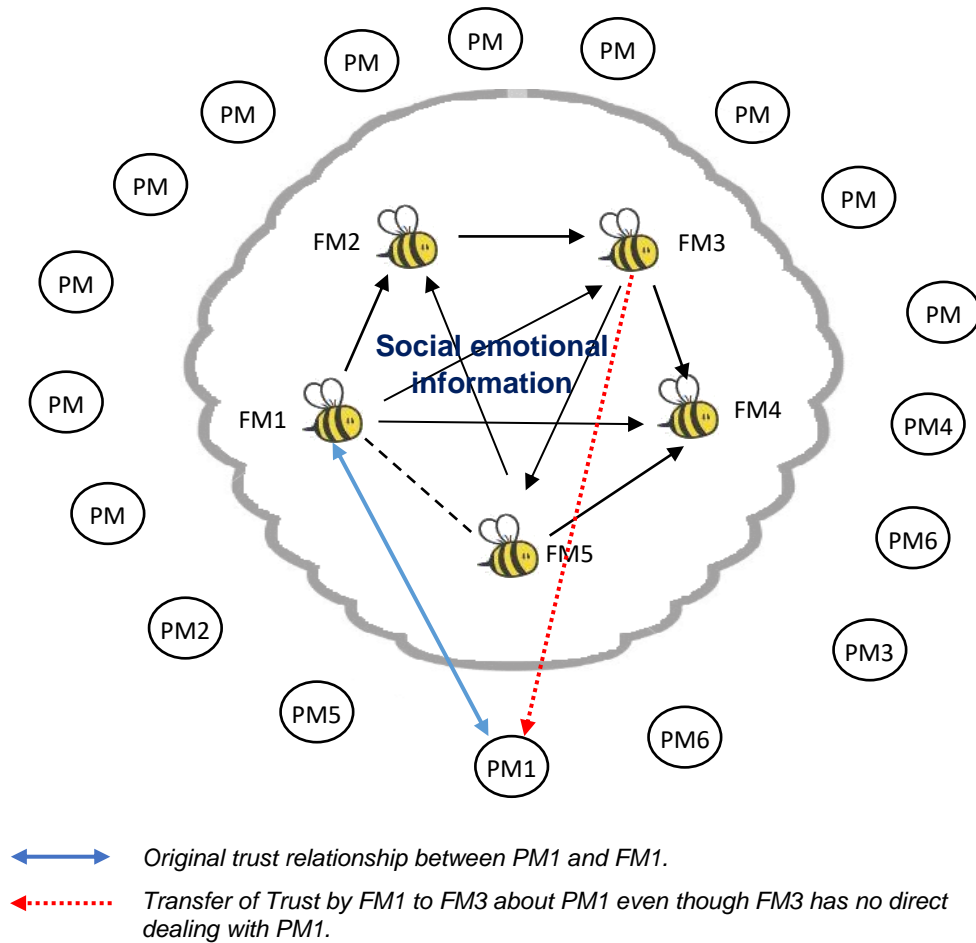


Figure 14. Illustration of FM Hive Effect (social-emotional information transfer)

Step 1 – Trust Transfer in Hive

The *FM Hive Effect* happens when the FMs are exchanging social emotional information in social setting. This sets the stage for other FMs to develop AT in the PM based on the first FM’s AT in PM. Therefore, one FM’s AT in PM allows other FMs to develop similar affective sentiment towards the PM.

FM sharing with another FM about PM → [other FMs develop similar perception] → high FMs’ AT in PM → high FM’s CT in PM → PM’s creativity.

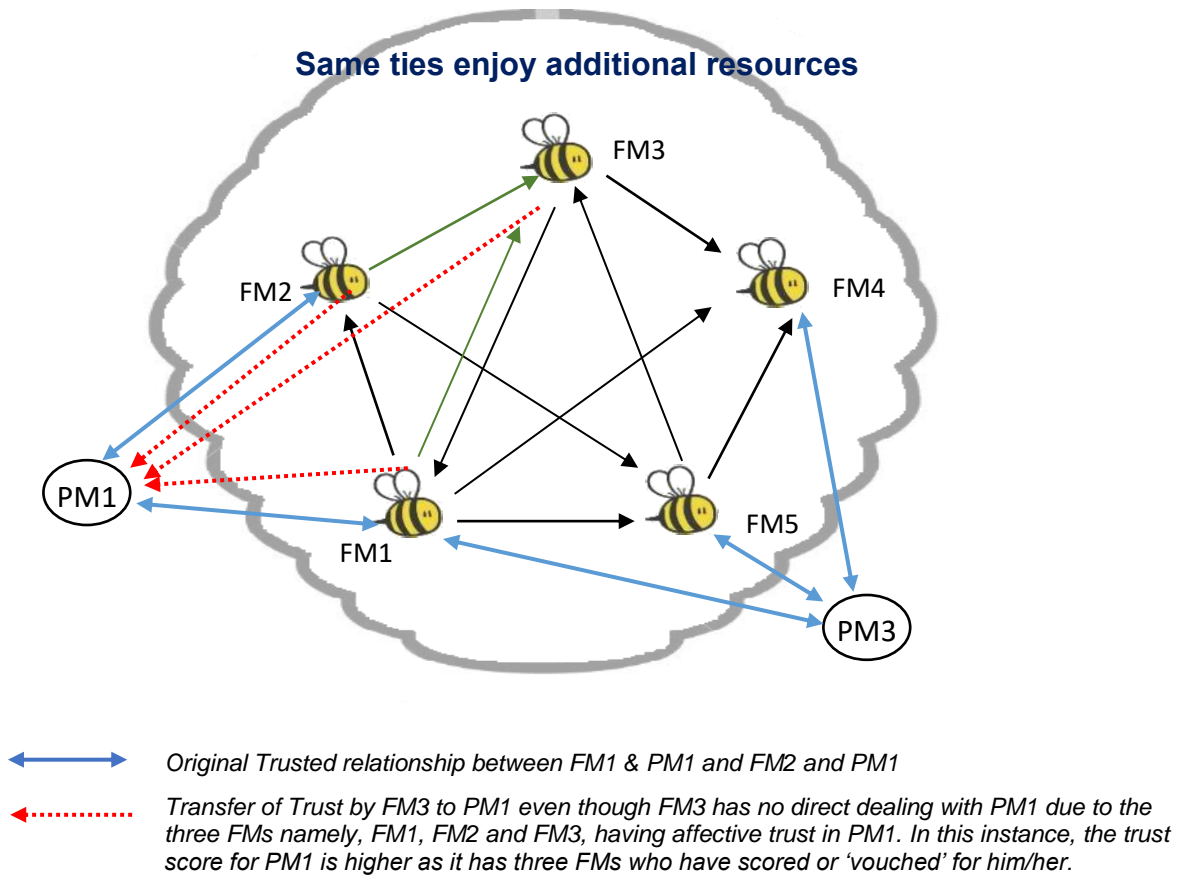


Figure 15. Illustration on FM Hive Effect (additional resources transfer).

Step 2: Acquiring additional resources from the family hive

Multiplexity means that the tie itself becomes thicker with additional layers or resources.

More FMs in PM's Network → High FM's AT in PM → high FMs' CT in PM [the FMs to PM tie becomes thicker with additional resources] → PM's creativity

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Appendix A (Study 1 & 2)

Study 1: List of Survey Questions (Surveys 1, 2, and 3)

(A) MEASURES FOR NETWORK ASSESSMENT

Networks (From Perry Smith's "Social Yet Creative: The role of social relationships in facilitating individual creativity" 2006 paper, which was modified from Amabile, Hill, Hennessey, & Tighe, 1994; Tierney et al., 1999)

1. **"Thinking back over the last 6 months, with whom in in your company do you communicate with on work-related topics?"** Please indicate a minimum of 5 people to maximum of 24 people in your company.

Network Connectivity (Questions from Roy Chua's Network Assessment adapted from the Network Assessment Instrument ©Paul Ingram, 2001, 2004)

Based on the above names keyed in, the participants will be asked to respond to the following questions based for each person in their network. For each identified person above, please answer the following twelve questions listed below.

1. Which of these resources do you receive from your relationship with this person?
Tick as many as needed for the type of resource this person provides; 1 (*Economic resources*); 2 (*Information on career guidance and opportunities*); 3 (*Information or advice for getting tasks done*); 4 (*Friendship, social enjoyment and support*)
2. Jobs are often tough to compare especially if they are in different organizations. But, if you had to, would you say this person is: 1 (*Higher rank than me*); 2 (*About the same rank as me*); 3 (*Lower rank than me*)
3. About how often do you talk with this person? (In person, on the phone or via email) 1 (*Daily*); 2 (*weekly*); 3 (*Monthly*); 4 (*Less Often*)
4. Is the person of a different gender than you? 1 (*Yes*); 2 (*No*)
5. Is the person of a different nationality (or Myanmar Race) than you? 1 (*Yes*); 2 (*No*)

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6. How old in years is the person (best guess)?
7. How long in years have you known the person (best guess)?

Other Questions by Author

8. How close do you feel to this person? 1 (*Very close*); 2 (*Close*); 3 (*Not so close*);
4 (*Distant*)
9. Which category best describes where this person works? 1 (*Same Building*); 2
(*Same Location but different building*); 3 (*Different location in Yangon*); 4
(*Different location in Myanmar*)
10. Please indicate if this person is your supervisor? 1 (*Yes*); 2 (*No*)
11. How often in a day do you interact with your supervisor? 1 (*More than 5 times a
day*); 2 (*3 to 5 times a day*); 3 (*1 to 2 times a day*); 4 (*Thrice a week*); 5 (*Twice a
week*); 6 (*Others*)

TRUST (Questions adapted from “Affect based and Cognitive trust – McAllister’s Paper”) Based on the above names keyed in, the participants will be asked to respond to the following questions based for each person in their network.

With regards to the person you just described, indicate the extent to which you AGREE or DISAGREE with the following statements: (1 = Strongly Disagree, 2 = Mostly Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree i.e. Neutral, 5 = Somewhat Agree, 6 = Mostly Agree, 7 = Strongly Agree)

How comfortable do you feel going to this person for the following purposes?

- 1a. Share my personal problems and difficulties
- 1b. Share my hopes and dreams

To what extent can you rely on this person for the following?

- 2a. Completing a task that he/she has agreed to do for you.
- 2b. Having the knowledge and competence for getting tasks done.

(b) MEASURE FOR INDIVIDUAL DIFFERENCES

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Intrinsic Motivation (extracted from Perry-Smith's "Social Yet Creative: The role of social relationships in facilitating individual creativity" 2006 paper, which was modified from Amabile, Hill, Hennessey, & Tighe, 1994; Tierney et al., 1999)
How accurate for you is each of the following sentences below? (1 = Strongly Disagree, 2 = Mostly Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree i.e., Neutral, 5 = Somewhat Agree, 6 = Mostly Agree, 7 = Strongly Agree)

1. I enjoy coming up with new ideas for technologies or projects.
2. I like my work to provide me with opportunities to increase my knowledge and skills.

Creativity Efficacy measure (extracted from Roy Chua's Network Assessment survey which used Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management journal*, 45(6), 1137–1148.)

Please indicate what you feel about the following statements below? (1 = Strongly Disagree, 2 = Mostly Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree i.e., Neutral, 5 = Somewhat Agree, 6 = Mostly Agree, 7 = Strongly Agree)

1. I have confidence in my ability to solve problems creatively.
2. I feel that I am good at generating novel (i.e., new) ideas.
3. I have ability for further developing the ideas of others.

Political Skill Inventory (by Don Ferris et al. "Development and Validation of the Political Skill Inventory," *Journal of Management*, Vol 31 No, February 2005 126–152)

Please indicate what you feel about the statements below? (1 = Strongly Disagree, 2 = Mostly Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree i.e., Neutral, 5 = Somewhat Agree, 6 = Mostly Agree, 7 = Strongly Agree)

1. I spend a lot of time and effort at work networking with others.

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2. I am able to make most people feel comfortable and at ease around me.
3. I am able to communicate easily and effectively with others.
4. It is easy for me to develop good rapport with most people.
5. I understand people very well.
6. I have developed a large network of colleagues and associates at work who I can call on for support when I really need to get things done.
7. I am good at building relationships with influential people at work.
8. I am particularly good at sensing the motivations and hidden agendas of others.
9. When communicating with others, I try to be genuine in what I say and do.
10. At work, I know a lot of important people and am well connected.
11. I spend a lot of time at work developing connections with others.
12. I am good at getting people to like me.
13. It is important that people believe I am sincere in what I say and do.
14. I try to show a genuine interest in other people.
15. I am good at using my connections and network to make things happen at work.
16. I have good intuition or savvy about how to present myself to others.
17. I always seem to instinctively know the right things to say or do to influence others.
18. I pay close attention to people's facial expressions

Psychological Safety (by Amy Edmondson's 1999 Psychological Safety and Learning Behaviour in Work Teams, Administrative Science Quarterly, 44: 350–383)

Please indicate what you feel about the statements below. (1 = Strongly Disagree, 2 = Mostly Disagree, 3 = Somewhat Disagree, 4 = Neither Agree nor Disagree i.e., Neutral, 5 = Somewhat Agree, 6 = Mostly Agree, 7 = Strongly Agree)

1. If I make a mistake on this team, it is often held against me.
2. I am able to bring up problems and tough issues.
3. People in this company sometimes reject others for being different.

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

4. It is safe to take a risk on this company
5. It is difficult to ask other members of this company for help.
6. No one in this company would deliberately act in a way that undermines my efforts.
7. Working with members of this company, my unique skills and talents are valued and utilized.

Identification with the Organization (Source: Mael, F., & Ashforth, B. E. (1992).

Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of organizational Behavior*, 13(2), 103–123.)

For each question, please choose a number that best describes you in these situations. (1 = Strongly Agree; 2 = Slightly Agree, 3 = Neutral, 4 = Slightly Disagree, 5 = Strongly Disagree).

1. When someone criticizes my company, it feels like a personal insult.
2. I am very interested in what others think about my company.
3. When I talk about my company I usually say “I” rather than “they.”
4. My company’s successes are my successes.
5. When someone praises my company, it feels like a personal compliment.
6. If a story in the media criticized my company, I would feel embarrassed.

Promotion/Prevention Scale (Source: Lockwood, P., Jordan, C. H., and Kunda, Z. (2002). Motivation by positive or Negative Role Models: Regulatory Focus Determines Who Will Best Inspire Us, *Journal of Personality and Social Psychology*, 2002 Vol. 83, No. 4, 854–864)

Using the scale below, please write the appropriate number in the blank beside each item (Where 1= Not at all True of Me, and Where 9=Very True of Me).

1. In general, I am focused on preventing negative events at work.
2. I am anxious that I will fall short of my responsibilities and obligations.
3. I frequently imagine how I will achieve my hopes and aspirations in my work?
4. I often think about the person I am afraid I might become in the future.

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5. I often think about the person I would ideally like to be in the future.
6. I typically focus on the success I hope to achieve in the future.
7. I often worry that I will fail to accomplish my work goals.
8. I often think about how I will achieve professional / career success.
9. I often imagine myself experiencing bad things that I fear might happen to me.
10. I frequently think about how I can prevent failures in my work.
11. I am more oriented toward preventing losses than I am toward achieving gains.
12. My major goal in my company right now is to achieve my professional / career ambitions.
13. My major goal in my company right now is to avoid becoming a professional / career failure.
14. I see myself as someone who is primarily striving to reach my “ideal self”—to fulfill my hopes, wishes, and aspirations.
15. I see myself as someone who is primarily striving to become the self I “ought” to be—to fulfill my duties, responsibilities, and obligations.
16. In general, I am focused on achieving positive outcomes at work.
17. I often imagine myself experiencing good things that I hope will happen to me.
18. Overall, I am more oriented toward achieving success than preventing failure.

GENERAL

Religion & Worship

1. What is your religion? 1 (*Buddhist*); 2 (*Christianity*); 3 (*Hindu*); 4 (*Muslim*); 5 (*Others*)
2. How often do you practice your religion? For instance, observe religious rituals, pray, or visit to places of worship. 1 (*Daily*); 2 (*Trice Iekly [three times a Iek]*); 3 (*Twice Iekly [two times a Iek]*); 4 (*Iekly*); 5 (*Fortnightly*); 6 (*Monthly*); 7 (*Once a year*); 8 (*Others*)

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

Issues & Meetings

1. What is the biggest problem facing the company in 140 characters or less?
2. How many informal meals or drinks or meetings have you had with people (not your immediate colleagues) during the last two weeks? 1 (*More than 5 times a week*); 2 (*Thrice a week*); 3 (*Twice a week*); 4 (*Others*)

MEASURE FOR CREATIVE IDEA GENERATION & JUDGING

Creativity Test via Idea Generation Task (Source: Burt, R. S. (2004), *Structural Holes and Good Ideas*, American Journal of Sociology 2004 110:2, 349–399)

1. “From your perspective, provide one creative change to the current operations of the company to cut costs.”

Use of Expert Panel in Judging (Source: Burt, R. S. (2004), *Structural Holes and Good Ideas*, American Journal of Sociology 2004 110:2, 349–399)

2. The use of 2 in-house experts to ‘blind-judge’ the ideas based on given criteria of:
 - Creativity; and
 - Usefulness.

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

Study 2: List of Survey Questions (Qualitative Interview)

The interview will be developed over the following sections, namely

1.Introduction (5 mins)

Here the intention is to make the participant be comfortable and to set the context of what the interview is about.

We will reconfirm that they understand the objective of the research and get their permission to record the interview.

Also reconfirm (by showing the signed Informed Consent they had previously sent by email) that they are agreeable to doing the survey.

2. Establishing Context (10 minutes)

We will create the context for them to share with a recent example of how the family members communicate, transfer trust and provide resources to the professional. This will include asking guided questions.

See list in next page.

3.Wrap Up (10 minutes)

Ask the participants if there is anything, they want to share about the discussion we just had.

Thank them for sharing.

Get their permission to contact them in future in any additional clarification or details needed.

Name:

Position:

Department:

Mobile No/Email:

No of years in company:

Gender:

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

QUESTIONS FOR Family Members

Nature of Communication

- How often does the family meet –
 - o Frequency
 - o Formally or informally (planned or not)
 - o Location?
- What do they normally discuss –
 - o About work, or non-work?
- If about work,
 - o What do they discuss (work people, work issues)?
 - o What is the key point of these discussions? (keeping each other informed, etc.)
 - o Give recent example
- Determine the % of the conversation (High, Medium or Low) for conversations that FMs have about PM that are
 - o Relational (friendship) based vs
 - o Competency (work/task ability) based.
- How does the family get to know the non-family professionals?
Explain.
 - o DO they have a formal or
 - o informal process for that?

Trust

- Do they trust a PM on the basis of another FM trusting that PM, even if they don't have anything to do with the PM?
 - o Does this apply for distrust too?
- Ask them to look back at the start of any relationship with PM and to say whether it is harder/easier to *trust* the PM to share about
 - o personal issues (relational) versus
 - o competency to get something done.
- Tease out the difference (perceived risk, difficulty) between forming relation-based trust and cognitive trust with non-family members.
- Explore which is easier to give, when they do trust a non-FM professional (AT or CT) and why?

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

- When they trust a professional, will that mean they will ask the professional to do something, or share things? ask them to explain with a recent example.

Resources given to Trusted Professionals

- What kind of resources do they as FMs make available to professionals that they trust? Ask them to Illustrate that through an example
 - o Eg. Spend time with them for career guidance, friendship, access to information, knowledge, networks, or resources.

QUESTIONS FOR Professionals

Resources

- What kind of resources do FMs vs. SMs make available to professionals that they trust? Ask them to Illustrate that through an example
 - o Eg. Spend time with them for career guidance, friendship, access to information, knowledge, networks, or resources.

Trust

- How do they know if they are trusted by FM?

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS

Appendix B: IRB Approval



25 July 2018

Ramesh RAMACHANDRA
SMU Student
Lee Kong Chian School of Business

Dear Ramesh,

**IRB PROTOCOL MODIFICATION REQUEST APPROVAL
CATEGORY 2A: EXPEDITED REVIEW
Title of Research: Family Ties and Creativity in Family-Owned Businesses
SMU-IRB Approval Number: IRB-17-099-A097(917)
SMU-IRB Modification Number: IRB-17-099-A097-M1(718)**

Thank you for your IRB Protocol Modification Request application for the above research in which we received the latest revised copy on 10 July 2018.

I am pleased to let you know that, the IRB has approved your application for the modification based on the description of modified research protocol stated in your Modification Request form.

Please note the following:

1. Indicate the above SMU-IRB approval number and SMU-IRB modification number in all your correspondence with the IRB on this research.
2. If any adverse events or unanticipated problems involving human subjects occur during the course of the research project, you must complete in full the SMU-IRB Unanticipated Problem/Adverse Events Report Form (see SMU-IRB website) and submit it to the SMU-IRB within 24 hours of the event.
3. If you plan to modify your original protocol that was approved by the SMU-IRB, you must complete in full the SMU-IRB Protocol Modification Request Form (see SMU-IRB website) and submit it to the SMU-IRB to seek approval before implementing any modified protocol.
4. This IRB approval for your modified protocol is valid one year from the date of this letter. For Expedited Review applications, if you plan to extend your research project beyond one year from the date of the IRB approval, you must submit a request to renew the research protocol using the Continuing Review Form (see SMU-IRB website) or Protocol Modification Request Form **prior to the IRB approval expiry date**. Please note that for Full Review applications, continuing review applications must be submitted and approved until the research study is closed (i.e., at least one research paper has been published or presented).
5. Please be reminded to be compliant with Singapore's Personal Data Protection laws in carrying out your research activities.

If you have any queries, please contact the IRB Secretariat at irb@smu.edu.sg or telephone +65 6828-1925.

Yours Sincerely,

A handwritten signature in black ink, appearing to read "Chen", written over a light blue horizontal line.

Christopher Chen
Member
Institutional Review Board

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS



21 November 2018

Ramesh RAMACHANDRA
SMU Student
Lee Kong Chian School of Business

Dear Ramesh,

**IRB PROTOCOL MODIFICATION REQUEST APPROVAL
CATEGORY 2A: EXPEDITED REVIEW**

Title of Research: Family Ties and Creativity in Family-Owned Businesses
SMU-IRB Approval Number: IRB-17-099-A097(917)
SMU-IRB Modification Number: IRB-17-099-A097-M2(1118)

Thank you for your IRB Protocol Modification Request application for the above research in which we received the latest revised copy on 16 November 2018.

I am pleased to let you know that, the IRB has approved your application for the modification based on the description of modified research protocol stated in your Modification Request form.

Please note the following:

1. Indicate the above SMU-IRB approval number and SMU-IRB modification number in all your correspondence with the IRB on this research.
2. If any adverse events or unanticipated problems involving human subjects occur during the course of the research project, you must complete in full the SMU-IRB Unanticipated Problem/Adverse Events Report Form (see SMU-IRB website) and submit it to the SMU-IRB within 24 hours of the event.
3. If you plan to modify your original protocol that was approved by the SMU-IRB, you must complete in full the SMU-IRB Protocol Modification Request Form (see SMU-IRB website) and submit it to the SMU-IRB to seek approval before implementing any modified protocol.
4. This IRB approval for your modified protocol is valid one year from the date of this letter. For Expedited Review applications, if you plan to extend your research project beyond one year from the date of the IRB approval, you must submit a request to renew the research protocol using the Continuing Review Form (see SMU-IRB website) or Protocol Modification Request Form **prior to the IRB approval expiry date**. Please note that for Full Review applications, continuing review applications must be submitted and approved until the research study is closed (i.e., at least one research paper has been published or presented).
5. Please be reminded to be compliant with Singapore's Personal Data Protection laws in carrying out your research activities.

If you have any queries, please contact the IRB Secretariat at irb@smu.edu.sg or telephone +65 6828-1925.

Yours Sincerely,

A handwritten signature in black ink, appearing to read "Chris Chen", is written over a light blue horizontal line.

Christopher Chen
Member
Institutional Review Board

HOW TIES WITH FAMILY MEMBERS INFLUENCE PROFESSIONALS



5 Sep 2017

Ramesh RAMACHANDRA
SMU Student
Lee Kong Chian School of Business

Dear Ramesh,

IRB APPROVAL OF RESEARCH
CATEGORY 2A: Expedited Review
Title of Research: Family Ties and Creativity in Family-Owned Businesses
SMU-IRB Approval Number: IRB-17-099-A097(917)

Thank you for your IRB application for the above research that we received the latest revised copy on 30 Aug 2017.

I am pleased to let you know that, based on the description of the research in your IRB application, the IRB has determined that your research falls under Category 2A and has approved your application.

Please note the following:

1. Indicate the above SMU-IRB approval number in all your correspondence with the IRB on this research.
2. If any adverse events or unanticipated problems involving human subjects occur during the course of the research project, you must complete in full the SMU-IRB Unanticipated Problem/Adverse Events Report Form (see SMU-IRB website) and submit it to the SMU-IRB within 24 hours of the event.
3. If you plan to modify your original protocol that was approved by the SMU-IRB, you must complete in full the SMU-IRB Protocol Modification Request Form (see SMU-IRB website) and submit it to the SMU-IRB to seek approval before implementing any modified protocol.
4. This IRB approval for your research is valid for one year (12 months) from the date of this letter. If you plan to extend your research project beyond one year from the date of the IRB approval, you must submit a request to renew the research protocol using the Continuation Review Form (see SMU-IRB website) or Protocol Modification Request Form **prior to the IRB approval expiry date**.
5. Please be reminded to be compliant with Singapore's Personal Data Protection laws in carrying out your research activities.

If you have any queries, please contact the IRB Secretariat at irb@smu.edu.sg or telephone +65 6828-1925.

Yours Sincerely,

A handwritten signature in black ink, appearing to read "Chris Chen", written in a cursive style.

Christopher Chen
Committee Member
Institutional Review Board