Journal of Marketing Thought
Publication details, including instructions for authors and subscription information:
http://www.ejmt.org

“Relationship Intensity in Networks”
Hyejeong Cho a, Kyeong Sam Min b
a. Research Fellow in SKK Business Research Center at Sungkyunkwan University
b. Department of Management and Marketing at The University of New Orleans
Online publication date: 15 Nov 2014

To cite this Article Hyejeong Cho and Kyeong Sam Min (2014) ‘Relationship Intensity in Networks’, Journal of Marketing Thought, 1(3): 1-10
To link to this Article: 10.15577/jmt.2014.01.03.1

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.informaworld.com/terms-and-conditions-of-access.pdf
This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden. The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.
Relationship Intensity in Networks

This study examines the effects of organizational culture on network intensity. We focus on how organizational culture affects relationship intensity, that is, the strength of ties among parties, and how that in turn affects control mechanisms in the networks to which the parties belong. The empirical data for this study were collected by surveying professionals in plant engineering, and the results of the survey indicate that firms that practice collectivism and have a long-term orientation in terms of their cultural characteristics are more likely to have “strong” ties and to use “process” control mechanisms with partner firms. Our research makes important contributions to the literature on networks by testing four dimensions of organizational culture that are adopted in business-to-business channels. Our focus is primarily on control mechanism variables that can be affected by the strength of the ties among firms.

Keywords: Network intensity, Organizational culture, Control mechanism
effect of tie strength on control mechanisms has not been concretely explained. In this study, we investigate how firms adopt control mechanisms depending on various levels of relationship intensity.

**Literature Review and Hypotheses**

**Tie Strength: Strong Tie and Weak Tie**

Tie strength – ranging from weak ties at one extreme to strong ties at the other – characterizes the closeness and interaction frequency of relationships within networks (Granovetter 1973; Hansen 1999; Marsden and Campbell 1984). According to Granovetter (1973), tie strength reflects the degree of intensity, frequency of intimacy (trustworthiness), reciprocity, and acknowledged obligations between the parties (Granovetter 1973). He argued that stronger ties involve larger time commitment. This indicated that firm’s with strong tie have intensive interaction and frequent transaction. On the other hand, weak-tie relationships are characterized by infrequent interactions or low intimacy (Granovetter 1982). Parties with weak ties have a preference for sending low-quality information (e.g., gossip) to partner firms, and weak ties provide infrequent, episodic contact that does not necessarily transmit affective content. Weak-tie relationships engage in fewer, less intimate exchanges and share fewer types of information and support than those with stronger relationships (Haythornthwaite 2001).

Levin (2002) argued that the reason strong ties promote effective knowledge transfer is because these types of ties tend to provide trust. Trusting that a source of knowledge is benevolent and competent increases the chances that the receiver of the trust will learn from such an interaction (Cross 2002). This results in the firm giving information and positively interacting with its network members in the decision making process (Tsai and Ghoshal 1998). The firm enables a more efficient search for reliable information through partner firms that are connected to the third firm. Granovetter (1982) argued that compared to weak ties, strong ties consist of more frequent interaction. Indeed, this ‘closeness’ in the relationship seems to be the most commonly used indicator that measures tie strength (Lin and Dumin 1982; Marsden and Campbell 1984).

A firm is more likely to prefer working with partner firms with strong ties than with third firms that have weaker ties to other firms. Strong ties can help mobilize support and transfer complex knowledge (Coleman 1990; Hansen 1999). Therefore, they are the preferred exchange for high-quality information within a network.

**Impact of Organizational Culture**

The organizational culture of a firm is defined by the specific accumulation of values and norms shared by the channel network firms (Nootenboom, Berger, and Noorderhaven 1997). Organizational culture controls the way network members interact with each other (Charles and Gareth 2001) and is formed in order to achieve synergy (Luke et al. 1989). In a network relationship, member companies act as a chain of distinctive components. Strong norms and mutual identification may exert a powerful positive influence on the performance of the group (Janis 1982; Perrow 1984). Furthermore, organizational culture can establish collective strength and can reduce economic uncertainty (MacMillan and Farmer 1979). Therefore, organizational culture is central to understanding network relationships.

There are four elements to organizational culture; these elements can be conceptualized as organizational values: 1) collectivism, 2) long-term orientation, 3) uncertainty avoidance, and 4) power distance. These dimensions are the firm-level equivalents of Hofstede’s (2001) nation-level dimensions.

**Collectivism**

Individualism is an attitude that emphasizes the importance of firm identity over network identity, and collectivism is the opposite tendency that emphasizes the importance of a “we” identity over an “I” identity (Triandis 1995).

Collectivism refers to the extent to which a firm believes that it should focus on collective, rather than on individual, goals when working with its partners. Collectivists value the social fabric as well as group norms, and individualists prefer independence from other firms (Steensma et al. 2000). Norms have been shown to be effective governance mechanisms that safeguard partners from opportunistic tendencies (Heide and John, 1992; Noordewier et al. 1990).

Since a collectivist firm’s identity is closely linked to that of the network, the primary goal of a firm is not to maintain independence from other firms, but to promote the interests of the network (Davidson et al. 1976). Collectivists share the same purpose (Triandis 1993), so they tend to act cooperatively toward the interests of the network (Hofstede 1980, 1991; Kagitcibasi and Berry 1989; Triandis 1993). Since they share mutual interests, collectivists have a higher degree of intensity and intimacy with other network members, and they also have responsibility toward their partner firms. Firms with a collectivist orientation tend to be motivated to serve their network’s interest. Collectivists therefore do not act opportunistically when working with their partner firms. In a collectivistic network, there is greater emphasis on meeting a shared standard in order to maintain harmony in the firm’s relationship to the network (Wink 1997). Collectivistic firms are therefore not motivated to stand out from their network peers through competition of achievement or even to make positive statements about themselves (Kitayama, Markus, and Lieberman 1995).

In collectivistic networks, members identify with their organization and act in unison to accomplish the organization’s goals. In contrast, individualistic firms will only act if there are individual benefits. As Hofstede (1980) states, in an individualistic network, each firm is likely to look out
for its own interests and to try to maximize the gains from any opportunity that might present itself.

Collectivism is an attitude that emphasizes the importance of group identity over that of the individual. Therefore, collectivist firms do not require detailed contracts to govern exchanges. Since the norms that firms follow when pursuing group goals take priority over their own individual goals, there is little need for contracts as a mechanism for conflict resolution (Wagner 1995). Thus, collectivist firms are likely to develop strong relationships within the network. They communicate often and share mutual benefits with their partner firms. Consequently, collectivism may have positive effects within the network. We therefore formulated the following hypothesis.

H1: Firms that act collectively are more likely to maintain strong ties with the members of their network.

**Long-Term Orientation (LTO)**

Anderson and Weitz (1992) refer to long-term orientation in relationships as "commitment," and a mutual commitment results in network firms working together to better serve their customers' needs and to increase mutual profitability. Long-term orientation, as proposed here, goes beyond mere probability in order to capture both the desire and utility of a buyer toward building a long-term relationship. This long-term orientation includes elements of future interaction (Noordewier, John, and Nevin 1990).

The difference between short- and long-term orientations can be explained as the "expectation of the continuity of a relationship." Firms with a short-term orientation are concerned only with the options and outcomes of the current period, whereas firms with a long-term orientation focus on achieving future goals and are concerned with achieving both current and future outcomes (Ganesan 1994).

Firms with a long-term orientation allow for network partners to assume longevity in the relationship (Ganesan 1994), and to also assume reciprocity with their exchange partners. Firms with a long-term orientation rely on relational exchanges in order to maximize their profits over a series of transactions and take active responsibility for their partners' interests (Ganesan 1994). These types of firms develop strong ties with their partners in the network. This tendency also affects other connections within the network. Thus, firms are more likely to interact and exchange information and resources with partners with whom they have a long-term relationship. Moreover, firms in these relationships can easily connect with third firms through their partners. Therefore, we propose the following hypothesis.

H2: Firms with a long-term orientation are likely to maintain strong ties with their partners in the network.

**Uncertainty Avoidance**

Uncertainty avoidance reflects the extent to which a society accepts uncertainty and risk (Hofstede 1980). We define the uncertainty avoidance of a firm as the extent to which the firm feels threatened by and tries to avoid uncertain, ambiguous, or undefined situations within the network (Hofstede 2001). Firms that have a high level of uncertainty avoidance need predictability and uniformity (Erramilli 1996). Conversely, firms that have a low level of uncertainty avoidance tend to accept uncertainty without much discomfort, easily take risks, and show a greater tolerance for various opinions and behaviors. Accordingly, they do not welcome standardization, but rather value flexibility (Erramilli 1996; Hofstede 2001).

Firms with high uncertainty avoidance have a strong preference for codification and for establishment of formal rules (Steenkamp et al. 2000). Firms that avoid uncertainty try to minimize the possibility of encountering unknown situations through strict laws, as well as safety and security measures, and there is a need for clearly specified competence in order to avoid uncertainty, since stability and security are sought (Hofstede 1980). To obtain long-term benefits, high-uncertainty-avoidance firms build up strong ties with their partners because doing so can reduce risks and can prevent ambiguity during transactions.

Strong ties consist of frequent interactions that occur at least twice a week (Granovetter 1973), and these characterize a dense cluster of members who are mutually connected to each other (Bill and Akbar 1999). Thus, strong ties are effective for exchanging useful information among network members. High-uncertainty-avoidance firms try to gather information to reduce uncertainty, and they are likely to prefer strong ties to weak ties.

Strong ties are based on a high level of interactions in a relationship, and such relationships tend to carry trust (Tsai and Ghoshal 1998). Trust involves "believing that others will perform whatever serves the trustor's interests, even in the absence of control" (Das and Teng 1998). Doney and Cannon (1997) define trust as "the perceived credibility and benevolence of a target of trust." When trust exists, people are more willing to give useful knowledge (Andrews and Delahay 2000; Penley and Hawkins 1985; Tsai and Ghoshal 1998; Zand 1972) and are more willing to listen to and absorb others' knowledge (Carley 1991; Levin 1999; Mayer et al. 1995). As a result, trust can reduce the risk of uncertainty. We therefore formulated the following hypothesis.

H3: Firms with a higher level of uncertainty avoidance are more likely to maintain strong ties with their partners in a network.

**Power Distance**

Mulder (1977) defined power distance as "the degree of inequality in power between a less powerful individual and a more powerful other, in which the individual and the other belong to the same (loosely or tightly knit) social system." Hofstede extended Mulder’s notion of power distance by defining it as "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally." This definition refers to the extent to which a firm believes that more powerful firms should have more to say than their less
powerful channel partners. An organization with a low-power distance revolves around equality and consultative decision making, whereas an organization with a high-power distance revolves around the limits of authority and the explicit definition of tasks (Bates et al. 1995; Hofstede 1980).

Power distance refers to the degree to which a society expects differences in the level of power. A high score for power distance suggests there is an expectation that some firms wield larger amounts of power than others. Therefore, firms with a high power distance have tight control over their partners’ and their own behavior (Shane 1994) and do not view their network partners as equals. For that reason, if a power distance exists, parties cannot form an intense relationship. Thus, power distance has a negative effect on strong ties.

In contrast, a low power distance score reflects the view that all firms should have equal rights (Hofstede 1980). Firms with a low power difference often share values or a sense of responsibility or obligation to partner firms. Therefore, they can easily express their opinion and demands to their partners and can easily interact with other firms, which results in strong ties among partners.

If a firm is related through an inequality with its partner firm, it can be more connected to a third firm with a low power distance. Power distance negatively affects the frequency, intimacy, and degree of intensity within the network; therefore, firms prefer relationships with firms that have an equal relationship with a low power distance firm. A high power distance causes firms to behave submissively toward those with higher power, avoid disagreement, and regard passing on high power partners as a form of insubordination (Hofstede 2001). Firms in relationships with a low power distance firm feel more comfortable voicing their opinions (Kirkman et al. 2009). Since they easily interact within the network, these firms may be comfortable communicating with a third firm. As a result, power distance negatively affects strong relationships. We therefore formulated the following hypothesis.

Effect of the strength on control mechanisms
How do ties with differing strengths affect control mechanisms?

Process control and output controlControl theorists (Jaworski, Statthakopoulos, and Krishnan 1993; Ouchi and Maguire 1975) distinguish two types of controls based on the timing of a (stronger) firm’s intervention: process and output controls. Output control refers to the extent to which a firm places emphasis on results when monitoring, evaluating, and rewarding other firms. In contrast, process control reflects the extent to which a firm emphasizes procedures and behavioral activities in monitoring, evaluating, and rewarding a partner firm (Anderson and Oliver 1987). Process controls are used to influence the means or behaviors that partners use to achieve desirable ends, and output controls are used to directly influence the ends achieved by the partners.

Output control and process control have similar goals, in that a firm is meant to contribute profitably to the organization; however, these goals reflect very different managerial points. If the control system is process based, field sales firms monitor and direct the activities of the partner firm, using subjective and complex measures of a partner firm’s behavior to evaluate its performance. When a control system is outcome based, field sales firms monitor and direct the activities of their partner to a lesser extent and use objective measures of the outcomes to evaluate performance (Cravens, Ingram, LaForge, and Young 1993). In the latter case, output control has a lesser level of involvement by management and contact among network members, with more objective evaluation methods that emphasize outcomes over process behaviors (Oliver and Anderson 1994). Furthermore, output control tends to focus the partner firm on activities with immediate benefits, to the detriment of long-term results (John and Weitz 1984; Smyth 1968). It focuses on instant results and is believed to be motivated by immediate self-interest (Oliver and Anderson 1994). For this reason, output control leads to little attachment to partners.

Stronger ties include a long-term orientation in firms’ exchanges, and a long-term oriented network includes elements of future interactions (Noordewier, John, and Nevin, 1990). That is why strong ties are referred to as “commitment,” indicating that mutual commitment results in network members working together (Anderson and Weitz 1992). Thus, firms with strong ties dislike output control, since such networks likely focus on the desires of the parties to have a long-term relationship. We therefore formulated the following hypothesis.

H5: Firms with strong ties with their partners are less likely to use output control.

Process-control systems focus on the process of work, rather than simply on the outcome. Process control allows for long-term goals (Oliver and Anderson 1987). Control systems that are more behavior oriented have a higher level of involvement by management and higher contact among network members and their managers. They also have more subjective evaluation methods emphasizing process behaviors over outcome results (Oliver and Anderson 1994).

The strong tie networks have structures based on transactional reciprocity (Hennart 1988). The presence of reciprocity helps parties in the network overcome the risks of opportunism from network members, discourage the pursuit of sub-goals through a superior monitoring mechanism, align incentives to reveal information, share firm-specific know-how and technology, and guarantee performance (Kogut 1988). Thus, firms with strong ties will use process control for their partner firms, and they will often interact with other firms. We therefore propose the

H4: Firms with a high power distance are less likely to have strong ties with network members.
following hypothesis, and we put forth a conceptual model in an empirical test, as shown in FIGURE 1.

H6: Firms with strong ties with their partners are more likely to use process control.

**Research Methodology**

**Sample and Respondents**
We selected major first-tier suppliers through systematic random sampling from a mailing list of Samsung Engineering, a major engineering firm from in Korea. Samsung Engineering provided consulting and technical services to clients, with finished products supplied by first-tier suppliers. We surveyed procurement managers of first-tier suppliers who were appropriate candidates for responding to items regarding their firms and transaction partners because they have relationships with second-tier suppliers. We contacted the procurement manager of each firm by telephone and mailed a questionnaire. The procurement managers were in charge of securing parts and materials from subsuppliers, and thus, we expected them to have relationship with subsuppliers with expert knowledge and procurement items and also reflect interaction with the buyer in items of its needs. We mailed the questionnaire to each information and instructed him or her complete it with respect to first-tier supplier; we collected a total of 168 responses (a 22% response rate).

**Measure Scale Development**
The measures for tie strength were those proposed by Daniel and Rob (2004). The questions asked, (1) “How close was your working relationship with each company?” (2) “How often did you communicate with each company?” and (3) “To what extent did you typically interact with each company?”

The measures for organizational culture were taken from work previously published by Yolanda and Cambra (2008), MacNab et al. (2007). These were comprised of four categories: uncertainty avoidance, power distance, long-term orientation, and collectivism. For long-term orientation, survey items included (1) “I think that this relationship will be beneficial to my firm in the long term.” (2) “It is important for my firm to maintain this relationship in the future.” and (3) “I am focusing on the long-term objectives of this relationship.”

The measures for the control mechanisms are those proposed by Daniel and David (1997). The survey items for process control were obtained by asking, “Our efforts to influence the way a partner performs activities can be described
as 1) a distributor’s promotional activities for our product, 2) the way a distributor introduces new products, and 3) a distributor's selling policy and procedures for new products.” For output controls, the survey included “Our efforts to monitor the partner’s results on each factor can be described as 1) market penetration of new products, 2) increasing the customer base in their market, 3) sales volume of our products.”

All variables were measured on a seven-point Likert scale between 1 ("strongly disagree") and 7 ("strongly agree").

Reliability and validity of the question
The data analyses in this paper were conducted using SPSS and AMOS. The internal consistency was assessed by computing Cronbach’s alpha, which is the most commonly used reliability measure. Cronbach’s alpha and the composite reliabilities exceeded the recommended minimum level for our samples, with estimates of .70 or higher indicating validity for the construct's measure.

All factors (except the LTO 4 variable) of the standardized regression weights were above the cutoff level of .50. The first cut establishes the internal consistency and reliability of the three scales that were used, as well as the corresponding discriminant validity for the constructs.

A higher composite reliability indicates that the internal consistency is higher. The composite reliability should exceed .60 (Bagozzi and Yi 1988), and all factors for composite reliability were above the cutoff level of .60 (see TABLE 1).

<table>
<thead>
<tr>
<th>TABLE1</th>
<th>Composite reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Observed variables</strong></td>
<td><strong>Standardized factor loading (SFL)</strong></td>
</tr>
<tr>
<td>Collectivism</td>
<td></td>
</tr>
<tr>
<td>Collec_1</td>
<td>0.609</td>
</tr>
<tr>
<td>Collec_2</td>
<td>0.673</td>
</tr>
<tr>
<td>Collec_3</td>
<td>0.660</td>
</tr>
<tr>
<td>Long-term orientation</td>
<td></td>
</tr>
<tr>
<td>LTO_1</td>
<td>0.921</td>
</tr>
<tr>
<td>LTO_2</td>
<td>0.519</td>
</tr>
<tr>
<td>LTO_3</td>
<td>0.581</td>
</tr>
<tr>
<td>Uncertainty avoidance</td>
<td></td>
</tr>
<tr>
<td>uncertainty_1</td>
<td>0.648</td>
</tr>
<tr>
<td>uncertainty_2</td>
<td>0.865</td>
</tr>
<tr>
<td>uncertainty_3</td>
<td>9.716</td>
</tr>
<tr>
<td>uncertainty_4</td>
<td>0.930</td>
</tr>
<tr>
<td>Power distance</td>
<td></td>
</tr>
<tr>
<td>powerdistance_1</td>
<td>0.676</td>
</tr>
<tr>
<td>powerdistance_2</td>
<td>0.923</td>
</tr>
<tr>
<td>powerdistance_3</td>
<td>0.651</td>
</tr>
<tr>
<td>Strong tie</td>
<td></td>
</tr>
<tr>
<td>strongtie_1</td>
<td>0.708</td>
</tr>
<tr>
<td>strongtie_2</td>
<td>0.757</td>
</tr>
<tr>
<td>strongtie_3</td>
<td>0.935</td>
</tr>
<tr>
<td>strongtie_4</td>
<td>0.950</td>
</tr>
<tr>
<td>Output control</td>
<td></td>
</tr>
<tr>
<td>pcontrol_1</td>
<td>0.746</td>
</tr>
<tr>
<td>pcontrol_2</td>
<td>0.762</td>
</tr>
<tr>
<td>pcontrol_3</td>
<td>0.538</td>
</tr>
<tr>
<td>pcontrol_4</td>
<td>0.746</td>
</tr>
<tr>
<td>Process control</td>
<td></td>
</tr>
<tr>
<td>Monitoring_1</td>
<td>0.553</td>
</tr>
<tr>
<td>Monitoring_2</td>
<td>0.740</td>
</tr>
<tr>
<td>Monitoring_3</td>
<td>0.798</td>
</tr>
<tr>
<td>Monitoring_4</td>
<td>0.687</td>
</tr>
</tbody>
</table>

Analysis and Results
We ran an AMOS analysis for each sample to test the hypotheses. The model is the hypothesized model, with organizational culture loading onto each sample’s respective fac-
tors, which are allowed to correlate and, in turn, predict tie strength.

In each model, the relationship between the indicators and the latent variables are positive and significant. The model shows an excellent minimum sample discrepancy divided by the degrees of freedom (CMIN/DF = 1.94), and all of the above results indicate a reasonable fit of the data to the model (GFI = .808, RMSEA = .076).

H1 proposes that collectivist firms are more likely to maintain strong ties with network members, and the path between collectivism and strong ties in the model is positive, supporting H4 (path coefficient = 1.066, t = 3.626, p < .0001).

H2 proposes that firms with a long-term orientation are likely to have strong ties with their network members. The path between power-distance and strong ties in the model is positive, and marginally supports H3 (path coefficient = .184, t = 1.918, p = .055).

H3 proposes that firms with a high level of uncertainty avoidance are likely to maintain stronger ties with their partners in a network. The path between the uncertainty avoidance and the strong ties in the model is not significant (path coefficient = .286, t = -1.101, p > .2), which indicates H1 is not supported.

H4 proposes that firms with a high power distance are less likely to have strong ties with members of the network. The path between the power distance and strong ties in the model is positive, which indicates that H2 is not supported (path coefficient = .179, t = 2.454, p = .014).

H5 proposes that firms with output controls are less likely to have strong ties with partners in a network. The path between strong ties and output control in the model is positive, which does not support H5 (path coefficient = .564, t = 4.933, p < .0001). H6 proposes that firms with process controls are more likely to maintain strong ties with partners in the network, and the path between strong ties and process controls in the model is positive, in support of H6 (path coefficient = .216, t = 2.129, p = .033).

Discussion

Our study makes important contributions. First, our research explores how organizational culture affects network relationships. More specifically, four dimensions of organizational culture are applied in business relationships. The results of our study empirically prove that collectivist firms are likely to prefer stronger network ties. In addition, firms with a long-term orientation are marginally more likely to prefer strong ties in the network.

Second, our research improves understanding of inter-firm network strength in the context of business-to-business relationships. Many studies on relationship intensity have taken a dyadic approach; our study extends relationship intensity among firms in a network.

Third, we focused on the effect of network intensity on control mechanisms. According to our analysis, firms with strong ties are more likely to use process control mechanisms with partner firms. On the other hand, the strength of the ties may not affect the output control mechanisms. Therefore, when using control mechanisms, firms are likely to be influenced by the network intensity.

Limitations and Future Research Directions

Even though we found positive impacts of long-term orientation and collectivism on relationship intensity, our data did not support for the role of uncertainty avoidance and power distance. In particular, unlike our prediction, the relationship between power distance and relationship intensity was significantly positive, rather than negative. These findings might be caused by the fact that survey respondents in the firms with a high power distance perceived the members of the network as of high standard or quality and thus they were motivated to view their relationship with them in a more positive light (Javidan et al. 2006). As shown in the recent reviews of Hofstede’s cultural value dimensions (Daniels and Greguras 2014; Taras, Kirkman, and Steel 2010), the role of these cultural values is susceptible to micro-level factors (e.g., personality, demographics, etc.) as well as macro-level factors (e.g. cultural tightness). Thus, future research is needed to explore cultural values along with these factors together.

Additionally, we found that firms with strong ties with their partners in the network are more likely to utilize both process and outcome control systems even though we initially predicted that these firms would rely only on process control. These results could be due to the drawbacks of

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Estimate</th>
<th>t</th>
<th>p-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty avoidance → Strong tie</td>
<td>H1</td>
<td>-.286</td>
<td>-1.101</td>
<td>.271</td>
</tr>
<tr>
<td>Power distance → Strong tie</td>
<td>H2</td>
<td>.179</td>
<td>2.454</td>
<td>.014</td>
</tr>
<tr>
<td>Long-term orientation → Strong tie</td>
<td>H3</td>
<td>.184</td>
<td>1.918</td>
<td>.055</td>
</tr>
<tr>
<td>Collectivism → Strong tie</td>
<td>H4</td>
<td>1.066</td>
<td>3.626</td>
<td>.0001</td>
</tr>
<tr>
<td>Strong tie → Output control</td>
<td>H5</td>
<td>.564</td>
<td>4.933</td>
<td>.0001</td>
</tr>
<tr>
<td>Strong tie → Process control</td>
<td>H6</td>
<td>.216</td>
<td>2.129</td>
<td>.033</td>
</tr>
</tbody>
</table>
strong ties. In spite of many benefits resulting from strong ties, past studies document that the firms with strong ties need to spend extra time to search for, evaluate, transfer, and integrate complex information among network members in order to maintain their ties (Hansen, Mors, and Lovás 2005; Phelps, Heidl, and Wadhwa 2012). Thus, such enhanced commitment may motivate these firms to scrutinize their partners’ outcomes and thus increase output controls. This issue needs to be further examined in the future.

This study focuses on a unilateral control set for output and process control mechanisms. We realize that other control mechanisms—contracts, relational norms, and flexibility—may also have a considerable influence on network intensity. Therefore, other types of control mechanisms need to be further researched in order to measure the effects of the level of the network intensity.

We analyzed four cultural value elements with respect to organizational culture, with the exception of femininity. According to Hofstede (1980), femininity defines a preference for cooperation, caring for the weak, and quality of life. Therefore, it is possible that a femininity variable may positively affect network intensity. Thus, further research in organizational cultures should include femininity.

Our research mainly collects data from professionals working at an engineering plant. According to Taras et al. (2010), the predictive power of cultural values increases when study participants are older, male, more educated, and working managers. Thus, it is important to further examine if the current findings can be generalized and applicable to other samples or other business contexts in the future.

REFERENCES


Granovetter, Mark (1982), “The strength of weak ties: A


