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Managing international joint ventures to improve performance: The role of structural and social mechanisms

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Managing international joint ventures to improve performance: The role of structural and social mechanisms

Abstract:

Poor performance has been a major concern in research on international joint ventures (IJVs). This study integrates the IJV management mechanisms from transaction cost theory (TCT) and social exchange theory (SET) in order to gain insights into management mechanisms that improve IJV performance. The framework consists of three structural (i.e., symmetric dependence, symmetric equity share and resource complementarity) and three social (i.e., trust, communication and cultural adaptation) IJV management mechanisms, which are considered as potential determinants of IJV performance. Based on the analysis of data collected from 89 IJVs established by Nordic firms in Asia, Europe and the USA, results indicate that TCT-based symmetric dependence and resource complementarity on the one hand and SET-based trust, communication and cultural adaptation on another significantly improve IJV performance. However, impact of symmetric equity share on IJV performance remains negative and non-significant, explaining that IJV partners may consider it rather a safeguard to their own stake and interests in IJVs. In addition, SET-based IJV management mechanisms are found to be more effective than the TCT-based IJV mechanisms in improving IJV performance.

Keywords: Social mechanisms, structural mechanisms, international joint venture performance, social exchange theory, transaction cost theory

1. Introduction

With increasing global competition, many firms form international joint ventures (IJVs) to enter foreign countries (Dong, Zou, Sun, & Zhang, 2019; Wang, Jin, Yang, & Zhou, 2020). IJVs are equity-based entities created and managed jointly by two or more independent firms from different countries to pursue common strategic objectives. They can be created from scratch or through the partial acquisition of equity in an existing company (Triki & Mayrhofer, 2016). In addition to economic benefits, IJVs offer a remedy for a firm's competitive woes, resource limitations, and increasing investment costs, risks and environmental uncertainties in foreign countries (Jeanine, Jianfeng, & Xuan, 2020; Luo, 2007). However, despite the popularity and many potential benefits of IJVs, prior research shows that 40 to 60 percent of IJVs fail to meet their objectives (Dan & Zondag, 2016; Piaskowska, Nadolska, & Barkema, 2019).

The IJV literature has identified numerous firm, industry, and country level factors that influence IJV performance (see, Boateng & Glaister, 2002; Robson, Leonidou, & Katsikeas, 2002; Sim & Ali, 1998). In addition to these factors, a growing stream of research strongly suggests that IJV performance can be more fully understood by examining IJV management mechanisms (e.g., Ali & Larimo, 2016; Hennart & Zeng, 2005; Mohr & Puck, 2005). However, in this research stream, two different theories - transaction cost theory (TCT) and social exchange theory (SET) - have yielded insights into effective IJV management (Ali & Larimo, 2016; Hennart & Zeng, 2005; Luo, 2007). While TCT focuses on the structural design of IJVs and emphasizes the importance of interpartner equity sharing, dependence and resource complementarity (Ali & Larimo, 2016; Das & Rahman, 2010; Hennart & Zeng, 2005; Zhang & Rajagopalan, 2002) as effective structural mechanisms for IJV management, SET focuses on relational characteristics within ongoing relationships between partners and emphasizes the importance of interpartner trust, communication

and cultural adaptation (Ali & Larimo, 2016; Deeds & Hill, 1998; Kale, Singh, & Perlmutter, 2000; Wathne & Heide, 2000) as effective social mechanisms of IJV management. Rarely have the two theories been combined to investigate the underlying management mechanisms that promote successful outcomes in IJVs (Ali & Khalid, 2017; Hennart & Zeng, 2005; Luo, 2007). Seminal studies that combined the elements from the two research streams mainly focused on curbing opportunism in IJVs (e.g., Ali and Larimo 2016), making this research relevant in advancing the understanding of IJV management mechanisms that improve performance.

We assume that generating IJV performance insights from structural and relational perspectives simultaneously can provide a more complete understanding of the IJV management mechanisms that improve performance. On this basis, our study has two aims: first, to integrate the IJV management mechanisms from TCT and SET in order to gain a more complete understanding of IJV management mechanisms that improve performance, and second to examine which theoretical perspective is more effective in enhancing IJV performance. More specifically, this study aims to answer the following two central questions. First, what are the performance effects of structural and social mechanisms of IJV management? Second, what is the relative significance of structural and social mechanisms in improving IJV performance? The resolution to the second aim is expected to extend our understanding by portraying a comprehensive picture of relative effectiveness of these mechanisms. While some (such as Das & Rahman, 2010; Hennart & Zeng, 2005; Luo, 2007a; Parkhe, 1993; Zhang & Rajagopalan, 2002) argue that structural mechanisms matter more than social mechanisms, others argue the opposite (Boersma, Buckley, & Ghauri, 2003; Kausher & Shaw, 2004; Shahzad et al., 2018). With such a dichotomous focus on either the structural mechanisms or the social mechanisms for managing IJVs, the literature provides contradictory advice to IJV managers. The empirical comparison of these two types of mechanisms

provided in this study not only helps us to understand the relative contributions of these mechanisms to IJV performance but also clarifies the contradictory and conflicting views resided in prior literature.

This study makes two contributions. First, related to performance effects of IJV management mechanisms, we extend the existing literature by analysing an integrated and extended framework of improving IJV performance. We consider this an important contribution because earlier studies have investigated a limited number of mechanisms, such as trust and equity share (Ali & Khalid, 2017; Hodl & Puck, 2014; Mohr, 2007). To our knowledge, this is the first study that empirically investigates the performance effects of six (i.e. symmetric dependence, symmetric equity share, resource complementarity, trust, communication and cultural adaptation) distinct management mechanisms of IJV. Second, we also extend previous research on IJV management by empirically testing the relative significance of structural and social mechanisms in determining IJV performance. The study's findings generally support our argumentation that social mechanisms of IJV management are relatively more effective at enhancing IJV performance. This clarifies the contradictory and conflicting views resided in prior literature.

2. Theoretical background and research hypotheses

2.1. Performance of the IJV

Previous research lacks consensus in defining IJV performance, and therefore, the choice of performance measures is an often-debated issue (Bener & Glaister, 2010; Ren, Gray, & Kim, 2009). Nielsen (2007) reviewed prior empirical studies on IJV performance and found that it is measured using objective or subjective measures. The objective measures of IJV performance

include profitability, growth and cost position, survival, duration, ownership stability, and renegotiation of IJV contracts. However, Nielsen (2007) cautioned that the use of objective measures may be problematic, because IJV performance is not evaluated against its own objectives. For example, survival, duration, ownership stability, or renegotiation of IJV contract assume that IJV termination, shorten life, and ownership and contract instability reflect poor performance. However, instead of being an indicative of poor performance, these cases may actually signal success because some IJVs may be (early) terminated because of achieving their goals and objectives or some IJVs may be instable (i.e., changes in ownership and contract) due to an appropriate response to changing environmental conditions (Ren et al., 2009). Furthermore, objective financial data do not reflect the 'hard-to-quantify' IJV goals (e.g., learning a new technology, blocking a competitor, gaining experience etc.) on one hand (Nielsen, 2007), and are frequently unavailable on the other hand due to its sensitive nature and its lack of separation from corporate data (Ren et al., 2009).

To deal with the preceding difficulties associated with objectives measures, researchers have turned their attention towards using subjective measures of IJV performance. The subjective measures usually involve rating the managers' perceptions of how effective a given IJV is at meeting its goals and include such as satisfaction from the parent firms of the overall performance, enhancement of the firm's learning, and the achievement of strategic goals (Krishnan, Martin, & Noorderhaven, 2006; Nielsen, 2007) to name a few. However, the subjective measures pertain to the overall achievement of IJV goals as compared to individual performance goals. In line with this, Bener and Glaister (2010) argue that subjective measures are a more direct measure of IJV performance because the respondents are aware of the goals of the IJV and are therefore able to assess the performance of the IJV in light of these goals. Hence, similar to the subjective approach

used and recommended by prior studies (Ali & Khalid, 2017; Geringer & Hebert, 1991; Krishnan et al., 2006; Lane, Salk, & Lyles, 2001), the approach used by this paper evaluates IJV performance by measuring the parent firm's satisfaction with overall performance, profitability, market share, and achieving the goals set for the IJV.

2.2. Transaction cost theory of structural mechanisms and IJV performance

Transaction cost theory (TCT) is an economic theory developed by Coase (1937) and further advanced by Williamson (1985) and Hennart (1988). While TCT has been widely used in research on 'entry mode choice', including the choice of IJVs (Brouthers & Hennart, 2007), other studies have extended it to investigate how partners ensure the management of IJVs after their formation (Ali & Larimo, 2016; Zeng, 1998). TCT assumes that opportunism is an inherent factor in IJV partnerships and therefore provides important insights into how partners should structure their IJV to promote effective management (Hennart & Zeng, 2005; Zeng, 1998). As an extension to our previous framework in the literature (cf. Ali & Larimo, 2016) and following other existing studies (Das & Rahman, 2010; Hennart & Zeng, 2005; Zhang & Rajagopalan, 2002), this study explores the structural mechanisms of symmetric dependence, symmetric equity share, and resource complementarity and derives hypotheses in the following section.

2.2.1. Symmetric dependence

A central tenet of TCT is symmetric dependence. According to TCT, partner firms invest specific assets (e.g., site of IJV, core technology, distribution channels, and trained labor) in IJVs. Such specific assets are specialized investments to an IJV and therefore have less value outside the IJV (Williamson, 1985). According to Shahzad et al. (2020), equal investment by partners in specific assets results in symmetric dependence creation. Therefore, following Ali and Larimo (2016) and

Ybarra and Turk (2009), our study defines symmetric between the IJV partners as the extent to which each partner contributes equal levels of specific assets to the IJV.

Previous research proposes that symmetric dependence inhibits the partners' opportunistic behavior because both partners will lose the actual value of their specific assets if the relationship ends prematurely (Das & Rahman, 2010; Hennart & Zeng, 2005). In other words, symmetric dependence between IJV partners is a control mechanism that makes it costly for either partner to cheat in IJVs and therefore promotes cooperation (Ali & Larimo, 2016; Zeng, 1998). Other authors for example, Zhang and Rajagopalan (2002) also report symmetric dependence as a credible threat that enhances pay-offs from the IJV. Furthermore, Zeng (1998) argues that transaction-specific assets are more productive than general assets in an IJV; therefore, the resulting symmetric dependence between IJV partners leads to better IJV performance. Other scholars (e.g., Dyer & Chu, 2011; Parkhe, 1993) mention that symmetric dependence not only reduces the partners' exploitative tendencies but also promotes goal congruence between IJV partners and acts as a symbol of mutual commitment to the continuity and success of the IJV. Empirically, Parkhe (1993) and Zeng (1998) validate that symmetric dependence in IJVs has a positive relation with IJV performance. Therefore, we hypothesize the following:

H1: The symmetric dependence between IJV partners is positively associated with IJV performance.

2.2.2. Symmetric equity share

Equity share by each partner in the IJV is an important structural mechanism that defines the sharing of "strategic decision making", "risks", and "profits" between IJV partners (e.g., Hsieh, Rodrigues, & Child, 2010; Liu, Vredenburg, & Steel, 2014). Luo (2009) mentions that an IJV's

equity share is either symmetric (50–50% split) or asymmetric (majority-minority or vice versa). Symmetric equity share between IJV partners has been shown to be an effective force for alleviating interpartner conflicts (Luo, 2009), inhibiting the opportunistic behavior (Hsieh et al. 2010; Luo, 2009) and enhancing IJV performance (Bleeke & Ernst, 1991; Blodgett, 1991). Thus due to symmetric equity, partners protect their key investments and remain committed.

On the other hand, in asymmetric equity share due to low stake, the minority partner has lower potential risk and low switching costs and can easily be rather opportunistic (Hennart & Zeng, 2005; Liu et al., 2014). Madhok (1995) and Meschi and Riccio (2008) contrast with this and consider majority equity share and a dominant decision-making authority as a hefty incentive to outdistance minority partner and prevail their own interest. In both situations, asymmetric equity causes conflicts and begets opportunism in IJVs.

Therefore, we expect that symmetric equity between IJV partners will enhance IJV performance because there is likely to be fewer conflicts, less opportunism, a greater commitment to the IJV, joint decision making and profit sharing (Hsieh et al., 2010; Luo, 2009). Hence, we hypothesize the following:

H2: Symmetric equity sharing between IJV partners is positively associated with IJV performance.

2.2.3. Resource complementarity

According to TCT, factor market failures (such as lack of access to raw materials, components, labor, and knowledge) in host countries lead foreign firms to form IJVs with local firms in order to access complementary resources (Hennart, 1988; Hennart & Zeng, 2005). In TCT, resource complementarity implies that the resources contributed by each partner to the IJV are different and valued (Hennart, 1988), thereby providing a motivation for partners to form IJV.

Previous research suggests that resource complementarity is critical in two ways. First, it indicates the mutual necessity of each other's resources that makes it difficult for partner to operate the IJV without the other. Several studies highlight the importance of complementary resources. For example, Ali and Larimo (2016), Madhok (1995), Sarkar, Echambadi, Cavusgil and Aulakh (2001) connect it with mutual self-interest that forgoes opportunism.

Second, resource complementarity aligns partners' incentive for joint value creation by facilitating knowledge integration and reciprocal learning, thereby capacitating the IJV to perform better (Kwon, 2008; Madhok, 1995). Indeed, Fang and Zou (2009) argue that IJVs will terminate if both partners view their resources as no longer complementary. Empirically, Nielson (2007) and Zhang and Rajagopalan (2002) demonstrate that it effects positively on IJV performance.

Therefore, we may assume that resource complementary lessens the opportunism between IJV partners and aligns the partners' incentives for joint value creation in the IJV, thereby enabling the IJV to perform better. Hence, we develop the following hypothesis:

H3: The resource complementarity between IJV partners is positively associated with IJV performance.

2.3. Social exchange theory of social mechanisms and IJV performance

SET (Blau, 1964), analyzes social behavior in terms of the exchange of resources, has been used in studies related to inter-firm alliances, including IJVs (e.g., Das & Teng, 2002; Madhok, 1995). Blau defines social exchange as "voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others" (1964: 91). The essence of the theory is grounded on the strength of the relational ties. Trust between the partners arises when voluntary exchanges (such as IJV) are based on strong relational ties between partners. Previous

research (Deeds & Hills, 1998; Kale et al., 2000; Nooteboom, Berger, & Noorderhaven, 1997) report trust, communication and cultural adaptation as three social mechanisms that count for developing strong relational ties. These mechanisms help to manage the inter-partner relationships, and enhance IJV performance. In the following, these social mechanisms are explored in their relation to IJV performance, and hypotheses are derived.

2.3.1. Trust

In IJV, inter-partner trust relates to expectations/beliefs of the partner's reliability, fairness and goodwill (Dyer & Chu, 2011; Krishnan et al., 2006) and promotes exchange success (Blau, 1964). Considering the role of trust on these lines is a central premise of the SET. Trust leads to enhanced IJV performance by simultaneously decreasing cooperative costs and increasing cooperative benefits (Robson et al., 2008; Shahzad et al., 2018). First, trust decreases cooperative costs that are negatively related to IJV performance (Boersma et al., 2003; Nooteboom et al., 1997; Robson, Katsikeas, & Bello, 2008). Trusting partners expect economizing on the cooperative costs related to monitoring each other's possible opportunistic behavior as fairness, goodwill and reliability between the partners reduces the costs of the transactions. Hence, IJV performance can be considered to enhance when cooperative costs associated with monitoring each other's behavior are reduced.

Second, trust facilitates stronger ties necessary for superb performance (Madhok, 1995). The frequency of interaction between partners increases as mutual understanding proliferates. Jiang, Jiang, Cai, and Liu (2015) consider that closer intimacy results in higher attachment and commitments between partners resulting in strengthened relationship. Moreover, trust promotes sharing of knowledge, resources and information (Robson et al., 2008). Therefore, several studies have linked trust between

partners with positive performance (Bener & Glaister, 2010; Kwon, 2008; Nielsen, 2007; Silva, Bradley, & Sousa, 2012). Therefore we hypothesize the following:

H4: The trust between IJV partners is positively associated with IJV performance.

2.3.2. Communication

Communication between partners is a key social mechanism in IJVs. It is defined as “formal as well as informal sharing of meaningful and timely information between partners” (Silva et al., 2012: 295). The nature of the communication may range from operational information exchanges necessary for running the IJV to sharing of additional strategic information (Zeng, 1998). Silva et al. (2012) asserts that better communication shows the openness of IJV partners, and it aligns their perceptions and expectations, and Khorassani et al. (2011) state that it transfers knowledge between partners in an appropriate amount of time. It also decreases confusions and resolves problems between IJV partners, promotes close ties (Kwon, 2008), decreases opportunism and transaction costs (Dyer, 1997), and prepares partners to deal better with internal processes and external market conditions (Ali & Larimo, 2016). Another view in IJV literature emphasizes that communication as an important determinant of trust aligns partners’ perceptions and expectations, reduce misunderstandings, facilitates close ties, coordination and trust between partners (Khalid & Ali, 2017; Aulakh, Kotabe, & Sahay, 1996; Silva et al., 2012; Kwon, 2008; Morgan & Hunt 1994; Young-Ybarra & Wiersema 1999; Ybarra & Turk 2009).

Therefore, better communication between IJV partners has been found to be one of the most important factors in IJV success (e.g., Kim & Parkhe, 2009; Mohr & Puck, 2005). Ali, Larimo, and Nguyen (2017) analyzed 89 Nordic IJVs operating throughout the world and found that inter-

partner communication has a positive impact on IJV performance. Hence, we propose the following hypothesis:

H5: There is a positive relationship between interpartner communication and IJV performance.

2.3.3. Cultural adaptation

Cultural adaptation refers to “a firm’s awareness of cultural differences between it and its IJV partners, and effectively dealing with and managing these cultural differences” (Johnson, Cullen, Sakano, & Takenouchi, 1996: 985). Parkhe (1998) considers that SET advocates the IJV partners to adapt culturall, introduce intercultural awareness programs, and to encourage informal contacts. However, failure to adapt culturally with partners may lead to misunderstandings, creates conflicts (Sarker, 2000), reduces information sharing and learning between the partners and arises opportunism. This is because cultural adaptation enables the partners to share similar values, and a clan-like environment, follow goal congruence and minimizes opportunistic behavior. Child and Yan (2003) report that argue that cultural adaptation fosters coordination of activities and exchange of resources.

Kim and Parkhe (2009) analyzed 70 international strategic alliances of United States firms and found that cultural adaptation promotes better alliance performance. Their rationale for this finding is that cultural adaptation is a powerful catalyst toward overcoming cultural dissimilarity between partners and facilitating ongoing mutual learning, which promotes sound alliance outcomes. Likewise, Lane et al. (2001) and Mohr and Puck (2005) found that cultural adaptation has a positive impact on the performance of IJVs. Therefore, we expect that cultural adaptation enhances IJV performance as it promotes similar values and a clan-like environment, the exchange of resources,

the coordination of activities and goal congruence, and learning between IJV partners. Hence, we hypothesize the following:

H6. There is a positive relationship between interpartner cultural adaptation and IJV performance.

2.4. Relative importance of structural and social mechanisms

TCT argues that IJV partners will try to pursue their own interests at the substantial expense of the other partner and the IJV and that consequently, it is important to overcome the partners' opportunistic behavior. By erecting structural mechanisms in IJVs – symmetric dependence, symmetric equity share and resource complementarity, partners can reduce opportunism and ensure effective management of IJV (Ali & Larimo, 2016; Das & Rahman, 2010; Hennart & Zeng, 2005; Zhang & Rajagopalan, 2002) and positively influence IJV performance. In contrast, SET argues that IJV partners will tend to behave in a trustworthy manner because IJVs enjoy strong relational ties. The social mechanisms of trust, communication and cultural adaptation ensure the effective management of IJVs (Ali & Larimo, 2016; Deeds & Hill, 1998; Kale et al., 2000; Wathne & Heide, 2000) and enhance IJV performance. In conclusion, TCT and SET provide different suggestions for how partner firms should manage an IJV and enhance its performance.

Zeng (1998) suggests that although structural mechanisms can improve cooperation between IJV partners by preventing unintended spillover between them, they block open information and knowledge sharing between IJV partners, which are essential for the success of IJVs. Likewise, Liu, Luo and Liu (2009) argue that structural mechanisms lead to strategic rigidity in responding to changing environments that require quick and efficient response from IJV partners. However, social mechanisms revolve around the quality of inter-partner relationships where partners share information and knowledge (Madhok, 1995). Furthermore, Liu et al. (2009) argue that social

mechanisms facilitate quick response to changing environments because partners trust each other, share information and knowledge and have less friction with each other (Liu, Sinkovics, & Sinkocis, 2020; Madhok, 1995). Therefore, with superior social mechanisms in IJVs, partners are able to share information and knowledge effectively, withstand environmental uncertainties and address unseen problems collectively. These benefits are critical to the IJV's performance, and they cannot be generated by structural mechanisms. Hence, we hypothesize the following:

H7. Social mechanisms are more effective than structural mechanisms in improving IJV performance.

In sum, our proposed model is based on three structural mechanisms from TCT and three social mechanisms from the SET. The TCT based structural mechanisms are symmetric dependence, symmetric equity share, and resource complementarity. A set of social mechanisms consists of trust, communication, and cultural adaptation. Model links a positive relationship of TCT and SET mechanisms with the IJV performance. Furthermore, model also suggests that social mechanisms are effective for enhancing IJV performance than the TCT mechanisms (see Figure 1).

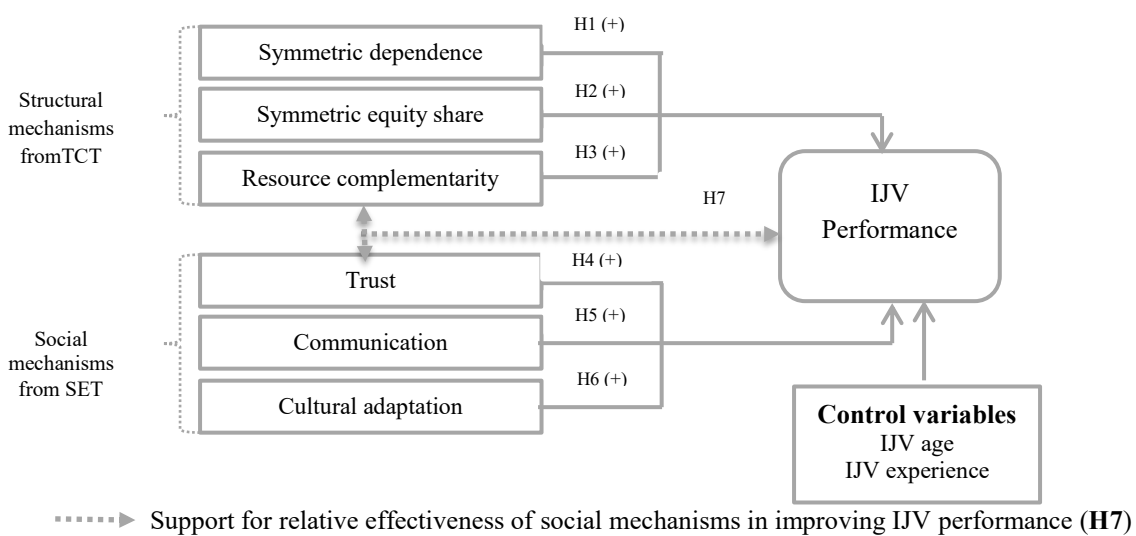


Figure 1. Hypotheses and model proposed

3. Methodology

3.1. Data collection

This study consists of Nordic (Denmark, Finland, Norway and Sweden) firms' IJVs operating in Asia, Europe and America. A list of potential IJVs was generated from the internal FDI database. This database is built from a variety of secondary sources (stock exchange news, press releases, company websites, Thomson One and annual reports) and has been updated continuously for the past three decades. In order to test the research hypotheses, the sample was confined to those IJVs which met the following criteria: firstly the IJVs have to be operating in the manufacturing sector; secondly one of the parents in the IJV has to be from Nordic countries; and thirdly the IJVs have to be formed between January 2000 to March 2011.

The third sampling screen was chosen because of following two reasons: 1) collecting reliable data for old IJVs (i.e. IJVs formed before January 2000) was very unlikely because respondents usually have hazy memories about the events happened far back in the past, and 2) since web-survey was administered in Spring 2012, collecting data for new IJVs (i.e. formed after March 2011) is not recommended because IJVs need a year to gain performance (Colak, 2007). Filtering the internal FDI databank according to the above three criteria resulted in 464 IJVs. In order to increase the response rate, we identified the key Nordic executives and their emails from the company websites, annual reports, and press releases and by directly contacting the human resource management directors of the Nordic firms. Respondents had intimate involvement in their IJV activities and occupied key positions within their organizations as product-specific directors, regional directors, country-specific directors, vice presidents and chief executive officers. Before sending the

questionnaire to identified respondents, pre-testing was done with research group members. Feedback led to minor changes to the sequence and wording of some questions.

The study used a web-based survey to collect the data (Dillman, Smyth, & Christian, 2009). To increase the response rate, personalized emails were sent with an embedded web-survey link and short text explaining the study. In this introductory text, respondents were guaranteed anonymity and offered a summary of the results. In total, out of the sample of 464 respondents, 89 completed questionnaires were received for 89 IJVs. This resulted in a response rate of 19.11 percent (89 of 464). The potential effect of non-respondent bias was controlled by comparing the early respondents (N 48) and late respondents (N 41) by running independent samples t-test (Armstrong & Overton, 1977). Because the groups did not differ significantly in terms of industry (p 0.548) and firm size (p 0.708) of the Nordic parent companies, we conclude that data is free of non-response bias. Additionally, no statistical significant differences were identified between groups of respondents (N 89) and non-respondents (N 375) while comparing industry (p 0.623) and firm size (p 0.715). It further endorsed that data is free of non-response bias. We also followed guidelines on questionnaire design and ran Harman's one-factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) to control the common method bias. Results showed that a single general factor did not account for most of the variance, and the first factor accounted 36.8 percent of the variance. Therefore, common method bias does not cause an issue in our analysis.

3.2. The sample characteristics

The sample comprises of 89 IJVs of Nordic firms that were formed between 2000 and 2011. Some 24 IJVs were formed between 2000-2003, 40 between 2004-2007, and 25 between 2008-2011. Of the 89 IJVs, 49 IJVs were operating in Asia, 27 in Europe, and 13 in America. The equity share of

Nordic parent firms was less than 50 percent in 24 IJVs (26.96 percent), equal in 19 IJVs (21.36 percent); and dominant in 46 IJVs (51.68 percent). Further, the Nordic parent firms had less than 500 employees in 13 cases; between 500 to 5,000 in 23 cases; and over 5,000 employees in 53 cases.

3.3. Measures

We used survey items adopted from prior studies (see Appendix A). Our four-item IJV performance (composite reliability 0.92) and five-item trust (composite reliability 0.97) scale were based on the prior empirical research on IJV performance (Geringer & Hebert, 1991; Krishnan et al., 2006; Lane et al., 2001) and inter-organizational trust (e.g., Ali & Larimo, 2016; Krishnan et al., 2006; Mohr & Puck, 2005; Morgan & Hunt, 1994). Following Silva et al. (2012), we measured communication by employing four items (composite reliability 0.97). Cultural adaptation was captured on a three-item scale (composite reliability 0.89) used by Johnson et al. (1996).

Level of symmetric equity between IJV partners was measured on following five categories: (1) equity difference is equal or larger than 26%; (2) 11–25%; (3) 3–10%; (4) 1–2%; (5) zero percent (Ali & Larimo, 2016). Symmetric dependence was conceptualized as the degree to which the partners have invested equivalent specific assets in the IJV. We measured both facets of each partner firm's dependence: size of investment and sunk cost (Zeng, 1998). Respondents were asked to indicate their equity share in IJV (used as proxy for the size of investment) and difficulty of redeploying resources outside the IJV (i.e. sunk cost). Both questions are scaled from 1 = very low to 5 = very high, and are collapsed into one to determine the dependence of the foreign partner. Similarly, respondents were asked to indicate their partner firm's equity share and difficulty of redeploying resources in the same manner as above. In order to determine the level of symmetric

dependence, a calculation was made by taking the absolute difference of the partners' dependence. Here, a score of zero indicated a perfectly symmetric dependence. Finally, two-item resource complementarity scale (composite reliability 0.96) was adopted from Ali and Larimo (2016). In addition to above variables, IJV age (i.e., number of years since the IJV was formed) and IJV experience (i.e., number of prior manufacturing IJVs) (Mohr & Puck, 2005) were included in our model as control variables because of their influence on IJV performance.

4. Analysis and results

4.1. Measure validation

Partial least squares structural equation modeling (PLS-SEM) in SmartPLS version 2.0 was utilized to test the hypotheses (Ringle, Wende, & Will, 2005). The PLS-SEM is appropriate for use in our study because of following two reasons. First, this study tests an explorative model (Chin, 1998; Hair, Ringle, & Sarstedt, 2011) with comparative hypothesis: whether structural or social mechanisms are more effective in explaining IJV performance. Second, PLS-SEM as compared to covariance-based SEM gives higher statistical power when dealing with a small sample size (Hair et al., 2011) that is a minimum of ten times the size of the number of independent variables affecting the dependent variable (Chin, 1998). Thus, our research model can be estimated using a sample size of $n \geq 60$, as we have six independent variables (Chin, 1998). This is relevant as our final sample size is only 89 IJVs.

Although measurement and structural models are estimated simultaneously by PLS-SEM, we analyzed and interpreted the models in two stages (Hulland, 1999). First, the quality of the measurement model was assessed based on individual-item reliabilities, composite reliability, and

the convergent and discriminant validity (Chin, 1998; Hair et al., 2011). Second, then the structural model was tested. As shown in Table 1, loading of individual items on their respective latent variables was above the recommended level of 0.7 (Gotz, Liehr-Gobbers, & Krafft, 2010). It indicates that all variables have a high degree of individual item reliability.

Table 1
Individual item loadings and composite reliability.

Constructs	Items	Loadings	Composite reliability
Symmetric dependence	1	1	1
Symmetric equity share	1	1	1
Resource complementarity	1	0.955	.96
	2	0.962	
Trust	1	0.912	.97
	2	0.921	
	3	0.937	
	4	0.938	
	5	0.950	
Communication	1	0.974	0.97
	2	0.962	
	3	0.882	
	4	0.951	
Cultural Adaptation	1	0.872	0.89
	2	0.832	
	3	0.861	
IJV performance	1	0.910	.92
	2	0.890	
	3	0.794	
	4	0.873	

The construct reliability was tested by means of composite reliability and all found values are above the recommended level of 0.6 (Gotz et al., 2010). Thus, we conclude that all of the constructs demonstrate good reliability (see Table 1).

We also calculated the average variance extracted (AVE) to check the convergent validity of the reflective block of the model (see Table 2). All our latent constructs have greater values of AVE than the recommended minimum level of 0.5 (Fornell & Larcker, 1981). For that reason, all the

latent constructs demonstrate sound convergent validity. The AVE can also be used to assess the discriminant validity. Fornell and Larcker (1981) and Gotz et al. (2010) suggest that in order to prove discriminant validity, the square roots of the AVE of the latent variables should be greater than the correlations between the latent variables. Table 2 demonstrates that the square root of AVE for each one of our latent constructs is greater than the correlations between the latent variables, ensuring discriminant validity.

Table 2

Inter-construct correlations, AVE, and square roots of AVE along the diagonal.

Constructs	AVE	1	2	3	4	5	6	7	8	9
1. Symmetric dependence	1	1								
2. Symmetric equity share	1	0.43	1							
3. Resource complementarity	0.92	0.23	0.09	0.96						
4. Trust	0.87	0.17	0.07	0.67	0.93					
5. Communication	0.88	0.11	0.06	0.40	0.65	0.94				
6. Cultural adaptation	0.73	0.13	0.04	0.45	0.64	0.53	0.85			
7. IJV performance	0.75	0.36	0.12	0.52	0.54	0.51	0.46	0.87		
8. IJV age	1	0.14	0.07	-0.06	0.02	0.06	-0.02	0.06	1	
9. IJV experience	1	-0.01	0.14	0.04	0.11	0.12	0.08	0.15	0.02	1

4.2. Structural estimates

R² coefficient, path loadings (i.e., standardized β), and significance levels (Gotz et al., 2010; Hair et al., 2011) are used to evaluate the structural model. Table 3 indicates the results of the structural model. The R² for IJV performance in model 3 is 0.69, which suggests that the 69% of variance in the dependent variable of IJV performance is explained by independent variables. We used a bootstrapping method to test the statistical significance of structural relationships (Chin, 1998).

Table 3

PLS path analysis results (Standardized beta coefficients and t-values).

Model paths	Model 1	Model 2	Model 3	Accept Reject
H1: Symmetric dependence => IJV performance	0.30 (2.88)***		0.21 (2.16)**	Accept
H2: Symmetric equity share => IJV performance	-0.09 (0.78)		-0.06 (0.67)	Reject
H3: Resource complementarity => IJV performance	0.20 (2.12)**		0.23 (2.36)**	Accept

H4: Trust => IJV performance		0.31 (3.10)***	0.29 (2.93)***	Accept
H5: Communication => IJV performance		0.29 (2.96)***	0.26 (2.52)***	Accept
H6: Cultural adaptation => IJV performance		0.19 (2.11)**	0.22 (2.30)**	Accept
Control variables				
IJV age => IJV performance	0.06 (1.36)	0.08 (0.81)	0.08 (0.78)	Reject
IJV experience => IJV performance	0.14 (1.92)*	0.10 (0.98)	0.13 (1.74)*	Accept
Construct R²	IJV	IJV	IJV	
	Performance =	Performance =	Performance =	
	0.42	0.54	0.69	

* $p \leq 0.1$, ** $p \leq 0.05$, *** $p \leq 0.01$

Model 3 is used to examine the impact of social and structural mechanisms on IJV performance. Hypothesis H1, which predicted that symmetric dependence has a positive impact on IJV performance, was supported ($b = 0.21$; $p < 0.05$). Hypothesis H2, which predicted that symmetric equity share positively effects the IJV performance, is non-significant and has a reversed sign ($b = -0.06$; $p > 0.1$). Hence, H2 is not supported. In accordance with expectation, H3 is supported, showing that there is a positive effect of resource complementarity on IJV performance ($b = 0.23$; $p < 0.05$). Supportive findings for H4 ($b = 0.29$; $p < 0.01$) indicate that trust has a positive effect on IJV performance. Hypothesis H5, concerning the positive effect of communication on IJV performance, is also supported ($b = 0.26$; $p < 0.01$). The results for H6 ($b = 0.22$; $p < 0.05$) support the notion that cultural adaptation has a positive effect on IJV performance.

To test hypothesis H7, we compared the relative powers of social and structural mechanisms in explaining IJV performance (e.g., Liu et al., 2009). First, taking “IJV performance”, for example, we can obtain ΔR^2 as follows from the regression results of Model 1, Model 2, and Model 3:

$$\begin{aligned}\Delta R^2_{\text{Model 3-Model 1}} &= R^2_{\text{Model 3}} - R^2_{\text{Model 1}} = .69 - .42 \\ &= .27\end{aligned}$$

$$\begin{aligned}\Delta R^2_{\text{Model 3-Model 2}} &= R^2_{\text{Model 3}} - R^2_{\text{Model 2}} = .69 - .54 \\ &= .15\end{aligned}$$

Here, $\Delta R^2_{\text{Model 3-Model 1}}$ shows the proportion of the variance of IJV performance that the social mechanisms explain. $\Delta R^2_{\text{Model 3-Model 2}}$ shows the proportion of the variance of IJV performance that structural mechanisms explain. Since $\Delta R^2_{\text{Model 3-Model 1}} > \Delta R^2_{\text{Model 3-Model 2}}$, we can conclude that social mechanisms are more effective in improving IJV performance than structural mechanisms. Therefore, hypothesis H7 is supported. Related to the control variables, the IJV age is not significantly related to IJV performance ($b = 0.08$; $p > 0.1$), whereas IJV experience is positively related to IJV performance ($b = 0.13$; $p < 0.1$). Thus, prior IJV experience seems to improve the management of the IJVs and therefore leads to higher IJV performance, supporting the findings by Meschi (2004).

5. Discussion and implications

Due to their growing strategic importance in fierce global competition, IJVs have received considerable research attention from international business (IB) scholars. However, despite their popularity and potential benefits, the embedded characteristics of IJVs, such as shared equity and decision-making, different and sometimes conflicting objectives, culture and structures of partner companies, make it difficult to manage due to their complex nature. Therefore, IJVs are reported to have higher failure rates (Dan & Zondag, 2016; Piaskowska et al., 2019). Although many factors may contribute to the success of IJVs, a robust stream of literature underpins the importance of IJV management mechanisms in understanding the performance of IJVs (Ali & Larimo, 2016; Bener & Glaister, 2010; Hennart & Zeng, 2005; Mohr & Puck, 2005). However, in this research stream, two different theories, TCT and SET, have yielded different insights into effective management mechanisms of IJVs that can improve IJV performance. Responding to the call of this small but growing stream of research, this paper develops and empirically examines an integrated framework

of improving IJV performance, which includes both structural and social mechanisms of IJV management.

Thus, building on earlier works by Ali and Larimo (2016), Bener and Glaister (2010), Hennart and Zeng (2005) and Mohr and Puck (2005), this study extends our understanding of the relationship between social and structural mechanisms and IJV performance. Whereas prior studies (Ali & Khalid, 2017; Hodl & Puck, 2014; Mohr, 2007) mainly examined the performance effects of two types of IJV mechanisms, trust and equity share, the present study examines the performance effects of six distinct mechanisms of IJV management. Furthermore, this study contributes to the understanding of the relative role of both social and structural mechanisms in determining IJV performance. The dichotomous focus of prior studies on either the structural mechanisms (e.g., Hennart & Zeng, 2005) or the social mechanisms (Kauser and Shaw, 2004) to manage the IJVs provides contradictory advice to the IJV managers. However, the present study investigates the relative contribution of these mechanisms in explaining IJV performance.

Consistent with TCT and earlier research, symmetric dependence (e.g., Hennart & Zeng, 2005; Parkhe, 1993; Zeng, 1998; Zhang & Rajagopalan, 2002) and resource complementarity (e.g., Hennart & Zeng, 2005; Nielsen, 2007; Zhang & Rajagopalan, 2002) come up as important structural mechanisms enhancing the IJV performance. However, symmetric equity share does not count in enhancing IJV performance. This is contrary to the results in the existing literature such as Bleeke and Emst (1991), Hsieh et al., (2010) and Luo (2009) who have considered symmetric equity share pertains to equal influence from both the partners in decision making, voicing out concerns regarding opportunism and in making accommodations to the IJV to protect partners' investments.

One possible explanation is that IJV partners may consider symmetric equity share not directly related to performance but rather use it to safeguard their own stakes and interests in the IJV. In doing so, partners may reduce flexibility and spend more effort in building mutual consensus (Ali & Larimo, 2016) on each other's actions to justify their equity share. This may divert their attention from performance to safeguarding their own interests as they are equal partners, which may result in reduced performance despite a symmetric equity share.

Second, among the social mechanisms of SET, trust, communication and cultural adaptation enhance IJV performance. These findings are consistent with SET and correspond to earlier research that suggests that trust (e.g., Bener & Glaister, 2010; Kwon, 2008; Nielsen, 2007; Silva et al., 2012), communication (e.g., Ali et al., 2017; Kauser & Shaw, 2004), and cultural adaptation (e.g., Kim & Parkhe, 2009; Lane et al., 2001; Mohr & Puck, 2005) all enhance IJV performance. Most notably, a comparison of TCT and SET mechanisms reveals that social mechanisms enhance IJV performance more profoundly than structural mechanisms. Again, we contend that structural mechanisms may be more important for reducing opportunism than enhancing IJV performance (Liu et al., 2009). Social mechanisms, on the other hand, enable IJV partners to share information and knowledge effectively, withstand environmental uncertainties and address unseen problems collectively. These collective efforts enhance IJV performance. More specifically, the relative significance of social mechanisms is further reaching than it might initially appear to be. Firms expend more resources (financial, human and time) setting up structural mechanisms to protect their stake in an IJV, hoping that these mechanisms will also enhance performance. However, structural mechanisms are not the best means of enhancing IJV performance in every culture in the world. Some cultures are relationship oriented and conduct business based on relationships, which eventually leads to better performance (Cavusgil, Ghauri, & Akcal, 2013). In our sample, a larger

proportion of the IJV partners were from the Asian region and had formed IJVs with Nordic European firms. Both cultures acknowledge tradition, values and relationship building between partners (Ghauri & Usunier, 2003; Rumpunen, 2011); hence, partners from these cultures give more attention to social mechanisms.

5.1. Managerial implications

Here, we advance some practical suggestions for managers dealing with IJV operations across borders. First, partners in better-performing IJVs are more likely to have symmetric dependence because those partners are less inclined towards self-interest and more inclined towards mutual commitment to achieving IJV goals and objectives. Second, IJVs perform better when partners invest complementary resources as they provide the basis for value creation in IJVs and develop interpartner cooperation because each partner needs the other's resources. Third, IJV partners in a trusting relationship avoid the extra costs of transaction, and they openly share information, knowledge and resources, which leads to sound IJV performance. Fourth, better interpartner communication improves IJV performance because it coordinates partners' perceptions and expectations, minimizes misunderstandings, promotes close ties free of appropriation concerns, encourages information and knowledge exchange, and enables partners to cope better with internal processes and external market conditions. Fifth, cultural adaptation between IJV partners enhances IJV performance. By nurturing similar values and promoting goal congruence and coordination of IJV activities and thereby makes the IJVs perform better. Finally, our study suggests that social mechanisms, in the form of trust, communication and cultural adaptation, enhance IJV performance more profoundly than structural mechanisms. However, this finding does not mean that managers should not employ structural mechanisms in IJVs; on the contrary, managers should employ IJV structural mechanisms that support social mechanisms.

5.2. Limitations and further research

We acknowledge some limitations of the present study. Instead of responses from only one partner in an IJV, we suggest collecting data from both parent firms to avoid unidirectional bias. Similarly, our sample is restricted to Nordic countries IJVs so caution should be exercised in generalizing the findings to other countries or regions. For this purpose, future research can go beyond the Nordic sample in order to provide the expanded generalizability of results. For future research, we suggest investigating the combined role of social and structural mechanisms in reducing opportunism and enhancing IJV performance. This would deepen our understanding of the relative effectiveness of social and structural mechanisms in simultaneously reducing opportunism and enhancing IJV performance. As the objectives of this study were to investigate different types of management mechanisms in order to understand the relative contribution of these mechanisms to IJV performance, we suggest that future research should be directed to tease out more complex relationships between constructs, e.g. communication as an antecedent and/or determinant mechanism facilitating trust and IJV performance as well as the role of trust in curbing IJV opportunism. Furthermore, trust has been discussed in various theoretical streams representing different theoretical frameworks, we suggest future research to systematically review and explore trust drawing on various streams as we expect the existence of a bidirectional causal relationship between trust and IJV performance. The relationship between trust and IJV performance is more complex than the commonly presented unidirectional influence of trust on IJV performance (Mohr & Puck, 2013). In this regard, longitudinal research setting will provide strong evidence of this notion; trust as antecedent and consequence of IJV performance. Further, future research should measure ownership as a continuous variable and investigate ownership-performance relationship to find an optimal level of ownership that enhances IJV performance.

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Appendix A. Constructs under study

Constructs	Questions	Item source (s)
Trust	Please indicate your level of agreement with the following statements: (strongly disagree 1-5 strongly agree) 1) In our IJV, the partner firm can be relied on to move our joint project forward 2) In our IJV, we are confident that our partner firm will not take advantage of us 3) In our IJV, the partner firm is always ready and willing to offer us support beyond the IJV agreement 4) In our IJV, the partner considers our firm's welfare alongside its own while making important decisions 5) Based on experience in our IJV, we know that our partner can be completely trusted	Item 1: Morgan and Hunt (1994) Item 2: Krishnan et al. (2006) Item 3: Ali and Larimo (2016) Item 4: Mohr and Puck (2005) Item 5: Morgan and Hunt (1994)
Communication	Regarding communication between you and your IJV partner, please indicate your level of agreement with the following statements: (strongly disagree 1–5 strongly agree)	Silva et al. (2012)

	<ol style="list-style-type: none"> 1) IJV partners always keep each other informed about events\changes that may affect other party or IJV 2) IJV partners promptly notify each other about relevant information that may affect other party or IJV 3) Exchange of information between IJV partners takes place frequently 4) IJV partners get clear information from each other that may affect the other party or IJV 	
Cultural adaptation	<p>Cultural adaptation (strongly disagree 1–5 strongly agree)</p> <ol style="list-style-type: none"> 1) Our firm makes deliberate efforts to understand the ways our partner does things 2) Our firm makes necessary adjustments to the partner's way of doing things 3) Our firm makes special efforts to implement those customs and strategies in IJV with which partner firm agrees 	Items 1-3: Johnson et al. (1996)
Resource complementary	<p>Resource complementarity (Very low 1–5 very high)</p> <ol style="list-style-type: none"> 1) Extent to which resources and competencies brought by each partner to IJV are different? 2) Extent to which resources and competencies brought by each partner to IJV are complementary for accomplishing the IJV goals? 	Ali and Larimo (2016)
Symmetric dependence	<p>Items measuring dependence of foreign firm:</p> <ol style="list-style-type: none"> 1) Foreign firm's size of investment in IJV (ownership share taken as proxy for the size of investment) [5–19 % (1= very low), 20–38 (2= low), 39–57 (3= average), 58–76 (4= high), 77–95 (5= very high)] 2) If the IJV ends in conflict, the difficulty your firm would have in redeploying your resources (i.e. people and facilities) presently serving the IJV to other uses would be (Very low 1–5 very high) <p>Items measuring dependence of local firm:</p> <ol style="list-style-type: none"> 1) Local firm's size of investment in IJV (ownership share taken as proxy for the size of investment) [5–19 % (1= very low), 20–38 (2= low), 39–57 (3= average), 58–76 (4= high), 77–95 (5= very high)] 2) If the IJV ends in conflict, the difficulty your partner firm would have in redeploying his resources (i.e. people and facilities) presently serving the IJV to other uses would be (Very low 1–5 very high) <p>Symmetric dependence:</p> <p>Level of symmetric dependence between IJV partners (i.e. difference between dependence of local and foreign partner) [$\leq 3= 5$, $4-8=4$, $9-13=3$, $14-18=2$, $19-24=1$]</p>	Adopted and modified from Zeng (1998) and Reuer and Arino (2002)
Symmetric equity share	Ratio of equity differences between the IJV partners (5= 0%, 4 = 2%, 3 = 3–10%, 2 = 11–25%, and 1 = equal or larger than 26%)	Ali and Larimo (2016)
IJV performance	<p>How satisfied is your firm with the performance of the IJV in terms of: (Very unsatisfied 1–5 very satisfied)</p> <ol style="list-style-type: none"> 1) Overall performance, 2) Profitability, 3) Market share, 4) Achieving the goals set for IJV 	<p>Items 1, 2 and 4: Geringer and Hebert (1991), Krishnan et al. (2006) and Lane et al. (2001)</p> <p>Item 3: Geringer and Hebert (1991) and Lane et al. (2001)</p>