Competitive paper submission for the 32nd Annual IMP Conference, Poznan, Poland

BOUNDARY BEHAVIOR, INTER-ORGANIZATIONAL LEARNING AND PURCHASING PERFORMANCE

Anni Rajala
University of Vaasa, Department of Management
Vaasa, Finland
arajala@uva.fi
phone: +358 504420715

Jukka Vesalainen
University of Vaasa, Department of Management
Vaasa, Finland
jve@uwasa.fi
phone: +358 505625048

Anne-Maria Holma
University of Vaasa, Department of Management
Vaasa, Finland
aholma@uwasa.fi
phone: +358 294498478

Abstract

The study investigates the relationships between boundary behavior, interfirm learning practices and purchasing performance. We introduce boundary behavior as one important dimension of purchasers' set of capabilities for effective inter-organizational interaction and study if it has a role in the mechanisms generating purchasing performance. We particularly test the indirect effect of boundary behavior to purchasing performance mediated by inter-organizational learning practices. The results show that relational boundary behavior and hierarchical boundary behavior are positively associated with inter-organizational learning behavior, and indirectly influence on purchasing performance. Market-oriented boundary behavior, again, was not found to have any direct or indirect effect on purchasing performance.

INTRODUCTION

The conduct of buyer firm's boundary role persons (BRPs) or people working in buying centers are crucial for purchasing performance. Purchasing performance has been studied from various angles. For example, Janda and Seshadri (2001) studied the effects of purchasing strategies on performance, Úbeda et al (2015) studied purchasing models and organizational performance, and Mady et al (2014) examined the interplay between manufacturer-supplier relationships and purchasing performance. However, there seems to be a lack of research examining the effects of different operating and behavior styles on purchasing performance. In this study, we make an attempt to study purchasing performance from a new perspective by introducing boundary behavior as an important antecedent for inter-organizational learning practices and further to purchasing performance. We define boundary behavior as a dimension of boundary role persons' collaborative capabilities. It relates to the communication style of a BRP in various episodes of interaction with suppliers' representatives. As a communication style boundary behavior refers to the *rhetoric* purchasers' use when interacting with suppliers. In this study, the rhetoric that colors purchasers' communication is defined as (i) competitive (or market-oriented), (ii) hierarchical and (iii) relational, thus following the principles of multi-dimensional governance mechanisms (Adler, 2001; Bradach & Eccles, 1989; Ritter, 2007).

Inter-organizational learning has a strong position amongst the mechanisms that explain relationship specific or relationship-driven organizational performance. In prior empirical studies inter-organizational learning has been treated as an antecedent (e.g. Cheung, Myers, & Mentzer, 2011; Fang, Fang, Chou, Yang, & Tsai, 2011; Yang & Lai, 2012), as a mediator (e.g. Chang & Gotcher, 2010; Cheung, Myers, & Mentzer, 2010; Johnson & Sohi, 2003; Selnes & Sallis, 2003), as a moderator (e.g. Kohtamäki & Partanen, 2016; Leal-Rodriguez, Roldan, Leal, & Ortega-Gutierrez, 2013; Vanneste & Puranam, 2010), and as an outcome (e.g. Kohtamäki & Bourlakis, 2012; Lane & Lubatkin, 1998). In this study, we treat inter-organizational learning as a mediator through which boundary behavior is hypothesized to have an effect on purchasing performance.

A handful of studies address multi-dimensional governance mechanisms as antecedents for learning and performance (Bångens & Araujo, 2002; Hammervoll, 2012; Kohtamäki, 2010). These studies have confirmed that governance mechanisms have effect on inter-organizational learning. Hammervoll (2012) viewed governance mechanisms as forms of inter-organizational management and found that relational management is an important determinant for inter-organizational learning. Kohtamäki (2010) found that combinations of three governance mechanisms produce the best

learning outcomes and Bångens and Araujo (2002) also found these governance mechanisms to exist parallel and representing different roles in the learning process. In addition, Mohr and Sengupta (2002) emphasize the role of governance mechanism in interfirm learning, they suggest that appropriate governance mechanism must match the learning intentions (accessing knowledge, knowledge internalization) in order to maximize the benefits of learning and minimize possible risks of it. These studies confirm the relevance of governance mechanisms as an important antecedent for inter-organizational learning. However, these studies have viewed governance mechanisms as tools of management in governing relationships. In this study we approach governance from the communication perspective and measure boundary behavior as an individual level activity (the individual level results are aggregated into firm level behavioral orientations in the analysis phase). By doing this, we aim to examine how different behavioral forms affect inter-organizational learning practices and further purchasing performance. Drawing on inter-organizational learning theory and relationship governance theory, we hypothesize that different behavioral forms enhance (relational behavior and hierarchical behavior) or weakens (competitive behavior) inter-organizational learning which again enhances purchasing performance.

This research contributes to the current knowledge of the mechanisms generating useful inter-organizational interaction and as a consequence of that relationship specific or relationship-driven organizational performance. We assume that the way individual BRPs communicate in various episodes of interaction with suppliers do have an effect on the relationship atmosphere in general and specifically on the learning practices realized. The rhetorical perspective of inter-organizational communication is understudied and we aim to fulfill this evident gap in the knowledge. This study also provides insights of the effects of inter-organizational learning on purchasing performance. Even though the prior research has showed the positive effects of relationship learning on business performance (Liu, 2012), relationship performance (Jean & Sinkovics, 2010; Johnson & Sohi, 2003; Lai, Pai, Yang, & Lin, 2009; Ling-yee, 2006; Liu, 2012; Selnes & Sallis, 2003; Y. Zhao & Wang, 2011), and alliance performance (Emden, Yaprak, & Cavusgil, 2005), little is known on the effects of inter-organizational learning on purchasing performance.

This paper is structured as follows, next section introduces the hypothesized model following by reviewing the relevant literature of boundary behavior, inter-organizational learning, and purchasing performance. After that the logic behind the hypothesized model is presented and hypotheses are developed. Then the method and measures are introduced, and after that results are presented. Finally,

the main findings and contributions are presented in the discussion section following by managerial implications, limitations of the study and suggestions for future research.

LITERATURE REVIEW AND RESEARCH FRAMEWORK

Boundary behavior as collaboration capability

Boundary spanning individuals are firm's personnel who act as exchange agents between the organization and its external environment (Adams, 1980). The individual employees hold boundary spanning capabilities that are important in facilitating cooperation across the organization's boundaries and in managing buyer-supplier relationships (Hald, 2012; Ireland & Webb, 2007; J. J. Zhang, Lawrence, & Anderson, 2015). These competencies need to be assessed and exploited by the employer to become firm-level assets. In buyer-supplier relationships, purchasing managers of a customer firm play an important role, for example in building trust and enhancing supplier investment (C. Zhang, Viswanathan, & Henke, 2011; J. J. Zhang et al., 2015). Purchasing managers need the knowledge and skills that enable them to competently carry out their responsibilities (Doney & Cannon, 1997). A number of different purchasing skills have been listed in prior research. Giunipero and Pearcy (2001), for example, have rated the five most important skills: interpersonal communications, ability to make decisions, ability to work in teams, negotiations, and customer focus. These skills are related to behavioural competences, and they reflect the interactive nature of purchasing function and its boundary spanning role. Especially communication has been noticed to be an important relational competency, which promotes strategic collaboration among firms (Paulraj, Lado, & Chen, 2008). Zhang et al., (2015) highlight strategic communication as an important boundary spanning capability. In this study, we interpret purchasers' boundary behaviour as one important facet of their set of boundary spanning capabilities.

Boundary behavior is rooted in two theoretical views: the multiple goals approach to discourses and multidimensional governance theory. First, taking the multiple goals approach to discourses, we define boundary behavior as rhetoric by which purchasers as boundary role persons trying to influence on the representatives of suppliers, while pursuing their task-oriented goals. Rhetoric concerns the persuasion-oriented part of discourse (Heracleous & Marshak, 2004). Cheney et al. (2004), for example, define rhetoric as "*the conscious, deliberate and efficient use of persuasion to bring about attitudinal or behavioral change*". Rhetoric has a persuasive role in situations where a

credible source, clear evidence or background in logical support is missing (Cheney, Christensen, Condrad, & Lair, 2004). Referring to Aristotelian rhetoric – broadly defined as the art of persuasion (Aristotle, 1956), a task oriented goal in a conversation between a buyer and a seller can be boosted by emotional or other utterances in the discussion. A purchaser's persuasion tactics rely on psychological influence to convince or compel a supplier representative to assent to a negotiator's position and act accordingly. In Aristotelian terms, ethos, pathos and logos are the elements of persuasive communication. Ethos refers to the charisma of the speaker. Pathos is tone of the speech that appeals to the audience; the persuader has to anticipate the emotional state of the audience (Aristotle, 1956). In contemporary terms, pathos can be related to empathy or emotional intelligence (Demırdöğen, 2010). Logos describes the ways of how the speaker appeals to the intellect or to reason. It is dependent on the audience's ability to process information in logical ways; in order to appeal to the rational side of the audience; the persuader had to assess their information-processing patterns (ibid.). Jarzabkowski and Sillince (2007), in a study of top managers as influencers, emphasize the relationship between rhetoric and context, and the internal consistency of the rhetorical practices.

Recent theoretical developments have suggested adopting multidimensional interactions, highlighting the simultaneous appearance of governance or interaction modes (Bengtsson & Kock, 2000; Jap, 1999; Vesalainen & Kohtamäki, 2015; Zerbini & Castaldo, 2007). Multidimensionality usually manifests as a duality between cooperative and competitive behaviors (Bengtsson & Kock, 2000; Zerbini & Castaldo, 2007). The present study takes a wider perspective and defines three behavioral modes (or persuasion tactics) relevant for industrial purchasers by adding "hierarchical" as a third type of interaction. The relevance of the third type of interaction is grounded in general governance theory (Adler, 2001; Bradach & Eccles, 1989) suggesting three independent dimensions of governance: *hierarchical, competitive* and *relational.*

In this research firms' boundary behavior is measured by a novel instrument, which addresses buyer firm's boundary role persons' individual level communication within various interaction episodes with suppliers.

Inter-organizational learning

Relationship learning is defined as "a joint activity between a supplier and a customer in which the two parties share information, which is then jointly interpreted and integrated into shared relationship-

domain-specific memory that changes the range or likelihood of potential relationship-domain-specific behavior" (Selnes & Sallis, 2003, p. 80). Interaction school suggests that firms in a relationship are simultaneously affected and affect by each other in many ways (Håkansson & Shenota, 1995). Selnes and Sallis (2003) viewed relationship learning as a capability of the relationship which is in line with the relational governance perspective (e.g. Heide & John, 1990) where two parties collaborate and trust each other so as to secure or improve their business performance.

Selnes and Sallis (2003) identified three sub-processes of relationship learning within buyer-supplier relationships: information sharing, joint sense-making, and knowledge integration. Information sharing has been seen as a starting point and a necessary element of inter-organizational learning. Relationship parties need to share information in order to coordinate their collaboration and achieving the operational efficiency (Selnes & Sallis, 2003). Joint sense making varies across organizations, because they have different abilities to acquire information, some information might be rejected just because of the lack of ability to make sense of it (Selnes & Sallis, 2003). Selnes and Sallis (2003) argued that organizations develop relationship-specific memories into which acquired knowledge is integrated. Relationship-specific memory contains organizational beliefs, behavioral routines and physical artifacts (Selnes & Sallis, 2003). Relationship-specific memory has been seen as both individual- and organizational level construct. Relationship memories are manifested as physical artifacts, for example as documents, computer memories, programming. These sub-processes are widely used in inter-organizational learning literature (e.g. Chang & Gotcher, 2007; Cheung et al., 2010; Jean & Sinkovics, 2010; Kohtamäki & Bourlakis, 2012; Kohtamäki & Partanen, 2016; Leal-Rodriguez et al., 2013).

The perspective of *learning behavior* is also used in prior studies in group-level investigations (e.g. Edmondson, 1999; Gibson & Vermeulen, 2003) and also in inter-organizational investigations (e.g. Mu, Peng, & Love, 2008; Petruzzelli, Albino, Carbonara, & Rotolo, 2010). In the group-level studies learning behavior is defined through a cycle of learning activities: experimentation, reflective communication, and knowledge codification (Edmondson, 1999; Gibson & Vermeulen, 2003). First phase is experimentation, where a team generates ideas of potential improvements. Then a team must achieve a common understanding about the proposed solution. To achieve a common understanding, team members must combine their different views through a process of reflective communication. Finally, the knowledge needs to be translated into practices and actions through a process of knowledge codification. (Gibson & Vermeulen, 2003)

In addition, Petruzzelli et al. (2010) and Holmqvist (2009) defined learning behavior through exploration and exploitation, which is quite traditional way in organizational learning literature. In a similar vein, Emden, Yaprak, and Cavusgil (2005, p. 884) defined learning from experience as "the ability of the firm to perform behavioral actions to absorb and accumulate knowledge and skill portfolios from its past experience". We define inter-organizational learning as a cycle of learning activities, in accordance with Edmonson (1999) and Gibson and Vermeulen (2003). However, our conceptualization includes elements from both learning behavior and relationship learning literatures. We conceptualize inter-organizational learning through three phases: experimentation, reflective communication, and knowledge codification. In the experimentation phase a focal firm experiments new practices in supplier interface and overall aims to improve inter-organizational practices. In the reflective communication phase companies combine different views. A focal company discuss openly with supplier, and aims to get feedback that assists further improvements, in a similar vein as in joint sense-making process defined by Selnes and Sallis (2003). Knowledge codification phase is knowledge is transferred into practices and activities, this phase is adapted from both learning behavior and relationship learning literature.

Purchasing performance

Purchasing performance measures should follow organizational level strategy (Easton, Murphy, & Pearson, 2002). Easton et al. (2002) emphasized that purchasing performance should be measured from few different viewpoints, for example, costs of raw materials and total purchasing costs. Quality and delivery reliability are also seen important aspects of purchasing performance, but not as critical as purchasing costs/prices and purchasing total costs (Easton et al., 2002). Procurement performance can be also measured by delivery, quantity, cost, and quality performance (Mady et al., 2014).

Saranga and Moser (2010) studied purchasing and supply management performance through four different performance measurement approaches. The first approach is focused on performance drivers, which is argued to be similar to Easton et al. (2002). Purchasing performance measures are based on purchasing resources and their effects on company performance outcomes (Saranga & Moser, 2010). The second approach is based on purchasing performance outcomes that have been defined as cost savings, cross-functional collaboration, and supplier performance. The third view focuses on how purchasing performance effects can be measured as company outcome. The fourth,

and final, perspective tries to analyze all of these perspectives and their influences on company performance outcome. (Saranga & Moser, 2010)

Úbeda et al. (2015) presented a model that the maturity of purchasing influences on cost savings of an organization. Purchasing maturity is defined trough professionalism, sophistication, and advancement of a purchasing department (Úbeda et al., 2015). Further, purchasing maturity means how suppliers, strategies, people, practices, and communication are managed in a purchasing department (Úbeda et al., 2015).

In the current study, we adapted the argument of Easton et al. (2002) that purchasing performance measures should follow the corporate level strategy. That is why purchasing performance should not measure based on single year´s figures. Purchasing performance should be measured by taking account the development of the figures within three to five years.

Boundary behavior and inter-organizational learning

Previous studies have shown that combination of social and hierarchical governance mechanisms can enhance learning in organizational level (Adler, 2001; Kohtamäki, Vesalainen, Varamäki, & Vuorinen, 2006; Kohtamäki, 2010). Hernández-Espallardo, Rodriguez-Orejuela and Sándchez-Pérez (2010) studied the effects of governance mechanisms on inter-firm learning and performance from a supplier perspective, and conceptualize the governance mechanisms as monitoring, incentives, and social enforcement. They found that trust plays an important role in interfirm relationships. It does not only facilitate knowledge sharing in supply chains, but also effects directly on learning and supply chain performance. However, Hernández-Espallardo et al. (2010) viewed learning as knowledge acquiring from interfirm relationships and their study focused on suppliers interfirm learning. Hammervoll (2012) found that relational management in inter-organizational relationships is positively associated with different forms of learning. Håkansson et al. (1999) also emphasize the role of trust in learning. In addition, Hammervoll (2012) found that hierarchical management has less positive (or even negative) effect on different forms of inter-organizational learning. Also Hernández-Espallardo et al. (2010) concluded that monitoring is the less influential governance tool; client monitoring suppliers activities favors knowledge sharing and learning, but the effect is not as strong as trust has. In addition, Kohtamäki (2010) found that relationship learning requires trusting atmosphere but also a bit of pressure created by the customer. Also Janowicz-Panjaitan and Noorderhaven (2009) found in their theoretical analysis that both calculating behavior and trusting

behavior has an influence on inter-organizational learning. As the previous studies suggest, relational and hierarchical governance mechanisms have positive effects on inter-organizational learning, thus the positive effects should also be seen in practitioners' activities. Thus, it can be hypothesized following:

H1a. There is a positive relationship between relational boundary behavior and inter-organizational learning behavior.
H1b. There is a positive relationship between hierarchical boundary behavior and inter-organizational learning behavior.

Kohtamäki (2010) found that learning is lower level at market-governed relationships than in other types of relationships. Also Hammervoll (2012) argued that market management has less positive (or even negative) effect on different forms of inter-organizational learning. In addition, Mu, Peng and Love (2008) emphasis that weak ties helps firms to build initial relationships, while stronger ties assists to acquire higher-quality knowledge. Thus we hypothesize that:

H1c. There is a negative relationship between competitive behavior and inter-organizational learning behavior.

Inter-organizational learning and purchasing performance

Prior studies have confirmed the positive relationships between learning and performance. For example, intra-organizational learning and firm-level performance (Calantone, Cavusgil, & Zhao, 2002), joint venture learning and performance (Lane, Salk, & Lyles, 2001). Inter-organizational learning has been found to be positively associated with business performance (Liu, 2012) and relationship performance (Jean & Sinkovics, 2010; Johnson & Sohi, 2003; Lai et al., 2009; Ling-yee, 2006; Liu, 2012; Selnes & Sallis, 2003; Y. Zhao & Wang, 2011). Relationship performance has been defined as the extent to which supplier is satisfied with the effectiveness and efficiency of the inter-organizational relationship (Jean & Sinkovics, 2010). Efficiency (i.e. doing thigs in the right way) of the relationship is defined as cost control: lower costs and lower prices (Jean & Sinkovics, 2010; Selnes & Sallis, 2003). Effectiveness (i.e. doing the right things) refers to the extent which relationship parties consider the relationship worthwhile, productive, and satisfying (Jean & Sinkovics, 2010; Liu, 2012; Selnes & Sallis, 2003). In addition, prior studies have shown that organizations that take advantage of learning opportunities and who engage in continuous learning

are more capable in achieving positive performance outcomes (Emden et al., 2005). However, there is a lack of purchasing performance perspective in the prior inter-organizational learning studies. Purchasing performance measures should follow organizational level strategy (Easton et al., 2002). Easton et al. (2002) emphasized that purchasing performance should be measured from few different viewpoints, for example, costs of raw materials and total purchasing costs. Quality and delivery reliability are also seen important aspects of purchasing performance, but not as critical as purchasing costs/prices and purchasing total costs (Easton et al., 2002). Purchasing performance can be also measured by delivery, quantity, cost, and quality performance (Mady et al., 2014). As the prior studies have shown the positive relationship between inter-organizational learning and different performance outcomes, we hypothesized the following:

H2. There is a positive relationship between inter-organizational learning behavior and purchasing performance.

Indirect effects of boundary behavior on purchasing performance

The effects of governance mechanisms on inter-organizational learning are confirmed in prior literature (e.g. Hammervoll, 2012; Kohtamäki, 2010). And also the positive effects of inter-organizational learning on performance are confirmed. In order to examine performance outcomes of boundary behavior, some mechanism is needed. The mediating role of inter-organizational learning is recognized in prior research (e.g. Chang & Gotcher, 2010; Cheung et al., 2010; Selnes & Sallis, 2003). Hernández-Espallardo et al. (2010) found that monitoring (here hierarchical mechanism) do not have significant direct effect on performance, even though they found that social enforcement (defined in a similar way as relational behavior here) had a direct, positive, and significant effect on performance. Ambrose, Marshall and Lynch (2010) also concluded that commitment, benevolence trust, communication, dependence, and power were not found to drive relationship success directly. Similarly, we focus on activities (i.e. actual behavior) in supplier interface, and therefore we propose that the effects of relational and hierarchical boundary behavior on purchasing performance is realized through interfirm learning behavior. In addition, we proposed that that competitive behavior do not have a significant indirect relationship with purchasing performance, because market governance favors transactions over relationships and therefore that kind of behavior is not assumed to produce learning. In sum, it is hypothesized following:

H3a. Inter-organizational learning mediates the relationship between relational boundary behavior and purchasing performance

H3b. Inter-organizational learning mediates the relationship between hierarchical boundary behavior and purchasing performance

H3c. Competitive boundary behavior has an insignificant indirect relationship with purchasing performance.

Hypothesized model

In this study, we test the direct and indirect effects of boundary behavior to inter-organizational learning practices and purchasing performance. The model introduces the mediating effect of learning practices between boundary behavior and purchasing performance.

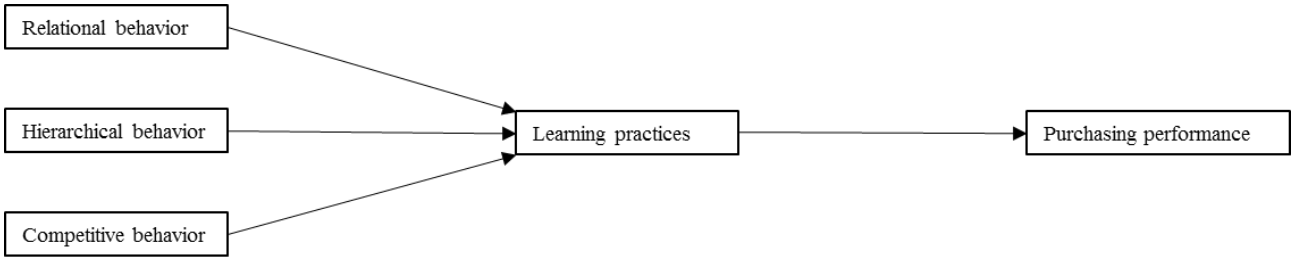

Figure 1. Hypothesized model.

METHOD

Data collection

The unit of analysis is an organization. Companies were selected from the Finnish manufacturing industry, and the main selection criterion was company size (employees more than 50). This was to increase the likelihood that the companies had an assigned role as industrial customers with several persons involved in supplier relationships. The data collection was conducted in two phases. In the first phase a research assistant telephoned 415 companies to identify the person or persons responsible for purchasing, and then called the nominated people directly to request their assistance with a survey. A total of 365 persons responsible for purchasing agreed, 52 declined, and 36 could not be contacted. The 365 people who had agreed to accept the survey were sent a link to it by e-mail, and of those, 178 returned it. These 178 were asked to nominate some of their colleagues who also acted in the

same roles, whether members of the purchasing team or not. As a result, the research team sent the survey link to a further 196 people and received survey responses from 92 of them. In the second phase, these companies were again contacted to identify more respondents and they were contacted by telephone. In the second phase, 147 persons were contacted; a total of 123 persons agreed, 6 declined, 18 informed that in their company the respondent in the first phase is only operating with suppliers. As a result 79 new survey responses were received.

The sample consisted of 349 responses (response rate 51 %) to the web-based survey. Further, these responses were modified as company level responses by calculating mean values of respondents within a company. In accordance to the suggestion of Kohtamäki and Partanen (2016) to use multiple respondents when conducting surveys in order to decrease common method variance. The number of respondents from a company varied between 1 and 16, and the average was 2,5 Some companies were represented in the data as single respondent, and these companies were contacted to confirm if there are several persons acting in the supplier boundary of a company. If there was several persons acting in the supplier boundary, but only one had responses, the company was excluded from further analysis. Some smaller companies have only one person operating with supplier and these companies were not excluded from the data. The final sample consisted of 124 companies (aggregated from 311 respondents). The firms in the sample are in average 26 years old, have 1084 employees, 300 million euro turnover, and have 6 % EBIT margins. These demographics of respondents were asked in a questionnaire and companies' secondary background information was drawn from Orbis-database.

Measures

Learning behavior. We developed a scale of 11 items (see Appendix 1) to measure learning behavior, including experimentation (4 items), reflective communication (3 items), and knowledge codification (4 items). These items were inspired by Gibson and Vermeulen (2003) and Selnes and Sallis (2003) and the relevance of the items were tested with practitioners. The confirmatory factor analysis was performed to ensure the validity of the learning behavior scale. The fit-statistics ($x^2/df=2,60$, CFI=0.99, TLI=0.98, RMSEA=0.04) showed satisfactory model fit. All items loaded significantly on their latent construct ($p<0.001$). The Cronbach's alpha values 0.73, 0.81, and 0.82 suggest that measure has internal consistency and reliability.

Behavioral orientations (e.g. boundary behaviors) are measured through three dimensions: relational behavior, hierarchical behavior and competitive behavior, these measures are adapted from

Vesalainen, Rajala and Wincent (2016) study. *Relational behavior* is measured by five items. Relational behavior includes the expectation that joint rather than individual outcomes are highly valued (Ivens, 2004; Stephen & Coote, 2007). *Hierarchical behavior* is measured by four items. These items are developed based on five bases of inter-firm power defined in the prior literature (Maloni & Benton, 2000; X. Zhao, Huo, Flynn, & Yeung, 2008). These bases are reward, coercion, expert, referent and legitimate power. *Competitive behavior* is based on the rules of arm's-length relationships. In this type of behavior the main goal is to optimize the price. Three items were developed to measure this type of actions in inter-firm relationships. The CFA was performed to validate the scale used. The chi-square for a three-dimensional measurement model was not significant (x^2=61.97, df=50, p=0.12), which indicate that measurement model fits better to the data than saturated model. Also the fit-statistics indicated a satisfactory model fit (CFI=0.97, TLI=0.96, RMSEA=0.04). All items loaded significantly on their latent construct (p<0.001). The Cronbach's alpha values for different dimensions were 0.81, 0.77, and 0.67, suggesting that the measure has internal consistency and reliability.

Purchasing performance is measured through three self-assessment performance measures related to the efficiency of purchasing, the existence of quality anomalies, and the commitment and development activity of companies in value chain. Because of the critic of self-assessed performance measures, it was also tested if our purchasing performance measures are associated with company level objective performance measure. In this case it was tested that purchasing performance has positive and statistically significantly (p=.03) relationship with EBIT margin of a company. All items loaded significantly on the latent construct (p<0.001). The Cronbach's alpha value (0.67) of purchasing performance measure was marginally below the threshold value (0.7).

A couple of *control variables* were used to control that, while beyond the model studied, might have affected to learning behavior and purchasing performance. These variables were drawn from Orbis database. The control variables used are company size and company age. Company size may affect performance outcomes because of larger companies possess more heterogeneous resources for learning (Kim, Hur, & Schoenherr, 2015). Finally, company age is used for controlling the because it is assumed that the knowledge base of a company accumulated during the years (Kim et al., 2015).

Table 1. Factor loadings and Cronbach's alpha values.

Constructs and items	Mean	SD	Loading
Control variables			
Company age	26.10	23.92	
Company size	1083.58	275.46	
Main variables			
Boundary behavior			
Relational behavior (α: 0.81)			
I avoid searching for the reasons for problems only from the supplier's point of view and aim to examine the situation as a whole	5.85	0.63	0.70
I aim to discover mutually beneficial solutions	5.91	0.58	0.75
I am open to various points of view and solutions	5.99	0.59	0.68
I make it known that objectives and means are planned together with suppliers	5.21	0.78	0.61
I aim to see things also from the supplier's point of view and thus search for a mutual solution	5.51	0.70	0.72
Hierarchical behavior (α: 0.77)			
I aim to influence the supplier by referring to the know-how of our own company about how operations should be developed	4.39	1.04	0.60
I emphasize that we as a client have a right to receive all the relevant information about the supplier's behavior related to this client relationship	4.19	1.07	0.80
I make it clear to the supplier that neglecting our demands will have consequences	4.11	0.98	0.66
I emphasize that we as a client have a right to demand that things are carried out the way we prefer	4.23	0.93	0.61
Competitive behavior (α: 0.67)			
I explain the importance of continuous cost savings with the tight competitive situation of my company	5.19	0.99	0.55
I stress that we are continuously searching the markets for suppliers operating new and innovative ways	4.49	0.98	0.65
I highlight that there are low-cost suppliers available on the market	3.74	1.00	0.71
Learning behavior			
Experimentation (α: 0.73)			
We test new methods with a supplier interface very actively	4.10	1.10	0.84
Our objective is to continuously renew practices in supplier relationships	4.16	1.17	0.82
We constantly search for good examples in order to renew the practices of our supplier relationships	4.27	1.10	0.84
We are known for being active in adopting new operations models in our relationships with suppliers	3.82	0.99	0.66
Reflective communication (α: 0.81)			
We are continuously engaged in an open dialogue with our suppliers	5.35	0.88	0.87
We gladly receive feedback from suppliers and openly discuss it	5.75	0.84	0.85
We encourage our suppliers to participate in an active discussion about our mutual operations	5.13	1.10	0.66
Knowledge codification (α: 0.82)			
We keep a record of so-called best practices for dealing with suppliers	4.15	1.20	0.79
We maintain a database about ideas on how to develop operations in supplier relationships	3.73	1.31	0.79
We have described our processes in our supplier relationships and the key tasks and roles related to them	4.20	1.39	0.55
We systematically and openly monitor the realization of the developmental measures agreed with the suppliers	4.41	1.18	0.85
Purchasing performance (α: 0.67)			
Purchasing efficiency (purchasing value/costs of the purchasing organization) has significantly improved	4.86	0.75	0.61
Occurrence of quality anomalies in purchased products in relation to the general level in our field is very small	4.83	0.90	0.61
The commitment and development activity of the companies in our supply chain is generally very high	4.85	0.82	0.63

Tests of measures

The quality of the seven-factor measurement model was estimated by using CFA in addition to its measurement of individual constructs. The measurement model (including three learning behavior dimensions, three behavioral dimensions, and performance dimension) provided an acceptable fit to the data ($x^2/df=1,75$; RMSEA=0.078; CFI=0.85; TLI=0.83; SRMR=0.085). It was also tested the extent to which the survey items of learning behavior, behavioral orientations and purchasing performance might have a tendency to common method bias by performing Harman's single-factor test to determine if a single factor accounts more than 50 % of the total variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The analysis revealed that the most influential factor only accounted 28 % of the total variance, suggesting that common method bias did not influence the results of this investigation. Further, it was tested if the model fit improved as the complexity of the research model increased (Podsakoff et al., 2003). The single-factor model was compared to the more complicated (7-factor model) measurement model and it was found that the seven-factor model provided better goodness-of-fit statistics than the single-factor model ($x^2/df=3,55$; RMSEA=0.14; CFI=0.45; TLI=0.41; SRMR=0.14). This test also indicates that common method variance was not a problem in the data set.

RESULTS

Table 2 presents the correlation matrix for the constructs used in the study. Multicollinearity was tested by using the variance inflation factor (VIF) index. All the values of independent constructs were well below 2 (threshold value of 10). It can be concluded that the data is satisfactorily free from multicollinearity.

Table 2. The correlation matrix.

Variable	1	2	3	4	5	6	7	8	9
(1) Company age	1								
(2) Company size	0.34***	1							
(3) Relational behavior	-0.08	0.05	1						
(4) Hierarchical behavior	-0.10	0.14	0.19*	1					
(5) Competitive behavior	-0.07	0.01	0.17†	0.53***	1				
(6) Experimentation	0.02	0.13	0.20*	0.44***	0.33***	1			
(7) Reflective communication	-0.05	0.05	0.59***	0.19*	0.16†	0.45***	1		
(8) Knowledge codification	0.02	0.08	0.24**	0.29***	0.19*	0.52***	0.52***	1	
(9) Purchasing performance	-0.06	-0.08	0.22*	0.08	0.18*	0.30***	0.37***	0.34***	1

†p<0.1, *p<0.05, **p<0.01, ***p<0.00

The hypotheses were tested by structural equation modeling using Stata 13.1 software. Full mediation model should be tested with path from independent variables (relational, hierarchical, and competitive behavior) to the mediator (learning behavior) and from the mediator to the dependent variable (purchasing performance) (James & Brett, 1984). Thus, a direct relationship between independent and dependent variables is not expected but it can be controlled (James, Mulaik, & Brett, 2006).

The direct relationships between behavioral orientations and purchasing performance was controlled, but it was not found any significant direct paths from independent variables to the dependent variable. Then it was tested if control variables has an influence on purchasing performance. The model revealed no statistically significant impact on purchasing performance for control variables of company age (β=-0.01, n.s.) or company size (β=-0.12, n.s.).

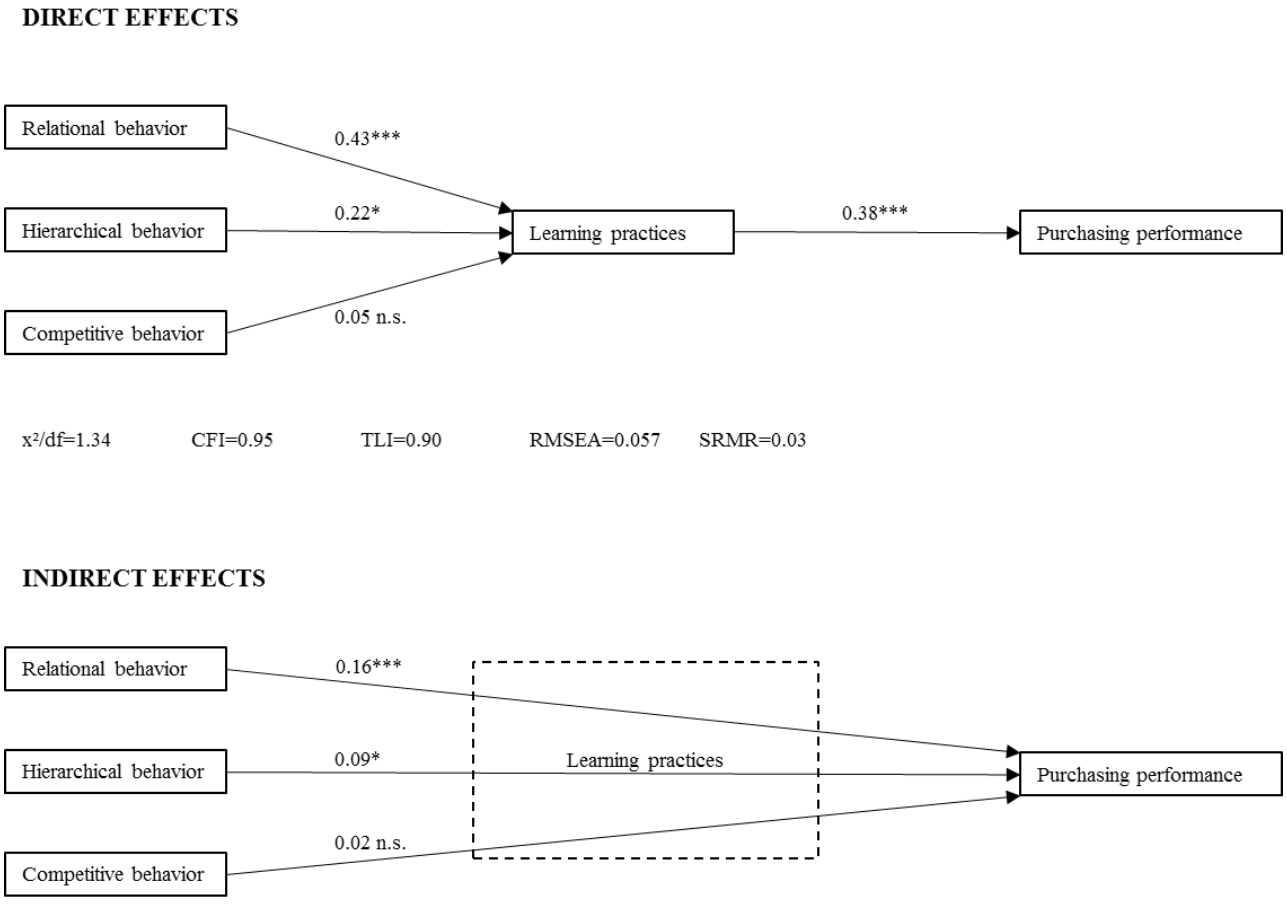

Figure 2. Direct and indirect effects.

H1a suggests that relational boundary behavior is positively associated with learning behavior. The analysis provided support to this hypothesis (β=0.43, p<0.001). Also hierarchical boundary behavior was hypothesized (H1b) and found to be significantly related to learning behavior (β=0.23, p<0.02).

Finally, H1c suggests that competitive boundary behavior has negative impact on learning behavior. The analysis did not provided support to this hypothesis, a statistically insignificant positive relationship between competitive boundary behavior and inter-organizational learning behavior (β=0.05, n.s.) was showed.

The positive relationships between learning behavior and purchasing performance (H2) was confirmed (β=0.38, $p<0.000$). Further, the hypothesis (H3a) suggests that relationship of relational behavior and purchasing performance is mediated by learning behavior. The analysis confirmed the hypothesis 3a by showing a statistically significant positive indirect effects of relational behavior on purchasing performance (β=0.16, $p<0.008$). Further, Sobel-Goodman mediation test was performed by Stata 13.1 software. The results of Sobel-Goodman mediation test shows that the proportion of total effect that is mediated in the relationship between relational boundary behavior and purchasing performance by inter-organizational learning behavior is 72%. The test provided further support to the hypothesis H3a.

H3b suggested that the relationship between hierarchical behavior and purchasing performance is also mediated by learning behavior. The analysis provided support to this hypothesis, the indirect effects of hierarchical behavior on purchasing performance showed a statistically significant positive relationship (β=0.09, $p<0.008$). The results of Sobel-Goodman mediation test shows that the relationship between hierarchical boundary behavior and purchasing performance is fully mediated by inter-organizational learning behavior. The test provided further support to the hypothesis H3b. H3c suggest that competitive boundary behavior has an insignificant indirect relationship with purchasing performance. The analysis provide support to this hypothesis (β=0.02, $p<0.545$).

DISCUSSION

Previous research (Hammervoll, 2012; Kohtamäki, 2010) has confirmed that relational management and hierarchical management have positive effects on inter-organizational learning. These studies approached inter-organizational relationships purely from the governance perspective. In this study, we introduced boundary behavior as a new perspective to approach relationship management. Boundary behavior refers to the rhetoric by which purchasers aim to influence the conduct of suppliers. By using a new research instrument we were able to build an explanatory research design testing a research model suggesting inter-organizational learning behavior to mediate between boundary behavior and purchasing performance. This study contributes to the existing literature by

showing that governance mechanisms manifest themselves in the rhetoric purchasers' use in supply relationships. Our findings suggest that the relationship between boundary behavior and purchasing performance is mediated by inter-organizational learning behavior. More precisely, our results show that relational and hierarchical boundary behavior function in the same way as relational and hierarchical management as they affect positively on inter-organizational learning and their effect is mediated through learning to purchasing performance. Hammervoll (2012) found market management to have less positive or even negative effects on inter-organizational learning. Our results, again, indicate that competitive boundary behavior has no effect on inter-organizational learning or purchasing performance. This is logical because the gains achieved through bargaining and other competitive means are not relational, but firm specific and transactional.

Managerial implications

Our study confirms that the way purchasers communicate in supplier relationships has an effect on inter-organizational interaction in terms of learning practices. In that way persuasion rhetoric becomes a tactical means to manage in relationships. We advise purchasing professionals to pay attention to the rhetoric they use in relationships and deliberately choose a tactic which is in line with the purchasing strategy chosen. That is, if a relational strategy highlighting openness and close interaction with certain suppliers is chosen the communication style in terms of persuasive rhetoric must be aligned with it. Extremely competitive persuasion rhetoric by one or more representatives of a firm may affect harmfully to the atmosphere of otherwise close relationships. On the other hand, competitive persuasion rhetoric may be an effective tactics in those relationships, which are deliberately aimed to stay at transactional level.

Limitations and future research

As with all research, this study has certain acknowledged limitations. First, the generalization of the findings is limited, particularly because of the relatively small sample size from single industry. The generalizability of the results would be strengthened with a large sample and extension of the study to other industries. Also the more international sample would benefit the generalizability of the findings. Second, because quantitative methods are incapable of fully capturing the complexity and variety of boundary behavior, future studies could benefit more in-depth case studies concentrating on the role of boundary behavior in inter-organizational learning or other relationship level outcomes.

REFERENCES

Adams, S. J. (1980). Interorganizational processes and organization boundary activities. *Research in Organizational Behavior*, *2*, 321–355.

Adler, P. S. (2001). Market, Hierarchy, and Trust: The Knowledge Economy and the Future of Capitalism. *Organization Science*, *12*(2), 215–234.

Ambrose, E., Marshall, D., & Lynch, D. (2010). Buyer supplier perspectives on supply chain relationships. *International Journal of Operations & Production Management*, *30*(12), 1269–1290.

Aristotle. (1956). *Rhetoric*.

Bengtsson, M., & Kock, S. (2000). "Coopetition" in Business Networks—to Cooperate and Compete Simultaneously. *Industrial Marketing Management*, *29*(5), 411–426.

Bradach, J. L., & Eccles, R. G. (1989). Price, authority, and trust: From ideal types to plural forms. *Annual Review of Sociology*, *15*, 97–118.

Bångens, L., & Araujo, L. (2002). The structures and processes of learning. A case study. *Journal of Business Research*, *55*(7), 571–581. http://doi.org/10.1016/S0148-2963(00)00197-1

Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management*, *31*(6), 515–524. http://doi.org/10.1016/S0019-8501(01)00203-6

Chang, K.-H., & Gotcher, D. F. (2007). Safeguarding investments and creation of transaction value in asymmetric international subcontracting relationships: The role of relationship learning and relational capital. *Journal of World Business*, *42*(4), 477–488. http://doi.org/10.1016/j.jwb.2007.06.008

Chang, K.-H., & Gotcher, D. F. (2010). Conflict-coordination learning in marketing channel relationships: The distributor view. *Industrial Marketing Management*, *39*(2), 287–297. http://doi.org/10.1016/j.indmarman.2008.10.003

Cheney, G., Christensen, L. T., Condrad, C., & Lair, D. J. (2004). Corporate rhetoric in organizational discourse. In D. Grant, C. Hardy, & C. Oswick (Eds.), *The SAGE Handbook of Organizational Discourse* (pp. 79–104). London: SAGE Publications.

Cheney George, Christensen, L. ., Charles, C., & Lair, D. J. (2004). Cheney George., Christensen Lars.T., Conrad Charles., and Lair Daniel.J., 79-103 in. In G. David, O. Cliff, H. Cynthia, & L. Putnam (Eds.), *Handbook of organizational discourse* (pp. 79–103). London: Sage Publishing.

Cheung, M.-S., Myers, M. B., & Mentzer, J. T. (2010). Does relationship learning lead to relationship value? A cross-national supply chain investigation. *Journal of Operations Management*, *28*(6), 472–487. http://doi.org/10.1016/j.jom.2010.01.003

Cheung, M.-S., Myers, M. B., & Mentzer, J. T. (2011). The value of relational learning in global

buyer-supplier exchanges: A dyadic perspective and test of the pie-sharing premise. *Strategic Management Journal*, *32*(10), 1061–1082. http://doi.org/10.1002/smj

Demırdöğen, Ü. D. (2010). The roots of research in (political) persuasion: Ethos, pathos, logos and the Yale studies of persuasive communications. *International Journal of Social Inquiry*, *3*(1), 189–201.

Doney, P. M., & Cannon, J. P. (1997). An Examination of the Nature of Trust in Buyer-Seller Relationships. *Journal of Marketing*, *61*(April), 35–51. http://doi.org/10.2307/1251829

Easton, L., Murphy, D. J., & Pearson, J. N. (2002). Purchasing performance evaluation: With data envelopment analysis. *European Journal of Purchasing and Supply Management*, *8*(3), 123–134. http://doi.org/10.1016/s0969-7012(02)00002-3

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, *44*(2), 350. http://doi.org/10.2307/2666999

Emden, Z., Yaprak, A., & Cavusgil, S. T. (2005). Learning from experience in international alliances: Antecedents and firm performance implications. *Journal of Business Research*, *58*(7), 883–892. http://doi.org/10.1016/j.jbusres.2003.10.008

Fang, S.-R., Fang, S.-C., Chou, C.-H., Yang, S.-M., & Tsai, F.-S. (2011). Relationship learning and innovation: The role of relationship-specific memory. *Industrial Marketing Management*, *40*(5), 743–753. http://doi.org/10.1016/j.indmarman.2011.02.005

Gibson, C., & Vermeulen, F. (2003). A Healthy divide: Subgroups as a stimulus for team learning behavior. *Administrative Science Quarterly*, *48*(2), 202–239. http://doi.org/10.2307/3556657

Giunipero, L. C., & Pearcy, D. H. (2001). World-Class Purchasing Skills : *The Journal of Supply Chain Management*, *Fall*, 4–13.

Hald, K. S. (2012). The role of boundary spanners in the formation of customer attractiveness. *Industrial Marketing Management*, *41*(8), 1228–1240. http://doi.org/10.1016/j.indmarman.2012.10.007

Hammervoll, T. (2012). Managing interaction for learning and value creation in exchange relationships. *Journal of Business Research*, *65*(2), 128–136. http://doi.org/10.1016/j.jbusres.2011.05.011

Heide, J. B., & John, G. (1990). Alliances in industrial purchasing: The determinants of joint action in buyer-supplier relationships. *Journal of Marketing Research*, *27*(1), 24–36.

Heracleous, L., & Marshak, R. J. (2004). Conceptualizing organizational discourse as situated symbolic action. *Human Relations*, *57*(10), 1285–1312. http://doi.org/10.1177/0018726704048356

Hernández-Espallardo, M., Rodríguez-Orejuela, A., & Sánchez-Pérez, M. (2010). Inter-organizational governance, learning and performance in supply chains. *Supply Chain Management: An International Journal*, *15*(2), 101–114.

http://doi.org/10.1108/13598541011028714

Holmqvist, M. (2009). Complicating the Organization: A New Prescription for the Learning Organization? *Management Learning*, *40*(3), 275–287. http://doi.org/10.1177/1350507609104340

Håkansson, H., Havila, V., & Pedersen, A.-C. (1999). Learning in Networks. *Industrial Marketing Management*, *28*(5), 443–452. http://doi.org/10.1016/S0019-8501(99)00080-2

Håkansson, H., & Shenota, I. (1995). *Developing relationships in business networks*. London: Routledge. http://doi.org/10.1016/j.indmarman.2004.12.007

Ireland, R. D., & Webb, J. W. (2007). A multi-theoretic perspective on trust and power in strategic supply chains. *Journal of Operations Management*, *25*(2), 482–497. http://doi.org/10.1016/j.jom.2006.05.004

Ivens, B. S. (2004). How relevant are different forms of relational behavior? An empirical test based on Macneil's exchange framework. *Journal of Business & Industrial Marketing*, *19*(5), 300–309.

James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology*, *69*(2), 307–321.

James, L. R., Mulaik, S. a., & Brett, J. M. (2006). A tale of two methods. *Organizational Research Methods*, *9*(1984), 233–244. http://doi.org/10.1177/1094428105285144

Janda, S., & Seshadri, S. (2001). The influence of purchasing strategies on performance. *Journal of Business & Industrial Marketing*, *16*(4), 294–308. http://doi.org/10.1108/17410381111134482

Janowicz-Panjaitan, M., & Noorderhaven, N. G. (2009). Trust, calculation, and interorganizational learning of tacit knowledge: An organizational roles perspective. *Organization Studies*, *30*(10), 1021–1044. http://doi.org/10.1177/0170840609337933

Jap, S. D. (1999). Pie-expansion efforts: Collaboration processes in buyer-supplier relationships. *Journal of Marketing Research*, *36*(4), 461–475. http://doi.org/10.2307/3152000

Jarzabkowski, P., & Sillince, J. (2007). A rhetoric- in-context approach to building commitment to multiple strategic goals. *Organization Studies*, *28*(10), 1639–65.

Jean, R.-J. B., & Sinkovics, R. R. (2010). Relationship learning and performance enhancement via advanced information technology: The case of Taiwanese dragon electronics firms. *International Marketing Review*, *27*(2), 200–222. http://doi.org/10.1108/02651331011037520

Johnson, J. L., & Sohi, R. S. (2003). The development of interfirm partnering competence: Platforms for learning, learning activities, and consequences of learning. *Journal of Business Research*, *56*(9), 757–766. http://doi.org/10.1016/S0148-2963(01)00260-0

Kim, H., Hur, D., & Schoenherr, T. (2015). When Buyer-Driven Knowledge Transfer Activities Really Work : A Motivation – Opportunity – Ability Perspective. *Journal of Supply Chain Management*, *51*(3), 33–60.

Kohtamäki, M. (2010). Relationship governance and learning in partnerships. *The Learning Organization*, *17*(1), 41–57.

Kohtamäki, M., & Bourlakis, M. (2012). Antecedents of relationship learning in supplier partnerships from the perspective of an industrial customer: the direct effects model. *Journal of Business & Industrial Marketing*, *27*(4), 299–310. http://doi.org/10.1108/08858621211221670

Kohtamäki, M., & Partanen, J. (2016). Co-creating value from knowledge-intensive business services in manufacturing firms: The moderating role of relationship learning in supplier–customer interactions. *Journal of Business Research*. http://doi.org/10.1016/j.jbusres.2016.02.019

Kohtamäki, M., Vesalainen, J., Varamäki, E., & Vuorinen, T. (2006). The governance of partnerships and a strategic network: Supplier actors' experiences in the governance by the customers. *Management Decision*, *44*(8), 1031–1051. http://doi.org/10.1108/00251740610690603

Lai, C.-S., Pai, D.-C., Yang, C.-F., & Lin, H.-J. (2009). The effects of market orientation on relationship learning and relationship performance in industrial marketing: The dyadic perspectives. *Industrial Marketing Management*, *38*(2), 166–172. http://doi.org/10.1016/j.indmarman.2008.12.004

Lane, P. J., & Lubatkin, M. (1998). Relative absorptive capacity and interorganization learning. *Strategic Management Journal*, *19*(5), 461–477.

Lane, P. J., Salk, J. E., & Lyles, M. A. (2001). Absorptive capacity, learning, and performance in international joint ventures. *Strategic Management Journal*, *22*(12), 1139–1161. http://doi.org/10.1002/smj.206

Leal-Rodriguez, A. L., Roldan, J. L., Leal, A. G., & Ortega-Gutierrez, J. (2013). Knowledge management, relational learning, and the effectiveness of innovation outcomes. *Service Industries Journal*, *33*(13-14), 1294–1311. http://doi.org/10.1080/02642069.2013.815735

Ling-yee, L. (2006). Relationship learning at trade shows: Its antecedents and consequences. *Industrial Marketing Management*, *35*(2), 166–177. http://doi.org/10.1016/j.indmarman.2005.03.006

Liu, C.-L. E. (2012). An investigation of relationship learning in cross-border buyer-supplier relationships: The role of trust. *International Business Review*, *21*(3), 311–327. http://doi.org/10.1016/j.ibusrev.2011.05.005

Mady, M. T., Mady, T. T., & Mady, S. T. (2014). Procurement performance and manufacturer-supplier relationships: A multivariate analysis in Kuwaiti manufacturing companies. *Journal of Business & Industrial Marketing*, *29*(5), 417–426. http://doi.org/10.1108/JBIM-01-2012-0005

Maloni, M., & Benton, W. (2000). Power influences in the supply chain. *Journal of Business Logistics*, *21*(1), 49–74.

Mohr, J. J., & Sengupta, S. (2002). Managing the paradox of inter-firm learning: The role of governance mechanisms. *The Journal of Business & Industrial Marketing*, *17*(4), 282. http://doi.org/10.1108/08858620210431688

Mu, J., Peng, G., & Love, E. (2008). Interfirm networks, social capital, and knowledge flow. *Journal of Knowledge Management*, *12*(4), 86–100. http://doi.org/10.1108/13673270810884273

Paulraj, A., Lado, A. a., & Chen, I. J. (2008). Inter-organizational communication as a relational competency: Antecedents and performance outcomes in collaborative buyer–supplier relationships. *Journal of Operations Management*, *26*(1), 45–64.

Petruzzelli, A. M., Albino, V., Carbonara, N., & Rotolo, D. (2010). Leveraging learning behavior and network structure to improve knowledge gatekeepers' performance. *Journal of Knowledge Management*, *14*(5), 635–658. http://doi.org/10.1108/13673271011074818

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903.

Ritter, T. (2007). A framework for analyzing relationship governance. *Journal of Business & Industrial Marketing*, *22*(3), 196–201.

Saranga, H., & Moser, R. (2010). Performance evaluation of purchasing and supply management using value chain DEA approach. *European Journal of Operational Research*, *207*(1), 197–205. http://doi.org/10.1016/j.ejor.2010.04.023

Selnes, F., & Sallis, J. (2003). Promoting relationship learning. *Journal of Marketing*, *67*(3), 80–95. http://doi.org/10.1509/jmkg.67.3.80.18656

Stephen, A., & Coote, L. (2007). Interfirm behavior and goal alignment in relational exchanges. *Journal of Business Research*, *60*(4), 285–295.

Úbeda, R., Alsua, C., & Carrasco, N. (2015). Purchasing models and organizational performance: a study of key strategic tools. *Journal of Business Research*, *68*(2), 177–188. http://doi.org/10.1016/j.jbusres.2014.09.026

Vanneste, B. S., & Puranam, P. (2010). Repeated Interactions and Contractual Detail: Identifying the Learning Effect. *Organization Science*, *21*(1), 186–201. http://doi.org/10.1287/orsc.1080.0402

Vesalainen, J., & Kohtamäki, M. (2015). Toward a typological view of buyer–supplier relationships: Challenging the unidimensional relationship continuum. *Industrial Marketing Management*, *49*. http://doi.org/10.1016/j.indmarman.2015.04.004

Vesalainen, J., Rajala, A., & Wincent, J. (2016). Measuring industrial purchaser boundary behavior in supplier relationships. *Nordic Journal of Business*.

Yang, C.-F., & Lai, C.-S. (2012). Relationship learning from organizational knowledge stores. *Journal of Business Research*, *65*(3), 421–428. http://doi.org/10.1016/j.jbusres.2011.10.001

Zerbini, F., & Castaldo, S. (2007). Stay in or get out the Janus? The maintenance of multiplex relationships between buyers and sellers. *Industrial Marketing Management*, *36*(7), 941–954. http://doi.org/10.1016/j.indmarman.2007.06.003

Zhang, C., Viswanathan, S., & Henke, J. W. (2011). The boundary spanning capabilities of

purchasing agents in buyer-supplier trust development. *Journal of Operations Management*, *29*(4), 318–328. http://doi.org/10.1016/j.jom.2010.07.001

Zhang, J. J., Lawrence, B., & Anderson, C. K. (2015). An agency perspective on service triads: Linking operational and financial performance. *Journal of Operations Management*, *35*, 56–66. http://doi.org/10.1016/j.jom.2014.10.005

Zhao, X., Huo, B., Flynn, B., & Yeung, J. (2008). The impact of power and relationship commitment on the integration between manufacturers and customers in a supply chain. *Journal of Operations Management*, *26*(3), 368–388.

Zhao, Y., & Wang, G. (2011). The impact of relation-specific investment on channel relationship performance: evidence from China. *Journal of Strategic Marketing*, *19*(1), 57–71. http://doi.org/10.1080/0965254X.2010.537763