The boundary spanning capabilities of purchasing agents in buyer–supplier trust development

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ABSTRACT

This study examines how individual purchasing agents function as boundary spanners with suppliers to influence trust development in themselves and the buying firms that employ them. Building upon boundary theory and supply chain cooperation research, we identify three boundary spanning capabilities of purchasing agents and empirically test how these capabilities shape buyer–supplier trust development. Using two samples of data collected from suppliers in the automotive industry and food industry, we found that a purchasing agent's effectiveness in *strategic communication* with suppliers affects a supplier's trust in the buying firm, while an agent's *professional* knowledge and *ability to reach compromises* with suppliers affect a supplier's trust in the purchasing agent representing the firm. Trust in the purchasing agent in turn affects trust in the buying firm. Theoretical and managerial implications are discussed.

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1. Introduction

Collaborative buyer–supplier relations are a major source of competitive advantage for businesses operating in industrial markets (e.g. Takeishi, 2001; Paulraj et al., 2008). Members of collaborative buyer–supplier relations share strategic directions, which helps define the roles and responsibilities of supply chain members (Ireland and Webb, 2007). Additionally, members of collaborative relations share high levels of trust (MacDuffie and Helper, 2006). In fact, trust is considered the single most important variable influencing interpersonal and inter-organizational behavior (Kiessling et al., 2004). For a variety of reasons, trusting buyer–supplier relationships lead to reduced transaction costs and improved supply chain efficiencies (e.g. Zaheer et al., 1998; MacDuffie and Helper, 2006; Ireland and Webb, 2007).

Despite the sustainable competitive advantages generated by trusting buyer–supplier relations, developing trust is difficult. The personnel chosen to build trust between supply chain members are of great importance (MacDuffie and Helper, 2006). This is understandable, because the establishment and maintenance of trusting working relations rely on the individuals who regularly interact with one another across organizational boundaries (Perrone et al.,

2003; Ireland and Webb, 2007). These boundary spanners include purchasing agents who develop relationships with individuals of other firms, specifically suppliers. These relations at the individual level provide "a portal for broader communications between organizations" that generate familiarity and trust (Kiessling et al., 2004, p. 99).

As points of contact with the outside world, boundary spanners influence trust development in individuals as well as in organizations (Doney and Cannon, 1997; Zaheer et al., 1998; Perrone et al., 2003). Perrone et al. (2003) suggest that not only do job functions affect boundary spanner behaviors, but boundary spanners also proactively shape their job functions. The formal job functions specified by their organization can constrain boundary spanner behavior, suggesting that organizations are at least partly responsible for boundary spanner job performance. However, the job functions of boundary spanners are also subject to interpretation and are shaped by the individuals performing the functions (Perrone et al., 2003). It is thus reasonable to believe that boundary spanners influence the trust outside organizations place in the firms they represent, as well as the trust the outside organizations place in the boundary spanners themselves. Thus, it is important to understand how the capabilities individual boundary spanners demonstrate in performing their job functions affect the trust boundary spanners generate both in themselves and in the firms they represent.

This research area has been of interest to a number of strategy and operations management scholars (Stanley and Wisner, 2001; Kiessling et al., 2004; MacDuffie and Helper, 2006; Ireland and Webb, 2007). Ireland and Webb (2007) considered the role bound-

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ary spanners play in influencing trust and power in strategic supply chains. Other operations management researchers have also provided qualitative insights into the role boundary spanners play in building trusting relationships with suppliers (Stanley and Wisner, 2001; Kiessling et al., 2004; MacDuffie and Helper, 2006). Nevertheless, limited research has identified the boundary spanning capabilities that influence trust development. No empirical tests examine how boundary spanning capabilities influence trust development at both the interpersonal and inter-organizational levels (Doney and Cannon, 1997; Zaheer et al., 1998; Perrone et al., 2003). Such tests are important in understanding how trust is developed and maintained (MacDuffie and Helper, 2006).

To address this gap in the literature, we investigate how the boundary spanning capabilities of purchasing agents influence a supplier's trust of purchasing agents and of the buying firms the agents represent. We choose to study purchasing agents as their roles have changed significantly over the past two decades from "transactions-oriented order processors to supply managers with an emphasis on supply chain management" (Stanley and Wisner, 2001). Because purchasing agents can significantly influence a buying firm's reputation and image (Stanley and Wisner, 2001), buying firms are increasingly relying on them to build cooperative relations with major suppliers and to encourage supplier-developed innovations (MacDuffie and Helper, 2006; Zhang et al., 2009). Specifically, purchasing agents carry out a broad range of activities from representing their firms' strategic goals and intent, to using their expertise to facilitate buyer–supplier collaborations (Aldrich and Herker, 1977; Perrone et al., 2003). Building on boundary theory (e.g., Adams, 1976; Aldrich and Herker, 1977) and existing research on supply chain cooperation, we focus on the purchasing agent's capabilities most relevant to trust development with suppliers. Furthermore, to increase the external validity of our study findings, we collect two samples to test our conceptual model: one from the automotive industry and one from the food industry. We found consistent evidence for the effects of boundary spanning capabilities on trust development across the two industries. The theoretical basis for the study and the study findings are presented in the following sections. We conclude by discussing the theoretical and managerial implications of the study and directions for future research.

2. Theoretical development

2.1. Trust

Trust has been investigated by a number of researchers in strategy and organizational research (e.g. Bradach and Eccles, 1989; Ring and Van De Ven, 1992; Zaheer et al., 1998; Perrone et al., 2003) and supply chain management (e.g. Anderson and Narus, 1990; Sako and Helper, 1998; Doney and Cannon, 1997; McCutcheon and Stuart, 2000; Johnston et al., 2004; Gattiker et al., 2007). Trust is a critical factor in developing cooperative buyer–supplier relationships (e.g. MacDuffie and Helper, 2006; Zaheer et al., 1998). For example, trust reduces opportunism in downstream supply chains (Cavusgil et al., 2004), improves supply chain responsiveness (Handfield and Bechtel, 2002), and increases the potential for beneficial supply chain alliances (McCutcheon and Stuart, 2000).

While no consensus has been reached on a universally accepted definition of trust, most trust scholars agree that confidence and belief in the other party's credibility and goodwill are essential to conceptualize trust (e.g. Doney and Cannon, 1997; Johnston et al., 2004; Gattiker et al., 2007). Furthermore, trust scholars (e.g. McCutcheon and Stuart, 2000; Johnston et al., 2004; Gattiker et al., 2007; Hill et al., 2009) have hypothesized and established that the credibility and goodwill aspects of trust are affected in the same way by the same determinants. In particular, when multiple

levels of trust (e.g. interpersonal and inter-organizational levels) are examined, scholars often combine the credibility and goodwill dimensions of trust to simplify the conceptual model (Doney and Cannon, 1997; Zaheer et al., 1998; Perrone et al., 2003). As explained by Doney and Cannon (1997), "although credibility and benevolence could be conceptually distinct, in business relationships such as those studied here, they may be so intertwined that in practice they are operationally inseparable" (p. 43). Therefore, we consider trust as a unidimensional construct; trust in our study is defined as a supplier's confidence and belief in the credibility and goodwill of an object of trust. The object may be a purchasing agent or the buying organization represented by the agent.

We investigate both interpersonal trust and inter-organizational trust in buyer–supplier relations. While operations management scholars acknowledge the importance of interpersonal trust, past research has primarily focused on inter-organizational trust (e.g. Johnston et al., 2004; Gattiker et al., 2007; Hill et al., 2009). Zaheer et al. (1998) have suggested though that "although inter-organizational trust may appear to be the more important influence in relational exchange, interpersonal trust must also be considered for its effects on inter-organizational trust. ... Simply aggregating interpersonal trust as a proxy for inter-organizational trust ignores the influence of social context in the form of individuals' interactions and organizational rules that constrain and orient its members" (p. 154). To understand how the job performance of purchasing agents shapes trust in individuals and firms, we investigate a supplier's trust in a purchasing agent as well as in the buying firm the agent represents.

As one type of boundary spanner, purchasing agents play a critical role in building supplier trust by reducing the risks suppliers perceive when working with a powerful buyer (Perrone et al., 2003; Ireland and Webb, 2007). As Perrone et al. (2003) suggest, trust is most relevant when risk and uncertainties are involved in buyer–supplier relations. In an industrial supply market, a buying firm often deals with numerous suppliers depending on the complexity of the goods being acquired (Takeishi, 2001; MacDuffie and Helper, 2006). This competitive situation creates risk and uncertainty for suppliers who depend on the buying firms and their purchasing agents for continued business. The risk for suppliers begins with the policies and strategies set by the buying firm that can affect the supplier firm's costs and profitability (IBM Business Consulting Services, 2004). The purchasing agent, as the primary commercial contact with the supplying firm, mitigates this risk through information provided to supplier salespeople, which in turn affects the supplier's trust in the purchasing agent and the buying firm (Ireland and Webb, 2007). Trust in purchasing agents and buying firms is critical because suppliers who do not trust their customers are unlikely to make long-term investments to support future business with the buyer (Doney and Cannon, 1997; Perrone et al., 2003).

2.2. Boundary spanning capabilities of purchasing agents

Boundary theory argues that a central task of organizations is to manage their boundaries with other organizations that supply critical resource inputs or are responsible for the disposal of their outputs (e.g., Aldrich and Herker, 1977; Stock, 2006). To fulfill this task, organizations assign individual employees to perform a varieties of boundary spanning functions such as processing information; maintaining the image of the organization; using expertise to influence external entities; and representing the perceptions, expectations, and ideas of each side to the other (e.g. Aldrich and Herker, 1977; Friedman and Podolny, 1992; Ireland and Webb, 2007). Among these boundary spanning functions, those related to representing the buying firm to external suppliers are most relevant to building trust in supply chain relationships (Perrone et
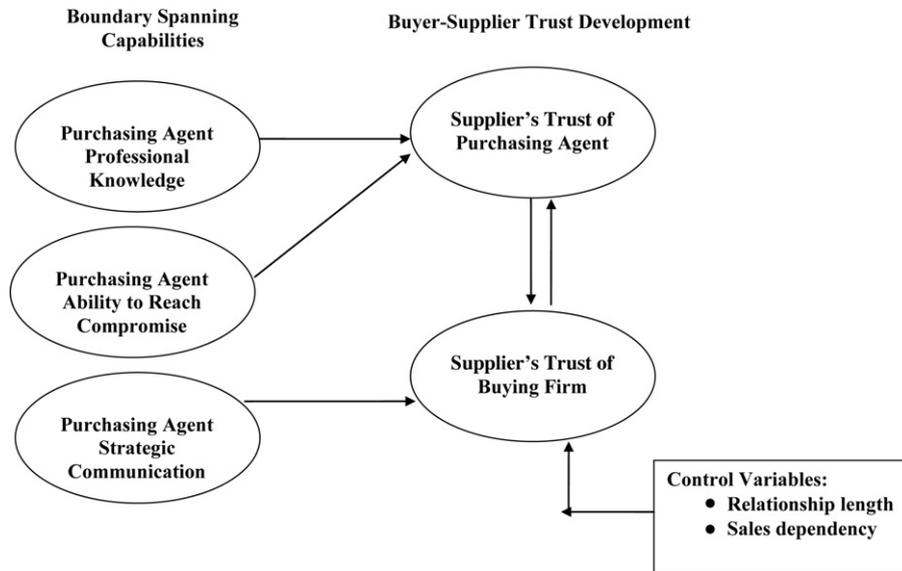
Fig. 1. A model of boundary spanning capabilities and trust development.

al., 2003; Stock, 2006). We classify these external representation functions broadly into three categories. The first is that boundary spanners may communicate information from the core of the organization to the environment (Aldrich and Herker, 1977; Perrone et al., 2003). Second, boundary spanners may use their knowledge and expertise to influence the external environment (Aldrich and Herker, 1977; Doney and Cannon, 1997; Perrone et al., 2003). Third, boundary spanners can strike a compromise between their organization and the environment in which it is operating (Aldrich and Herker, 1977; Friedman and Podolny, 1992).

In performing these boundary spanning functions, individual employees demonstrate boundary spanning capabilities that allow them to effectively manage their firm's interactions with other entities and facilitate collaborations across organizational boundaries (Stock, 2006; MacDuffie and Helper, 2006). For the purpose of this study, we define boundary spanning capabilities as the job performance of individual purchasing agents carrying out boundary spanning functions. Based on the three broad types of boundary spanning functions discussed earlier, we conceptualize boundary spanning capabilities of purchasing agents as composed of three major types: (1) strategic communication capability, or the effectiveness of purchasing agents at presenting their firm's strategic intention and goals to suppliers (Ireland and Webb, 2007; Perrone et al., 2003); (2) professional knowledge, the knowledge possessed by purchasing agents that enables them to competently carry out their job responsibilities (Doney and Cannon, 1997); and (3) ability to reach compromise with suppliers, or the effectiveness of purchasing agents at mediating and overcoming differences that arise between their firms and the suppliers they interact with (Friedman and Podolny, 1992).

While many different types of boundary spanning capabilities can be examined, we chose to focus on the capabilities most conducive to facilitating buyer–supplier cooperation and trust-building. The boundary spanning capabilities of purchasing agents are critical to establishing and maintaining supply chain relationships (e.g., Aldrich and Herker, 1977; Perrone et al., 2003; Ireland and Webb, 2007). The three boundary spanning capabilities of purchasing agents capture not only the effectiveness of purchasing agents at representing the policies and strategic directions delineated by the firm, but also their abilities to proactively shape the interaction environment between buyers and suppliers (Aldrich and Herker, 1977; Perrone et al., 2003).

We acknowledge that boundary spanning capabilities of purchasing agents can be influenced by the intrinsic dispositional traits of the individual agent (Smith et al., 2009). The focus of our study, however, is not on a purchasing agent's dispositional traits as these are difficult to measure (Smith et al., 2009) and, more importantly, may not be directly related to trust-building at multiple levels. Instead, we limit our focus to the capabilities of purchasing agents as expressed by their performance of boundary spanning functions. These capabilities can be considered as expressed dispositional traits of purchasing agents in performing boundary spanning functions, and are specific to a relationship between a purchasing agent and a salesperson. As a purchasing agent may have different experiences with various supplier salespersons, the assessment of a purchasing agent's ability to perform boundary spanning functions can vary among supplier relationships; an agent may inspire the trust of one salesperson, but not the trust of others.

3. Conceptual model and hypotheses

We propose that a purchasing agent's effectiveness in *strategic communication* enhances trust in the buying firm, while his or her *professional knowledge* and *ability to reach compromise* enhances a supplier's trust in the purchasing agent, which is then transferred to trust in the buying firm. Although all three types of boundary spanning capabilities of purchasing agents could be attributed to a buying firm's training and corporate policies and therefore trigger trust-building processes in both individuals and firms, this research focuses on the primary effects of a certain boundary spanning capability (Doney and Cannon, 1997). The proposed model is presented in Fig. 1.

3.1. Strategic communication

As boundary spanners, purchasing agents act as representatives of their firm's strategic intention and goals (Ireland and Webb, 2007; Perrone et al., 2003). Ireland and Webb (2007) propose that "while just-in-time and other electronic data interchange systems link partnering firms technologically and operationally, boundary spanning individuals integrate firms strategically" (p. 493). When a purchasing agent communicates to a supplier their firm's long-term vision, it enables a supplier to determine how the future plans of the buying firm are likely to affect it. Such information

helps the supplier determine its internal investment priorities in terms of innovation, capacity, product type, and location decisions (Takeishi, 2001; Paulraj et al., 2008; Zhang et al., 2009). Furthermore, through communication of strategic information, a purchasing agent enables a supplier to determine how it can help influence the buying firm's future purchase decisions. For example, a purchasing agent can communicate to a supplier which innovations and new technologies the buying firm needs. These communications involve information that is of a long-term, strategic nature and can be performed for each product type supplied by a supplier to the buying firm (Kraljic, 1983).

Strategic communications increase a supplier's trust in the buying firm by reducing the risks and uncertainties surrounding a supplier's long-term plans for servicing the buying firm (Zhang et al., 2009). Through strategic communication of purchasing agents, the strategic goals and intentions of buying firms are revealed, which helps to establish shared norms and values between buyers and suppliers (Ireland and Webb, 2007; Paulraj et al., 2008). As Ireland and Webb (2007) note, "Given that strategic supply chains are composed of firms with idiosyncratic objectives and contexts, these [strategic communication] roles offer transparency to individual firm actions." (p. 493).

The trust generated by strategic communication is directed toward the buying firm responsible for approving the communication rather than the purchasing agent for a variety of reasons. The buying firm the purchasing agent represents delineates the content of strategic communication (Perrone et al., 2003). As such, a purchasing agent primarily accepts their role of communicating strategy passively as opposed to actively choosing the content of their strategic communication (Perrone et al., 2003). This capability directly links a purchasing agent to the buying firm in the supplier's mind as he or she is essentially functioning as the conveyor of the buying firm's message without needing to add significant personal interpretations to the message (e.g. Aldrich and Herker, 1977; Ireland and Webb, 2007). Because purchasing agents are unlikely to exercise a significant amount of discretion when communicating the strategic objectives and intent of the buying organization they represent, a supplier firm is likely to assign responsibility for the communications delivered to the buying firm and thus manifest trust toward the buying firm rather than the purchasing agent delivering the message (Perrone et al., 2003). Perrone et al. (2003) observe that trust in the buying firm increases significantly as a purchasing agent carries out roles strictly delineated by the buying firm. Accordingly, we hypothesize that:

H1. Purchasing agents' strategic communication is positively related to a supplier's trust in a buying firm.

3.2. Professional knowledge

Purchasing agents also shape relations with suppliers through their professional knowledge, i.e., the knowledge that enables them to competently carry out their responsibilities. Purchasing agents can use their professional knowledge to shape interactions with suppliers and thus gain greater control over the environment external to the firm (Doney and Cannon, 1997; Perrone et al., 2003). An organization may have a great deal of knowledge resources at the organizational level. Such knowledge may not always be accessible to the individual purchasing agent, who may need a wide breadth of knowledge to make intelligent decisions (Aldrich and Herker, 1977). A purchasing agent can gain power within the buying organization by accumulating knowledge about the products, processes, and working style of the buying and supplying organizations (Perrone et al., 2003). Over time, the professional knowledge accumulated by a purchasing agent may become a scarce resource, which makes the knowledge more valuable and the purchasing

agent possessing it more powerful (Perrone et al., 2003). In other words, a purchasing agent's professional knowledge reveals a purchasing agent's competence as an individual independent of the buying firm (Doney and Cannon, 1997). It allows the supplier firm to assess the power and knowledge of a purchasing agent to manage people in the buying organization to carry out the agreements he or she has reached with the supplier representative (Perrone et al., 2003).

A supplier is more likely to develop trust in the purchasing agent when they perceive the purchasing agent as being competent and able to deliver on his or her promises (Doney and Cannon, 1997; Perrone et al., 2003). This observation is consistent with the finding that a boundary spanner's expertise results in a positive evaluation of the boundary spanner by his or her counterparts (Biong and Selnes, 1996). Furthermore, when a purchasing agent is knowledgeable about a supplier's product and business, this forms a common knowledge base the two firms can share (Schroeder et al., 2008). Suppliers are more likely to feel understood and valued when they perceive a purchasing agent as knowledgeable about their product(s) and business. In this sense, a purchasing agent's professional knowledge serves as a positive indication to the supplier that the purchasing agent is inclined to facilitate joint-goal achievement between the two parties and is thus trustworthy (Johnson and Johnson, 1972; Doney and Cannon, 1997).

Boundary spanner professional knowledge resides within the individual purchasing agent rather than the buying firm. In contrast to strategic communication, where purchasing agents passively accept the role directed by the firm they represent, professional knowledge enables purchasing agents to proactively shape the boundary spanning role they perform (Spekman, 1979; Doney and Cannon, 1997). Spekman (1979) reported that knowledge and experience are major reasons a boundary spanner is considered influential in decision-making. As such, professional knowledge gives purchasing agents higher professional status and allows them to exercise their expert power within the buying firm (Spekman, 1979; Tushman and Scanlan, 1981). Suppliers perceive this expert power as an indication that a purchasing agent has decision-making autonomy within their organization, which makes the supplier more likely to trust the purchasing agent (Perrone et al., 2003). Doney and Cannon (1997) found that a salesperson's expertise significantly increases trust in the salesperson. Similarly, Perrone et al. (2003) found that a purchasing agent's tenure within an organization significantly increases a supplier's trust in the purchasing agent, as greater tenure is associated with greater knowledge. Thus, we hypothesize:

H2. Purchasing agents' professional knowledge is positively related to a supplier's trust in a purchasing agent.

3.3. Ability to compromise

A purchasing agent's ability to compromise deals with the mediation activities purchasing agents undertake to overcome differences that arise between their firm and the suppliers from whom they are acquiring goods and services. Perrone et al. (2003) propose that a purchasing agent's ability to resolve potential conflicts between buying and supplying organizations and reach mutually acceptable solutions demonstrates the purchasing agent's intention and ability to consider the interests of both collaborative parties. It also represents a discretionary behavior on the part of the purchasing agent to maintain the spirit of commitment (Perrone et al., 2003). Indeed, these activities can be a challenge for the purchasing agent, who as a representative of the buying firm is often assumed by the salesperson to be acting solely in the buying firm's best interest. Successful mediation under these conditions, which can easily degenerate into contentious adversarial meetings,

requires that the purchasing agent demonstrate an understanding of and empathy for the concerns of the supplier, while striving to reach equitable solutions for both the buying and supplying firms (Friedman and Podolny, 1992; MacDuffie and Helper, 2006). Furthermore, purchasing agents must also act as advocates for the supplier within their firm to help ensure that decisions by other employees of the buying firm, who are looking out for the best interests of themselves and their firm, do not unduly negatively impact the supplying firm (Friedman and Podolny, 1992). By balancing the interests of the supplier with the interests of their firm, purchasing agents can effectively mediate between the buying and supplier firms, reducing antagonism and adversarial feelings—particularly on the part of the supplier. The purchasing agent's ability to compromise in mediation situations deals with engaging an external organization, i.e., the supplier, in such a way as to build the perception that the purchasing agent cares about the needs of the supplier and thus can be trusted.

As with professional knowledge, a supplier's trust in the purchasing agent rather than trust in the buying firm increases when a purchasing agent consistently demonstrates the ability to reach compromise with suppliers. Although a purchasing agent's ability to compromise can be influenced by the firm for which the individual works, it is rationally attributed to individuals (Friedman and Podolny, 1992). Friedman and Podolny (1992) explains that for individual boundary spanners to be trusted by both the firm they represent and the parties with whom they interact, they need to substantively engage in compromise behaviors. In a similar line of thought, MacDuffie and Helper (2006) propose that a purchasing agent's ability to reach a compromise is highly critical to managing supplier relations in the automotive industry. MacDuffie and Helper (2006) further observe that a key determinant of the long-term competitiveness of buyers in the automotive industry is the ability of purchasing agents to reach mutually beneficial cost-reduction solutions with suppliers. Doing so requires purchasing agents to exercise their discretionary decision-making autonomy when managing relationships with suppliers (Perrone et al., 2003). As such, a supplier is likely to place their trust in an individual purchasing agent rather than the buying firm with whom the purchasing agent is associated. Thus, we hypothesize:

H3. Purchasing agents' ability to reach compromise is positively related to a supplier's trust in a purchasing agent.

3.4. Trust in purchasing agents and trust in buying firms

A supplier's trust in a purchasing agent and in the buying firm employing the agent are likely to be intertwined as one reinforces the other (Doney and Cannon, 1997; Zaheer et al., 1998). As the primary buying firm commercial contact, the purchasing agent represents an important source of trust for the supplier (MacDuffie and Helper, 2006; Doney and Cannon, 1997). The repeated interactions between purchasing agents and supplier salespeople enable the supplying firm to develop trust in the purchasing agent (Jap and Anderson, 2003), which in turn strengthens the overall relationships between the buying and selling firms (Bradach and Eccles, 1989; Doney and Cannon, 1997; Zaheer et al., 1998). As such, trust in the purchasing agent can serve as an antecedent of trust in the buying firm the purchasing agent represents.

The influence between trust in the purchasing agent and trust in the buying firm may occur in the other direction as well (Doney and Cannon, 1997; Zaheer et al., 1998). For example, trust can transfer from a well-know organization to a less well-know group or individuals who represent the organization (Doney and Cannon, 1997). Also, a salesperson's previous interactions with various members of the buying firm can be used to infer to what extent a new unknown purchasing agent can be trusted. Using data collected from 200 purchasing managers, Doney and Cannon (1997) found a reciprocal causation between trust in salespeople and trust in supplier firms. Though we examine purchasing agents and buying firms, this still supports the notion of trust in a firm influencing trust in the boundary spanners they employ. As such, we hypothesize:

H4a. Supplier firm trust in the purchasing agent increases supplier firm trust in the buying firm.

H4b. Supplier firm trust in the buying firm increases supplier firm trust in the purchasing agent.

4. Method

4.1. Research setting and data collection

The data were collected from production goods suppliers of two major global manufacturing firms in the automotive and food industries. We chose the automotive and food industries because they differ significantly in the nature of products procured and the degree of innovation required in the upstream supply chain. As a result, diverse practices exist in managing supplier relationships in these two industries, which helps to increase the generalizability of the study findings. The North American-based automotive assembler and European-based processed food manufacturer provided contact information for their production suppliers. The suppliers for each firm received minimum annual purchases of $250K from the automotive assembler or $160K from the food processor. All of these suppliers were in good standing with the respective buying firms. We focused on the buyer–supplier relations at the buying situation level. Each buying situation is defined as production goods in a specific commodity area provided to a specific manufacturing site by a supplier. For example, for the automotive assembler, a buying situation can be exhaust systems provided to a GM plant by a Delphi division. The buying situation was adopted as the unit of analysis since buyer–supplier relationship management practices in manufacturing industries vary significantly across buying situations (Laseter and Ramdas, 2002; Takeishi, 2001; Dyer and Hatch, 2006).

Supplier salespeople were used as the key informants for the study. Our interviews with supplier engineering and sales personnel at various levels indicated that the salespeople in their role of having commercial responsibility for a specific buying account, are directly responsible for resource allocation to the account. Furthermore, supplier salespeople are intimately aware of the relationship management practices the buying firm has implemented with their firm. In completing the survey questionnaire the supplier salespeople first selected the commodity area(s) for which they have responsibility and then answered the questions as they related to the working relations their firm has with the buying firm for the commodity area(s) for which they have commercial responsibility. The approach of key informant selection adopted in this study is consistent with that recommended by Kumar et al. (1993).

A large-scale Internet-based survey of the supplier salespeople was implemented independently for each buying organization. A total of six weekly reminders were emailed to each non-responding salesperson before data collection was completed. We received contact information for 692 supplier salespeople working for 332 automotive suppliers and contact information for 283 supplier salespeople working for 153 food suppliers. We asked the supplier respondent to answer the questions in each questionnaire as they relate to a single buying situation they have commercial responsibilities for. They were instructed to rate the purchasing agent with whom they have had the most contact over the past year. For the automotive industry sample, the purchasing agents are referred to as "commodity buyers", and for the food industry sample, the purchasing agents are referred to as "buyers". Out of the supplier

salespeople contacted (692 in the automotive industry and 332 in the food processing industry), 230 salespeople in the automotive industry completed usable questionnaires corresponding to a response rate of 33%, and 125 salespeople in the food industry filled out questionnaires corresponding to a response rate of 44%. These responses provide completed information on all focal constructs for 345 buying situations in the automotive industry and 143 buying situations in the food industry. The majority of the responses (66.1% in the automotive industry; 88.2% in the food processing industry) are provided by an individual supplier salesperson or team reporting on an individual buying situation to a buying organization. There are instances where an individual supplier salesperson or team has major responsibility for multiple buying situations (the remaining 33.9% for the automotive industry and 12.8% for the food processing industry). In these cases, the individual salesperson or team provided multiple responses concerning the multiple buying situations. In all cases, each buying situation is recorded on a single questionnaire.

We searched for evidence of non-response bias by comparing early and late responses in terms of all of the constructs included in the study (Armstrong and Overton, 1977). We found no significant differences between early and late response groups on these key variables. The supplier firms sample for the automotive assembler had been supplying the global manufacturer from 1 to 100 years with a median of 20 years. The supplier firms sample in the food industry has been supplying the food processor from 1 to 80 years with a median of 12 years.

To minimize the potential common method bias introduced by the use of self-reported data from a single source of information, we encouraged team consensus when responding to the survey. Responses provided by team consensus are likely to reduce the bias associated with any particular individual's attitude and cognition on the subject matter. This is in particular important in situations where an individual respondent is uncertain of some of the questions in the survey. We encouraged the salesperson to whom the survey questionnaire was directed to involve other supplier personnel who worked with the assembler to assist them in answering the questions, if they were uncertain of the appropriate response. By including an item in the survey asking how the survey was completed, we found that 55.5% of the completed questionnaires for the automotive assembler and 50.2% of the completed questionnaires for the food processor were completed by consensus reached among multiple supplier personnel who were familiar with their firm's working relations with the manufacturer. Of the remaining completed questionnaires that were answered by a single salesperson, the salespeople tended to work for local suppliers or were responsible for a single product and were understandably confident of their knowledge of the questionnaire items. We further examine whether data collected from the two types of responses produce consistent findings. We split the samples into two groups by whether the responses were formed by team consensus. We ran the hypothesized model and found that the results for both groups are consistent, and there are no significant differences for the coefficient estimates between the two groups. Furthermore, we also employed Harman's single factor test to examine whether common method variance presented a significant threat to the data analysis. We found that the hypothesized measurement models fit the data significantly better than a single factor model, suggesting that common method bias is not a significant concern in the current study.

4.2. Questionnaire instrument

The survey instrument was developed in three stages. First, a literature review identified a list of potential measures we could adopt for the study. Second, we conducted interviews with purchasing directors, managers, and purchasing agents in each manufacturer (36 in the automotive assembler and 25 in the food processor) and with supplier salespeople who had commercial responsibility for each manufacturer (13 automotive suppliers and 18 food processor suppliers) to determine the content validity of the potential measures. These interviews resulted in modifications of some measures and also identified several new measures. We revised the survey instrument based on a pre-test of the questionnaire involving additional salespeople who did not help in the development of the measures (six automotive supplier salespeople and five food processor supplier salespeople).

4.3. Measures

All measurements were made using a one to five scale (1 = to a very little extent, 5 = to a very great extent). A *supplier's trust of purchasing agent* (BTRUST) is measured by a four-item scale modified from Perrone et al. (2003). It measures to what degree a supplier considers a purchasing agent to be (1) overall trustworthy, (2) has high integrity, (3) respectful of the salesperson and others in the supplier firm, and (4) reliable in making negotiation-related promises with the supplier firm. The Cronbach alpha for the four-item scale is 0.90 for the automotive manufacturer and 0.87 for the food processor.

A *supplier's trust of buying firm* (FTRUST) is measured by a four-item scale modified from Perrone et al. (2003). It captures the degree to which a supplier considers the buying firm (1) to be overall trustworthy, (2) to be fair in dealing with the supplier (3) to live up to the spirit of its commitments, and (4) to treat the supplier as a valued partner. The Cronbach alpha for the construct is 0.91 for the automotive manufacturer and 0.87 for the food processor.

The scales for the three types of boundary spanning capabilities, strategic communication, professional knowledge, and ability to reach compromise were developed for this study based on ideas presented in Aldrich and Herker (1977) and Perrone et al. (2003) and field interviews. *Purchasing agent strategic communication* (BCOM) was measured by a 4-item scale that captures the degree to which a purchasing agent is effective at explaining (1) the supplier's role in the buying firm's long-term overall purchasing strategy, (2) the buying firm's purchasing strategy for the products supplied by the supplier, and (3) the importance of the supplier firm in bringing innovation and/or new technologies to the buying firm. We learned through field interviews that the contents of strategic communication can be industry-specific, so we included a 4th item for the automotive industry, which measures the degree to which a purchasing agent is effective at explaining the buying firm's supplier suggestion program. For the food industry, the 4th item measures the degree to which a purchasing agent is effective at explaining contracts and agreements to the supplier. The Cronbach alpha for the construct is 0.89 and 0.88 for the automotive and food manufacturers, respectively.

Purchasing agent *professional knowledge* (BKNOW) measures the degree to which a purchasing agent has sufficient (1) commercial knowledge, (2) general product technical knowledge, (3) engineering or manufacturing process knowledge, (4) knowledge of the supplier's product, and (5) knowledge of the supplier's capabilities. The Cronbach alpha for the five-item construct is 0.92 and 0.90 for the automotive and food manufacturers, respectively.

Purchasing agent *ability to reach compromise* (BCOMPS) measures the degree to which a purchasing agent (1) reaches solutions that are equitable to both the buying firm and the supplier firm when differences arise, (2) generally considers the supplier's commercial and financial interests, and (3) acts as the supplier's advocate with the buying firm's engineering division. The Cronbach alpha for the three-item construct is 0.84 for the automotive manufacturer and 0.75 for the food manufacturer.

Table 1
Reliability construct measurements and validity assessment.

Construct measures	Standard loading (automotive industry)	Standard loading (food industry)
Purchasing agent strategic communication capability	$\alpha = .89$	$\alpha = .88$
The purchasing agent is effective at:		
1. Explaining the buying firm's purchasing strategy for the products supplied by your firm·	.863	.874
2. Explaining your firm's role in the buying firm's long-term overall purchasing strategy	.890	.883
3. Explaining the importance of your firm bring innovation and new technologies to the buying firm	.830	.777
4. Explaining the buying firm's supplier suggestion program/contracts or agreements to supply	.628	.792
Purchasing agent professional knowledge	$\alpha = .92$	$\alpha = .90$
1. Commercial knowledge	.791	.784
2. General product technical knowledge	.871	.847
3. Engineering/manufacturing process knowledge	.874	.677
4. Knowledge of your firm's products·	.838	.862
5. Knowledge of your firm's capabilities·	.801	.875
Purchasing agent ability to reach compromise	$\alpha = .84$	$\alpha = .75$
1. The purchasing agent generally strives to reach solutions that are equitable to both the buying firm and your firm when differences arise	.805	.820
2. The purchasing agent acts as your firm's advocate with the buying firm's engineering division	.721	.508
3. The purchasing agent generally considers your firm's commercial and financial interests	.893	.631
A supplier firm's trust of a purchasing agent	$\alpha = .91$	$\alpha = .87$
1. The purchasing agent is respectful of you and others in your firm	.811	.840
2. The purchasing agent has high integrity	.945	.910
3. The purchasing agent is overall trustworthy	.939	.943
4. The purchasing agent is reliable in making negotiation-related promises with our firm·	.646	.576
A supplier firm's trust of a buying firm	$\alpha = .91$	$\alpha = .87$
1. The buying firm treat your firm as a valued supplier	.809	.791
2. The buying firm lives up to the spirit of its commitments	.829	.771
2. The buying firm is fair in its dealing with your firm	.888	.862
3. The buying firm is overall trustworthy·	.893	.816

We include two control variables that are relevant to buyer–supplier relationship management: *supplier sales dependency* and *relationship length*. Supplier sales dependency is measured as the approximate share of a supplier firm's annual sales to the buying company; relationship length is measured by the number of years a supplier firm has been supplying similar products to the buying company.

5. Data analysis and results

5.1. Measurement model evaluation

We evaluate the measurement models for the two samples using the following methods. First, we evaluate reliability and the construct validity of independent and dependent constructs using Cronbach's alpha coefficient and confirmatory factor analysis (CFA) (EQS 6.1). The Cronbach's alpha coefficients for all the constructs for both samples exceed the 0.7 cutoff value, therefore construct reliability is established. The pre-specified CFA model provides an acceptable fit (χ^2 (160) = 701.274, CFI = 0.907, IFI = 0.907, GFI = 0.827, RMSEA = 0.099 for the automotive industry; (χ^2 (160) = 356.522, CFI = 0.908, IFI = 0.909, GFI = 0.805, RMSEA = 0.093). All factor loadings were statistically significant at the 5% level and exceed the arbitrary 0.5 standard. We tested for discriminant validity by comparing an unconstrained model with a model with the correlation between each pair of constructs constrained to equal one (Bagozzi et al., 1991; Zaheer et al., 1998). We found that in all cases the cross-construct correlations were significantly different from 1.0, which suggests the presence of discriminant validity. In general, these results provide support for construct validity for the measures employed in the study. The results for construct validity and reliability are reported in Table 1.

5.2. Structural model evaluation

After reliability and construct validity were established for the measurement models, structural path parameters were estimated. We began by examining the reciprocal relations between trust in the buying firm and trust in the purchasing agent. After the direction of the relationship between the two levels of trust was established, we proceeded to test the hypothesized relationships between the boundary spanning capabilities and trust. The correlation matrix among the focal constructs for the two samples is reported in Table 2. The result for structural path parameter estimates across the two samples is provided in Table 3.

Table 2
Correlation matrix of variables analyzed.

	BTRUST	FTRUST	BCOM	BKNOW	BCOMPS
BTRUST	1	.575[**]	.602[**]	.719[**]	.677[**]
FTRUST	.494[**]	1	.509[**]	.457[**]	.590[**]
BCOM	.519[**]	.513[**]	1	.700[**]	.643[**]
BKNOW	.681[**]	.424[**]	.574[**]	1	.656[**]
BCOMPS	.665[**]	.520[**]	.748[**]	.568[**]	1
Automotive industry					
Mean	3.087	2.700	2.199	2.761	2.503
Std.	0.979	0.846	0.858	0.906	0.917
Food industry					
Mean	4.147	3.950	3.339	3.569	3.439
Std.	0.811	0.709	0.973	0.879	0.705

$N = 345$ for the automotive industry and $N = 143$ for the food industry.

The correlation matrix for the automotive industry sample is provided in the lower diagonal, and the correlation matrix for the food industry sample is provided in the upper diagonal.

[**] Correlation is significant at the 0.05 level (2-tailed).

Table 3
Standardized parameter estimates of the tests of hypotheses.

Independent variables	Dependent variables			
	Trust of purchasing agent		Trust of buying firm	
	Automotive industry	Food industry	Automotive industry	Food industry
Strategic communication			0.338**	0.211*
Professional knowledge	0.424**	0.556**		
Ability to compromise	0.458**	0.285**		
Trust of purchasing agent			0.392**	0.536**
Relationship length			0.02	0.067
Supplier sales dependency			0.046	0.095

Overall fit index: Chi-square = 14.71, d.f. = 11, CFI = .995, GFI = .985; AGFI = .962, RMSEA = .034 for the automotive industry sample.
Overall fit index: Chi-square = 7.496, d.f. = 11, CFI = 1.00, GFI = .975, AGFI = .937, RMSEA = .000 for the food industry sample.
  * Parameters significant at 0.1 significance level.
  ** Parameters significant at 0.05 significance level.

5.2.1. Testing of reciprocal relations between trust in the buying firm and trust in the purchasing agent

We used structural equation modeling (SEM) to test the reciprocal relations between trust in the buying firm and trust in the purchasing agent. SEM has become a commonly used technique in management research to examine reciprocal relations between two constructs using cross-sectional data (Wong and Law, 1999; Mesquita et al., 2008). Wong and Law (1999) found that this methodology results in parameter estimates that are a good proxy for the true time-lagged effects with a reliability of $p < 0.05$. We applied the method outlined in Wong and Law (1999) and Mesquita et al. (2008) to test the reciprocal relationships between trust in the buying firm and trust in the purchasing agent. Specifically, we included different instrumental variables for each endogenous variable (e.g. trust in the buying firm and trust in the purchasing agent), and correlated disturbance terms of each endogenous variable as recommended by Wong and Law (1999).

We found that trust in the purchasing agent significantly increases trust in the buying firm ($b = 0.392$, $p < 0.05$ for the automotive industry sample; and $b = 0.536$, $p < 0.05$ for the food industry sample), which confirms H4a. Trust in the buying firm, however, did not have a significant effect on trust in the purchasing agent ($b = -0.055$, $p > 0.05$ for the automotive industry sample; and $b = -0.720$, $p > 0.05$ for the food industry). H4b was thus not supported. We therefore concluded that the relationship between trust in the purchasing agent and trust in the buying firm is unidirectional from trust in the purchasing agent to trust in the buying firm. We thus released the path from trust in the buying firm to trust in the purchasing agent for further structural model testing.

5.2.2. Relationships between boundary spanning capabilities and trust in the buying firm and in purchasing agents

The results of structural model testing are shown in Table 3. We found that the structural model linking boundary spanning capabilities to trust has a satisfactory overall fit level (χ^2 (11) = 14.71, CFI = 0.995, GFI = 0.985; AGFI = 0.962, RMSEA = 0.034 for the automotive industry sample; χ^2 (11) = 7.496, CFI = 1.00, GFI = 0.975, AGFI = 0.937, RMSEA = 0.000 for the food industry sample).

The relationship between a purchasing agent strategic communication and a supplier's trust in the buying firm is positive and significant ($b = 0.338$, $p < 0.05$ for the automotive industry sample; $b = 0.211$, $p < 0.1$ for the food industry sample), which supports H1. Purchasing agent professional knowledge has a significant and positive effect on a supplier's trust of the purchasing agent ($b = 0.424$, $p < 0.05$ for the automotive industry sample; $b = 0.556$, $p < 0.05$ for the food industry sample). H2 is thus confirmed. As hypothesized, purchasing agent ability to compromise also significantly increases a supplier's trust of a purchasing agent ($b = 0.458$, $p < 0.05$ for the automotive industry sample; $b = 0.284$, $p < 0.05$ for

the food industry sample), which supports H3. For the control variables, no significant relationships were found between relationship length and a supplier's trust of a buying firm ($b = 0.020$, $p > 0.05$ for the automotive industry sample; $b = 0.067$, $p > 0.05$ for the food industry sample) or between sales dependency and a supplier's trust of a buying firm ($b = 0.046$, $p > 0.05$ for the automotive industry sample; $b = 0.095$, $p > 0.05$ for the food industry sample).

5.2.3. Testing of direct vs. mediating effects

We further compared our hypothesized model with a rival model where direct paths are specified between all three types of boundary spanning capabilities and the two types of trust (Bagozzi and Yi, 1988; Wulf et al., 2001). As the two industry samples share similar measurement model and path model structures, we pooled the data to conduct the test of direct vs. mediating effects (Bollen, 1989). We found that purchasing agent strategic communication significantly affects trust in the buying firm ($b = 0.366$, $p < .05$), but no direct relationship was found between a purchasing agent's strategic communication and trust in the purchasing agent ($b = -0.097$; $p > 0.05$). Furthermore, professional knowledge of a purchasing agent significantly increases trust in the purchasing agent ($b = 0.463$, $p < 0.05$), but does not directly influence trust in the buying firm ($b = -0.022$, $p > 0.05$). Similarly, a purchasing agent's ability to compromise has a significant and direct effect on trust in the purchasing agent ($b = 0.528$, $p < 0.05$), but not on trust in the buying firm ($b = 0.041$, $p > 0.05$). Adding the additional direct effects did not contribute to a significant improvement in model fit ($\Delta \chi^2 = 1.412$). We thus conclude that no evidence was found for direct relationships between all three types of boundary spanning capabilities and both trust in the buying firm and trust in the purchasing agent.

5.2.4. Robustness check

We conducted an additional test to examine whether the buying companies have significant effects on the path coefficient estimates. To control for the buying company effect, we included a dummy variable identifying the two buying companies. We found that the dummy variable has significant effects on both trust in the buying firm ($b = .251$, $p < 0.05$) and trust in the purchasing agent ($b = .100$, $p < 0.05$). However, controlling for the buying company effect did not change the significance levels and directions of the path coefficient estimates.

Furthermore, we examine whether including multiple responses from the same source creates inter-case dependence that biases the study findings. We re-estimated the hypothesized model including only a single response from each respondent. We found no significant differences between the original data and this subset of data in the directions and the significance levels of the

path coefficient estimates. The results of these tests increase our confidence in the validity of the study findings.

6. Discussion and managerial implications

Building on boundary theory and supply chain cooperation literature, we investigate how different types of boundary spanning capabilities of individual purchasing agents affect trust development at multiple levels between buying and supplying organizations. The findings show that a purchasing agent's strategic communication directly increases a supplier's trust in the buying firm, while a purchasing agent's professional knowledge and ability to compromise significantly influence a supplier's trust in purchasing agents. The current research enriches the existing supply chain trust literature (e.g., Doney and Cannon, 1997; Zaheer et al., 1998; Perrone et al., 2003; Ireland and Webb, 2007; Hill et al., 2009) by conceptualizing and empirically demonstrating the differential effects of boundary spanning capabilities of purchasing agents on buyer–supplier trust development at multiple levels.

We propose that strategic communication of purchasing agents will significantly increase a supplier's *trust in the buying firm* (H1). The results show that strategic communication has a positive and significant effect on a supplier's trust in a buying firm, and the relationships are consistent across both the automotive and food industry samples. These findings suggest that strategic communication carried out by purchasing agents indeed can serve as a vehicle for trust-building at the firm level. As proposed by Ireland and Webb (2007), strategic communication of boundary spanners provides a supplier intimate knowledge of a buying firm's future plans, which helps to coordinate the supply chain and increases a supplier's trust in the buying firm. The findings of this study support their proposition by showing the direct effect of strategic communication on trust in a buying firm. Further, we found no significant relationship between a purchasing agent's strategic communication and a supplier's trust in the purchasing agent. As the content of strategic communication is largely delineated by the buying firm, a supplier can reasonably attribute the capability of a purchasing agent in distributing strategic communications to corporate policy or training performed by the buying firm. In performing strategic communication, purchasing agents primarily serve as a role-taker by representing strategic directions and maintaining a trustworthy image for the buying firm (Perrone et al., 2003). As such, this boundary spanning capability is closely linked with a buying firm's willingness to openly share information, which directly increases trust in the buying firm. On the other hand, ineffective strategic communication by purchasing agents can directly jeopardize a supplier's trust in the buying firm as a whole.

Besides this direct mechanism of developing trust in the buying firm, we found that purchasing agents' professional knowledge enhances a suppliers' *trust in the purchasing agents* (H2). These results hold for both the automotive and food industry samples. Furthermore, no direct effects were found between a purchasing agent's professional knowledge and a supplier's trust in the buying firm. Professional knowledge of a purchasing agent signals his or her overall competence and professional status within the firm. Considered as a source of expert power held by individual boundary spanners, professional knowledge is primarily linked with individual purchasing agents as opposed to a buying firm in the minds of suppliers. As such, a supplier's trust is primarily placed in the purchasing agent rather than the buying firm when a purchasing agent demonstrates professional knowledge. Previous studies found that general expertise (Doney and Cannon, 1997) and tenure within an organization (Perrone et al., 2003) increase trust in the boundary spanner. The findings of this study extend those of Doney and Cannon (1997) and Perrone et al. (2003) by showing that profes-

sional knowledge, including technical and commercial knowledge and knowledge related to the supplier's products and capabilities, can significantly enhance a supplier's trust in a boundary spanner.

Similar to professional knowledge, a purchasing agent's ability to reach compromise also directly increases a supplier's trust in the purchasing agent, but not trust in the buying firm. As Friedman and Podolny (1992) propose, a boundary spanner is likely to risk either being distrusted by supplier firms or by their own firms if he or she fails to effectively negotiate a fair solution for issues concerning the interests of both parties. Our findings support the proposition of Friedman and Podolny (1992) by showing that a purchasing agent's ability to reach compromise significantly increases a supplier's trust in the purchasing agent. This finding further corroborates the observations of MacDuffie and Helper (2006) in their case study of supplier relations in the automotive industry. MacDuffie and Helper (2006) propose that in order for the automotive assemblers to build "collaboration with trust", they need to employ purchasing agents who adopt a team-orientation when working with suppliers. A purchasing agent's ability to compromise builds the team-orientation required in collaborating with suppliers. Our findings extend those of MacDuffie and Helper (2006) by showing that a purchasing agent's ability to compromise directly increases a supplier's trust in the purchasing agent, which is then transferred to inter-organizational trust between buying and selling organizations.

Furthermore, we found that a supplier's trust in a purchasing agent leads to a supplier's trust in the buying firm but not vice versa. Trust in individual boundary spanners is indeed an antecedent of trust in the organization they represent. This finding suggests that interpersonal relations can be sources of inter-organizational relational rents. As trust is developed in an individual boundary spanner before it is transferred to the firm, it is critical to maintain the continuity of the interpersonal relationship in order to sustain a long-term partnership with a particular firm. Surprisingly, we did not find a significant relationship between trust in the buying firm and trust in individual purchasing agents. These findings are different from the reciprocal relations on interpersonal trust and inter-firm trust found by Doney and Cannon (1997). One possible explanation is that the samples used in our study concerns existing relations between large buying firms and raw material or component suppliers. These buying organizations have a number of divisions and employ a large number of purchasing agents. Due to the scale of the buying firms and variations among different divisions, a supplier may not consider trust in the buying firm as a credible basis on which to infer trust in an individual purchasing agent. Instead, they may prefer to use information acquired from direct, personal experience with a purchasing agent as the basis for their judgment of the trustworthiness of the purchasing agent. Additionally, trust in the organization an individual belongs to is used only when little direct experience with the individual exists (Doney and Cannon, 1997). As one acquires direct experience with a boundary spanning individual, he or she can make a judgment based on these direct interactions. Because purchasing agents may interact frequently with suppliers, trust in the buying firm may not influence trust in purchasing agents in these relationships.

Managerially, the results show that suppliers develop trust in a specific purchasing agent in addition to the buying firm. Because of this, maintaining a relationship with a particular supplier imposes restrictions on buying firms that assign purchasing agents to suppliers. If trust is developed in the individual, then maintaining continuity of personal relationships takes on added importance. Though firm-level relationships are categorized as ranging from one-time transactions to long-term partnerships, a long-term partnership with a particular firm may not be sufficient to develop trust if turnover of the purchasing agent assigned to the partnership is high. The implication for managers is that they should be alert to

the importance of the personal relationships that develop between boundary spanners of their own firms and those of the suppliers. Maintaining trust may restrict the flexibility of managers in reassigning agents. Should reassignments need to be made, managers should employ measures to reduce any loss of trust. These measures may include finding a qualified replacement with professional knowledge of the product market and technology. Additionally, the outgoing purchasing agent trusted by suppliers should introduce the new agent so that whatever trust that has been developed may be transferred. Further, the outgoing purchasing agent can attempt to transfer some knowledge and skills used to compromise with suppliers to the new purchasing agent. In general, management should ensure that the new purchasing agents have the boundary spanning capabilities necessary to maintain trust with the supplier.

A second contribution for managers made by the study stems from the capabilities themselves. The importance of strategic communication implies that purchasing agents need to be kept abreast of the strategic plans of their organizations and be authorized and willing to share this information with suppliers. The effect of professional knowledge suggests that agents may benefit from having technical backgrounds or direct experience working for or with suppliers. Such experience may allow these agents to better relate to suppliers. Lastly, efforts to improve the negotiating and problem-solving skills of purchasing agents that focus on finding solutions that are beneficial to both buying and supplying firms could be justified.

7. Limitations and directions for future research

The findings of this study need to be interpreted in light of the following limitations.

First, the current study restricts its focus to boundary spanners who serve as purchasing agents. While purchasing agents can use their positions to influence other departments and external entities and ensure that certain communications flow through them (Strauss, 1962), they need not be the only contacts a supplier firm has with the buying firm (Ireland and Webb, 2007). The value of this research is thus in examining the role of purchasing agents on trust-building rather than a cataloging of all the boundary spanners who may interact with a supplier. Furthermore, when several boundary spanners from a buying firm such as engineering and purchasing personnel interact with a supplier in supplier development programs, trust in the buying firm may be developed in different ways. It is possible that the supplier judges the trustworthiness of each of the firm's personnel and forms a general opinion. Alternatively, it may weigh the trustworthiness of particular boundary spanners like purchasing agents who assume commercial responsibilities as most important in estimating the credibility of a buying firm. These research questions would be of interest to future development in this area.

Additionally, when a buying firm engages in integration with a supplier, this may work to mitigate the influence that a single purchasing agent exerts on trust-building in the buying firm. Integration in general and strategic integration in particular (e.g. Swink et al., 2007; Narasimhan et al., 2010) may give a supplier an additional basis upon which to form its judgments. Thus, a valuable research question could be to what extent supplier integration moderates the influence of boundary spanners on trust-building in the buying firm.

Another limitation of the study concerns the study setting. We collected data from two samples of suppliers of large buying organizations in the automotive and food industries. While using samples from a single-industry controls for industry effects, supply chain scholars (e.g. Noordewier et al., 1990; Jap, 1999) have cautioned that the effects found in single-industry studies may be different from other industry contexts. To address this concern, we collected data from firms in two distinct industries to cross-validate the findings of the study. Although the use of two separate industry samples enables us to increase external validity of our study findings and controls for potential industry effects, caution should be used in generalizing the findings of the study to other industries with different power structures between buyers and suppliers. For industries with a different power structure between buying and supplying organizations, we consider it worthwhile for future researchers to identify key variables and verify the research model tested here in the specific industry context.

Third, data were collected from the supplier's perspective in the buyer–supplier relationship. We considered it appropriate for the supplier salespeople a purchasing agent interacts with to evaluate the boundary spanning capabilities of the purchasing agents. Furthermore, it is necessary to have the supplier to evaluate the trust they place in the purchasing agents and the buying firm. The design of this study thus makes it difficult to collect data from multiple sources to minimize common method bias. This study, as with other studies of this type (e.g. Takeishi, 2001; Jap and Anderson, 2003; Griffith et al., 2006), would benefit from matched data between different personnel within a supplier firm or personnel from both suppliers and buying firms. Future research may explore other methods to corroborate data collected from a single source to minimize or avoid concerns of common method bias. Additionally, we collected the data at a single point in time. It may be valuable for future research to collect the measures for the boundary spanning capabilities and trust during different periods of time to establish the causal sequence of the hypothesized relationships and further minimize the potential influence of common method bias.

In conclusion, the focus of this study was to examine whether boundary spanner capabilities enhance a supplier's trust of an individual boundary spanner and the buying organization he or she represents. The findings of our study demonstrate the importance of retaining capable boundary spanners to build trust in industrial supply chains. As such, we hope this works serves as a starting point for future investigations of the role of individual boundary spanners at generating relational rents for participating firms.

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