Journal of Operations Management 28 (2010) 398–414

Contents lists available at ScienceDirect

Journal of Operations Management

journal homepage: www.elsevier.com/locate/jom

The interaction effect of relational norms and agent cooperativeness on opportunism in buyer–supplier relationships

Chanchai Tangpong [a,*], Kuo-Ting Hung [b], Young K. Ro [c]

[a] Department of Management and Marketing, College of Business, North Dakota State University, Dept. #2420, PO Box 6050, Fargo, ND 58108-6050, USA
[b] Information Systems and Operations Management Department, Sawyer Business School, Suffolk University, 8 Ashburton Place, Boston, MA 02108, USA
[c] College of Business, University of Michigan-Dearborn, 19000 Hubbard Dr., Dearborn, MI 48126, USA

ARTICLE INFO

Article history:
Received 26 March 2008
Received in revised form 11 December 2009
Accepted 16 December 2009
Available online 23 December 2009

Keywords:
Opportunism
Relational norms
Cooperativeness
Buyer–supplier relationships

ABSTRACT

In this study, we examined the effect of relational norms and agent cooperativeness on opportunism in buyer–supplier relationships. Drawing from the theoretical grounding of transaction cost economics, personality trait theory, and contingency theory, we proposed three distinct perspectives on opportunism mitigation in buyer–supplier relationships: (1) organizationalist, (2) individualist, and (3) interactionist, where relational norms, agent cooperativeness, and the interaction between them, respectively, serve as the key predictors in these three perspectives. The results of replicated experiments indicated that relational norms and agent cooperativeness interact with each other in mitigating opportunism and that the interactionist perspective yielded the highest explained variance in opportunism. This suggests that the interactionist perspective, a multi-level theoretical lens encompassing the dynamic interplay between organization-level and individual-level factors, was a more complete model in explaining opportunism than either the organizationalist or individualist perspectives. The consensus which emerged from post-experimental interviews of purchasing professionals is that agent personalities play an important role in buyer–supplier relationships. Some purchasing professionals had observed that uncooperative agents or personnel turnover in the boundary-spanning functions can substantially undermine even established relational exchanges. These qualitative findings are in line with our theoretical arguments and experimental outcomes.

1. Introduction

The topic of opportunism is one that has been studied in various buyer–supplier contexts (e.g., Carson et al., 2006; Jap and Anderson, 2003). Opportunism can occur when either firm in a buyer–supplier dyad unilaterally behaves for its own gain (Conner and Prahalad, 1996) and strains negotiations between firms. In the supply chain context, opportunism can encompass a wide range of behaviors (Carson et al., 2006; Wathne and Heide, 2000). Some of these may be passive, as in the case of quality shirking and misrepresentation or exaggeration of capability, or active, as in the case of contract breaching and violation of promotion agreements (Arino, 2001). Opportunism can even result in production disruptions, causing supply chain inefficiencies and significant negative economic impacts (Morgan et al., 2007). In addition, the formation of supply chain alliances between firms may fail due to the fear of opportunistic behaviors by potential partners (McCarter and Northcraft, 2007). These adverse consequences of opportunism on firm and supply chain performance stress the importance of controlling opportunism occurrences in exchange relationships (Hendricks and Singhal, 2005; Morgan et al., 2007). Managers thus dedicate considerable resources and efforts to monitoring and controlling exchange partners in highly opportunistic risk situations (Wathne and Heide, 2000).

To effectively structure the various types of firm governance modes that function to prevent opportunism within an exchange relationship poses an important and difficult challenge. The extant research has attempted to identify self-enforcing safeguards such as the use of market, hierarchy, and relational governance approaches and has studied their strengths in mitigating opportunism (e.g., Carson et al., 2006; Wuyts and Geyskens, 2005). Nevertheless, recent research on the mitigation of buyer–supplier opportunism has focused on organization-level governance mechanisms, particularly relational governance through the use of relational norms. These relational mechanisms are typically referred to as the values shared among exchange partners concerning appropriate behavior that maintains or improves their relationship (e.g., Heide and John, 1992; Macneil, 1980; Noordewier et al., 1990). However, this stream of research has largely

* Corresponding author. Tel.: +1 701 231 9445; fax: +1 701 231 7508.
E-mail addresses: Charnchai.Tangpong@ndsu.edu (C. Tangpong), khung@suffolk.edu (K.-T. Hung), yro@umich.edu (Y.K. Ro).

0272-6963/$ – see front matter © 2009 Elsevier B.V. All rights reserved.
doi:10.1016/j.jom.2009.12.001

ignored the role of human agents in mitigating opportunism in buyer–supplier relationships. Without considering the role of human agents in the opportunism-mitigating mechanism, we run the risk of attributing potential effects that are indeed exerted from individuals' characteristics and behaviors to that of firms, thus leading to a cross-level fallacy that threatens the validity of the research findings (Rousseau, 1985; Zaheer et al., 1998; Burton-Jones and Gallivan, 2007).

The importance of human agents in various aspects of exchange relationships has been highlighted by a broad range of management and business literature such as supply chain management (e.g., Batt, 2003; Faes et al., 2001; Marshall et al., 2007), organizational studies (e.g., Williamson, 1979; Zaheer et al., 1998), and marketing (e.g., Jap, 2001), as well as practitioner-oriented literature (e.g., Anderson and Jap, 2005). These literature streams reinforce the need to study factors at the individual (i.e., agent) level when examining interorganizational dynamics and motivate us to recenter the analytical lens on individual agents when investigating opportunism in buyer–supplier relationships. By extending the current research in buyer–supplier opportunism beyond emphasizing relational norms as a key opportunism-mitigating factor, this study addresses two research questions: (1) '*What are the main effects of agent characteristics on mitigating opportunism*?' and (2) '*What are the interaction effects of agent characteristics and relational norms on mitigating opportunism*?' Through an investigation of the personal characteristics of human agents in tandem with relational norms, this study potentially provides a more generalizable multi-level theory of opportunism mitigation in buyer–supplier relationships and sheds insights into the effectiveness of opportunism-mitigation practices in supply chains.

Since managers and sales/purchasing professionals in buyer and supplier firms often act as decision-making agents in exchange-related decisions, they may tend to engage in dynamic processes embedded in their exchange relationship, such as information sharing, joint problem solving, and conflict resolution that can be categorized as varying degrees of cooperative behaviors. These cooperative behaviors facilitate communication, enhance mutual gains between exchange partners, mediate inter-firm conflicts, and promote a long-term orientation in the exchange relationship, thus potentially mitigating opportunism (e.g., Dabholkar et al., 1994; Weitz and Bradford, 1999). As such, our investigative efforts are specifically focused on the effect of decision-making agents' cooperativeness (which refers to the personality trait that reflects an individual's predisposition to act in tolerant, empathetic, supportive, and compassionate manners towards others; refer to e.g., Cloninger et al., 1994) and on the interaction effect of agent cooperativeness and relational norms on opportunism in buyer–supplier relationships. As a pioneering step to unveil the agent-level effect on opportunism in buyer–supplier relationships, we focus our investigation on a single-agent exchange scenario, leaving a more complex multi-agent scenario for future research endeavors.

In the next section, we provide the background of this study, which briefly summarizes key approaches to mitigating opportunism in the buyer–supplier relationship literature. Following this, we discuss the development of the hypotheses in Section 3 and the experiments and their results in Sections 4 and 5. We then end the paper with discussion and conclusion in Section 6.

2. Background of the study

The broad literature on transaction cost economics and buyer–supplier relationships suggests three common approaches to controlling opportunism (e.g., Heide, 1994; McCarter and Northcraft, 2007; Morgan et al., 2007; Williamson, 1981). One approach is to incorporate the use of formal business contracts. This contractual or market approach is commonly used in marketing channels as a means to coordinate actions between exchange partners (e.g., Dixit, 2003). To effectively mitigate opportunism, contracts may be designed to consider different environmental scenarios and spell out specific terms in great precision (Luo, 2006). However, bounded rationality prevents individuals from creating omniscient contracts; as a result, they provide limited protection in that they can only protect against those actions and contingencies that were anticipated at the outset (Williamson, 1985). Unexpected contingencies are always a possibility, and contracts tend to be insufficiently flexible to adequately cope with frequent environmental changes.

A second approach to mitigating opportunism risks is to utilize the hierarchy approach (Williamson, 1981, 1985). A hierarchical form of governance relies more heavily on internal enforcement mechanisms based on legitimate authority derived from employment relations (Heide, 1994). Williamson (1981) suggests that transactions characterized by high asset specificity and high degrees of uncertainty are more effectively governed by hierarchy than by market. Vertically integrating suppliers and their capabilities eliminates the risk of opportunistic behavior by a supplier and yields coordination benefits for the integrating firm (Lu and Hébert, 2005). However, in many cases, this approach may be impractical and insufficient due to the extent of capital investment required or a lack of needed capabilities in the supply base.

Yet another governance approach suggested by the theory is the use of relational mechanisms such as relational contracting to mitigate opportunism risks (Carr and Pearson, 1999). This relational governance approach rests on the premise that transactions are typically embedded in social relationships, and thus there exist non-legal sanctions in the form of relational norms that motivate buyers and suppliers to commit in their exchange relationships (Heide and John, 1992; Macneil, 1980). The relational governance approach has gained much popularity in the buyer–supplier relationship literature over the last two decades (e.g., Chen et al., 2004; Dyer and Singh, 1998; McCarter and Northcraft, 2007), and it arguably does not fall prey to the same shortcomings found in the market or hierarchy approaches. Thus, many firms have begun to rely on this approach by developing long-term relationships and establishing relational norms in their exchange relationships that help govern the behaviors of the exchange partners. Toyota is a case-in-point illustrating the use of this relational approach. Various Toyota practices, such as emphasizing corporate values rather than skill development in dealership seminars, are attempts towards developing relational norms and social controls (Mehri, 2006; Wathne and Heide, 2000).

Recent studies on the relational governance approach have investigated the effectiveness of inter-firm relational structures in mitigating opportunism and further examined the nature of opportunism in inter-firm relationships. Relational governance developed through processes such as socialization is regarded as an effective mechanism to mitigate both passive and active opportunistic behaviors in the exchanges (Wathne and Heide, 2000). Relational governance reflects shared values and social norms among individual members, which in turn harmonize their interests and govern their behaviors (Chalos and O'Connor, 2004; Ouchi, 1980), and it effectively mitigates opportunism in volatile situations, though not in situations with high ambiguity (Carson et al., 2006). Some researchers have highlighted the complementary role of formal contracts in relational governance, as well-specified contracts help to clarify exchange partners' roles and expectations and provide clarity in exchange terms, remedies, and conflict resolution procedures (Poppo and Zenger, 2002). The process-oriented features of contracts such as the process of articulating complex contracts can also build commitment between exchange partners and facilitate the functions of

relational norms in promoting long-term relationships and limiting opportunism. In turn, relational governance can overcome the adaptive limits of formal contracts by endorsing bilateral and long-term orientations and promoting the continuity of relationships in the event of external change or conflict; thus, the exchange partners can attain a mutually acceptable resolution and sustain their exchange relationships (Macneil, 1980; Poppo and Zenger, 2002). In addition, institutional factors such as contract law can play an important role in paving foundations for long-term and cooperative relationships and in promoting trust among firms (Arrighetti et al., 1997). Within different institutional contexts, the effects of contractual and relational governance mechanisms may differ. While Poppo and Zenger (2002) purported the complementary roles of formal contracts and relational governance, Liu et al. (2009) found evidence that partially supports such a complementary effect in an emerging economy. Specifically, the joint effect between contract and relational norms on opportunism was not significant, whereas between contract and trust it was significant.

That being said, the predominant research stream in the relational governance approach has focused on relational norms as a key governing force in mitigating opportunism and examined opportunism through an organization-level analytical lens (Wathne and Heide, 2000). This line of research seems to implicitly assume that human agents operating in buyer–supplier relationships are subdued to the exchange norms, and therefore the role of human agents in dynamic exchange relationships is largely overlooked and understudied. Yet literature in operations and supply chain management has highlighted the significance of human agents in organizational performance. In product development, direct personal contacts across functional units and liaison roles at these units were found to have positive influences on the speed of product development (Clark and Fujimoto, 1992). With regards to sourcing decisions, political motivations and personal motives of managers were found to play major roles in influencing decision-making (Marshall et al., 2007), while the traits of purchasing professionals were associated with the effectiveness of the purchasing function (Faes et al., 2001).

Evidence of the important role of human agents in dynamic exchange relationships also abounds in the broader management and business literatures. For instance, agent personal characteristics and behaviors are known to hinder or foster the formation of exchange relationships among firms. As Kanter (1989) and Lyons et al. (1990) documented, past corporate initiatives by some U.S. automakers in the late 1980s to move towards a partnering relationship with their component suppliers in response to changing market conditions was undermined by individual purchasing agents who continued to treat the suppliers opportunistically. Anderson and Jap (2005) also revealed that opportunistic behaviors exhibited by decision-making agents can still occur even in a long-established relational exchange. On the other hand, personal relationships developed between individuals acting on behalf of their organizations in relational exchanges can serve to generate trust and discourage opportunistic behaviors between the firms (Zaheer et al., 1998). Similarly, the marketing literature has indicated that cooperative sales agents can play a significant role in relationship continuance in established exchange relationships (Biong and Selnes, 1996; Dabholkar et al., 1994; Weitz and Bradford, 1999) and that the demonstration of benevolence, i.e., the showing of compassion and cooperative action, by agents can provide assurance of non-opportunism to exchange parties (Jap, 2001). As evident in the cases of IBM and Xerox, when sales agents take an active role and engage themselves in the problem-solving efforts and various value-added activities of the client firms, both vendor firms and their clients can achieve mutual benefits (Biong and Selnes, 1996; Fierman, 1994). Another illustrative case is that, despite overwhelming disadvantages in costs and product lines, Caterpillar in the 1980s was successful in preventing Komatsu from becoming the dominant force in the U.S. construction machinery and equipment industry, and this success was attributed to the strong personal ties between Caterpillar's personnel and its dealers (Fites, 1996). This stream of literature underlines the importance of having cooperative agents in charge of managing exchange relationships. This is also consistent with the conflict resolution and negotiation literature (e.g., Butler, 1999; Rahim, 1983; Volkema and Bergmann, 1995) which has identified cooperativeness as a key personal characteristic of agents that promotes concern for others and reduces the likelihood of opportunism in negotiation encounters and conflict resolutions.

Guided by the above literature, we focused our investigative efforts on cooperativeness as a personal characteristic of decision-making agents (i.e., an individual-level factor) and how it may act independently or in concert with relational norms (i.e., an organization-level factor) in mitigating opportunism in buyer–supplier relationships. Examining these factors across multiple levels could potentially result in a more thorough understanding of opportunism mitigation in exchange relationships, as Klassen and Menor (2007) and Rousseau (1985) have suggested. We systematically examined this issue from three different but related perspectives in explaining opportunism in exchange relationships, namely, the *organizationalist* perspective (based on relational norms), the *individualist* perspective (based on agent cooperativeness), and the *interactionist* perspective (based on the interaction between relational norms and agent cooperativeness). The conceptual framework encapsulating these three perspectives and their corresponding hypotheses is illustrated in Fig. 1.

3. Hypothesis development

3.1. Organizationalist perspective

The organizationalist perspective is based on the thrust that relational norms act as a governance mechanism in controlling opportunism in buyer–supplier relationships. Relational governance is one of three opportunism-mitigating mechanisms (i.e., relational, contractual, and hierarchical) suggested by the transaction cost economics and buyer–supplier relationship literature (e.g., Heide, 1994; McCarter and Northcraft, 2007; Morgan et al., 2007; Williamson, 1981) and has been the focus of much study in the buyer–supplier relationship literature over the past two decades (e.g., Chen et al., 2004; Dyer and Singh, 1998; McCarter and Northcraft, 2007). However, the extant literature has shown mixed results on the effectiveness of this organization-level factor in mitigating opportunism (Brown et al., 2000; Carson et al., 2006). For example, while Brown et al. (2000) confirmed that relational norms can effectively mitigate opportunism in exchange relationships, Carson et al. (2006) found that the effectiveness of relational norms as a governance mechanism in curbing opportunism was contingent on the conditions of volatility and ambiguity.

Relational norms can be described as the values and priorities shared among exchange partners concerning what is considered appropriate behavior in the relationship, and these norms are based on expectations of mutual interests and behaviors that enhance the continuation of the relationship (Heide and John, 1992; Macneil, 1980; Noordewier et al., 1990). When low relational norms are present in a buyer–supplier relationship, the firms tend to display distributive or aggressive bargaining behaviors (Ganesan, 1993). Formal legal contracts are utilized to govern these relationships and aggressive negotiation is used to reduce ambiguity and resolve disagreements, which may lead to opportunistic behaviors (Carson et al., 2006). Relationships characterized by high relational norms are portrayed by firms that exhibit greater commitment to the partnership, display a

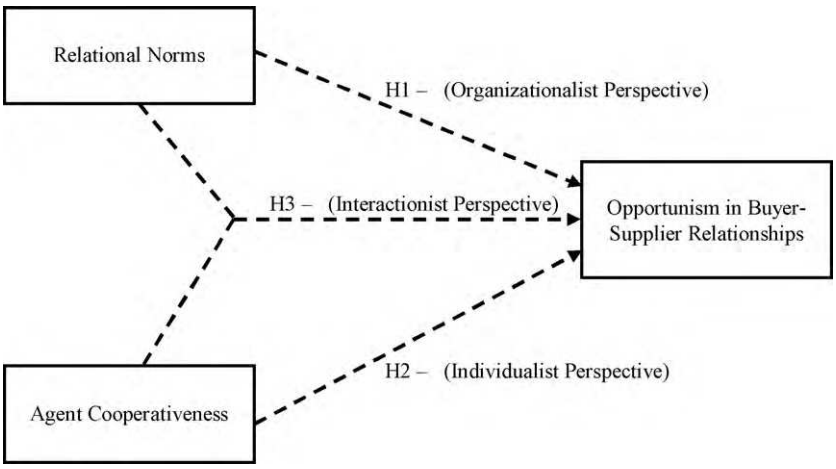

Fig. 1. Conceptual framework.

long-term orientation, and strive for mutual interests. All these provide a foundation for constraining opportunism in exchange relationships (Carson et al., 2006; Ganesan, 1994). In short, low relational norm relationships tend to be competitive and adversarial, while high relational norm relationships tend to be cooperative and partnerial. Due to these traits, opportunistic behaviors tend to be minimal in high relational norm relationships. This line of reasoning leads to the following hypothesis:

Hypothesis 1. Relational norms are negatively related to opportunism in exchange relationships.

3.2. Individualist perspective

The individualist perspective conjectures that human agents play a major role in explaining idiosyncratic behaviors in buyer–supplier relationships. This perspective is guided by the personality trait theory, postulating that personality traits – which are relatively stable sets of psychological characteristics and behavioral attributes and differ from one individual to another – explain the behaviors of individuals (e.g., Allport, 1937; Cattel, 1965; Weiss and Adler, 1984). This line of reasoning has also guided other management theories. For example, Theories X and Y (McGregor, 1960) espouse the different motivational natures of individuals, leading to the different approaches to managing people in organizations. Similarly, the logic of personality trait theory is also fundamental to the early leadership research that primarily focused on the key attributes of leaders (e.g., Bass, 1990) and is embedded in a more recent stream of leadership research that focuses on emotional intelligence as a key attribute of leaders (e.g., Dasborough, 2006; Hawkins and Dulewicz, 2007). At the fundamental level, personality trait theory highlights the important role of different personalities or characteristics that explain behavioral differences among individuals.

Guided by the logic embodied in the personality trait theory, we proposed the individualist perspective of opportunism in buyer–supplier relationships on the premise that different degrees of opportunism in buyer–supplier exchanges can be explained by characteristics of human agents who function in such exchange relationships. These agents, driven by their inherent characteristics, can act opportunistically or benevolently towards their exchange partners. While there are numerous human characteristics and traits identified in the literature, in this study we only focus on 'cooperativeness', which is suggested by the conflict resolution and negotiation literature as a key characteristic of human agents in negotiation and decision-making contexts (e.g., Butler, 1999; Rahim, 1983; Volkema and Bergmann, 1995; Wilmot and Hocker, 2001). Cooperativeness is also established as a distinct human characteristic in the personality and individual differences literature (e.g., Cloninger et al., 1994; Duijsens et al., 2000).

Cooperativeness is multifaceted, consisting of elements of agreeableness (i.e., acceptance/empathy), general team orientation (hereafter teamwork), and compassion (e.g., Chatman and Barsade, 1995; Cloninger et al., 1994; Yilmaz and Hunt, 2001). Highly cooperative individuals possess high concern for others (Wilmot and Hocker, 2001) and are described as tolerant, empathetic, supportive, compassionate, fair, and principle-centered (e.g., Cloninger et al., 1994). They are service-oriented and attempt to cooperate with others as much as possible; hence, cooperative individuals tend to be motivated more by a concern for others than by their own self-interest (Chatman and Barsade, 1995; Wilmot and Hocker, 2001). In buyer–supplier exchange contexts, the cooperativeness of decision-making agents can motivate behaviors that (a) facilitate communication and information sharing, (b) support joint problem solving and mutual gains between exchange partners, and (c) mediate the conflicts and promote long-term orientation in the exchanges, all of which are benevolent to the relationships and collectively limit opportunism by exchange partners (Biong and Selnes, 1996; Dabholkar et al., 1994; Jap, 2001; Weitz and Bradford, 1999). We therefore contend that the cooperativeness of decision-making agents in charge of exchange relationships tend to curb the display of opportunistic behaviors. This line of reasoning yields the following hypothesis:

Hypothesis 2a. Agent cooperativeness is negatively related to opportunism in exchange relationships.

Agent cooperativeness can be considered an internal opportunism-inhibiting force embodied in the decision-making agents, whereas relational norms are considered a force external to the agents that is established by firms to limit opportunism from taking place in their exchange relationships. While agent cooperativeness and relational norms are two separate opportunism-controlling mechanisms, they can coexist in exchange relationships. Relational norms can create an exchange environment in which opportunism is less likely to occur (e.g., Heide and John, 1992; Wathne and Heide, 2000), and concurrently cooperative agents managing the exchange relationships can exhibit benevolent behaviors, which can further reduce the likelihood of opportunism (Jap, 2001). However, even in long-established relational exchanges, opportunistic behaviors (typically exhibited by the less cooperative agents) can still occur and ultimately jeopardize the relationships (Anderson and Jap, 2005). Therefore, even when relational norms are established, there is still room for agent cooperativeness to further reduce opportunism in exchange

relationships. This line of argument suggests an extended hypothesis, as follows:

Hypothesis 2b. Agent cooperativeness is negatively related to opportunism in exchange relationships, and explains the unique variance of opportunism over and above relational norms.

3.3. Interactionist perspective

Finally, the interactionist perspective of opportunism in buyer–supplier relationships focuses on the interaction effect of relational norms and agent cooperativeness on opportunism. This perspective rests upon the logic embedded in the contingency theory literature (e.g., Burns and Stalker, 1961; Lawrence and Lorsch, 1967) which in a general sense suggests that the interaction of internal and external factors tends to determine organizational outcomes. This interactionist perspective has provided theoretical guidance to various organizational research studies (e.g., Chatman and Barsade, 1995; Tett and Burnett, 2003; Tett and Guterman, 2000). For example, in a job performance study, Tett and Burnett (2003) proposed a personality-based interactionist model, suggesting that personality traits exert their influence on job performance in response to certain trait-relevant situational cues (Tett and Guterman, 2000). Similarly, Chatman and Barsade (1995) investigated the influence of personality and organizational culture on workplace cooperation and found that the level of cooperative behavior in the workplace was a function of the interaction between personal characteristics (i.e., cooperative versus individualistic agents) and organizational culture (i.e., collectivistic versus individualistic cultures). Overall, this stream of literature suggests that the phenomena of interest may be better understood through the interactionist lens than the organizationalist and individualist lenses.

In the context of buyer–supplier relationships, the literature from the organizationalist perspective provides an understanding of the mechanism by which organization-level factors such as relational norms can curb opportunism in exchange relationships (e.g., Brown et al., 2000; Carson et al., 2006; Wathne and Heide, 2000). Independent of the organizationalist perspective, the individualist perspective recenters the analytical lens on human agents in exchange relationships by focusing on how agent personal characteristics such as cooperativeness can influence opportunistic behaviors in exchange relationships. However, to more thoroughly understand opportunism mitigation in exchange relationships, both organization-level and agent-level factors need to be examined simultaneously (Rousseau, 1985).

Organizational factors constitute an operating environment in which individual agents in an organization function and can serve to promote or hinder certain agent behaviors. Concurrently, individual agents may possess unique sets of characteristics or personalities and may, by nature, be predisposed to behave in certain directions. Thus, the behavioral responses of individual agents, although driven by their personal characteristics and predispositions, must be associated with the context in which they operate (Mischel, 2004). When the operating environment is comprised of organizational factors that are trait-relevant, the personal characteristics of the agents who operate under such a condition can be activated and express their behavioral influence (Tett and Burnett, 2003; Tett and Guterman, 2000). As such, the interaction between organizational and individual factors may hold keys in explaining various organizational phenomena. Along the same lines of the trait activation argument (Tett and Guterman, 2000), we contend that relational norms constitute an operating environment in which individual agents function and buyer–supplier exchanges take place. Relational norms espouse long-term relationships, collaborative efforts, and mutual gains between exchange partners (e.g., Heide and John, 1992; Macneil, 1980; Noordewier et al., 1990) while cooperativeness as a key agent characteristic predisposes agents to be concerned for others and to act in supportive, compassionate, and fair manners (e.g., Cloninger et al., 1994; Wilmot and Hocker, 2001). Relational norms arguably become an operating condition in which agent cooperativeness can be activated and can fully exert its influence in suppressing opportunism in the exchange relationship. Simply put, agent cooperativeness acting in concert with established relational norms can create a more powerful force in restraining opportunism in buyer–supplier relationships than if agent cooperativeness and relational norms act independently. The interaction of relational norms and agent cooperativeness may therefore become key to mitigating opportunistic behaviors in the relationships. This line of logic suggests the final hypothesis:

Hypothesis 3. The interaction of relational norms and agent cooperativeness is negatively related to opportunism in exchange relationships, and explains the unique variance of opportunism over and above relational norms and agent cooperativeness.

To test the proposed hypotheses, we used the scenario-based experiment research methodology. The previous research has suggested that experiments are an appropriate research method to study the behavioral aspects of operations and supply chains (Bendoly and Swink, 2007; Mantel et al., 2006). A major strength of experimental research lies in its replicability, allowing researchers to replicate the study with another subject group to further validate the experimental results. We therefore conducted two separate experimental studies. In Study 1, we used MBA students as experimental subjects, representing relatively young business professionals who are less established in their management career. Besides practical advantages such as convenient access to data and minimal data collection cost, using MBA student subjects in place of experienced managers permits researchers to create a more controlled environment and to ensure that the effect of their prior experience is randomized and will not largely explain the research findings (Carter and Stevens, 2007), thus enhancing the internal validity of the findings. However, a key concern with this practice is the external validity limitation (Gordon et al., 1986). Hence, in Study 2, we replicated Study 1 with experienced practicing managers to validate the findings of Study 1. Studies 1 and 2 are described in the next two sections.

4. Study 1

4.1. Subjects and experimental design

The subjects were 103 business professionals in MBA courses at three different campuses. The sample characteristics were as follows: (a) 57.3% male and 42.7% female; (b) 74.8% Caucasian and 25.2% non-Caucasian; (c) 53.4% of subjects from an urban campus, 20.4% from a suburban campus and 26.2% from a rural campus; (d) an average age of 28.6 years; (e) an average professional experience and average management experience of 6.5 and 1.8 years, respectively.

We used validated buyer–supplier relationship scenarios from Joshi and Arnold's (1998) study and randomly assigned subjects into two groups of low and high relational norms. The subjects in each group read a short business scenario adapted from Joshi and Arnold's (1998) buyer–supplier relationship scenarios. In the scenario, subjects assumed the role of a purchasing manager at a midsize electronic equipment manufacturer responsible for purchasing microchips from a supplier partner. The subjects were provided with information that the microchip supply could potentially be disrupted by labor disputes, a problem that could

disrupt the delivery of product to their customers. After reading the scenario, subjects were asked to rate the nature of their reaction in terms of their opportunism towards the supplier. To increase the room for opportunism, subjects were also informed that they could easily replace the existing supplier without significant costs or disruptions in their operations. Subjects in both groups were given identical introductory and concluding sections of the scenario, but received different manipulation materials pertaining to low and high relational norms based on the group to which they were assigned (see Appendix A for the full description of scenarios used in the experiment). We successfully performed the manipulation check, as a *t*-test indicated that the average rating on the manipulation check item, "*I personally feel that my company has an informal, close, cooperative relationship with the supplier.*" of subjects in the high relational norms group (mean = 5.73) was statistically different from that of the low relational norms group (mean = 2.78) at the $p < 0.001$ level.

4.2. Measurements and statistical models

We used Joshi and Arnold's (1998) validated three-item instrument along with three additional items modified from those of Jap and Anderson (2003) and Provan and Skinner (1989) to measure opportunism (see Appendix B). Subjects responded to each questionnaire item using the 1–7 scale (i.e., 1 = Strongly Disagree and 7 = Strongly Agree). Principal component analysis (PCA) showed that four items of opportunism (Q1, Q2, Q3, and Q4) were highly correlated and loaded onto one factor with a Cronbach's alpha of 0.73, and their factor score was therefore used as a single-component measure of opportunism in this study. The other items did not load significantly onto the factor and were excluded from the analysis.

Relational norms were the manipulations in the experiment (see Appendix A for details) and the high and low relational norms groups were coded as 1 and 0, respectively. Regarding agent cooperativeness, we used an 18-item survey instrument with a 1–7 rating system to measure agent cooperativeness. This instrument was developed based on the notion that cooperativeness is a multifaceted construct that consists of agreeableness, teamwork, and compassion (e.g., Chatman and Barsade, 1995; Cloninger et al., 1994; Yilmaz and Hunt, 2001). Initially, our instrument had 25 items, drawn from existing questionnaire items in the literature (Goldberg, 2006; O'Shea et al., 2004; Yilmaz and Hunt, 2001). After we pre-tested the instrument with 48 undergraduate business students, seven items were dropped due to their low inter-correlation with others, and several items were reworded to improve their clarity. The final 18-item instrument (6 items per sub-scale) used in this study is shown in Appendix B.

We performed correlation analysis and PCA to assess the unidimensionality of the items in each sub-scale. We found that the four items for *Agreeableness* (A1, A2, A3, and A4) were highly loaded onto a single factor with a Cronbach's alpha of 0.81, while the three items for *Teamwork* (B1, B4, and B5) were highly loaded onto one component with a Cronbach's alpha of 0.66, and the three items for *Compassion* (C2, C3, and C4) were highly loaded onto a single component with a Cronbach's alpha of 0.81. The factor score from each PCA was used as a single-component measure for each of the three cooperativeness sub-scales in this study. In addition, the second-order exploratory factor analysis indicated that *Agreeableness*, *Teamwork*, and *Compassion* were highly correlated and loaded onto one higher-order factor. Then, a confirmatory factor analysis was performed to assess their goodness-of-fit, and the results indicated that *Agreeableness*, *Teamwork*, and *Compassion* fit well together as one construct, with a goodness-of-fit index of 1.00 ($p = 0.91$). Therefore, the average of these three first-order factor scores was used as a composite measure of agent cooperativeness for the subsequent analyses in this study. The results of these factor analyses are summarized in Table 1.

We also controlled for other variables that were not part of our research questions, including (a) years of management experience – kept as a continuous variable, (b) age – also kept as a continuous variable, (c) campus – ordinally coded as 1, 2 and 3 for rural, suburban, and urban campuses, respectively, (d) gender – male and female coded as 1 and 0, respectively, and (e) ethnicity – Caucasian and non-Caucasian coded as 1 and 0, respectively. We then used three regression models to test our proposed hypotheses in examining the effects of relational norms, agent cooperativeness, and the interaction of relational norms and agent cooperativeness on opportunism in the buyer–supplier relationship, controlling for the other control variables mentioned above. The regression models are as follows:

- Organizationalist model: Opportunism = constant + b_1 Gender + - b_2 Ethnicity + b_3 Age + b_4 Management Experience + b_5 Campus + b_6 Relational Norms + errors.

Table 1
Summary results of factor analyses.

Scale	Item	Factor loading	Factor 1		Factor 2		Bartlett's test
			Eigenvalue	% Variance	Eigenvalue	% Variance	
Opportunism	Q1	0.85	2.23	55.65%	0.89	22.34%	105.32***
	Q2	0.78					
	Q3	0.67					
	Q4 (reverse)	0.67					
Agreeableness	A1	0.86	2.57	64.19%	0.63	15.69%	140.52***
	A2	0.79					
	A3	0.71					
	A4	0.84					
Teamwork	B1	0.81	1.79	59.77%	0.67	22.39%	43.98***
	B4	0.73					
	B5	0.78					
Compassion	C2 (reverse)	0.84	2.19	72.84%	0.50	16.60%	106.66***
	C3 (reverse)	0.82					
	C4 (reverse)	0.89					
Cooperativeness[a]	Agreeableness	0.78	1.66	55.21%	0.76	25.24%	30.75***
	Teamwork	0.77					
	Compassion	0.67					

[a] Goodness-of-fit index was 1.00; chi square was insignificant with $p = 0.91$.
*** $p < 0.001$.

Relational Norms	Agent Cooperativeness: Low	Agent Cooperativeness: High
Low	Group 1 (Baseline Group) (Raw Cooperativeness Score = 45.52/70)	Group 3 (Individualist Group) (Raw Cooperativeness Score = 58.96/70)
High	Group 2 (Organizationalist Group) (Raw Cooperativeness Score = 44.04/70)	Group 4 (Interactionist Group) (Raw Cooperativeness Score = 58.63/70)

Fig. 2. Two-by-two design for ANOVA.

- Individualist model A (independent): Opportunism = constant + b_1 Gender + b_2 Ethnicity + b_3 Age + b_4 Management Experience + b_5 Campus + b_6 Agent Cooperativeness + errors.
- Individualist model B (causal order): Opportunism = constant + b_1 Gender + b_2 Ethnicity + b_3 Age + b_4 Management Experience + b_5 Campus + b_6 Relational Norms + b_7 Agent Cooperativeness + errors.
- Interactionist model: Opportunism = constant + b_1 Gender + b_2 Ethnicity + b_3 Age + b_4 Management Experience + b_5 Campus + b_6 Relational Norms + b_7 Agent Cooperativeness + b_8(Relational Norms × Agent Cooperativeness) + errors.

To provide further insight into the underlying relationships of Opportunism, Relational Norms, and Agent Cooperativeness, we also examined the variation of opportunism across these models using ANOVA. We converted Agent Cooperativeness into a low-versus-high scale via the median split method (Kaufman et al., 2000). Using the low-versus-high scales of Relational Norms and Agent Cooperativeness, we divided subjects into four groups of a two-by-two design as shown in Fig. 2 and performed the tests between-subjects effects as well as the group mean comparisons regarding opportunism. While regression analysis is useful in examining the relationships among the variables of interest, ANOVA examines the mean differences among groups that are formed based on certain variables, traits, or characteristics of interest. As such, ANOVA can provide a vivid depiction of the statistical results and can complement the results presented in the relational form of regression analysis, thus increasing their clarity. In addition, the descriptive mean of the raw cooperativeness scores in each group is provided in Fig. 2; hence, the results based on factor scores can be interpreted in a more absolute sense.

4.3. Data analysis and results

We began the data analysis by performing correlation analyses, which indicated that there were some significant correlations among our control variables. Management Experience was positively associated with Age (coefficient = 0.54, $p < 0.001$), indicating that the older the subjects were, the more management experience they had. Also, Campus was negatively related to Gender (coefficient = −0.21, $p < 0.05$) and Ethnicity (coefficient = −0.24, $p < 0.05$), suggesting that the proportion of female and non-Caucasian subjects at the urban and suburban campuses was greater than at the rural campus. Nevertheless, Variance Inflation Factors did not indicate multicollinearity problems among them; therefore, the underlying assumptions of multiple regression analysis were not violated. In addition, using the standardized residual approach, we identified one outlier and thus excluded it from further data analyses.

The results of the multiple regression analyses are summarized in Table 2. With Opportunism as the dependent variable, four regression models – Organizationalist, Individualist A (independent), Individualist B (causal order), and Interactionist – in addition to the control model in Table 2 were used to test the effects of

Table 2
Multiple regression analysis results in Study 1.

Dependent variable: opportunism	Beta				
	Control model	Organizationalist model	Individualist model A	Individualist model B	Interactionist model
Control variables					
Gender	−0.07 (0.20)	−0.05 (0.20)	−0.20 (0.20)	−0.17 (0.20)	−0.22 (0.20)
Ethnicity	0.16 (0.24)	0.16 (0.23)	0.21 (0.23)	0.20 (0.22)	0.07 (0.23)
Age	0.02 (0.02)	0.02 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Management experience	−0.08† (0.04)	−0.07 (0.04)	−0.08† (0.04)	−0.07† (0.04)	−0.07† (0.04)
Campus	−0.04 (0.12)	−0.03 (0.12)	−0.09 (0.12)	−0.08 (0.12)	−0.12 (0.12)
Independent variables					
Relational Norms		−0.34† (0.20)		−0.30 (0.19)	−0.30 (0.19)
Agent Cooperativeness			−0.44** (0.13)	−0.42** (0.13)	−0.16 (0.18)
Relational Norms × Agent Cooperativeness					−0.54* (0.27)
R^2	0.04	0.07	0.14	0.16	0.20
Adjusted R^2	0.00	0.01	0.08	0.10	0.13
F value	0.74	1.13	2.45*	2.51*	2.79**
Incremental R^2		0.03[a]	0.10[a]	0.09[b]	0.04[c]
Incremental F value		3.03†	10.66**	8.86**	4.14*

[a] Incremental R^2 from comparing with the control model.
[b] Incremental R^2 from comparing with the organizationalist model.
[c] Incremental R^2 from comparing with the individualist model B.
† $p < 0.1$.
* $p < 0.05$.
** $p < 0.01$.

Relational Norms, Agent Cooperativeness, and their interaction on Opportunism (Hypotheses 1, 2a, 2b, and 3). The results of the Organizationalist model indicate that after controlling for the control variables, Relational Norms was negatively related to Opportunism ($p < 0.1$) although the overall model was not significant. The incremental R^2 of the Organizationalist model over the control model was significant ($p < 0.1$), with Relational Norms improving on the total explained variation in Opportunism from 4% R^2 in the control model to 7% R^2 in the Organizationalist model. However, these results provided limited support for Hypothesis 1. The results in Table 2 also indicate that the Individualist model A was overall significant ($p < 0.05$), and that after controlling for the control variables, Agent Cooperativeness was negatively related to Opportunism ($p < 0.01$). The incremental R^2 of the Individualist model over the control model was significant ($p < 0.05$), with Agent Cooperativeness increasing the total explained variation in Opportunism from 4% R^2 in the control model to 14% R^2 in the Individualist model A. These results thus yield support for Hypothesis 2a.

While Hypotheses 1 and 2a focus simply on the main effects of Relational Norms and Agent Cooperativeness as two separate explanatory variables of Opportunism, respectively, Hypothesis 2b focuses primarily on the effect of Agent Cooperativeness on Opportunism over and above that of Relational Norms, and was tested by the Individualist model B in Table 2. The results of the Individualist model B, which contains both Relational Norms and Agent Cooperativeness as independent variables in the model, indicate that after controlling for the control variables, Agent Cooperativeness was negatively related to Opportunism ($p < 0.01$) whereas Relational Norms was not, and the overall model was significant at $p < 0.05$. This suggests that adding Agent Cooperativeness (an individual-level characteristic) into the Organizationalist model, which relies only on Relational Norms as the independent variable, does weaken the explanatory power of Relational Norms (an organization-level characteristic). In addition, the incremental R^2 of the Individualist model B over the Organizationalist model was 9% (up from 7% in the Organizationalist model to 16% in the Individualist model B) and was significant at $p < 0.01$. These results thus support Hypothesis 2b.

Finally, Hypothesis 3, which focuses on the interaction effect of Relational Norms and Agent Cooperativeness on Opportunism, was tested by the Interactionist model. The results are shown in Table 2, indicating that when adding the interaction term between Relational Norms and Agent Cooperativeness to the Individualist model B, which already has both Relational Norms and Agent Cooperativeness as two independent variables, only the interaction term was significant ($p < 0.05$) and negatively related to Opportunism, and the overall model was significant at $p < 0.01$. It appears that in this model, the explanatory power of Relational Norms and Agent Cooperativeness as independent variables was subsumed by the interaction term. In addition, the incremental R^2 of the Interactionist model over the Individualist model B was significant at $p < 0.05$ and improved the total explained variation in Opportunism from 16% R^2 in the Individualist model B to 20% R^2 in the Interactionist model. Therefore, the results provide support for Hypothesis 3.

To examine the importance of Relational Norms, Agent Cooperativeness, and their interaction as separate explanatory variables of Opportunism, we also performed a usefulness analysis through the use of hierarchical regression (Darlington, 1968). Usefulness analysis examines the contribution of an explanatory variable to the unique variance of a response variable beyond the contribution of another explanatory variable and has been commonly used in the literature (e.g., Connelly et al., 2007; Driscoll, 1978; Folger and Konovsky, 1989; Randall et al., 1999). The usefulness analysis results are summarized in Table 3.

The results in Table 3 indicate that when Relational Norms was the focal variable and was removed from the complete model, the R^2 of the reduced model was 2% less than that of the complete model. This R^2 reduction was not statistically significant ($p > 0.05$), suggesting that Relational Norms did not provide a significant contribution to the unique variance of Opportunism. Similarly, when Agent Cooperativeness was the focal variable and removed from the complete model, the R^2 of the reduced model was only 1% less than that of the complete model ($p > 0.05$), suggesting that Agent Cooperativeness did not yield a significant unique contribution to the variance of Opportunism. However, when the Relational Norms–Agent Cooperativeness interaction term was the focal variable and dropped from the complete model, the R^2 of the reduced model was 4% less than that of the complete model. This change in R^2 was also statistically significant at $p < 0.05$ and comparable to those in previous research involving interaction effects (e.g., Tepper and Taylor, 2003). Finally, when Relational Norms, Agent Cooperativeness, and their interaction term together were dropped from the complete model, the R^2 of the reduced model was 16% less than that of the complete model and significant at $p < 0.001$. Collectively, the results of the usefulness analysis indicate that the interaction of Relational Norms and Agent Cooperativeness was the only explanatory variable that provided significant contribution to the unique variance of Opportunism whereas Relational Norms and Agent Cooperativeness in isolation were not. These results are also consistent with those of the Interactionist model in the regression analysis discussed above, and provide support for Hypothesis 3. In addition, the largest explained variance of Opportunism stemmed from the combination of Relational Norms, Agent Cooperativeness, and their interaction as explanatory variables.

Finally, the tests between-subjects effects in the two-way ANOVA indicated that there was a significant interaction effect

Table 3
Usefulness analysis results in Study 1.

Focal variable	Remaining variables in the model	R^2 of the model	Usefulness of focal variable[a]	Incremental F value
All Variables (complete model)	Control Variables + Relational Norms + Agent Cooperativeness + (Relational Norms × Agent Cooperativeness)	0.20	–	–
Relational Norms	Control Variables + Agent Cooperativeness + (Relational Norms × Agent Cooperativeness)	0.17[b]	0.02[b]	2.55
Agent Cooperativeness	Control Variables + Relational Norms + (Relational Norms × Agent Cooperativeness)	0.19	0.01	0.75
(Relational Norms × Agent Cooperativeness)	Control Variables + Relational Norms + Agent Cooperativeness	0.16	0.04	4.14*
Relational Norms + Agent Cooperativeness + (Relational Norms × Agent Cooperativeness)	Control Variables	0.04	0.16	6.01***

[a] The usefulness of the focal variable is determined by the difference of the R^2 of the complete model and that of the reduced model, which excludes such focal variable.
[b] These two numbers do not sum up to 0.20 due to rounding.
* $p < 0.05$.
*** $p < 0.001$.

Table 4
Results of group mean comparisons in Study 1.

Group	Opportunism mean	Bonferroni post hoc comparison[a]		Mean difference
Group 1: baseline	0.19 ($n=29$)	Group 1	Group 2	−0.11
Low relational norms			Group 3	0.08
Low agent cooperativeness			Group 4	0.84**
Group 2: organizationalist	0.31 ($n=22$)	Group 2	Group 1	0.11
High relational norms			Group 3	0.19
Low agent cooperativeness			Group 4	0.95**
Group 3: individualist	0.11 ($n=24$)	Group 3	Group 1	−0.08
Low relational norms			Group 2	−0.19
High agent cooperativeness			Group 4	0.76*
Group 4: interactionist	−0.64 ($n=27$)	Group 4	Group 1	−0.84**
High relational norms			Group 2	−0.95**
High agent cooperativeness			Group 3	−0.76*

Grand group	Weighted mean	Unweighted mean
Low relational norms	0.16	0.15
High relational norms	−0.22	−0.17
Low agent cooperativeness	0.24	0.25
High agent cooperativeness	−0.29	−0.27

[a] The overall one-way ANOVA model was significant at the 0.01 level with F value of 5.83.
* $p<0.05$.
** $p<0.01$.

between Relational Norms and Agent Cooperativeness ($F=5.72$, $p<0.05$), which is also consistent with the regression analysis results of the Interactionist model. The results of group mean comparisons, summarized in Table 4, indicated that there were significant differences in Opportunism means among the four groups ($p<0.01$), and the Bonferroni post hoc comparisons then revealed that only the mean of the Interactionist group was significantly different from those of baseline, Organizationalist, and Individualist groups at the 0.01, 0.01, and 0.05 levels, respectively. No other post hoc pair comparison yielded significant results. The pattern of Opportunism across Relational Norms and Agent Cooperativeness groups is illustrated in Fig. 3. These results yielded an additional support for Hypothesis 3, suggesting that the interaction between high Relational Norms and high Agent Cooperativeness holds the key to mitigating Opportunism in exchange relationships and that high Relational Norms without high Cooperativeness of human agents or vice versa may not be adequate in preventing opportunism from taking place in exchange relationships.

5. Study 2

5.1. Experimental replication and results

To further validate the findings in Study 1, we replicated the experiment with 83 purchasing professionals (i.e., purchasing managers and directors) in Study 2. The sample characteristics of Study 2 were as follows: (a) 77.1% male and 22.9% female; (b) 91.6%

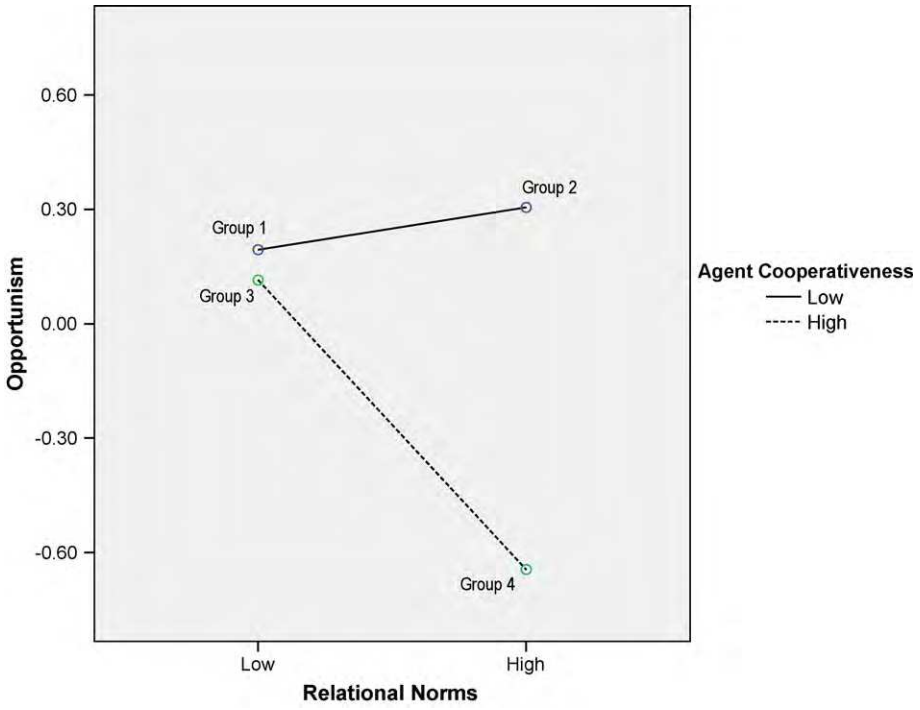

Fig. 3. Pattern of opportunism across groups in Study 1.

Table 5
Multiple regression analysis results in Study 2.

Dependent variable: opportunism	Beta				
	Control model	Organizationalist model	Individualist model A	Individualist model B	Interactionist model
Control variables					
Gender	−0.14 (0.25)	−0.11 (0.25)	−0.14 (0.24)	−0.11 (0.24)	−0.15 (0.23)
Ethnicity	−0.43 (0.38)	−0.28 (0.37)	−0.58 (0.37)	−0.44 (0.37)	−0.49 (0.36)
Age	−0.01 (0.02)	−0.02 (0.02)	0.00 (0.02)	−0.01 (0.02)	0.00 (0.02)
Purchasing management experience	−0.01 (0.02)	−0.01 (0.02)	−0.01 (0.02)	−0.01 (0.02)	−0.01 (0.02)
Firm size by revenue	0.07 (0.06)	0.09 (0.06)	0.08 (0.06)	0.10† (0.06)	0.10† (0.06)
Independent variables					
Relational Norms		−0.44* (0.20)		−0.41* (0.20)	−0.39* (0.19)
Agent Cooperativeness			−0.40* (0.16)	−0.38* (0.15)	−0.05 (0.21)
Relational Norms × Agent Cooperativeness					−0.64* (0.28)
R^2	0.07	0.12	0.14	0.19	0.24
Adjusted R^2	0.01	0.05	0.08	0.11	0.16
F value	1.15	1.76	2.12*	2.49*	2.94**
Incremental R^2		0.05[a]	0.07[a]	0.07[b]	0.05[c]
Incremental F value		4.57*	6.56*	6.16*	5.11*

[a] Incremental R^2 from comparing with the control model.
[b] Incremental R^2 from comparing with the organizationalist model.
[c] Incremental R^2 from comparing with the individualist model B.
† $p < 0.1$.
* $p < 0.05$.
** $p < 0.01$.

Caucasian and 8.4% non-Caucasian; (c) 21.7%, 45.7%, and 32.6% employed at firms with annual revenues of less than $10 million, $10–99.99 million, and $100 million or more, respectively; (d) an average age of 49.1 years; and (e) an average purchasing management experience of 13.9 years. We took the same methodological steps as used in Study 1 (i.e., research design, random assignment, manipulation check, data analyses, etc.) with the only exception that the experiment in Study 2 was conducted online while that in Study 1 was conducted in a classroom setting. In the data analyses, firm size by revenue was ordinally coded as: 1 for less than $1 million, 2 for $1–9.99 million, 3 for $10–49.99 million, 4 for $50–99.99 million, 5 for $100–499.99 million, 6 for $500–999.99 million, and 7 for $1 billion or more. The results of multiple regression and usefulness analyses are summarized in Tables 5 and 6, respectively.

Similar to those in Study 1, the results of the Organizationalist model in Table 5 provide limited support for Hypothesis 1, as the overall model was not significant although Relational Norms was negatively related to Opportunism ($p < 0.05$), and the incremental R^2 (5%) of the Organizationalist model over the control model was significant ($p < 0.05$). The results in Table 5 also indicate that the Individualist model A was significant overall ($p < 0.05$) and that Agent Cooperativeness was negatively related to Opportunism ($p < 0.05$). The incremental R^2 (7%) of the Individualist model A over the control model was significant ($p < 0.05$). These results thus support Hypothesis 2a, resembling the findings in Study 1.

The results of the Individualist model B indicate that after controlling for Relational Norms, Agent Cooperativeness was still significant ($p < 0.05$) and negatively related to Opportunism, and the overall model and the incremental R^2 (7%) of the Individualist model B over the Organizationalist model were both significant ($p < 0.05$). These results thus provide support for Hypothesis 2b, consistent with the conclusion in Study 1. However, the results of the Individualist model B in Study 2 somewhat deviate from those in Study 1, as Relational Norms was still significant ($p < 0.05$) in the model and negatively related to Opportunism. This suggests that Relational Norms (an organization-level characteristic) can potentially coexist with Agent Cooperativeness (an individual-level characteristic) in influencing Opportunism.

Finally, the results of the Interactionist model indicate that the overall model was significant at $p < 0.01$, and that after adding the Relational Norms–Agent Cooperativeness interaction term to the Individualist model B, only the interaction term and Relational Norms were significant ($p < 0.05$) and negatively related to Opportunism. The explanatory power of Agent Cooperativeness as an independent variable was diminished. These findings deviated somewhat from those in Study 1, in which the interaction term was the only significant explanatory variable in the Interactionist model. In addition, the incremental R^2 (5%) of the Interactionist model over the Individualist model B was significant at $p < 0.05$, thus supporting Hypothesis 3 as in Study 1.

Table 6
Usefulness analysis results in Study 2.

Focal variable	Remaining variables in the model	R^2 of the model	Usefulness of focal variable[a]	Incremental F value
All Variables (complete model)	Control Variables + Relational Norms + Agent Cooperativeness + (Relational Norms × Agent Cooperativeness)	0.24	–	–
Relational Norms	Control Variables + Agent Cooperativeness + (Relational Norms × Agent Cooperativeness)	0.20	0.04	4.14*
Agent Cooperativeness	Control Variables + Relational Norms + (Relational Norms × Agent Cooperativeness)	0.24	0.00	0.05
(Relational Norms × Agent Cooperativeness)	Control Variables + Relational Norms + Agent Cooperativeness	0.19	0.05	5.11*
Relational Norms + Agent Cooperativeness + (Relational Norms × Agent Cooperativeness)	Control Variables	0.07	0.17	5.58**

[a] The usefulness of the focal variable is determined by the difference of the R^2 of the complete model and that of the reduced model, which excludes such focal variable.
* $p < 0.05$.
** $p < 0.01$.

Table 7
Results of group mean comparisons in Study 2.

Group	Opportunism mean	Bonferroni post hoc comparison[a]		Mean difference
Group 1: baseline	0.25 ($n=22$)	Group 1	Group 2	−0.04
Low relational norms			Group 3	0.12
Low agent cooperativeness			Group 4	0.88**
Group 2: organizationalist	0.28 ($n=21$)	Group 2	Group 1	0.04
High relational norms			Group 3	0.16
Low agent cooperativeness			Group 4	0.92**
Group 3: individualist	0.12 ($n=20$)	Group 3	Group 1	−0.12
Low relational norms			Group 2	−0.16
High agent cooperativeness			Group 4	0.76*
Group 4: interactionist	−0.63 ($n=20$)	Group 4	Group 1	−0.88**
High relational norms			Group 2	−0.92**
High agent cooperativeness			Group 3	−0.76*

Grand group	Weighted mean	Unweighted mean
Low relational norms	0.19	0.19
High relational norms	−0.16	−0.18
Low agent cooperativeness	0.27	0.27
High agent cooperativeness	−0.25	−0.26

[a] The overall one-way ANOVA model was significant at the 0.01 level with F value of 5.20.
* $p<0.05$.
** $p<0.01$.

In Table 6, the usefulness analysis results indicate that the removal of Relational Norms from the complete model led to a significant R^2 reduction (4%, $p<0.05$), suggesting that Relational Norms provided a significant contribution to the unique variance of Opportunism, which is contrary to the findings in Study 1. When Agent Cooperativeness was removed from the complete model, the R^2 of the reduced model was largely indifferent from that of the complete model ($p>0.05$). This suggests that Agent Cooperativeness did not provide a significant unique contribution to the variance of Opportunism, which is consistent with the findings in Study 1. However, when the Relational Norms–Agent Cooperativeness interaction term was removed from the complete model, the R^2 reduction (5%) was significant at $p<0.05$, resembling the findings in Study 1. Finally, when Relational Norms, Agent Cooperativeness, and their interaction term together were removed from the complete model, the R^2 reduction (17%) was significant at $p<0.01$, largely consistent with the findings in Study 1. In short, the usefulness analysis results in Study 2 suggest that Relational Norms and its interaction with Agent Cooperativeness were the only explanatory variables that provided significant contribution to the unique variance of Opportunism, which is consistent with the results of the Interactionist model in Table 5. In addition, the results of ANOVA and group mean comparisons, summarized in Table 7, indicate that only the mean of the Interactionist group significantly differed from those of baseline, Organizationalist, and Individualist groups at the 0.01, 0.01, and 0.05 levels, respectively, and no other pair comparison yielded significant results. These findings are consistent with those in Study 1 and resemble the pattern of Opportunism across different groups, as illustrated in Fig. 3. Thus, Hypothesis 3 was supported.

5.2. Post-experimental interviews

Since interview data are considered a valuable source of research evidence (Yin, 2003) and provide richness of explanations of various phenomena (Eisenhardt, 1989), we conducted post-experimental semi-structured interviews to provide a richer context and explanatory qualifications to our experimental results. The interview questions focused on the importance of agent characteristics in purchasing practice as well as related topics surrounding the role of purchasing agents in buyer–supplier relationships and the types of decisions made by purchasing professionals. To provide a detailed picture of these issues, we interviewed 18 experienced purchasing professionals (i.e., buyers, purchasing managers, and purchasing directors) from different companies in various industries, including automotive, aerospace, heavy machinery, and electronics. Once no new information was forthcoming, this marked the data saturation point (Glaser and Strauss, 1967) and the interviews were ended. The results of the interviews are summarized as follows.

5.2.1. Criticality of decision-making agents

It is clear that among the panel of interviewees there was a consensus that the role of purchasing professionals was very important to establishing and maintaining formal relationships between buyer and supplier firms. The establishment of both formal partnerships between buyer and supplier firms, cooperation between agents within those firms, and agent characteristics were cited as key factors in engaging in prolonged business. The quotes provided in the excerpts below illustrate this point.

> "...in the long term, the more patient and cooperative and human you are, the more you get in the long run... It's not always good to have feelings in business, but sometimes it is. If there's going to be a delay in supply, just deal with it if it's temporary."
>
> – Purchasing Manager, heavy machinery parts distributor.

> "If there happens to be a purchasing person who is opportunistic and aggressive, and always seems like he is not creating a win-win situation, it doesn't really matter that we have this great partnership relationship. The personality of the person in purchasing is very important."
>
> – Purchasing Director, Tier 1 heavy truck and trailer components supplier.

Indeed, the role of the purchasing agent is so critical to maintaining healthy buyer–supplier relationships that in some situations, it can make or break an existing exchange relationship. "I think that no matter who you deal with at any level, personality is important," explained a Purchasing Manager from a Tier 1 electronics supplier. "... In my case, the personality of the agent I was working with broke some existing relationships." Some

interviewees even recited specific cases of how agent turnover could disrupt or destroy long-established relationships. These are illustrated in the testimonials below:

> "I mean, come to think about it, I remember a situation... it was a lot of damage done by one of the supplier reps because of turnover (in personnel). There was a lot of damage done because of the supply rep. A new guy took over and there was a lot of damage done. This guy ruined a relationship that was in place for many, many years... They ended up firing him."
>
> – Buyer, major U.S. automaker.

> "I have had a couple of occasions over the years where we had a supplier that ended up losing our business because of an agent change, a sales rep change. They later changed and terminated the sales agent, and the VP had come back to us to get our business back. So we said that when the next RFP (request for price) comes around, we will consider it. The relationship was severed due to deterioration because of the new sales agent... Really, personality has a lot to do with that."
>
> – Purchasing Manager, textile manufacturer.

5.2.2. Agent decision-making authority and supplier selection

Another resulting observation from the interviews dealt with the decision-making authority of purchasing professionals and their role in supplier selection. With regards to decision-making authority, the vast majority of those interviewed acknowledged that within their particular organizations, purchasing agents were given a rather large amount of decision-making authority. Based on our interviews, decisions that could be made by purchasing personnel without mandatory group or supervisory approval included allowing a supplier to ship late, choosing which suppliers to work with, soliciting bids, and negotiating piece prices. When asked how much decision-making within the purchasing function is made at the individual and group levels, a Purchasing Director at an aerospace components supplier stated,

> "Probably 85% of it I can make on my own. I have a purchasing manager that works under me that makes about 65%-70% of decisions on her own. On the 15% I can't make, I go to my vice-president and work those out. Those deal with contract constraints or problems... I can delay delivery on my own call and my own buyers can do that as well."

The same Purchasing Manager from the heavy machinery parts distributor stated that his own organization entrusts him with extensive decision-making power with regards to working with suppliers.

> "In my situation, I can buy with whomever I want to buy with. My owners trust me enough to pursue whoever and whatever I want to pursue since I've been there long enough. Based on availability of funds, they might micromanage a little bit, but if it's within budget, they give me flexibility. There are some people that they don't like, so we try to stay away from those guys. Besides that, they let me decide who I want to buy from and who I will buy from."

Based on the commensurate amount of decision-making authority granted to purchasing professionals, it is not surprising that the nature of exchange relationships between buyers and suppliers is largely shaped by individual purchasing professionals and their personal characteristics. With regards to supplier selection, personal characteristics were never cited as something formally considered in selecting prospective suppliers even though they were cited as a key factor that could make or break exchange relationships. The most common factors cited in supplier selection included quality, delivery, price, technical capability, and geographic location. This omission of personal characteristics might be because they are deemed less rigorous and subjective in nature as a selection criterion. The same Purchasing Director from the Tier 1 heavy truck and trailer components supplier echoed this view by explaining, "In choosing a supplier, we do try to avoid personality. It needs to be on more of an objective level."

5.2.3. Changing relationships in challenging times

Yet another interesting observation from the interviews involved the change in purchasing practice during changing economic times. In an economic recession, purchasing professionals expressed that they would not be too aggressive in pursuing excessive price reductions from their suppliers as they normally would in healthier economic times. "There will be normal price pressures," stated one Purchasing Manager at another aerospace company, "but I won't be too aggressive since they have to stay in business as well...." They also dealt more cautiously with their suppliers and were less stringent with deadlines and cost reductions. Adherence to deadlines and the pursuit of cost savings were often accompanied by a cooperative openness and willingness to work together in achieving these goals, at least with key suppliers. It appears that during economically challenging times, some buyer–supplier relationships have moved more toward cooperative arrangements rather than arm's length. This shift towards cooperative arrangements can be observed in the following excerpts:

> I think in these times, it's becoming more cooperative because with rare exception, everyone is in the same boat and everyone is trying to reduce expenses... In a boom time, it's kind of pick and choose. You are really not concerned so much with the long-term consequences. There is always a backup (supplier)... In a tough economic time, you are more involved with your suppliers and there is a sense of cooperation. You really appreciate the struggles each supplier goes through and they appreciate what you are going through."
>
> – Purchasing Director, Tier 1 commercial manufacturing supplier.

> "What we've done with the top suppliers, we've actually told them we will protect them. We will not nickel and dime them to get price reductions. But in the same case, we had a program in corporate where we needed to get price reductions and we met the goal. We didn't go in and demand it, and we worked together. For example, we sell half-a-million dollar machines. We came back for a 5% savings that the supplier was willing to save for us. We did this for a rigging machine project. Obviously, we saved the freight and we had shared savings. Suppliers have to understand that you will not nickel and dime them."
>
> – Purchasing Manager, major fabrication machinery manufacturer.

6. Discussion and conclusion

6.1. Result discussion

The overall results in both experimental studies, coupled with the qualitative interview data, support the thrust that agents do matter in buyer–supplier relationships. The experimental results of Study 1 and Study 2 were largely consistent except for the significance of the main effect of relational norms on opportunism, which was significant in Study 2 but not in Study 1. This variation in the

results may be due to the sample differences, as the subjects in Study 1 were mostly young business professionals in MBA courses (28.6 years old on average) with relatively limited management experience (1.8 years on average), whereas the subjects in Study 2 were seasoned purchasing professionals (49.1 years old and with 13.9 years of purchasing management experience on average). It is possible that decision-making agents with greater managerial maturity are more likely to recognize the importance of relational norms and have these norms as a primary guidance for their modus operandi. Relational norms thus exert a stronger main effect on opportunism tendencies among these agents than among those with far less managerial maturity. The significant and negative effect of relational norms on opportunism found in Study 2 is consistent with the extant buyer–supplier relationship literature (e.g., Carson et al., 2006; Heide and John, 1992; Macneil, 1980).

However, departing from the current literature, the key findings of Study 1 and Study 2 did converge and highlighted the significant interaction effect of relational norms (organization-level) and agent cooperativeness (agent-level) in mitigating opportunism. In both studies, the Interactionist model yielded significantly greater explained variance in opportunism than the Organizationalist and Individualist models, and the inclusion of the relational norms – agent cooperativeness interaction term into the model indeed rendered the main effect of agent cooperativeness on opportunism insignificant. These results suggest that the multi-level Interactionist model encompassing relational norms, agent cooperativeness, and their interaction is a more complete model than a single-level model (i.e., relational norms or agent cooperativeness in isolation) in explaining opportunism in buyer–supplier relationships, and that agent cooperativeness only acts in concert with relational norms in mitigating buyer–supplier opportunism. The pattern of opportunism across groups, revealed by the ANOVA and illustrated in Fig. 3, also highlights this point and reinforces the importance of taking both relational norms and agent cooperativeness into account when considering opportunism mitigation in buyer–supplier relationships. As these findings were consistent in both studies, we can presume that the interaction effect of relational norms and agent cooperativeness on opportunism is generalizable in both young/upcoming and seasoned/established decision-making agents.

An explanation for these findings is based on the notion that relational norms may provide a context in which human agents with various degrees of cooperativeness operate. Although highly cooperative agents who are described as empathetic, supportive, and compassionate may be by nature less likely to act opportunistically, when operating in a competitive, low relational norm context, they may be reluctant to act according to their own conscience. In the terms of Tett and Guterman (2000), the low relational norm context may not be considered a trait-relevant context for agents with high cooperativeness as their personality trait. As a result, the cooperativeness of the agent cannot fully exert its opportunism-reducing effect in the low relational norm context. However, when human agents with low cooperativeness operate in a cooperative, high relational norm context, those agents who are less likely to cooperate by nature may not comply with the established cooperative, relational norms (e.g., Anderson and Jap, 2005). Consequently, the opportunism-reducing effect of relational norms is potentially compromised by uncooperative human agents, and the recurring opportunism may eventually drive the relationship to the point of dissolution, as suggested by the interview data (Section 5.2.1). The descriptive results in Tables 4 and 7, and Fig. 3 also suggest that this uncooperative agent/high relational norm scenario appeared to breed the highest degree of opportunism in exchange relationships among all four scenarios. As such, the best-case scenario regarding opportunism reduction is when cooperative agents operate in a high relational norm context. In this circumstance, the natural predispositions of the cooperative agents are consonant with the operational guidance of the relational norms; therefore, the opportunism-reducing effects of both agent cooperativeness and relational norms can be fully realized. This line of reasoning is consistent with the fundamental logic of both contingency theory (Lawrence and Lorsch, 1967) and the trait activation principle (e.g., Tett and Guterman, 2000).

6.2. Theoretical and managerial implications

The findings in this study provide two distinct theoretical implications. The first implication from this study is oriented toward theoretical development approaches in general. Our findings support Klassen and Menor's (2007) and Rousseau's (1985) argument for the strength of multi-level theories, as the interactionist perspective, a multi-level theoretical lens that centers on the interaction effect of relational norms and agent cooperativeness on opportunism, appears to be a more complete model of opportunism mitigation than a single-level theoretical perspective. Single-level theories have been the primary theoretical lens in guiding the theoretical development of research studies in the extant literature. The results of this study hopefully shed some light on the greater promise of an alternative, multi-level theoretical approach.

The second theoretical implication is geared more specifically to the supply chain and buyer–supplier opportunism literature. Our experimental results, coupled with the purchasing professional interview data, support our thesis that agent cooperativeness does matter in buyer–supplier opportunism mitigation; however, agent cooperativeness mitigates opportunism interactively with, rather than mutually exclusive from, relational norms. To place the findings of this study in a broader stream of the literature, we maintain that this study takes another step further in the evolutionary path of contractual-relational governance. The transaction cost literature suggests that contracts alone may not be sufficient in mitigating opportunism when the degree of uncertainty is high because contract writers are not omniscient, and contracts can only cover contingencies that are anticipated at the outset (e.g., Williamson, 1985). Thus, there is a growing consensus in the literature that relational norms, a foundation of which can be paved by well-specified contracts (Poppo and Zenger, 2002), are needed to mitigate opportunism to a large extent (e.g., Carson et al., 2006; Heide and John, 1992; Macneil, 1980). Furthering this line of research, our findings suggest that relational norms in the absence of cooperative decision-making agents in exchange relationships may not effectuate the control of opportunism to the extent that we once thought, and that the alignment between relational norms and agent cooperativeness appears to be fundamental to an effective mechanism to control opportunism in buyer–supplier relationships. Providing this new insight, this study thus makes a unique contribution to the current stream of the literature.

Our findings also provide four managerial implications. First, in supply chain staffing decisions, senior managers should consider the personal characteristics (i.e., cooperativeness) of key personnel (such as purchasing and supply chain managers) in charge of managing buyer–supplier exchanges to ensure that the personal characteristics of purchasing or supply chain managers are aligned with the relational norm context of their buyer–supplier relationships. Assigning uncooperative individuals to manage relationships endowed with high relational norms would in effect compromise the relational governance mechanisms of the relational norms and may consequentially lead to the break-up of the relationships, as reported in our interviews (Section 5.2.1). Similarly, utilizing cooperative individuals to operate in a low relational norm context would put the agents in a difficult situation in which they are compelled to comply with the competitive nature of the low relational norms, making them less effective in controlling opportunism. To fully harness the opportunism-mitigating effects

of both agent cooperativeness and relational norms, cooperative individuals should thus be assigned to manage the relationships characterized by high relational norms.

Second, given the dynamism in today's business landscape, personnel turnover, either through corporate restructuring and downsizing or through voluntary career movement and attrition, is not uncommon and can have significant ramifications for well-established relationships, as reported in our interviews (Section 5.2.1). In such cases, changes in personnel may call for reassessing the alignment between the current relational norm context and individuals newly appointed to vacant purchasing or supply chain manager positions. If buyer–supplier relationships are governed by high relational norms and the newly appointed purchasing or supply chain managers happen to have low degrees of cooperativeness, this personnel turnover may render the well-established relational governance less effective in curbing opportunism. Therefore, any personnel turnover could signal a change in the relational risks embedded in the relationships. In addition, it seems advisable that when individuals – whose cooperativeness has yet to be assessed or determined – are in charge of exchanges in high relational norm contexts, their superiors, who are responsible for the outcomes of such exchange relationships, may need to closely monitor the behaviors of those individuals to ensure that they act according to such relational norms. This monitoring can help perpetuate the opportunism-reducing effect of the existing relational norms.

Another implication drawn from this study is in regard to supply chain partner selection. Conventional supply partner selection criteria tend to be driven by company-wide characteristics such as price-versus-quality reputation, on-time delivery, and geographic proximity. The results of this study underline the important role of individual agents in buyer–supplier relationships. Therefore, when a firm is seeking a supply chain partner, it would be prudent if the selection criteria included not only company-wide characteristics of the prospective partner firms but also personal characteristics of the individuals who are in charge of their exchange relationships. However, the purchasing managers in our interview reported that they never formally considered agent personal characteristics as part of their supplier selection criteria (Section 5.2.2) and the problems due to agent personal characteristics tended to surface afterward. As such, the prescriptive suggestion from our study to include agent personal characteristics in the selection criteria can be a preventive effort that helps to minimize potential problems and achieve more consistent sourcing outcomes.

Finally, firms' strategies and supply chain relationships may evolve (e.g., Lau and Goh, 2005) to cope with episodic changes in the business environment. For example, firms may transit from a low relational norm context to a high relational norm context, probably through the transformation from arm's length relationships to cooperative relationships as suggested in the interview data (Section 5.2.3), or through the formation of vertical complementary alliances with suppliers (e.g., McCarter and Northcraft, 2007). In these instances, particular attention should be given to ascertaining that cooperative decision-making agents are put in place to align with the emerging cooperative and relational engagements between firms and their suppliers. This may be achieved through assessing agents' characteristics and providing them with the necessary training and education about their roles, responsibilities, and expectations in these strategic cooperative endeavors. Incentive policies may also be revised with the purposes of heightening the agents' awareness of the changes towards cooperative exchange relationships and of reinforcing agents' cooperative behaviors to be in line with the new working environment. Ultimately, if the current agents still fail to embrace the new cooperative orientation in the relationships, it may be advisable to consider re-staffing, as captured in our interview data (Section 5.2.1). Bringing in those with proven track records of high cooperativeness to manage the up-and-coming cooperative relationships and rotating the less cooperative ones, who would be more effective in a competitive ambiance, to handle other transactional exchanges may be a sound corrective action. This will help ensure the alignment between agent personal characteristics and the types of exchange relationships.

6.3. Limitations and future research directions

Although we found interesting results in this study, we acknowledge there were some limitations, which may provide directions for future research. First, as mentioned in Section 1, our study focused only on a single-agent decision scenario to simplify the research design and operationalization. In retrospect, this could be considered a reasonable tradeoff, as the purchasing managers participating in our post-experimental interviews reported the predominance of single-agent decision circumstances they have encountered in their career (Section 5.2.2). Nevertheless, future research can take a step further by focusing on multi-agent dynamics in buyer–supplier opportunism, and can thus investigate whether the findings of this study will still be applicable to a more complex multi-agent scenario.

The second limitation is that the domain of the organization-level governing force to restrain buyer–supplier opportunism in this study was confined to relational norms. Although relational norms are a critical governing factor in the literature, there are other important factors such as contracts and industry contexts (i.e., the industry rate of change and the complexity of industry value chains) that can potentially interplay and influence the pattern of opportunism in exchange relationships. Similarly, broader contextual factors such as regulatory, cultural, and institutional forces can play a significant role in shaping this buyer–supplier dynamic. Future research may therefore consider incorporating these sets of factors into the conceptual model and address their roles in mitigating buyer–supplier opportunism.

Finally, this study focused on only one aspect of agent personal characteristics, namely, cooperativeness. The literature in the area of personality and individual differences is well established, with various personality constructs identified, such as assertiveness, time urgency, locus of control, etc. Future research could investigate the role of other agent personal characteristics that may potentially influence opportunism in buyer–supplier relationships. We hope that this study will encourage others to pursue this line of research by studying various buyer–supplier relationship phenomena in tandem with various characteristics or personality traits of human agents involved in the relationships. We believe that this research stream could be further developed and materialized into a fruitful research area.

Acknowledgements

The authors appreciate the constructive comments from the Editor, Associate Editor, and anonymous reviewers throughout the review process. The authors also thank the colleagues who provided their assistance in data collection, and each of the schools for their support important to the completion of this research.

Appendix A. Scenario and experimental manipulations

A.1. Introduction

You are a purchasing manager responsible for the purchase of microchips for a midsize electronic equipment manufacturer. Microchips are an important component for the equipment that

you manufacture; therefore they need to be purchased on a regular basis. You have one existing supplier for this component. As purchasing manager responsible for microchips, you find yourself in a situation wherein it is not difficult for you to find a suitable replacement for the existing supplier. If you decide to stop purchasing from this supplier, you could easily replace their volume with purchases from alternative suppliers. There are many competitive suppliers for microchips and you can switch to them without incurring any search costs. Switching suppliers is not going to have any negative effects on the quality or design of the equipment that you manufacture. Your production system can be easily adapted to use components from a new supplier. The procedures and routines that you have developed are standard and they are equally applicable with any supplier of this component. The skills that your people have acquired in the process of working with the supplier can easily be changed to fit another supplier's situation. You can therefore terminate your relationship with your present supplier without incurring any costs.

A.2. Low relational norms

Both you and your supplier bring a formal and contract governed orientation to this relationship. Exchange of information in this relationship takes place infrequently, formally, and in accordance to the terms of a prespecified agreement. Even if you do know of an event or change that might affect the other party, you do not divulge this information to them. Strict adherence to the terms of the original agreement characterizes your relationship with this supplier. Even in the face of unexpected situations, rather than modifying the contract, you adhere to the original terms. You have an "arm's length" relationship with your supplier. You do not think that the supplier is committed to your organization – in fact, you think that if you did not carefully monitor this supplier's performance, they would slack off from the original terms. Above all, you see your supplier as an external economic agent with whom you have to bargain in order to get the best deal for yourself.

A.3. High relational norms

Both you and your supplier bring an open and frank orientation to the relationship. Exchange of information in this relationship takes place frequently, informally, and not only according to a prespecified agreement. You keep each other informed of any event or change that might affect the other party. Flexibility is a key characteristic of this relationship. Both sides make ongoing adjustments to cope with the changing circumstances. When some unexpected situation arises, the parties would rather work out a new deal than hold each other responsible to the original terms. You tend to help each other out in case of unexpected crises. If your supplier is unable to fulfill an order, they recommend an alternative source of supply for the same. Above all, you have a sense that your supplier is committed to your organization and that they work with you keeping your best interests in mind. You see each other as partners, not rivals.

A.4. Conclusion

Recently, the supplier informed you that they are involved in a labor dispute. Consequently, they are temporarily unable to guarantee on-schedule delivery. This creates some uncertainty for your organization. Delayed delivery of microchips, may, for example, cause problems for your organization in meeting delivery schedules to customers. The supplier has called to get your regular order. Drawing from experience, how would you be most likely to react in this situation? Please rate each of these statements to the extent that they match with your expectation of your reaction. (Adapted from Joshi and Arnold (1998)).

Appendix B Measurement

Items	Sources
Opportunism	
Q1: I would lie to this supplier (e.g., other suppliers are offering lower prices) in order to protect my own interests.	Joshi and Arnold (1998)
Q2: I would not be completely honest with this supplier.	Joshi and Arnold (1998)
Q3: I would exaggerate my needs in an attempt to force the supplier to deliver on schedule.	Joshi and Arnold (1998)
Q4: I would provide the supplier a completely truthful picture of my current business.[a]	Provan and Skinner (1989) (modified)
Q5: I would find a way to use this supplier's difficult situation to improve my bargaining position.[b]	Provan and Skinner (1989) (modified)
Q6: I would make hollow promises about future orders to influence the supplier to make on-schedule delivery.[b]	Jap and Anderson (2003) (modified)
Agreeableness	
A1: I sympathize with others' feelings.	IPIP
A2: I have a soft heart.	IPIP
A3: I often take time out for others.	IPIP (modified)
A4: I feel others' emotions.	IPIP
A5: I seldom make people feel welcome.[a,b]	IPIP (modified)
A6: I anticipate the needs of others.[b]	IPIP
Teamwork	
B1: I enjoy activities that involve a high level of cooperation with other people.	Yilmaz and Hunt (2001)
B2: I prefer to work independently more often than in a group.[a,b]	Yilmaz and Hunt (2001)
B3: I enjoy helping others with their problems when working in the team environment.[b]	IPIP (modified)
B4: I believe that teamwork allows common people to achieve uncommon results.	O'Shea et al. (2004)
B5: I believe that a person can best achieve his/her goals if others around him/her achieve theirs too.	O'Shea et al. (2004)
B6: I feel that working with others usually distracts from the goal.[a,b]	O'Shea et al. (2004) (modified)
Compassion	
C1: I forgive others when they offend me.[a]	IPIP (modified)
C2: I believe that people should revenge wrongs that are done to them.[a]	IPIP
C3: I hold a grudge.[a]	IPIP
C4: I do things out of revenge.[a]	IPIP
C5: I often have compassion on those less fortunate than me.[a]	IPIP (modified)
C6: I find it easy to forgive others.[a]	IPIP (modified)

Scale: 1 = very inaccurate and 7 = very accurate in describing you as a person.

[a] Reverse coded.

[b] Excluded from the analysis.

References

Allport, G., 1937. Personality: A Psychological Interpretation. Henry Holt and Company, New York, NY.

Anderson, E., Jap, S., 2005. The dark side of close relationships. Sloan Management Review 46 (3), 75–85.

Arino, A., 2001. To do or not to do? Noncooperative behavior by commission and omission in interfirm ventures. Group & Organization Management 26 (1), 4–23.

Arrighetti, A., Bachmann, R., Deakin, S., 1997. Contract law, social norms and interfirm cooperation. Cambridge Journal of Economics 21 (2), 171–195.

Bass, B., 1990. Bass and Stogdill's Handbook of Leadership: Theory, Research and Management Applications, 3rd ed. Free Press, New York, NY.

Batt, P., 2003. Building trust between growers and market agents. Supply Chain Management: An International Journal 8 (1), 65–78.

Bendoly, E., Swink, M., 2007. Moderating effects of information access on project management behavior, performance and perceptions. Journal of Operations Management 25 (3), 604–622.

Biong, H, Selnes, F., 1996. The strategic role of the salesperson in established buyer–seller relationships. Journal of Business-to-Business Marketing 3 (3), 39–78.

Brown, J.R., Dev, C.S., Lee, D.J., 2000. Managing marketing channel opportunism: the efficacy of alternative governance mechanisms. Journal of Marketing 64 (2), 51–65.

Burns, T., Stalker, G., 1961. The Management of Innovation. Tavistock, London.

Butler, J.K., 1999. Trust expectations, information sharing, climate of trust, and negotiation effectiveness and efficiency. Group & Organization Management 24 (2), 217–238.

Burton-Jones, A., Gallivan, M.J., 2007. Toward a deeper understanding of system usage in organizations: a multilevel perspective. MIS Quarterly 31 (4), 657–679.

Carr, A.S., Pearson, J.N., 1999. Strategically managed buyer–supplier relationships and performance outcomes. Journal of Operations Management 17 (5), 497–519.

Carson, S.J., Madhok, A., Wu, T., 2006. Uncertainty, opportunism, and governance: the effects of volatility and ambiguity on formal and relational contracting. Academy of Management Journal 49 (5), 1058–1077.

Carter, C.R., Stevens, C.K., 2007. Electronic reverse auction configuration and its impact on buyer price and supplier perceptions of opportunism: a laboratory experiment. Journal of Operations Management 25 (5), 1035–1054.

Cattel, R., 1965. The Scientific Analysis of Personality. Penguin, London.

Chalos, P., O'Connor, N.G., 2004. Determinants of the use of various control mechanisms in US-Chinese joint ventures. Accounting, Organizations, and Society 29 (7), 591–608.

Chatman, J.A., Barsade, S.G., 1995. Personality, organizational culture, and cooperation: evidence from a business simulation. Administrative Science Quarterly 40 (3), 423–443.

Chen, I.J., Paulraj, A., Lado, A.A., 2004. Strategic purchasing, supply management, and firm performance. Journal of Operations Management 22 (5), 505–523.

Clark, K., Fujimoto, T., 1992. Product Development Performance. Harvard Business School Press, Boston, MA.

Cloninger, C.R., Przybeck, T.R., Svrakic, D.M., Wetzel, R.D., 1994. The Temperament and Character Inventory (TCI): A Guide to its Development and Use. Center for Psychobiology of Personality, St. Louis, MO.

Connelly, C., Gallagher, D., Gilley, K., 2007. Organizational and client commitment among contracted employees: a replication and extension with temporary workers. Journal of Vocational Behavior 70 (2), 326–335.

Conner, K.R., Prahalad, C.K., 1996. A resource-based theory of the firm: knowledge versus opportunism. Organization Science 7 (5), 477–501.

Dabholkar, P., Johnston, W., Cathey, A., 1994. The dynamics of long-term business-to-business exchange relationships. Journal of the Academy of Marketing Science 22 (2), 130–145.

Darlington, R., 1968. Multiple regression in psychological research and practice. Psychological Bulletin 69 (3), 161–182.

Dasborough, M., 2006. Cognitive asymmetry in employee emotional reactions to leadership behaviors. The Leadership Quarterly 17 (2), 163–178.

Dixit, A., 2003. On modes of economic governance. Econometrica 71 (2), 449–481.

Driscoll, J., 1978. Trust and participation in organizational decision making as predictors of satisfaction. Academy of Management Journal 21 (1), 44–56.

Duijsens, I., Spinhoven, P., Goekoop, J., Spermon, T., Eurelings-Bontekoe, E., 2000. The Dutch temperament and character inventory (TCI): dimensional structure, reliability and validity in a normal and psychiatric outpatient sample. Personality and Individual Differences 28 (3), 487–499.

Dyer, J.H., Singh, H., 1998. The relational view: cooperative strategy and sources of interorganizational competitive advantage. Academy of Management Review 23 (4), 660–679.

Eisenhardt, K.M., 1989. Building theories from case study research. Academy of Management Review 14 (4), 532–550.

Faes, W., Knight, L., Matthyssens, P., 2001. Buyer profiles: an empirical investigation of changing organizational requirements. European Journal of Purchasing and Supply Management 7 (3), 197–208.

Fierman, J., 1994. The death and rebirth of the salesman. Fortune 130, 80–89.

Fites, D., 1996. Make your dealers your partners. Harvard Business Review 74, 84–96.

Folger, R., Konovsky, M., 1989. Effects of procedural and distributive justice on reactions to pay raise decisions. Academy of Management Journal 32 (1), 115–130.

Ganesan, S., 1993. Negotiation strategies and the nature of channel relationships. Journal of Marketing Research 30 (2), 183–203.

Ganesan, S., 1994. Determinants of long-term orientation in buyer–seller relationships. Journal of Marketing 58 (2), 1–19.

Glaser, B., Strauss, A., 1967. The Discovery of Grounded Theory: Strategies of Qualitative Research. Wiedenfeld and Nicholson, London, UK.

Goldberg, L.R., 2006. International Personality Item Pool: A Scientific Collaboratory for the Development of Advanced Measures of Personality and Other Individual Differences. Retrieved July 1, 2006, from http://ipip.ori.org/ipip/

Gordon, M.E., Slade, L.A., Schmitt, N., 1986. The "science of the sophomore" revisited: from conjecture to empiricism. Academy of Management Review 11 (1), 191–207.

Hawkins, J., Dulewicz, V., 2007. The relationship between performance as a leader and emotional intelligence, intellectual and managerial competences. Journal of General Management 33 (2), 57–78.

Heide, J.B., 1994. Interorganizaional governance in marketing channels. Journal of Marketing 58 (1), 71–85.

Heide, J.B., John, G., 1992. Do norms matter in marketing relationships? Journal of Marketing 56 (2), 32–44.

Hendricks, K.B., Singhal, V.R., 2005. An empirical analysis of the effect of supply chain disruptions on long-run stock price performance and equity risk of the firm. Production and Operations Management 14 (1), 35–52.

Jap, S.D., 2001. The strategic role of the salesforce in developing customer satisfaction across the relationship lifecycle. Journal of Personal Selling and Sales Management 21 (2), 95–108.

Jap, S.D., Anderson, E., 2003. Safeguarding interorganizational performance and continuity under ex post opportunism. Management Science 49 (12), 1684–1701.

Joshi, A.W., Arnold, S.J., 1998. How relational norms affect compliance in industrial buying. Journal of Business Research 41 (2), 105–114.

Kanter, R.M., 1989. When Giants Learn to Dance. Simon and Schuster, New York, NY.

Kaufman, A., Wood, C.H., Theyel, G., 2000. Collaboration and technology linkages: a strategic supplier typology. Strategic Management Journal 21 (6), 649–663.

Klassen, R., Menor, L., 2007. The process management triangle: an empirical investigation of process trade-offs. Journal of Operations Management 25 (5), 1015–1034.

Lau, G., Goh, M., 2005. Buyer–seller relationships in the PCB industry. Supply Chain Management: An International Journal 10 (4), 302–312.

Lawrence, P., Lorsch, J., 1967. Organization and Environment. Harvard Business School Press, Boston, MA.

Liu, Y., Luo, Y., Liu, T., 2009. Governing buyer–supplier relationships through transactional and relational mechanisms: Evidence from China. Journal of Operations Management 27 (4), 294–309.

Lu, J.W., Hébert, L., 2005. Equity control and the survival of international joint ventures: a contingency approach. Journal of Business Research 58 (6), 736–745.

Luo, Y., 2006. Opportunism in inter-firm exchanges in emerging markets. Management and Organization Review 2 (1), 121–147.

Lyons, T.F., Krachenberg, A.R., Henke, J.W., 1990. Mixed motive marriages: what's next for buyer–supplier relations? Sloan Management Review 31 (3), 29–36.

Macneil, I.R., 1980. The New Social Contract. Yale University Press, New Haven, CT.

Mantel, S.P., Tatikonda, M.V., Liao, Y., 2006. A behavioral study of supply manager decision-making: factors influencing make versus buy evaluation. Journal of Operations Management 24 (6), 822–838.

Marshall, D., McIvor, R., Lamming, R., 2007. Influences and outcomes of outsourcing: insights from the telecommunications industry. Journal of Purchasing and Supply Management 13 (4), 245–260.

McCarter, M.W., Northcraft, G.B., 2007. Happy together? Insights and implications of viewing managed supply chains as a social dilemma. Journal of Operations Management 25 (2), 498–511.

McGregor, D., 1960. The Human Side of Enterprise. The McGraw-Hill Companies, Inc., New York, NY.

Mehri, D., 2006. Notes from Toyota-Land: An American Engineer in Japan. Cornell University Press, Ithaca, NY.

Mischel, W., 2004. Toward an integrative science of the person. Annual Reviews of Psychology 55, 1–22.

Morgan, N.A., Kaleka, A., Gooner, R.A., 2007. Focal supplier opportunism in supermarket retailer category management. Journal of Operations Management 25 (2), 512–527.

Noordewier, T.G., John, G., Nevin, J., 1990. Performance outcomes of purchasing arrangements in industrial buyer–vendor relationships. Journal of Marketing 54 (4), 80–93.

O'Shea, P.G., Driskell, J.E., Goodwin, G.F., Zbylut, M.L., Weiss, S.M., 2004. Development of a Conditional Reasoning Measure of Team Orientation, ARI Research Note 2004–10: U.S. Army Research Institute for the Behavioral and Social Sciences. .

Ouchi, W.G., 1980. Markets, bureaucracies, and clans. Administrative Science Quarterly 25 (1), 129–141.

Poppo, L., Zenger, T., 2002. Do formal contracts and relational governance function as substitutes or complements? Strategic Management Journal 23 (8), 707–725.

Provan, K.G., Skinner, S.J., 1989. Interorganizational dependence and control as predictors of opportunism in dealer–supplier relations. Academy of Management Journal 32 (1), 202–212.

Rahim, M.A., 1983. A measure of styles of handling interpersonal conflict. Academy of Management Journal 26 (2), 368–376.

Randall, M., Cropanzano, R., Bormann, C., Birjulin, A., 1999. Organizational politics and organizational support as predictors of work attitudes, job performance, and organizational citizenship behavior. Academy of Management Journal 32 (1), 115–130.

Rousseau, D., 1985. Issues of level in organizational research: multi-level and cross-level perspectives. Research in Organizational Behavior 7 (1), 1–37.
Tepper, B.J., Taylor, E.C., 2003. Relationships among supervisors' and subordinates' procedural justice perceptions and organizational citizenship behaviors. Academy of Management Journal 46 (1), 97–105.
Tett, R., Guterman, H., 2000. Situation trait relevance, trait expression, and cross-situational consistency: testing a principle of trait activation. Journal of Research in Personality 34 (4), 397–423.
Tett, R, Burnett, D., 2003. A personality trait-based interactionist model of job performance. Journal of Applied Psychology 88 (3), 500–517.
Volkema, R.J., Bergmann, T.J., 1995. Interpersonal conflict at work: an analysis of behavioral responses. Human Relations 42 (9), 757–770.
Wathne, K.H., Heide, J.B., 2000. Opportunism in interfirm relationships: forms, outcomes, and solutions. Journal of Marketing 64 (4), 36–51.
Weiss, H, Adler, S., 1984. Personality and organizational behavior. Research in Organizational Behavior 6, 1–50.
Weitz, B., Bradford, K., 1999. Personal selling and sales management: a relationship marketing perspective. Journal of the Academy of Marketing Science 27 (2), 241–254.
Williamson, O., 1979. Transaction-cost economics: the governance of contractual relations. The Journal of Law and Economics 22 (2), 233–261.
Williamson, O.E., 1981. The economics of organization: the transaction cost approach. American Journal of Sociology 87 (3), 548–577.
Williamson, O.E., 1985. The Economic Institutions of Capitalism. The Free Press, New York, NY.
Wilmot, W.W., Hocker, J.L., 2001. Interpersonal Conflict, 6th ed. McGraw-Hill, New York, NY.
Wuyts, S., Geyskens, I., 2005. The formation of buyer–supplier relationships: detailed contract drafting and close partner selection. Journal of Marketing 69 (4), 103–117.
Yilmaz, C., Hunt, S.D., 2001. Salesperson cooperation: the influence of relational, task, organizational, and personal factors. Journal of Academy of Marketing Science 29 (4), 335–357.
Yin, R.K, 2003. Case Study Research: Design and Methods, 3rd ed. Sage Publications, Thousand Oaks, CA.
Zaheer, A., McEvily, B., Perrone, V., 1998. Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. Organization Science 9 (2), 141–159.