Trust and its antecedents in supply chains:
Evidence from a German buyers – Chinese suppliers perspective

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Trust and its antecedents in supply chains: Evidence from a German buyers – Chinese suppliers perspective

Abstract

With globalization and the rapid development of China, more and more Western firms start sourcing from China and include Chinese companies in their supply chain in order to gain or maintain a competitive advantage. Successful supply chain performance is based on a high level of trust among supply chain partners. Factors influencing trust have received much attention in both the academic and business environment (Cavusgil et al. 2004; Gounans 2005; Ho and Weigelt 2005; Lee and Dawes 2005, Morgan and Hunt 1994; Wu et al. 2004).

This study empirically tests the factors influencing the level of trust in relations between German buyers and Chinese suppliers. A web-based survey was conducted yielding 47 responses from German buyers and 35 from Chinese suppliers.

German buyers seem to perceive a lower trust level than Chinese suppliers. Chinese suppliers perceive communication to be more important than German buyers. From a German buyer’s perspective, perceived Chinese supplier’s dependency appears to positively influence the level of trust in the supply chain relationship. Opportunistic behavior was found to have a negative influence on the level of trust in buyer-seller relationships. Based on the findings, managerial implications are identified and recommendations are provided.
Introduction

With globalization and the opening of China’s borders and its rapid development, increasing business and government interactions take place between China and Western countries. Pitsilis et al. (2004) reported that since 1980, China’s economy has grown by more than 8 percent a year. By 2008, China will be the world’s third-largest exporter, and by 2010 its economy will be larger than that of either France or Great Britain. Kidd et al. (2003) have drawn special attention to the difficulties of creating and maintaining supply chains in China, pointing out that “one must trust deeply in others in the supply chain, or use their guanxi (relationship) nets to ensure delivery.”

Trust is viewed as central in studies conducted by the industrial marketing and purchasing group (Ford 1990), because supply chain relationships often involve a higher degree of interdependency between competitors; therefore issues of trust and risk are significantly more important in supply chain relationships (La Londe 2002). A number of studies have been conducted on the topic of trust in supply chain relationships, showing that trustworthiness lowers transaction costs (Dyer and Chu 2003), while the presence of trust measurably improves the chance of successful supply chain performance (Kwon and Suh 2004; Morrow et al. 2004). Wong et al. (2005) found that cooperative goals lead to trust in supply chain relationships, which in turn results in the products and service that satisfy customers; Chapman and Corso (2005) pointed out that no amount of technology can overcome a lack of trust between key partners involved in cross-company projects. Petersen et al. (2005) show that effective collaborative planning depends on the level of trust and the quality of information shared between firms.

Antecedents of trust

A number of factors influence the level of trust in buyer-seller relationships:
1) specific asset investments are positively associated with the level of trust (Gunnarsson and Seth 2003; Handfield and Bechtel 2002; Jap 2001; Kwon and Suh 2004; Kwon and Suh 2005; Subramani 2004); 2) communication positively influences the level of trust (Gainey and Klaas 2005; Jap 2001; Kidd et al. 2003; Kwon and Suh 2005; Morgan and Hunt 1994; Wu et al. 2004); 3) formal contracts positively influence trust through instituting and legitimizing supply relationships (Cavusgil et al. 2004; Leek et al. 2004); 4) perceived partner’s dependency is positively related to the level of trust (Gainey and Klaas 2005; Wu et al. 2004); 5) opportunistic behavior has a negative impact on the level of trust in supply chain relationships (Britton and Ball 1999; Cavusgil et al. 2004; Gainey and Klaas 2005; Jap 2001; Kwon and Suh 2004; Morgan and Hunt 1994). Although these supply relationships have been studied extensively, there is a lack of testing these relationships empirically in a Western buyer and Eastern supplier context.

The focus of this study is on German buyers and Chinese suppliers and their supply chain relationship. Specifically:
- Which factors influence the level of trust from a German buyer’s perspective?
- Which factors influence the level of trust from a Chinese supplier’s perspective?
- To what extent does the German buyer perceive the level of trust and its antecedents differently from the Chinese supplier?

Contribution

This study investigates the factors influencing the level of trust in buyer-seller relationships in a comprehensive framework, from both a German buyer’s perspective as well as from a Chinese supplier’s perspective.

Structure

This paper begins with a comprehensive overview of relevant literature on factors influencing trust in buyer-seller relationships. Next, the survey and data collection procedures are explained. The results of the empirical study are presented and findings will be discussed. The paper concludes with implications, limitations and directions for further research.

Literature review

Trust is generally recognized as playing an increasingly important role in buyer-seller relationships, due to the fast pace of globalization, large cultural differences and increased interdependency of supply chain relationships. Trust is defined in this study as present, when one party has confidence in an exchange partner’s reliability and integrity (Morgan and Hunt 1994), the party’s willingness to rely on an exchange partner in whom one has confidence (Moorman et al. 1993) and the party’s willingness to take risk (Grossman 2004).

According to Kwon and Suh (2004) and Morrow et al. (2004), successful supply chains depend on a high level of trust and strong commitment among supply chain partners.
Trust appears to serve as a unique mechanism, which not only largely reduces transaction costs via for example less control mechanisms (Beccerra and Gupta 1999), but also creates value by increasing mutually information sharing, which will in turn improve performance in buyer - seller relationships (Dyer and Chu 2003). According to Lee and Dawes (2005), the more the buying firm's trusts a supplier, the bigger its long-term orientation with the supplier.

**Communication and trust**

Communication is defined by Anderson and Narus (1990) as “the formal, as well as the informal sharing of meaningful and timely information between firms.” Mohr and Spekman (1996) identified communication as the “key to vitality” of a partnership. They specified three major aspects of communications in a partnership as 1) the joint effort in setting goals and market planning, 2) the quality of the communications, and 3) the extent of the sharing of information in a partnership. In general, it is believed that accurate and frequent communication is essential to build a high level of trust in inter-firm alliances (Anderson et al. 1987a). Sharing information in a timely manner as well as sharing accurate information is considered key to build up trust in buyer - seller relationships, in particular over a long geographic distance, such as between a German buyer and a Chinese supplier.

Communication fosters confidence in the continuity of the relationship and reduces dysfunctional conflict (Anderson and Narus 1990), which will lead to higher levels of trust. It is important to note the feedback loop nature of this causal model (Senge 1990; Sterman 2000): increases in trust lead to increasing information sharing, which improves decision – making quality, which leads to better supply chain performance. Increased information sharing further leads to higher level of trust in buyer - seller relationships.

Thus,

**Hypothesis 1a:** There is a positive relationship between communication and trust in supplier-buyer relationship from German buyers’ perspective.

**Hypothesis 1b:** There is a positive relationship between communication and trust in supplier-buyer relationship from Chinese suppliers’ perspective.

**Opportunistic behavior and trust**

Opportunism is defined as self-interest seeking with guile (Williamson 1975) and it includes overt behaviors such as lying, cheating and stealing, as well as subtle behavior such as dishonoring an implicit contract, shirking, failing to fulfill promises and obligations (Jap 2001). Opportunistic behavior can be explained using agency theory, which is concerned with the relationship between a superior (a principal, e.g. a buyer) and a subordinate (an agent, e.g. a supplier). Because there is an imbalance of power in the relationship, there is likely to be a divergence of interests between the principal and the agent and the possibility of opportunism exists. In the agency literature, it is assumed that the buyer (principal) has more power than the supplier (agent). This power is increased if the supplier (agent) has to purchase specific assets. Opportunistic behavior has a negative influence on the level of trust in buyer - seller relationships: Morgan and Hunt (1994) found that perceived opportunistic behavior by a partner will lead to decreased trust. Thus,

**Hypothesis 2a:** There is a negative relationship between opportunistic behavior and trust in supplier-buyer relationship from German buyers’ perspective.

**Hypothesis 2b:** There is a negative relationship between opportunistic behavior and trust in supplier-buyer relationship from Chinese suppliers’ perspective.

**Asset specificity and trust**

Asset specificity refers to the investment in physical or human assets that are dedicated to a particular business partner and whose redeployment entails considerable switching costs (Heide 1994). Williamson (1985) has pointed out that asset specificity is unique to support the buyer-supplier relationship. He furthermore defined asset specificity as “durable investments that are undertaken in support of particular transactions, and the opportunity cost of (such) investment is much lower in best alternative uses”. Shelanski and Klein (1995) include intangible assets such as R&D and firm-specific knowledge in asset specificity’s definition. In this study, asset specificity includes investment in site assets or human assets. Williamson (1985) suggested that asset specificity stabilizes relationships by altering the firm’s own incentive structure. Subramani (2004) found that supplier investment creates two types of intangible asset specificity, business – process specificity and domain knowledge specificity. Both could create value for supplier by increasing buyer’s dependency and increasing supplier’s power. Handfield and Bechtel (2002) suggest that asset specificity can play a major role in cultivating trust between the partners of inter-organizational relationships.
Thus, 

Hypothesis 3a: Increased specific asset investment from Chinese suppliers will increase the level of trust of German buyer in buyer - seller relationships.

Hypothesis 3b: Increased specific asset investment from German buyers will increase the level of trust of Chinese supplier in buyer - seller relationships.

The formal contract and trust

Contracts are legal instruments that explicitly define the terms of inter-organizational agreements. Formal contracts entail comprehensive contracting whereby all relevant future contingencies pertaining to the supply of a good or service are described and discounted with respect to both likelihood and futurity (Williamson 1985). A formal contract carefully delineates the nature of transactions and fully relies on formal agreements to resolve conflicts and nonperformance issues (Cavusgil et al. 2004). Some scholars of inter-organizational governance argue that a formal contract may signal distrust between exchange partners by emphasizing control and legal rules, thus encouraging opportunistic behavior, either by passively withholding efforts or by actively seeking revenge (Cavusgil et al. 2004; Ghoshal and Moran 1996). Empirical studies show mixed results for the effectiveness of formal contractual governance on opportunism and trust in buyer - seller relationships (Bello and Williamson 1985; Dahlstrom and Nygaard 1999; Zhang et al. 2003).

Conflicting findings may stem from the varying detail and specificity in the formal contract. Explicit contracts that detail appropriate behavior by foreign partners tend to aggravate opportunism, thus decrease trust (John 1984). In contrast, contracts that identify complementary tasks and responsibilities or outcomes of the foreign partner appear more likely to facilitate the convergence of goals and thus to mitigate opportunism, thereby increasing trust (Dahlstrom and Nygaard 1999). Thus,

Hypothesis 4a: The presence of detailed signed contracts will increase the level of trust from German buyers' perspective.

Hypothesis 4b: The presence of detailed signed contracts will increase the level of trust from Chinese suppliers' perspective.

Power, dependency and trust

Dahl (1957) defined power as the ability of one individual or group to get another unit to do something. Power is defined in this study as the ability of a German buyer or Chinese supplier to control the decision variables in the marketing or production strategy of the partner. Power has a significant influence on factors that are critical to the relationship between buyer and supplier such as cooperation, commitment, trust, compliance, conflict, and conflict resolution (Maloni and Benton 2000). The perception of dependence is an important dimension of buyer-supplier relationships (Gainey and Klaas 2005). Dependence is defined as the extent to which there are no equivalent or better alternatives available in the market (Heide and John 1988). Dependence exists when one party does not entirely control all of the conditions necessary for achievement of an action or a desired outcome performed by the other party (Gainey and Klaas 2005). Provan and Skinner (1989) found that buyers are less opportunistic when they depend on a primary supplier, whereas suppliers with greater control over buyers' decisions exhibit greater opportunism. Wu et al. (2004) found that dependence provides the platform on which process integration can be developed. In order words, when a party is dependent, it should value the relationship and want to maintain it.

A firm perception of its partner's dependency will positively influence trust in its partner, since this firm will assume that the partner firm recognizes that the potential benefits of acting in a trustworthy manner far exceed the benefits of acting in an opportunistic way (Lyons and Mehta 1997). Thus,

Hypothesis 5a: Perceived dependency of Chinese supplier has a positive influence on German buyer's trust in supplier-buyer relationship.

Hypothesis 5b: Perceived dependency of German buyer has a positive influence on Chinese supplier's trust in supplier-buyer relationship.
The conceptual model

Figure 1 presents the conceptual model of this study and summarizes the hypothesized relationships between trust and its antecedents.

Figure 1: Conceptual Model: Hypothesized relations

Methodology

An email questionnaire survey was chosen to supply the data needed to test the hypotheses derived from the literature and displayed in the conceptual model. Recent studies (Kent and Brandal 2003; McConkey et al. 2003) found that email and traditional mail surveys produce very similar response rates.

Trust was measured on the basis of Morgan and Hunt (1994). Furthermore, one trust measurement from Wu et al. (2004) and one item from Kwon and Suh (2004) were added to access respondents’ confidence in the integrity, reliability, competence, and general trustworthiness of exchange partners. Communication was measured using a scale developed by Anderson, Lodish and Weitz (1987b). In this study two more items were added to measure communication by (Gainey and Klaas 2005) and (Wu et al. 2004). Opportunistic behavior was derived from John (1984), plus two more items used by (Jap 2001). Asset specificity was adapted from Joshi and Stump (1999) and Heide (1994). The formal contracts scale is according to Gainey and Klaas (2005). The dependency items are derived from Gaski (1984) and Hunt and Nevin (1974).

The data used to test the hypotheses were collected from both buyer and supplier perspectives. The buyers for this research were purchasing managers of German firms, which have buyer-supplier relationships with Chinese suppliers. The German buyer population invited to this study included members firms of "China-Kompetenzzentrum Duesseldorf", members firms of Reed Exhibitions Deutschland GmbH, Project China sourcing department and members firms of Delegations of German Industry & Commerce (AHK). The suppliers were sales managers from Chinese firms, which have trade experiences with German buyers. The supplier population included member firms of China Chamber of Commerce for Import and Export of Machinery and Electronic Products (CCCME) and Global Sources Corporate Information.

Questionnaires were available online in English, German and Chinese. Email newsletters were sent by the China-Kompetenzzentrum Duesseldorf, Reed Exhibitions Deutschland GmbH and CCCME, to invite member firms to participate in this study. Furthermore, member firms from the AHK database and Global Sources Co. were randomly chosen and customized emails were sent to invite for participation in this study with questionnaires as an attachment. In total around 800 customized emails were sent to invite member firms to participate in this search, within which around 200 emails were either rejected or deleted without being read (shown in returned email notifications). To increase the response rate, follow-up phone calls were made. The whole data collection period lasted 6 weeks. In total 82 questionnaires were returned, (see table 1) resulting in a response rate of 14%. The respondents consist of 35 Chinese suppliers and 47 German buyers.
Table 1 Demographic overview respondents

<table>
<thead>
<tr>
<th>Number\Type</th>
<th>Size</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SMES</td>
<td>Large</td>
</tr>
<tr>
<td>Buyers</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Suppliers</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>82</td>
</tr>
</tbody>
</table>

A majority of German buyers (35 out of 47) and Chinese suppliers (32 out of 35) had more than three years experience. 33 from the 47 German buyers are sourcing from China for industrial products, while 14 are sourcing from China for retailing products. 20 out of 35 Chinese suppliers are industrial products suppliers, and 15 are retailing products suppliers.

Reliability

Table 2 Reliability of the constructs

<table>
<thead>
<tr>
<th>Construct \ Type</th>
<th>Buyer</th>
<th>Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>0.792</td>
<td>0.768</td>
</tr>
<tr>
<td>Communication</td>
<td>0.787</td>
<td>0.702</td>
</tr>
<tr>
<td>Opportunistic behavior</td>
<td>0.722</td>
<td>0.671</td>
</tr>
<tr>
<td>Asset specificity</td>
<td>0.814</td>
<td>0.776</td>
</tr>
<tr>
<td>Formal contract</td>
<td>0.900</td>
<td>0.840</td>
</tr>
<tr>
<td>Partner’s dependency</td>
<td>0.702</td>
<td>0.714</td>
</tr>
</tbody>
</table>

Cronbach’s alpha values were above the widely used cut-off level of 0.70 (Dunn et al. 1994). As can be seen in table 2, the reliability was acceptable for all dimensions, except for the opportunistic behavior for Chinese suppliers (Cronbach’s alpha = 0.671). For opportunistic behavior from Chinese supplier perspective, a confirmatory factor analysis has been conducted and the original construct – opportunistic behavior has shown up. Also, for comparison with the German results, the original construct derived from literature was maintained.

Techniques

According to the conceptual model, five major variables, namely communication, opportunistic behavior, asset investment, contract and perceived partner’s dependency, all together influence the dependent variable: trust in buyer-seller relationships.

Therefore, a Multiple Regression technique (Ordinary Least Squares) was used to estimate the effect of the five exogenous constructs on trust. An independent t-test was used to compare the mean of the responses from German buyers and Chinese suppliers.

Results

Table 3 shows the differences between data collected from German buyers and Chinese suppliers. Statistically significant differences were observed for the variables trust, communication and (formal) contract. Chinese suppliers trust German buyers more than vice versa, while both perceive more trust than distrust in their buyer-seller relationships. Also, Chinese suppliers perceive a higher level of communication (frequency and information quality). Furthermore, Chinese suppliers perceive contracts to be more formal and detailed than German buyers.
Table 3: Independent Samples Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Buyer/Supplier</th>
<th>Mean</th>
<th>F</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>Buyer</td>
<td>4.2227</td>
<td>5.528</td>
<td>.000***</td>
</tr>
<tr>
<td></td>
<td>Supplier</td>
<td>5.6496</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>Buyer</td>
<td>4.2000</td>
<td>2.261</td>
<td>.010***</td>
</tr>
<tr>
<td></td>
<td>Supplier</td>
<td>4.8532</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunistic behavior</td>
<td>Buyer</td>
<td>4.5966</td>
<td>.309</td>
<td>.052</td>
</tr>
<tr>
<td></td>
<td>Supplier</td>
<td>4.0571</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asset specificity</td>
<td>Buyer</td>
<td>3.9943</td>
<td>1.331</td>
<td>.193</td>
</tr>
<tr>
<td></td>
<td>Supplier</td>
<td>3.5929</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal contract</td>
<td>Buyer</td>
<td>4.7682</td>
<td>14.649</td>
<td>.001***</td>
</tr>
<tr>
<td></td>
<td>Supplier</td>
<td>5.8686</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependency</td>
<td>Buyer</td>
<td>3.9773</td>
<td>.458</td>
<td>.963</td>
</tr>
<tr>
<td></td>
<td>Supplier</td>
<td>3.9886</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend: Equal variances assumed; *** p<0.01, ** p<0.025, * p<0.05

The German buyers perspective

The results in Table 4 show that the estimated model is statistically significant (F = 4.67). Opportunistic behavior has a negative relationship with trust (Beta = -0.44, t-value = 3.08). Therefore, Hypothesis 2a is supported. Table 4 also shows that perceived partner’s dependency has a positive relationship with trust (Beta = 0.15, t-value = 2.20). Hence, Hypothesis 5a is also supported.

However, the relationships between trust and communication, asset specificity and contract are statistically insignificant. Therefore, Hypotheses 1a, 3a, 4a are not supported.

In summary, from a German buyer perspective, the most important two factors which are influencing trust in relationship with Chinese suppliers are opportunistic behavior and perceived Chinese supplier’s dependency.

Table 4 Trust and its antecedents – German buyer’s perspective

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standardized coefficient (absolute)</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>0.10</td>
<td>0.53</td>
</tr>
<tr>
<td>Opportunistic behavior</td>
<td>-0.44 ***</td>
<td>3.08</td>
</tr>
<tr>
<td>Asset specificity</td>
<td>0.14</td>
<td>0.79</td>
</tr>
<tr>
<td>Formal contract</td>
<td>-0.11</td>
<td>1.27</td>
</tr>
<tr>
<td>Dependency</td>
<td>0.15 *</td>
<td>2.20</td>
</tr>
</tbody>
</table>

R-square adjusted = 0.30, F-value = 4.67, N = 44

Legend: * indicates significant relationship if the level of significance = 95%, ** = 97.5% and *** = 99%.

Chinese supplier perspective

As can be seen in Table 5, the test statistic for the model (F=2.58) indicates that the model is not rejected. Regression analysis reveals a significant negative relationship (Beta = -0.51, t-value = 3.15) between perceived partner’s opportunistic behavior and trust in the partner. Therefore, hypothesis 2b is supported.

The results show that communication, asset specificity, contract and perceived partner’s dependency do not have a significant relationship with trust. Therefore, hypotheses 1b, 3b, 4b and 5b are not supported.

Table 5 Trust and its antecedents – Chinese supplier’s perspective

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standardized coefficient (absolute)</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>0.21</td>
<td>1.18</td>
</tr>
<tr>
<td>Opportunistic behavior</td>
<td>-0.51 ***</td>
<td>3.15</td>
</tr>
<tr>
<td>Asset specificity</td>
<td>0.04</td>
<td>0.20</td>
</tr>
<tr>
<td>Formal contract</td>
<td>-0.60</td>
<td>0.36</td>
</tr>
<tr>
<td>Dependency</td>
<td>0.03</td>
<td>0.16</td>
</tr>
</tbody>
</table>

R-square adjusted = 0.19, F-value = 2.58, N = 35

Legend: * indicates significance if the level of significance = 95%, ** = 97.5% and *** = 99%.
In summary, from a Chinese supplier’s perspective, the only factor which is statistically influences trust (negatively) in relationship with German suppliers is opportunistic behavior.

Table 6 presents an overview of the hypothesis testing.

Table 6: Overview of the results of the hypotheses

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>German buyer</th>
<th>Chinese supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 There is a positive relationship between communication and trust.</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>H2 There is a negative relationship between opportunistic behavior and trust.</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>H3 There is a positive relationship between partner’s asset specificity and trust.</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>H4 There is a positive relationship between formal contracts and trust</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>H5 There is a positive relationship between perceived partner-firm’s dependency and trust.</td>
<td>Supported</td>
<td>Not supported</td>
</tr>
</tbody>
</table>

Results of the model

Figure 2 summarizes the results of the model testing. The factors influencing German buyer’s trust in Chinese suppliers are: opportunistic behavior (negatively related) and perceived partner’s dependency on them (positively related). From a Chinese supplier’s perspective, the only (negatively) influencing factor is opportunistic behavior (statistically).

Figure 2: Results

Legend: ***p<0.01, **p<0.025, *p<0.05
Discussion

A higher level of communication is thought to lead to a higher level of trust in buyer - seller relationships (Gainey and Klaas 2005; Jap 2001; Kidd et al. 2003; Morgan and Hunt 1994; Wu et al. 2004); however, the link between communication and trust is insignificant for both German buyers and Chinese suppliers. Perhaps communication between Chinese suppliers and German buyers is still a major hurdle in supplier-buyer relationships (Pitsilis et al. 2004). One Chinese respondent noted that German buyers are usually reluctant to share detailed information and act over-cautiously in the relationship. More confidential information, such as planning for marketing and for new developments, is not shared between supply chain partners.

Some responding German firms could perceive their relationships with their Chinese suppliers as transactional, not requiring intensive information sharing or communication as a collaborative relationship.

The causes of opportunistic behavior between German buyers and Chinese suppliers could be due to the following: 1) the cultural context: the same behavior could be perceived as opportunistic behavior in one culture, while not in another culture. Swaidan and Hayes (2005) proposed in a cross-cultural research paper that individuals from developed countries reject questionable activities more than subjects from developing countries. Numerous studies support this conclusion: Armstrong and Sweeney (1994) found that Australian managers found ethical problems of greater concern than do their Hong Kong equivalents. Tsui and Windsor (2001) found that auditors from Australia have higher ethical reasoning scores than those from China, 2) goal conflict (Jap 2001), 3) Contracts are embedded in national laws only, and 4) Lack of financial governance (Britton and Ball 1999).

It is surprising that formal contracts, prescribed as a governance tool by transaction cost analysis, are positively related to the level of trust but do not seem to have a significant effect according to this study. Indeed, contracts are only as deterring as their enforceability. In the international setting, a manufacturer is often handicapped disproportionately to its brand and scale prominence (Cavusgil et al. 2004). Different national laws have a different effect on the implementation of contracts.

A positive relationship was found from the German buyers perspective between perceived partner’s dependency and trust. This result is in parallel with a research findings that vendor dependency is significantly related to higher levels of trust in outsourcing relationships (Gainey and Klaas 2005; Luo 2002; Wells and Kipnis 2001).

Conclusion

Opportunistic behavior was found to be the key factor which influences the level of trust in the German buyers - Chinese suppliers relationship. This finding contributes to better understanding of the cross-national buyer-seller relationships, particularly in the context of German buyers and Chinese suppliers. Furthermore, this finding, in line with results of numerous existing researches (Britton and Ball 1999; Cavusgil et al. 2004; Gainey and Klaas 2005; Jap 2001; Kwon and Suh 2004; Morgan and Hunt 1994), adds empirical evidences for the negative effect of opportunistic behaviour on the level of trust. As a result, this finding also calls for the need to study the role of opportunistic behavior in cross-national buyer-seller relationships. Perceived Chinese supplier’s dependency appears to have a positive effect on the level of trust from a German buyer’s perspective. This is an important finding in that it could have a strategic meaning for Chinese suppliers in molding a relationship with German buyers.

Implications

To counter the negative effect of opportunistic behavior on the level of trust in buyer - seller relationships, opportunistic behavior, a few methods are suggested:

- Communicate with supply chain partner more effectively and efficiently, just as Ellram and Cooper (1990) have asserted that sharing information openly in supply chain relationship could reduce opportunistic behavior.
- Goal congruency. According to agency theory, opportunistic behavior has its root in goal conflict (Jap 2001). Therefore both German buyers and Chinese suppliers should try to communicate and agree on common interests and avoid goal conflicts.
- Financial governance, for instance, a special payment system is found to be able to reduce the possibility of opportunism (Britton and Ball 1999).
Limitations and further research

This study focused on the relationships on trust and its antecedents. However, trust and its antecedents have a feedback loop impact on each other (Akkermans et al. 2004), which means the variables in the conceptual model could have interactions with each other. For instance, the formal contract may have no direct effect on the level of trust, but could have a negative relationship with opportunistic behavior, which indirectly increases the level of trust. Furthermore, Ho and Weigelt (2005) found that one party is more trustworthy if he is certain of the trustee’s intention. Thus, future research could take the feedback loop relationships between different variables into account and use a dyadic approach linking suppliers with their buyers, when conducting researches on buyer-seller relationships.

The majority of our respondents had more than three years experience in conducting cross-culture trade in the German-Chinese context (35 out of 47 German buyers and 32 out of 35 Chinese suppliers). Therefore, the perceptions on trust and its antecedents in this study could be characterized as mature cognition of past experiences. Ho and Weigelt (2005) have examined the trust building process in a laboratory setting using a novel multistage trust game where social gains are achieved if players trust each other in each stage, the results show that players are more reluctant to trust in later stages than in earlier ones. This means that past experiences could influence the level of trust in buyer-seller relationships. Therefore, future studies could examine the factors influencing buyer-seller relationships with sample firms having no or less than one year experiences, which will help better understanding the determinant factors for the level of trust, when German buyers or Chinese suppliers start to conduct a cross-culture trade.

References


Beccerra, M. and A. K. Gupta (1999), "Trust within the organization: Integrating the trust literature with agency theory and transaction cost economics," Public Administration Quarterly, 23 (2), 177-203.


Chapman, R. L. and M. Corso (2005), "From continuous improvement to collaborative innovation: the next challenge in supply chain management.," in Production Planning & Control Vol. 16: Taylor & Francis Ltd.


Gunnarsson, Claes and Jonsson Seth (2003), "Charge the relationships and gain loyalty effects: Turning the supply link alert to IT opportunites," European Journal of Operational Research, 144, 257-69.


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