Multiple Moderators of the Trust – Loyalty Relationship in Business-to-Business Relationships

Marcel Paulssen
Assistant Professor for Industrial Marketing Management, Humboldt-University of Berlin
Spandauerstr. 1, 10178 Berlin
Germany
paulssen@wiwi.hu-berlin.de

Angela Sommerfeld
PhD-student in marketing, Humboldt-University of Berlin

Abstract

Trust has become of increasing interest in many scientific domains, including economics, social psychology, sociology, and marketing (Blois 1999). Marketing studies have demonstrated that trust is an essential ingredient for successful relationship marketing (Doney and Cannon 1997; Morgan and Hunt 1994). In fact, Berry states: “Relationship marketing is based on the foundations of trust” (1995, p. 242). Theorizing that successful relational exchanges are motivated by trust and commitment, relational theory implicitly assumes that transactional and weak relational exchanges are not similarly motivated. According to this assumption, Garbarino & Johnson (1999) have proposed and confirmed that in business relationships for customers with a weak relational orientation trust is a peripheral evaluation and not predictive of repurchase intent. This finding contrasts with the impact of trust for customers with a strong relational orientation, where trust is a key determinant of repurchase intent.

Extending the work from Garbarino & Johnson (1999) we take a different approach and investigate different facets of risk as moderators of the trust–repurchase intention relation. Furthermore building on the embeddedness notion we propose and show that close personal relationships between boundary personnel of interacting companies are a key determinant of trust. Several marketing scholars (Sheth and Parvatiyar 1995; Witkowski and Thibodeau 1999) have argued for the relevance of close interpersonal relationships specifically in a business-to-business context. Consequently building close personal relationships with key customers was proposed as a way to achieve competitive advantage (e.g., Gremler and Gwinner 2000; Reichheld 1993). However, our results imply that the strategy to build close personal relationships with key customers is not effective in conditions in which trust is not important; notably in situations with low risk. Our notion of risk as a moderator for the trust-loyalty relation can also explain the negligible relevance of personal relationships in Wathne, Biong and Heide’s (2001) study, where risk was essentially zero.

Key Words: Trust, Risk, Multiple Moderation
Introduction

Since the work of Morgan and Hunt trust is seen as a key mediating variable of successful relationship marketing. In their seminal paper, they showed that trust acts as a key mediator between various antecedents and brand loyalty, as well as other relationship outcomes. However, this general hypothesis of trust, as a key mediator, has been differentiated by the work of Garbarino & Johnson (1999), who distinguished between customers with high and low relational orientation. Extending Morgan & Hunt’s work, Garbarino & Johnson proposed and confirmed that only for customers with a high relational orientation, trust is the key antecedent of loyalty and mediates the impact of other variables on loyalty. Their study was conducted in a business-to-consumer setting and investigated relationships between a Broadway theatre company and its customers. Depending on the contractual relation between customers and theatre relational orientation was proposed to be high (for subscribers of the Broadway theater) or low (for individual ticket buyers of the Broadway theater). The moderating impact of relational orientation was confirmed in their study. Extending the work of Garbarino & Johnson we investigate conditions, other than the relational orientation of the customer, which moderate the relevance of trust for successful relationship marketing in a business-to-business context. Following Rousseau et al.’s line of argument (1998), that trust is unnecessary, if a person can act with complete certainty, risk could be a potential moderator of the relevance of trust in exchange relationships. Therefore the aim of our study is to test for the moderating effect of different risk facets on the trust-loyalty link. To qualify the impact of trust on loyalty, the impact of economic satisfaction, that is satisfaction with the economic outcomes of the relationship, will be investigated as an additional determinant of loyalty. Additionally antecedences of both trust and economic satisfaction such as closeness between boundary personnel of interacting companies and perceived value of the exchange relationship will be investigated. In the next section, the conceptual framework with construct definitions and research hypotheses will be presented. Then, the research design and the empirical results are described followed by a final discussion of the results.

Research hypotheses

This study investigates business-to-business relationships between a manufacturer of commercial vehicles and its customers. Given the research goal, economic satisfaction (in this case, with commercial vehicles) and trust in the manufacturer are distinguished. Value and closeness between boundary personnel are included as antecedences of trust and satisfaction. Two facets of risk, consequentiality and ambiguity will be distinguished. (Figure 1 illustrates the proposed nomological network.)

![Figure 1: Nomological Network with Risk Facets as Moderators of the Trust-Loyalty Relationship](image-url)
**Conative loyalty**

Loyalty, as defined by Oliver (1999, p. 34) is "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing". Prior behavioral conceptualizations of loyalty (Jacoby and Chestnut 1978), may purely measure loyalty (i.e., repeat purchase) due to low involvement, convenience, or other nonattitudinal variables (Dick and Basu 1994). Therefore this study focuses on the intentional aspect of loyalty, or conative loyalty (Oliver 1999), which is measured via repurchase intentions (Zeithaml, Berry and Parasuraman 1996).

**Trust**

As has been stated in the introduction numerous marking scholar have proposed that trust is an essential ingredient for successful relationship marketing (e.g. Doney and Cannon 1997; Morgan and Hunt 1994) Similar to other domains (e.g., Cummings and Bromley 1996), marketing scholars conceptualized trust by either focusing on trust as a behavior or trust as a belief. Advocates of the behavioral or conative conceptualization of trust like Moorman, Deshpandé and Zaltman (1993, p. 82) define trust "as a willingness to rely on an exchange partner in whom one has confidence", thereby emphasizing behavioral intent. The conceptualization of trust as a belief focuses on confidence, or expectations about an exchange partner’s expertise, reliability, or intentionality (e.g., Doney and Cannon 1997; Morgan and Hunt, 1994). The current study follows the expectation conceptualization of trust, since it maintains a distinction between expectations and behavioral intentions and thus provides the opportunity to study trust processes (Garbarino and Johnson 1999; Singh and Sirdeshmukh 2000; Sirdeshmukh, Singh and Sabol 2002). Past research has consistently demonstrated that trust impacts on loyalty (e.g., Geyskens, Steenkamp, and Kumar 1999; Morgan and Hunt 1994). Following Ganesan (1994), who proposed that perceived reliability and integrity of an exchange partner are necessary conditions for long-term orientation in a business relationship, the following hypothesis is offered:

\[ H_1: \text{Trust in the manufacturer increases conative loyalty to the manufacturer.} \]

**Economic satisfaction**

Building on the work of Wathne, Biong and Heide (2001) and analogous to Geyskens and Steenkamp’s (2000) conceptualizations, this study distinguishes between economic satisfaction and closeness between boundary personnel. Economic satisfaction is defined as the evaluation of the economic outcomes of a relationship. In Geyskens and Steenkamp’s study of marketing channel relationships, economic satisfaction translated into satisfaction with sales volume, margins, and discounts. Because the current study investigates buyer – seller relationships between a commercial vehicle manufacturer and its customers, economic satisfaction is measured as an evaluation of the consumption experience with the manufacturer's products, namely, commercial vehicles. According to the meta-analysis of Szymanski and Henard (2001, p. 223) satisfaction is "both conceptually and empirically separable from the related constructs of trust and commitment." Furthermore several studies (Fornell et al. p. 8, and Szymanski and Henard 2001) have supported the direct link between satisfaction and loyalty. Thus:

\[ H_2: \text{Economic satisfaction with the product of a company increases conative loyalty to the manufacturer.} \]

**Closeness**

Initially, economists conceptualized markets as interpersonal vacuums (Arndt 1979; Uzzi 1997). Granovetter criticized this conceptionalization in the theory of embedded markets (1985). He stated that even though transactions are economic, they are embedded in social relationships. Therefore economic actions cannot be explained through economic motives alone. Instead Granovetter stresses the role of concrete personal relations and structures (or ‘networks’) of such relations, in generating trust and discouraging malfeasance. Mainly close relationships, not institutional arrangements, make individual behavior more predictable. This leads to a widespread preference for transacting with people of known reputation. Social relations, not institutional arrangements or generalized morality, are responsible for the production of trust in economic life (Granovetter 1985). In a marketing context Bendapudi and Berry (1997) suggest that social bonding in a customer relationship can reduce or
even eliminate the fear of opportunistic behavior and thus increase a customer’s trust. Therefore we propose that:

**H₃**: Closeness between boundary personnel increases trust in the manufacturer.

Social psychologists have dedicated considerable attention to close personal relationships. They developed a variety of conceptionalizations and measures of closeness (see Berscheid, Snyder and Omoto 1989a). In Kelley et al.’s (1983) classic definition, a close relationship is characterized by strong, frequent, and diverse interdependence that lasts over a long period of time. Initial operationalizations of closeness have focused on the interaction properties from Kelley et al.’s classic definition (e.g. Berscheid, Snyder and Omoto 1989b). These conceptionalizations have among others been criticized by Barnes (1997) who concluded, that the defining characteristic of a close relationship is its emotional content. Thus, in the current study’s operationalization of closeness, emotional content is emphasized, and the affective ties between boundary personnel are measured. Item formulations correspond to Wathne et al.’s (2001) definition of closeness and were adapted from the work of Geyskens and Steenkamp (2000) (see appendix).

**Perceived value**

Perceived value is conceptualized as a customer’s assessment of the ratio of perceived benefits to perceived costs. Zeithaml (1988, p. 14) defines perceived value “as the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given.” Thus, perceived value represents a customer's cognitive trade-off between benefits (e.g., perceived quality, convenience) and associated costs, which include monetary and non-monetary sacrifices, such as time and effort (Dodds, Monroe and Grewal 1991; Zeithaml 1988). It is now generally accepted that positive perceived value directly influences satisfaction (Fornell et al. 1996; Szymanski and Henard 2001). Theoretical justification for this link can be found in Bagozzi’s (1992) appraisal emotional response → coping framework. Bagozzi’s framework suggests that initial evaluations lead to an emotional reaction, which in turn drives behavior. In the context of the current study, Bagozzi’s framework would suggest that cognitively oriented perceived value appraisals precede emotional satisfaction judgments. This proposition has been confirmed by Szymanski and Henard’s (2001) meta-analysis and by a broad study for the American Customer Satisfaction Index (Fornell et al. 1996). Thus:

**H₄**: Perceived value increases economic satisfaction.

Relational trust between interacting parties (i.e., the manufacturer and its customers) is derived from repeated interactions between both parties over time. Reliability and integrity of past interactions with the partner induce positive expectations about the partner’s intentions (Rousseau et al. 1998). Positive value perceptions indicate that a customer judges the input–output relationship of past exchanges as beneficial. A positive (negative) evaluation of past exchanges can reassure or even enforce positive (negative) expectations about beneficial future exchanges (Singh and Sirdeshmukh 2000). Therefore perceived value is proposed to be an additional antecedent of trust.

**H₅**: Perceived value increases trust in the manufacturer.

**Risk**

Although the concept of value is mentioned in many research areas and especially in relationship marketing there is still confusion about the relation between trust and risk. Since the willingness to take risks is characteristic for all trust situations it is clear that risk and trust are interrelated constructs (Mayer, Davis and Schoorman 1995). Shedding light on this specific relation is therefore an interesting research question. Following Cunningham (1967) two facets of perceived risk can be distinguished: ambiguity and consequentiality. Important is not that the consumer knows the "actual" or "true" uncertainty, but rather the subjective perception of it. Perceived risk accounts for all adverse consequences the consumer is not able to anticipate with certainty (Bauer, Neumann and Homann 2004). The noted confusion concerning the relation between risk and trust has lead to basically two different propositions about their interrelation in larger nomological networks. Several researchers have proposed that risk is a mediator of trust on loyalty. Trust is hypothesized to reduce uncertainty or risk and that in turn increases the probability that transactions occur between companies. Morgan and
Hunt (1994) supported that trust reduces risk. In distinguishing industry and relational risk, Sirdeshmukh, Singh and Sabol (2002, pp. 20-21) also suggests a mediating role of relational risk, as "perceived risk within the relational exchange context", in the trust-loyalty relationship. The reader should however note, that no mediation effect of risk was confirmed in our study. Due to space limitations we cannot present the results of the tests of the competing mediating hypothesis. The other line of thought has proposed that risk moderates the trust-loyalty relationship. Rousseau et al. (1998, p. 395) describe risk next to the interdependence of relationships as a "necessary condition[s] for trust" and state, that "variations in these factors ... can alter both the level and, potentially the form that trust makes". Furthermore Rousseau et al. (1998) point out that trust is unnecessary, if a person can act with complete certainty. Kelley and Thibaut (1978) also state that trust cannot develop and be effective in the absence of risk. This would imply that the relevance of trust for the long-term orientation in a business relationship depends on the level of perceived risk. If perceived risk (ambiguity or consequentiality) is low than the impact of trust on loyalty should be less strong than in a situation where perceived risk is high. Applying the scales for ambiguity and consequentiality from Jain and Srinivasan (1999) we propose that:

\[ H_6: \text{Perceived ambiguity moderates the effect of trust on loyalty.} \]

\[ H_7: \text{Perceived consequentiality moderate the effect of trust on loyalty.} \]

Next the research method and results are going to be presented.

Research method and results

Research method

This study investigates business-to-business relationships between a manufacturer of commercial vehicles and its customers. Several manufacturers compete in the market, and customers may rely on different vendors and change their allocation of purchase shares according to the record of performance. As discussed in the hypothesis section, some of the item formulations were adapted from literature. Others were developed specifically for this study. To increase face validity, the initial questionnaire was judged by experts from academia and practice and was finally pretested on 40 respondents and appropriately rephrased (due to space limitations the items are available upon request from the authors). In line with other studies in the business-to-business domain (Morgan and Hunt 1994; Rindfleisch and Moorman 2001) a key informant procedure was applied. Since this study focuses on routine straight and modified rebuy situations, which are more likely to be made autonomously in the context of small buying centres, this approach seems appropriate. A customer database, which contains the name and telephone number from the person responsible for fleet management in each company, was provided by the cooperating manufacturer. Based on a random sample, a market research company conducted telephone surveys. With a response rate of 38%, a total of \( N: 575 \) telephone interviews were completed (mean age = 47.69 years (s.d.= 10.85), 80% of the respondents are male).

Results

The hypothesized models were tested with LISREL 8.52 (Jörekog and Sörbom 2001), by using the two-step-approach advocated by Anderson and Gerbing (1988). Because of low item reliability and high modification indices three items had to be excluded from further analysis. Furthermore cases with missing values were deleted. The fit of the model with the key constructs is good (\( \chi^2(69) = 114.82, p = 0.00; \text{CFI} = 1.00, \text{RMSEA} = 0.038 \)). All lambda coefficients are substantial and significant, and all construct reliabilities exceed 0.70, except for ambiguity, which has a construct reliability of 0.55. The proposed hypotheses were all confirmed. Perceived value has a significant effect on satisfaction (\( \gamma_{11} = 0.58, p < 0.01 \)) and on trust (\( \gamma_{21} = 0.48, p < 0.01 \)), whereas closeness significantly influences trust (\( \gamma_{22} = 0.49, p < 0.01 \)). A path between closeness and economic satisfaction is significant, but relative to the effect of closeness on trust quite small (\( \gamma_{12} = 0.16, p < 0.01 \)). The hypothesized positive influence of the key constructs trust (\( \beta_{32} = 0.26, p < 0.01 \)) and satisfaction (\( \beta_{31} = 0.58, p < 0.01 \)) on loyalty is also confirmed. Building on these results, the total effect of value on loyalty is quite substantial with 0.54. The indirect effect of closeness on loyalty via trust (0.13) is stronger than the influence on loyalty via satisfaction (0.09), and leads to a total effect of 0.23. To test for the proposed moderation effect of risk on the relation between trust and loyalty a multigroup analysis was applied for both facets of risk. At
first two subsamples are defined by the level of the variable for which interaction effects are hypothesized. We conducted a quartile split for both risk facets resulting in the following sample sizes for ambiguity (low \( n = 116 \); high \( n = 191 \)) and consequentiality (low \( n = 98 \); high \( n = 205 \)). Next a hierarchy of tests is conducted to ensure measurement invariance (tau-equivalence) across the subsamples via chi-square difference tests. The baseline model (M1) imposes no constraints between groups, whereas models M2 and M3 constrain factor loadings to be equal across groups, as a prerequisite for meaningful group comparison. For risk consequentiality we allow for partial invariance for the measurement model of closeness, where one of four indicators (\( LX_3 \)) is allowed to vary across groups. However the three remaining invariant loadings are still sufficient for further group comparisons (Steenkamp, Baumgartner 1998). In model M4 and M5 we tested and rejected equality of error variances between groups. In model M6 gamma-parameters are constrained to be equal across group. The results indicate that gamma parameters are invariant across groups indicating that closeness between boundary personnel as well as perceived value have a similar impact on satisfaction and loyalty in low and high risk conditions for both ambiguity and consequentiality. Next we proceed to the test of our key hypothesis: the moderating effect of the two risk facets on the relation between trust and loyalty. In the low consequentiality condition trust has no significant impact on loyalty with \( \beta_{32} = -0.09, p > 0.20 \) whereas in the high consequentiality condition trust has a substantial and significant positive impact on loyalty with \( \beta_{32} = 0.32, p < 0.01 \). Similarly we observe a non-significant effect of trust on loyalty in the low ambiguity condition with \( \beta_{32} = 0.21, p > 0.05 \) and for the high ambiguity condition a strong and significant effect with \( \beta_{32} = 0.35, p < 0.01 \). Thus for both risk facets we observe a non-significant effect of trust on loyalty in the low risk condition whereas we observe a substantial effect of trust on loyalty in the high risk condition. These results nicely support our moderating hypothesis put forth in H6 and H7. However the chi-square difference tests for both ambiguity (\( \Delta \chi^2(1) = 2.23 \)) and consequentiality (\( \Delta \chi^2(1) = 2.1 \)) reveal that even though we observe these differences, they are not significant (see Table 1 and 2). Thus the moderation hypothesis for both risk facets has to be rejected with the multigroup analysis.

### Table 1: Multigroup Analysis for Consequentiality

<table>
<thead>
<tr>
<th>Model – Risk Consequentiality</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>Compare</th>
<th>( \Delta \chi^2 )</th>
<th>( \Delta df )</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1: LX=PS LY=PS</td>
<td>188.93</td>
<td>138</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.050</td>
</tr>
<tr>
<td>M2: LX=IN LY=PS FR LX 2 3 2</td>
<td>192.08</td>
<td>141</td>
<td>M1</td>
<td>3.15</td>
<td>3</td>
<td>0.049</td>
</tr>
<tr>
<td>M3: LX=IN LY=IN FR LX 2 3 2</td>
<td>194.04</td>
<td>146</td>
<td>M2</td>
<td>1.96</td>
<td>5</td>
<td>0.047</td>
</tr>
<tr>
<td>M4: LX=IN LY=IN FR LX 2 3 2 TD=IN</td>
<td>211.74</td>
<td>152</td>
<td>M3</td>
<td>17.7*</td>
<td>6</td>
<td>0.051</td>
</tr>
<tr>
<td>M5: LX=IN LY=IN FR LX 2 3 2 TD=PS TE=IN</td>
<td>237.47</td>
<td>154</td>
<td>M3</td>
<td>43.43*</td>
<td>8</td>
<td>0.060</td>
</tr>
<tr>
<td>M6: LX=IN LY=IN FR LX 2 3 2 TD=PS TE=PS GA = IN</td>
<td>198.3</td>
<td>150</td>
<td>M3</td>
<td>4.26</td>
<td>4</td>
<td>0.046</td>
</tr>
<tr>
<td>M7: LX=IN LY=IN FR LX 2 3 2 TD=PS TE=PS GA = IN EQ BE(1,3,1) BE(2,3,1)</td>
<td>200.01</td>
<td>151</td>
<td>M6</td>
<td>1.71</td>
<td>1</td>
<td>0.046</td>
</tr>
<tr>
<td>M8: LX=IN LY=IN FR LX 2 3 2 TD=PS TE=PS GA = IN EQ BE(1,3,1) BE(2,3,1) EQ BE(1,3,2) BE(2,3,2)</td>
<td>202.11</td>
<td>152</td>
<td>M7</td>
<td>2.1</td>
<td>1</td>
<td>0.047</td>
</tr>
</tbody>
</table>

* p<.05
Model – Risk Ambiguity

<table>
<thead>
<tr>
<th>Model</th>
<th>LX=PS, LY=PS</th>
<th>(\chi^2)</th>
<th>df</th>
<th>Compare</th>
<th>(\Delta\chi^2)</th>
<th>(\Delta df)</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td></td>
<td>189.74</td>
<td>138</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.050</td>
</tr>
<tr>
<td>M2</td>
<td>LX=IN, LY=PS</td>
<td>196.88</td>
<td>142</td>
<td>M1</td>
<td>7.14</td>
<td>4</td>
<td>0.050</td>
</tr>
<tr>
<td>M3</td>
<td>LX=IN, LY=IN</td>
<td>198.89</td>
<td>147</td>
<td>M2</td>
<td>2.01</td>
<td>5</td>
<td>0.048</td>
</tr>
<tr>
<td>M4</td>
<td>LX=IN, LY=IN, TD=IN</td>
<td>281.15</td>
<td>153</td>
<td>M3</td>
<td>82.26*</td>
<td>6</td>
<td>0.074</td>
</tr>
<tr>
<td>M5</td>
<td>LX=IN, LY=IN, TD=PS, TE=IN</td>
<td>236.98</td>
<td>155</td>
<td>M3</td>
<td>38.09*</td>
<td>8</td>
<td>0.059</td>
</tr>
<tr>
<td>M6</td>
<td>LX=IN, LY=IN, TD=PS, TE=PS, GA = IN</td>
<td>203.94</td>
<td>151</td>
<td>M3</td>
<td>5.05</td>
<td>4</td>
<td>0.048</td>
</tr>
<tr>
<td>M7</td>
<td>LX=IN, LY=IN, FR LX 2 3 2, TD=PS, TE=PS, GA = IN, EQ BE(1,3,1) BE(2,3,1)</td>
<td>204</td>
<td>152</td>
<td>M6</td>
<td>0.06</td>
<td>1</td>
<td>0.047</td>
</tr>
<tr>
<td>M8</td>
<td>LX=IN, LY=IN, FR LX 2 3 2, TD=PS, TE=PS, GA = IN, EQ BE(1,3,1) BE(2,3,1), EQ BE(1,3,2) BE(2,3,2)</td>
<td>206.23</td>
<td>153</td>
<td>M7</td>
<td>2.23</td>
<td>1</td>
<td>0.048</td>
</tr>
</tbody>
</table>

*p<.05

Table 2: Multigroup Analysis for Ambiguity

Results – Quasi Maximum Likelihood Approach

The results of the multigroup analysis did not confirm the moderating hypotheses for the two risk facets ambiguity and consequentiality. The multigroup analysis is the “natural” choice when the moderator variable is categorical. If the moderator is a continuous variable, as in our case, several problems arise. First a decision where to split the sample has to be made. A naive median split may obscure a nonlinear relationship, but quartile-splits require substantial sample sizes. If the grouping variable is measured with error, assignments to groups are problematic and can lead to biased parameter estimates. Most important a transformation of a continuous variable to a categorical variable leads to an immediate loss of information and a loss of statistical power. Due to the mentioned problems, most notably the loss of power, we additionally investigate the proposed moderation hypotheses, with the Quasi Maximum Likelihood Approach (Quasi-ML) by Klein (Klein & Muthén, 2004). Due to space limitations, we present only a brief introduction into the Quasi-ML method. Klein introduces a structural equation model with a general quadratic form of the latent independent predictor variables \(\xi, \Omega \xi\), which distinguishes the model from ordinary linear SEM. \(\Omega\) is a symmetric (n x n) coefficient matrix with quadratic effects of latent exogenous variables in the diagonal and interaction effects in the off-diagonal elements of the matrix. Elementary interaction models, proposed by Kenny and Judd (1984), with interaction as well as quadratic effects are special cases of Klein’s model. Simulation studies indicate that the efficiency of Quasi-ML estimation is similar to ML-estimators. Quasi-ML shows high statistical power to detect latent interaction effects and shows no substantial bias in the estimation of standard errors. Furthermore complex models with multiple moderation effects can be analyzed without excessive sample requirements. However in its current version the program is still limited to 4 latent exogenous variables. Furthermore it is only possible to estimate models with one endogenous variable. We accordingly had to limit our model to the focus of our research interest, namely the moderating effect of risk ambiguity and risk consequentiality on the trust-loyalty relationship (see Figure 2).

We simultaneously tested for the moderating overall influence of the two risk facets on the trust-loyalty relation. The proposed model exhibits a good fit (\(\chi^2/df=1.38\)). First our results show no direct impact of ambiguity (\(\gamma_1=0.039, p>0.05\)) and consequentiality (\(\gamma_11=0.043, p>0.05\)) on loyalty as expected. Consistent with the findings of the multigroup analyses and contrary to H7, we found no moderating effect for the risk facet consequentiality (\(\omega_{14}=0.039, p>0.05\)). However we found support for the moderating effect of the risk facet ambiguity on the trust-loyalty link (\(\omega_{24}=0.042, p<0.05\)), thereby confirming H6. The higher perceived ambiguity the stronger the effect of trust on loyalty.
Discussion

Extending the work from Garbarino & Johnson (1999) we investigated different facets of risk as moderators of the trust – repurchase intention relation. Our results confirm that performance ambiguity moderates the trust loyalty relationship. The higher the performance ambiguity perceived by a business-to-business customer the more important is trust as determinant of his intentions to continue the business relationships. For the other risk facet, consequentiality we could not support a similar moderating effect. Furthermore building on the embeddedness notion we propose and show that close personal relationships between boundary personnel of interacting companies are a key determinant of trust. Several marketing scholars (Sheth and Parvatiyar, 1995; Witkowski and Thibodeau, 1999) have argued for the relevance of close interpersonal relationships specifically in a business-to-business context. Building close personal relationships with key customers was proposed as a way to achieve competitive advantage (e.g., Reichheld 1993; Gremler and Gwinner 2000). Other researchers have argued against such relevance in a business-to-business context (e.g. Montgomery 1998). Since closeness between boundary personnel of interacting companies mainly impacts on loyalty via the generation of trust, our results imply that building close personal relationships with key customers is not effective in conditions in which trust is not important; notably in situations with low performance ambiguity. Our notion of risk as a moderator for trust and, thus, closeness can also explain the negligible relevance of personal relationships in Watne et al.’s (2001) study. It is questionable whether their conjoint scenarios represent an adequate method for assessing the relevance of personal relationships because performance ambiguity is essentially zero in a conjoint task. Although the relationship marketing concept has been widely accepted in marketing practice, there is some evidence that efforts to establish long-term relationships with customers often fail (Dowling and Uncles, 1997). The results of this study indicate important boundary conditions that must be met so that building close relationships with customers is a viable strategy. Customers must perceive a certain amount of risk in their purchase decisions; without risk, close relationships are of low relevance. Therefore, building close relationships should be especially promising for sellers of products that possess a high degree of information asymmetry between buyer and seller, such as experience or credence goods (Darby and Karni, 1973; Nelson, 1970).
References


### Appendix

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Indicators</th>
<th>Lambda Factor Loadings</th>
<th>Construct Reliability / Cronbachs α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Satisfaction a</td>
<td>- I think that with a vehicle from X I / my company has made the absolutely right choice.</td>
<td>.93</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>- My expectations regarding the vehicles from X were completely fulfilled.</td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td>Trust a</td>
<td>- I am convinced that in the future X will be in every respect a reliable business partner.</td>
<td>.87</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>- I believe that X will develop an effective and efficient business relationship with me in the future.</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- I can completely rely on X.</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>Conative Loyalty c</td>
<td>- At the next purchase of a fleet vehicle I will purchase a vehicle from manufacturer X.</td>
<td>.85</td>
<td>.91</td>
</tr>
<tr>
<td></td>
<td>- If I have to replace one of my fleet vehicles, I would again choose a vehicle from X.</td>
<td>.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- I will remain loyal to manufacturer X and its vehicles in the future.</td>
<td>.89</td>
<td></td>
</tr>
<tr>
<td>Perceived Value b</td>
<td>- Considering all factors concerning your commercial vehicle ownership how would you rate the value for money at</td>
<td>.70</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>- If you were to compare the overall quality of products and services with the price paid, would you rate the relationship as…</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>Closeness a</td>
<td>- My contact person always understands my problems and needs very good.</td>
<td>.88</td>
<td>.94</td>
</tr>
<tr>
<td></td>
<td>- I really feel respected by my contact person.</td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- The personal contact with my contact person is pleasant.</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- My contact person really cares about me and my customer needs.</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>Risk Ambiguity a</td>
<td>- The vehicle purchase isn't complicate for me.</td>
<td>.66</td>
<td>.55</td>
</tr>
<tr>
<td></td>
<td>- In purchasing the vehicle, I am certain of my choice.</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- I never know, if I am buying the right vehicle.</td>
<td>.69</td>
<td></td>
</tr>
<tr>
<td>Risk Consequentiality a</td>
<td>- It would be a big deal, if I buy the wrong vehicle.</td>
<td>.79</td>
<td>.72</td>
</tr>
<tr>
<td></td>
<td>- It is really annoying to make an unsuitable vehicle purchase.</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- A poor vehicle choice would be upsetting for me.</td>
<td>.76</td>
<td></td>
</tr>
</tbody>
</table>

aItems were measured with 5-point scales (1 = definitively no; 5 = yes definitely).
bItems were measured with 5-point scales (1 = very bad; 5 = very good).
cItems were measured with 5-point scales (1 = very unlikely; 5 = very likely).