The Role of Drivers as Customer Contact Employees

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Abstract

While the importance of a sales representative as customer contact employees is unquestioned, the role of drivers, i.e., the front-line employees who deliver the products, as customer contact employees has so far not been investigated. The purpose of this study is to investigate how and under what conditions drivers of a supplier firm may increase customers' contributions to the supplier firm's sales in an industrial buyer-supplier relationship. Specifically, we hypothesize and test, based on a sample of 207 industrial business-to-business relationships, a proposed theoretical model that explains the link between a customer's perceived personal contact quality (received from the delivering driver) and the customer's purchasing intention and, thus, the sales of the supplier firm.

Keywords: drivers, customer contact employees, buyer-supplier relationships, survey

1. Introduction

In many industrial business-to-business settings, the material flow along the supply chain is executed by logistics service providers (LSPs) (Lieb & Bentz, 2005). During the last decade, the usage and importance of outsourced transportation services has been steadily increasing, whereas the number of industrial firms that own and operate distribution and delivery assets has been decreasing (Deepen, Goldsby, Knemeyer, & Wallenburg, 2008). Industrial firms rely on LSPs to reduce costs and to improve the service quality towards their customers while focusing on their core competencies (Capgemini Consulting, Georgia Institute of Technology, Oracle, & Panalpina, 2009). Depending on the type of product and the structure of the supply chain, various LSPs, ranging from specialized carriers to CEP (courier, express and parcel services) providers, readily offer dedicated physical distribution and delivery services. Due to economies of scale (specialization, bundling opportunities, large networks), they are often able to offer the same (or even better) physical distribution services, at a better performance (e.g., timeliness, order accuracy, order condition), and at lower costs than industrial firms could do on their own (Bowersox, Daugherty, Dröge, Rogers, & Wardlow, 1989). Thus, it seems to make much sense for industrial firms to outsource their distribution needs.

However, viewing physical distribution and associated outsourcing decisions solely through the lenses of technical logistics service quality and logistics costs might be too narrow. Specifically, this logic neglects the marketing and customer contact dimension of physical distribution services (Mentzer, Flint, & Kent, 1999). The relationship marketing literature suggests that an important avenue for the creation of stable buyer-supplier relationships, and thus robust sales, lies in the personal interaction of customer contact employees with employees of the customer firm (Reynolds & Beatty, 1999; Ulaga & Eggert, 2006). While there is ample literature on sales representatives as customer contact employees (Bendapudi & Leone, 2002; Crosby, Evans, & Cowles, 1990), the role of drivers, i.e., the front-line employees that transport and deliver the products from the supplier firm to the customer firm (outbound freight transport), as customer contact employees has received little attention. This is astonishing given that drivers are situated at the supplier-customer interface and, thus, represent the supplier firm to customers. Certainly, in comparison to sales representatives, the drivers' interaction with employees of customer firms is rather limited. Nonetheless, if drivers constantly frequent the same set of customer firms, they may slip into the role of a relevant customer contact employee. Beyond the provision of a high-quality technical service to the customers (e.g., unloading the product at the customers' place of business, interacting with the customers for signing receipts for goods) (Bienstock, Mentzer, & Bird, 1997), the quality of the drivers' personal contact with the customers may affect the customers' purchasing behavior (Mentzer et al., 1999).

The purpose of this study is to shed light on this issue by investigating how and under what conditions drivers of a supplier firm may increase customers' contributions to the supplier firm's sales in an industrial buyer-supplier relationship. Drawing on service quality and customer contact literature, we hypothesize a proposed theoretical model that explains how a customer's perceived personal contact quality with the delivering

driver may affect its purchasing intention and, thus, the sales of the supplier firm. In addition, our model suggests that this direct effect is conditional on the size of the customer firm, the relationship length, and the frequency of contact. We test the model using a sample of 207 industrial business-to-business relationships. The results contribute to an improved understanding of the role of drivers in buyer-supplier relationships. Our findings have important managerial implications for logistics outsourcing, training of drivers, and sales and marketing plans. In particular, new light (from a new direction) is shed on the benefits of owning and operating transportation and distribution assets (e.g., truck fleets) – benefits that might be obstructed after outsourcing to a LSP.

2. Literature Review

Physical distribution and other logistics activities, if managed appropriately, may contribute to customer value, customer satisfaction, and firm performance (Dresner & Kefeng, 1995; Perreault & Russ, 1976). In order to understand the specific role of drivers in this context, we draw on (1) service quality and (2) customer contact literature. Drivers are front-line employees in physical distribution who transport materials from point of origin to point of consumption.

2.1. Logistics and Physical Distribution Service Quality

The "service quality" approach attempts to understand (1) the relationship between a provided service and the perceived service quality by the customer and (2) the behavioral consequences of perceived service quality (Mentzer et al., 1999). Service quality was first addressed in business-to-customer-contexts (Grönroos, 1984; Parasuraman, Zeithaml, & Berry, 1985). Parasuraman, Berry, and Zeithaml (1988) proposed a multi-dimensional instrument for service quality which comprised five dimensions: tangibles, responsiveness, empathy, reliability, and assurance. Later, the service quality concept and the measurement instrument were refined (Cronin & Taylor, 1992; Parasuraman, Berry, & Zeithaml, 1991; Parasuraman, Zeithaml, & Berry, 1994). The essence of this literature for the present research is the acknowledgement that service encounters, which usually involve personal interactions (face-to-face contact and personal communication), may affect the customer's perception of service quality. For example, Brady and Cronin (2001, p. 38) noted that "the interpersonal interactions that take place during service delivery often have the greatest effect on service quality perceptions." Likewise, the interaction of service employees with customers has been shown to influence the impression of the brand (Aaker, 1997; Berry, 2000; Wentzel, 2009).

Moreover, a central tenet of the service quality literature is that service quality has a positive impact on the purchasing intention of the customer – but the research evidence is mixed (Rust, Zahorik, & Keiningham, 1995; Zeithaml, Berry, & Parasuraman, 1996). Zeithaml, Berry, and Parasuraman (1996, p. 31) stated that "the link between service quality and profits is neither straightforward nor simple." In particular, the proposed multidimensional second-order models of service quality did not consistently show to be good predictors of behavioral consequences. Direct measures of overall service quality seemed to perform significantly better (Cronin & Taylor, 1992). To link higher-order

service quality models with behavioral consequences (purchasing intention), customer satisfaction was often used as a mediator between service quality and purchase intentions (Dabholkar, Shepherd, & Thorpe, 2000). However, whereas perceived service quality and customer satisfaction have been argued to be distinct concepts (Parasuraman et al., 1988), they are usually highly correlated and often empirically inseparable (Rust et al., 1995).

The service quality concept and research on physical distribution services (Perreault & Russ, 1976) informed the conceptualization of "physical distribution service quality" (Bienstock et al., 1997; Mentzer, Gomes, & Krapfel, 1989) and of "logistics service quality" (Mentzer, Flint, & Hult, 2001; Mentzer et al., 1999). Bienstock, Mentzer, and Bird (1997) operationalized physical distribution service quality as a multidimensional second-order factor along three dimensions (timeliness, availability, and condition). They maintained that, in industrial contexts, technical aspects (what service is delivered) determine physical distribution service quality, whereas process aspects (how a service is delivered) and the social dimension of the service encounter are less relevant. Later studies (Mentzer et al., 2001; Mentzer et al., 1999), however, did not follow this argument and pointed out that the interactions that customers have with people involved in delivering the products should affect the customers perception of logistics service quality. They introduced the term "personal contact quality" to capture the customer orientation of a supplier's logistics contact people and found a positive relationship between personal contact quality and customer satisfaction. However, neither did these studies focus on drivers nor did they investigate the direct link between personal contact quality (as one dimension of physical distribution service quality) and purchasing behavior of the customers. Until now, there has been little study of personal contact quality provided by drivers.

2.2. Customer Contact Employees

Similar to the service quality literature, most of the research on customer contact employees has been aimed at the end-user customer or at service firms. Particularly in the service marketing literature, the role of customer contact employees has been extensively discussed (Bitner, Booms, & Tetreault, 1990; Czepiel, 1990; Gwinner, Gremler, & Bitner, 1998). When employees from supplier firms interact with employees of customer firms on a regular basis, personal relationships may be formed (Bendapudi & Leone, 2002). In this regard, extant research suggested that empathy and professionalism (Pilling & Eroglu, 1994), likeability and attractiveness (Jones, Moore, Stanaland, & Wyatt, 1998), as well as trust (Doney & Cannon, 1997) contribute to strong personal relationships and may lead to positive emotional ties (Price & Arnould, 1999). These personal bonds are important for the success of buyer-supplier relationships (Seabright, Levinthal, & Fichman, 1992). Ulaga and Eggert (2006) argued that regular personal interactions between employees of supplier firms with employees of customer firms constitute an important driver for the creation of value in the exchange relationship. Customer firms' relationships with contact employees may even be more intense than with the supplier firm itself (Czepiel, 1990; Gwinner et al., 1998). Here, the terms "relationship manager" (Crosby et al., 1990) or "key contact employee" (Bendapudi & Leone, 2001) were proposed to identify the person who is closest to the customer firm. While the role of a firm's sales representatives as customer contact employees is

unquestioned, the driver who delivers the products to the customer has so far not been investigated in this context.

3. Conceptual Framework

Figure 1 presents a model that draws on the service quality and customer contact literature to explain *how* and *under what conditions* drivers of a supplier firm may increase customers' contributions to the supplier firm's sales in an industrial buyer-supplier relationship.

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Insert Figure 1 about here

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3.1. Main Effect

While the role of a firm's sales representatives as customer contact employees is unquestioned, the driver who delivers the products to the customer has so far not been investigated in this context. Narver and Slater (1990) argued that market-oriented firms benefit from high sales performance and customer retention rates. However, they also pointed out that market orientation can only be effective, if firms are able to disseminate the firm's market and customer-oriented values and beliefs in a way that inspires customer contact employees to be customer focused. In a similar way, Bitner (1990) suggested that customers are more satisfied with a service, when the customer contact employees possess the ability, willingness, and competence to solve problems. Bitner, Booms, and Tetreault (1990) observed that a customer contact employee's ability to adapt to special needs and requests of the customer enhances customers' perception of the service encounter. Further, they reported that the friendliness and attentiveness of contact employees positively affect customers' perceptions of service quality. In a similar vein, drivers may be viewed as information dispensers, giving customer aid and technical information, and, in doing so, create positive customer perceptions of themselves as well as the parent firm. Although their main duty is delivering the product to the customer, their skills, customer orientation, and service mindedness are of critical importance to customers' perception of the firm. Gummesson (1987) used the term "part-time marketer" to argue that customer relations are influenced by everybody. During the service encounter, the drivers can influence the perception of the customer thorough their individual attributes. Therefore, we expect that there is a positive relationship between the satisfaction with the driver and the satisfaction with the firm which, in turn, should translate into lower levels of switching the supplier and higher purchase intentions. Thus,

> **Hypothesis 1.** *The higher the personal contact quality provided by the driver, the greater the customer's contribution to the supplier firm's sales.*

3.2. Moderator Effects

In order for the hypothesized main effect to become operational, it is necessary that the driver as well as his or her performance are noticed by the customer firm's employees

who are in charge of the purchasing decision. Large firms, however, have an incoming goods department with specialized employees that interact with the drivers and take care of processing the products. These employees are usually not involved in the purchasing decision-making. Hence, their satisfaction with the driver performance is unlikely to affect the exchange relationship. While large firms are more likely to have comprehensive supplier evaluation schemes, driver performance is often not included. Hence, the smaller the customer firm, the more likely that the driver is recognized and, thus, is able to positively affect the perception of the relevant decision-makers. Thus,

> **Hypothesis 2.** *The positive relationship between the personal contact quality provided by the driver and sales is weaker when the buying firm is large than when it is small.*

Based on the literature that suggested that buyer-supplier relationships follow a life cycle (Jap & Ganesan, 2000; Palmatier, 2008b), we suggest that the driver's influence on sales is likely to be moderated by relationship length, i.e., the main effect changes over the course of a exchange relationship. Jap and Ganesan (2000) distinguished four phases: exploration, buildup, maturity, and decline. They argued that "the exploration phase is a search and trial phase in which the potential obligations, benefits, and burdens of continued exchange are considered" (p. 231). Hence, during this phase, the customer will likely evaluate the performance of the supplier firm along all relevant dimension – the service provision of the driver being one of them. In later phases of the exchange relationship, when the relationship is well established (maturity) or even in decline, the driver will less likely be able to affect the purchasing decision of the customers. Thus,

> **Hypothesis 3.** *The positive relationship between the personal contact quality provided by the driver and sales is weaker when the relationship length with the customer is long than when it is short.*

The relationship marketing literature argues that repeated interactions represent a prerequisite for the establishment of personal relationships between customer contact employees and employees of the customer firm (Bendapudi & Leone, 2002). Indeed, concepts such as trust, commitment, and loyalty can only become operational on a personal level, if the persons involved interact frequently to get to know and understand each other better. However, as our models attempts to explain sales on the level of the supplier firm, these mechanisms may be less relevant. In contrast, if a customer firm is often in contact with a driver, it may become accustomed to the performance of the driver. The performance of a driver might be considered a given. This "habituation effect" may dilute the positive effect of the satisfaction with the driver on sales. Thus,

> **Hypothesis 4.** *The positive relationship between the personal contact quality provided by the driver and sales is weaker when the frequency of contact between the driver and the customer firm is high than when it is low.*

4. Method

4.1. Research Context

In order to test the proposed hypotheses, we investigated a focal supplier firm (in the following *SunCo*) that owns and operates a truck fleet for delivering its products to its customers. *SunCo* is a medium-sized manufacturer (around 500 employees) of construction material located in Germany. During the time of investigation, *SunCo* served around 2,500 customers in seven different countries. Most of the customers were craft enterprises (with 10 or less employees) and the largest customer accounted for about 3% of total sales. About 96% of the customer base were located in Germany and France. The remaining 4% were spread over Austria, the Netherlands, Switzerland, Belgium and Luxemburg. All transportation and distribution operations were managed and executed in-house with direct shipping to the customers (i.e., every shipment was transported directly from its point of origin to its destination without passing through any kind of hub). Specifically, a "one-to-many"-shipment setup was used which means that customer destinations were clustered into regional districts and, in a single tour, a driver served several destinations within one district (an instance of the travelling salesman problem) (Chopra & Meindl, 2006). We were provided access to all relevant information about the customer base and the truck fleet available from *SunCo*'s database. *SunCo* employed 32 drivers (full-time permanent) that frequented always the same districts. This setup allowed the drivers to have a profound knowledge of the handling of the products and of the customers' specific situation. In summary, this research context appropriately set up the conditions for testing the hypotheses.

4.2. Data and Procedure

The empirical basis of this study comprises primary and secondary data. We conducted a survey among *SunCo*'s customers in France, Germany, and Austria and subsequently matched this data set with secondary data from *SunCo*'s accounting records.

As shown in Table 1, most of the customer firms were located in France and in Germany. Self reports from single key informants were used to collect the data (Kumar, Stern, & Anderson, 1993). We explicitly addressed the person that is in charge of the business relationship with *SunCo* (mainly purchasing managers or CEOs) and framed the questionnaire as a customer satisfaction survey. We offered anonymity (on the level of the respondent) and confidentiality to reduce the chances of responses that were socially desirable or consistent with how respondents believe researchers want them to respond.

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Insert Table 1 about here

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We restricted the sampling frame to customers that purchased at least one item during the last 18 months ($N = 1,611$). Only 708 of these customers had email addresses in *SunCo*'s customer relationship database. These firms were invited to participate in the study via email. The emails included a direct link to the online-based questionnaire. The

remaining 903 customers without email information were contacted via fax. These respondents had the possibility to answer the questionnaire on paper returnable by fax/mail or use the provided link to the online survey. In exchange for participation in the survey, the questionnaire offered all respondents the chance to win two Apple iPod mp3-players in a lottery. Three follow-ups via email and telephone generated 207 usable questionnaires yielding a response rate of 12.8%.

The annual sales volumes of the participating firms ranged from US-$ 0.04 million to US-$ 12.00 million.[1] The number employees (full-time equivalent) ranged from 1 to 90. The majority of informants were owner managers or CEOs of the customer firms. Other informants were managers from the fields of purchasing or operations.

Two approaches were used to assess whether non-response bias was present in the sample. We inspected the differences between early (initial invitation) and late respondents (second and third reminder) on all survey items in our model (Armstrong & Overton, 1977) and no statistically significant mean differences were found ($p < 0.05$). We additionally compared the study sample of 207 informants to 100 randomly selected non-respondent firms from the initial sample in terms of (1) annual order volume and (2) the amount of orders in the previous year drawn from *SunCo*'s customer database. No statistically significant differences between the two groups were found ($p < 0.05$). In sum, these two tests suggest that non-response bias does not pose a significant threat to the validity of our results.

4.3. Measures

Only the variables *personal contact quality* and *customer firm size* were obtained from the primary data collection. All other variables were taken from *SunCo*'s accounting database to avoid problems associated with common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Following standard techniques, the survey instrument and its measures were developed in several stages (Churchill, 1979; Dillman, 2006). First, a preliminary questionnaire was drafted on the basis of the literature from the logistics and marketing field. Second, five employees of *SunCo* (the chief executive officer, the head of production, the head of physical distribution and logistics, and two employees from the sales force department) commented on the items included and their feedback was incorporated into the questionnaire. Third, to refine the survey instrument, it was pre-tested through interviews with employees from three customer firms. Their comments were incorporated into the final version of the questionnaire. To make the survey applicable for most customers it was administered in French and German. To enhance translation equivalence, the original German questionnaire was translated first into French by one bilingual translator and then it was back translated into German by a second bilingual translator. Any differences between the two translators were reconciled (Brislin, 1970). Summated five-point rating scales (Likert-type) were used and all items were formulated as indirect, reflective indicators and scored so that higher numbers reflect increases in the underlying construct.

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[1] The informants provided €-values which were converted into US-$-values according to the official currency exchange rate of December 31, 2006 (€1 = US-$1.32).

Personal contact quality was measured by adapting a scale developed and validated by Keller (2002). The employed four-item scale captures the driver's friendliness, consciousness, and helpfulness as well as the expertise about the delivered product and the customer. Translations of the measurement items appear in Table 2. *Customer firm size* was measured as the number of employees in the customer firm. *Relationship length* was measured as the period of time that *SunCo* had worked together with the specific customer. *Frequency of contact* was measured as the average number of deliveries per month during the last 18 month.

In order to eliminate undesirable sources of variance, our analysis included control variables that could influence and confound the hypothesized relationships. First, we controlled for country effects. Economical and cultural differences might affect the perception of the driver performance as well as strategic and operational possibilities of firms and, therefore, might influence purchasing behavior. Following the procedure suggested by Cohen, Cohen, West, and Aiken (2003), French firms were coded as one, whereas German and Austrian firms were used as base. Since Germany and Austria have very similar cultural backgrounds (Hofstede, 1980, 2003) and previous inter-organizational relationship studies have not revealed any statistical differences (e.g., Wagner, 2006), these two country subsamples were treated as a single sample. Second, we also controlled for the potential effects of relationship lifecycle by including the square of *relationship length* (Palmatier, 2008b).

The dependent variable *sales* was measured as operating revenues earned by *SunCo* from each customer during the last 18 month prior to data collection.

Customer firm size, relationship length, sales were logarithmically transformed.

4.4. Measure Assessment

The measurement model for *personal contact quality* was assessed by means of confirmatory factor analysis (CFA) using Mplus 5.2 (Muthén & Muthén, 1998-2007). We employed full-information maximum likelihood estimation. The model fit the data well (χ^2/df = 0.21, $\chi^2_{(2)}$ = 0.42, p = 0.81; CFI = 1.00, TLI = 1.00, SRMR = 0.00, RMSEA = 0.000 with 90% confidence interval = [0.000; 0.085])[2]. Details of the measurement model appear in Table 2.

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Insert Table 2 about here
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The CFA results indicated that the used reflective items capture the underlying latent variable well and implied a satisfactory level of convergent validity and internal consistency. Each item loaded on the latent factor with large, significant loadings, all being significant at the 0.1% level. Composite reliability (0.97) and average variance extracted (0.90) exceeded the common cut-off values of 0.70 (Nunnally & Bernstein,

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[2] CFI refers to comparative fit index; TLI refers to Tucker-Lewis index (also non-normed fit index , NNFI); SRMR refers to standardized root mean square residual; RMSEA refers to root mean square error of approximation.

1994) and 0.50 (Bagozzi & Yi, 1988; Fornell & Larcker, 1981), respectively. Having established validity and reliability, we used the scale average (unweighted) as latent variable score for the final estimation.

For all observed variables, the univariate distributions were examined for both skewness and kurtosis and found to be within acceptable ranges (skewness below |2.0| and kurtosis below |7.0|). No obvious outliers were detected by means of visual inspection (Cohen et al., 2003). Inter-factor correlations appear in Table 3.

5. Analysis and Results

Hierarchical multiple regression analysis (OLS estimation) was used to test the four hypotheses. All independent variables were mean-centered and interaction terms were created by multiplying standardized variables scores (Cohen et al., 2003).

Control variables were entered as a block in Model 1, followed by the direct effects in Model 2, and the interaction terms in Model 3 (simultaneous within blocks, stepwise across). The critical assumptions underlying OLS estimation were thoroughly checked for each model, i.e., (1) the residuals are normally distributed, (2) the residuals are of constant variance (homoscedasticity) over sets of values of the independent variables, and (3) multicollinearity of the independent variables is within an acceptable range. To this end, each linear model was subjected to a visual residual analysis using normal Q-Q plots: no obvious outliers were detected and residuals appeared to be approximately normally distributed. The scrutinized influence diagnostics did also not raise concerns over outliers. Homoscedasticity was checked using the Breusch-Pagan test ($p > 0.10$) and the Goldfeld-Quandt test ($p > 0.10$). Both tests indicated the absence of serious problems with heteroscedasticity. The bivariate correlations between the independent variables were within acceptable ranges (i.e., bivariate correlation < 0.70) as well as the variance inflation factors (VIF) (i.e., VIF < 3), thus indicating that multicollinearity did not pose a serious problem to the regression analyses. In summary, these analyses did not give reason to assume that the chosen method was inappropriate.

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Insert Table 4 about here
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The results are presented in Table 4. All estimated models were statistically significant and, in each step of the hierarchical procedure, the increment in variance explained was significant. We ask, first, whether personal contact quality provided by the driver leads to more sales (Hypothesis 1). The results from the main-effects-only model (Model 2) reveal that personal contact quality, in fact, positively affects sales (standardized regression coefficient $\beta_6 = 0.11$, $p = 0.03$). Thus, the better the (perceived) personal contact quality, the higher the customer's contribution to the supplier firm's sales.

Beyond this main effect, the predictive power of the three hypothesized interaction terms was tested. Inclusion of the hypothesized interaction terms (Model 3) resulted in a significant increase in variance explained (ΔR^2), thus indicating that the direct effects are not just additive in nature (Cohen et al., 2003). To better understand the nature of the

interaction effects, we conducted a simple slope analysis and plotted the significant effects in Figure 2.

Hypothesis 2 states that the positive relationship between personal contact quality and sales is weaker when the buying firm is large than when it is small. The associated regression coefficients was significant and in the expected direction ($\beta_7 = -0.10$, $p = 0.04$). As shown in Figure 2, the slope which indicates the relationship between personal contact quality and sales is weaker for larger firms than for smaller firms. This provides support for Hypothesis 2.

Hypothesis 3 posits that the positive relationship between personal contact quality and sales is weaker when the business relationship between the two firms is long than when it is short. The corresponding regression coefficients was significant and in the expected direction ($\beta_8 = -0.10$, $p = 0.04$), thus supporting Hypothesis 3.

Finally, Hypothesis 4 received support. It states that the positive relationship between personal contact quality and sales is weaker when the frequency of contact between the driver and the customer firm is high than when it is low. The associated regression coefficient was significant and in the expected direction ($\beta_9 = -0.11$, $p = 0.03$).

6. Discussion and Implications

Logistics outsourcing decisions are among the most frequent decisions that logistics managers in industrial firms are facing (Murphy & Poist, 2000). Few studies have explicitly addressed the relationship marketing potential of front-line employees in logistics (Mentzer et al., 1999; Voss, Calantone, & Keller, 2005) or, more specifically, physical distribution (Bienstock et al., 1997). This study focused on drivers that serve a fixed set of customer. We started from the premise that driver-customer interactions may be viewed as service encounters which may affect the purchase intention of the customer. The central finding is that drivers may, in fact, act as a (hidden) sales force for industrial firms, as they have the possibility to influence the purchasing behavior of customers. This result is in line with both the service quality literature as well as the relationship marketing literature and supports the call that a firm should coordinate its logistics function with its marketing function (Kahn & Mentzer, 1996; Mentzer & Williams, 2001). To leverage the "sales force"-potential of drivers, firms need (1) to operate distribution operations in a way that enables the drivers to frequent a same set of customers and (2) "customer-oriented" drivers who are motivated and trained. Indeed, prior research suggested that high service quality is achieved though high job satisfaction and commitment to service quality (Hartline & Ferrell, 1996). Given that the results suggest a direct positive link between the personal contact quality a customer receives from the driver and the customer's purchasing behavior, training and job-enrichment of drivers seems to be justified. The attitudes investigated in this research (friendliness, courtesy) are less a matter of substantial knowledge but more of internalizing service values and norms (Bell & Menguc, 2002; George, 1990). This represents a main difference in comparison to the training of sales force personnel, as these employees need a solid technical background to perform in a desired manner. Consequently, the drivers' service performance might be "cheaper" to establish than

sales force performance. This suggests that costly relationship marketing efforts might be saved, if excellent drivers are able to "pitch in" as "relationship managers."

Beyond this main effect, our model investigated some conditions under which drivers may affect the exchange relationship. The findings indicate that the influence of the driver on the customers' sales volume is conditional on other variables. First, if the customer firms are rather large, which implies that the employees that facilitate the contact with the driver (e.g., the incoming goods department) may not have a significant influence on the order behavior of their firm, the effect of personal contact quality vanishes. This represents an important implication for logistics outsourcing decisions. Often, logistics managers think in the dimensions of economies of scale and capacity utilization and, thus, consider the shipments to smaller customers (those who account for only a small amount of orders) as rather cumbersome. Hence, a common approach in outsourcing of distribution operations is to turn smaller customers to LSPs, while serving larger customers (with frequent demand) with own delivery vehicles. Our results sound a note of caution to this logic. Larger firms may not notice whether they are served by varying drivers of a LSP or by an experienced driver of the supplier firm. Thus, the desired "personal contact quality"-effect does not become operational. In contrast, smaller firms may value and notice an experienced driver who knows their firm, is experienced in handling the product, and listens to their requests and complaints. In such contexts, established personal contacts between drivers and customers may also imply a risk for supplier firms. If the driver suddenly fails to deliver as usual (e.g., due to outsourcing to a LSP), the customer's purchasing behavior may be negatively affected.

Second, the driver is particularly important during the early stages of a buyer-supplier relationship. The results indicate that the effect of the driver on sales is more pronounced in "younger" buyer-supplier relationships (exploration and build-up phase). This is consistent with the relationship marketing literature. Palmatier (2008a, p. 86), for example, argued that "in the initial stages, the quality of the bonds may be most critical because these initial bonds form the seeds of interfirm norms." Therefore, directly after the acquisition of a new customer, the delivering drivers should be briefed to provide a superior service.

In a similar vein, our findings suggest that the frequency of contact between a driver and a customer firm influences the form of the investigated main effect. With increasing frequency, the personal contact quality becomes less relevant for the customer's purchasing behavior. At a first sight, this finding is counterintuitive as many relational constructs such as interpersonal trust and loyalty are formed through a repeated train of beneficial interactions. However, in case of a high frequency of contact, the personal contact quality may be considered as given (similar to a "habituation effect") which dilutes the effect of the driver on sales. Thus, given a smaller number of interactions, a driver can positively affect the exchange relationship. But this does not imply that a good performance of the driver becomes irrelevant to the relationship. In contrast, such customers might be particularly vulnerable to defecting. Failed expectations have been reported to create discomfort and perplexity and to function as strong promoters for information-search processes and triggers for change (Ellis & Davidi, 2005; Weiner, 1985). Therefore, if a customer is familiar with a driver and accustomed to a certain service quality, a sudden change of the personal contact quality (e.g., after an

outsourcing decision) may have negative repercussions on the buyer-supplier relationship (Anderson & Robertson, 1995; Jap & Anderson, 2005).

7. Limitations

The results and findings of this study are based on a survey among customers of a single industrial firm which cautions the generalizability of the findings. Physical distribution varies from firm to firm and the investigated setting may not be comparable to other firms.

Certainly, cost-benefit considerations are an important factor that our analyses do not include. Our conceptual framework focuses only on the marketing effect of drivers, i.e., the additional benefits from owning and operating a distribution network, but do not compare this effect to the cost of operating the network. These costs can easily override the additional revenue potential from the drivers' service performance and might lead to a completely different outcome and, thus, advice for managerial actions.

Furthermore, firms might not be able to build up their truck fleets in the manner the number of customers and sales volumes grow. At this point, LSP offer the possibility to increase flexibility without increasing investments and risks. Especially today the current economic crisis hits firms with own truck fleets twice, as they continuously have to pay for their fleet operations even if they are not needed because of the lower number of deliveries.

Finally, recent research has argued that it is important to distinguish level and strength of satisfaction with a service (Chandrashekara, Rotte, Tax, & Grewal, 2007). Although stating a high level of personal contact quality, customers could still be vulnerable to defection if the strength, with which the contact quality judgment is held, is weak. An overtly-satisfied customer could have a weakly-held satisfaction if she is covertly concerned about losing the key contact employee (e.g., the driver) (Chandrashekara et al., 2007). Furthermore, Mittal, Ross, and Baldasare (1998) argued that perceptions of attributes of a contact employee might not be linked symmetrically with satisfaction, i.e., one unit of negative performance on an attribute (e.g., politeness) could have a stronger effect on satisfaction than a corresponding unit of positive performance. Hence, further research should aim at identifying the key attributes of drivers that affect customers' perception of personal contact quality. This would enable firms to more specifically invest resources to enhance customer satisfaction and repurchase intentions.

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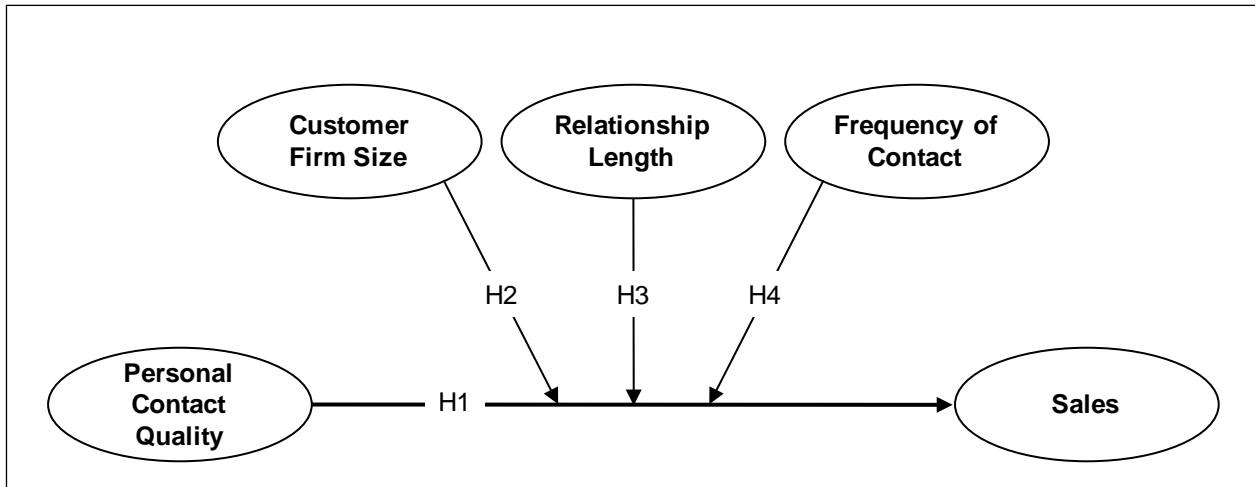
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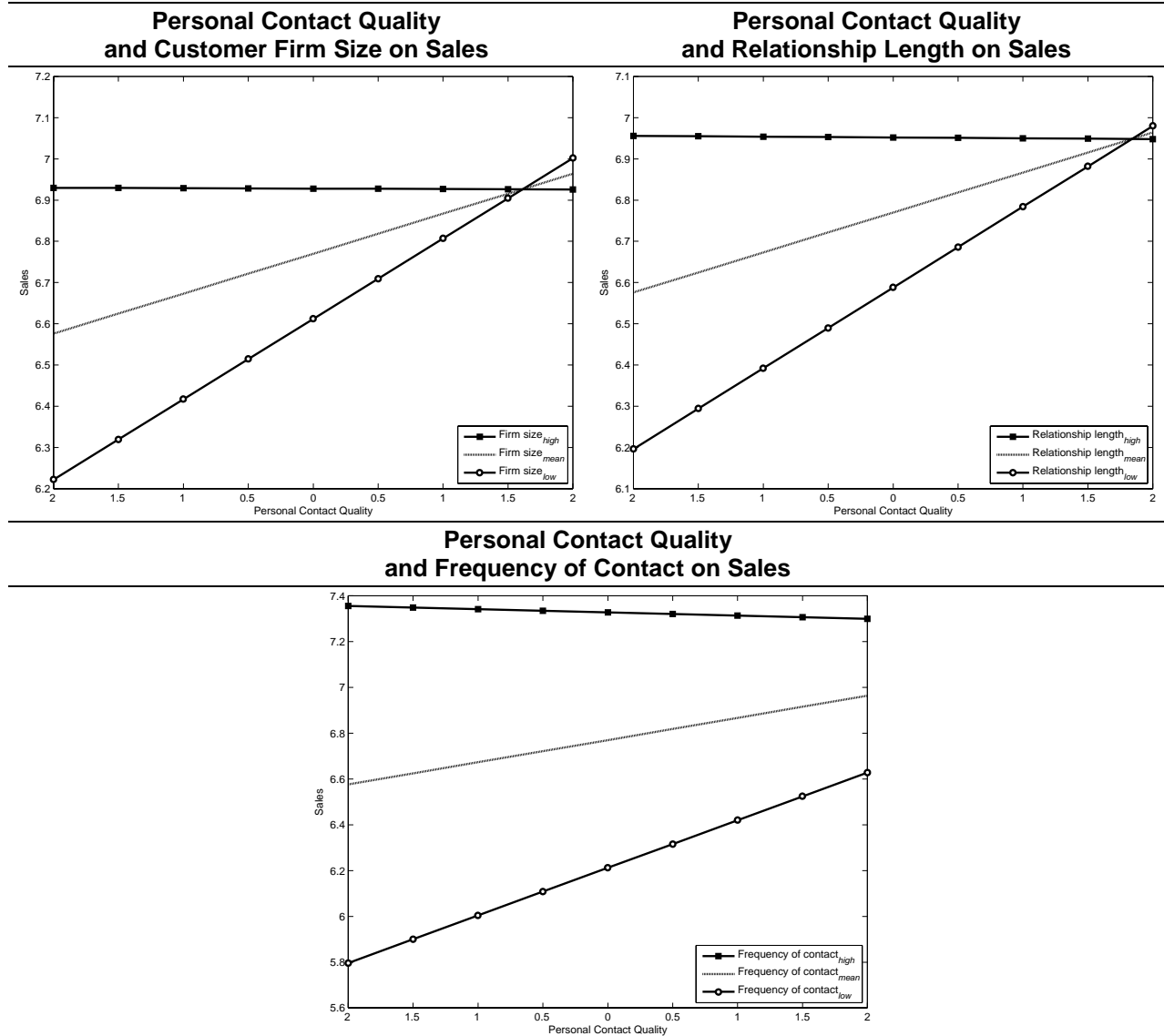
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FIGURES

FIGURE 1
Conceptual Framework

FIGURE 2
Interaction Effects

Personal Contact Quality and Customer Firm Size on Sales

Personal Contact Quality and Relationship Length on Sales

Personal Contact Quality and Frequency of Contact on Sales

Note: The model variables not taken into account in the plots were held constant at their mean values. Simple slopes termed "high" refer to M + 1SD and "low" refer to M – 1SD.

TABLES

TABLE 1
Sample Composition

	f	*%*
Number of employees (in 2006)		
1 – 4	106	51.2
5 – 9	54	26.1
10 – 14	24	11.6
15 – 19	7	3.4
20 – 29	6	2.9
30 – 49	5	2.4
50 – 99	5	2.4
Location of headquarters		
Austria	7	3.4
France	122	58.9
Germany	77	37.2

TABLE 2
Measurement Scale

Construct name/ Item	Coefficient alpha	Composite reliability	λ	*t*-value[a]	*SE*	R^2
Personal contact quality	0.92	0.97				
Please assess the driver(s) of SunCo that usually deliver(s) your orders along the following criteria in comparison to the drivers of other suppliers: (1: significantly worse – 5: significantly better)						
DRI1 Friendliness of the driver(s)			0.86	–[b]	–[b]	0.74
DRI2 Consciousness of the driver(s)			0.81	14.33	0.06	0.66
DRI3 Helpfulness of the driver(s)			0.91	17.36	0.06	0.83
DRI4 Specific knowledge of the driver(s) about our company			0.85	15.67	0.06	0.73

Note. Items were measured on five-point rating scales (Likert-type). All items were scored such that higher scale points represented increases in the underlying construct. λ refers to standardized factor loading, *SE* refers to standard error.

[a] *t*-values are from the unstandardized solution. All factor loadings are significant at the *p* < 0.001 level (two-tailed).

[b] Factor loading was fixed at 1.0 for identification purposes.

TABLE 3
Correlation Table and Descriptive Statistics

	M	*SD*	(1)	(2)	(3)	(4)	(5)
(1) Personal contact quality	3.99	0.77	1				
(2) Customer firm size[a]	2.50	1.00	–0.15 *	1			
(3) Relationship length[a]	1.67	0.68	–0.14 *	0.14 *	1		
(4) Frequency of contact	5.57	9.51	0.09	0.37 **	0.12	1	
(5) Sales[a]	9.80	1.50	0.23 **	0.34 **	0.19 **	0.63 **	1

Note. Pearson correlation coefficients are shown.

* *p* < 0.05, ** *p* < 0.01 (two-tailed).

[a]Transformed using the natural logarithm.

TABLE4
Results of Regression Analysis

Variable	Model 1: Controls			Model 2: Main Effects			Model 3: Moderator Effects		
	β	b	t-$value$	β	b	t-$value$	β	b	t-$value$
Country (dummy variable)	0.35	1.06 ***	7.00	0.31	0.95 ***	5.96	0.32	0.97 ***	6.30
		(0.15)			(0.16)			(0.15)	
Customer firm size	0.13	0.19 *	2.46	0.15	0.22 **	2.83	0.16	0.24 **	3.11
		(0.08)			(0.08)			(0.08)	
Relationship length	0.19	0.43 ***	3.51	0.20	0.43 ***	3.61	0.18	0.40 **	3.43
		(0.12)			(0.12)			(0.12)	
Relationship length^2	–0.06	–0.07	–1.13	–0.05	–0.06	–0.96	–0.07	–0.08	–1.39
		(0.06)			(0.06)			(0.06)	
Frequency of contact	0.53	0.08 ***	10.15	0.51	0.08 ***	9.84	0.56	0.09 ***	10.44
		(0.01)			(0.01)			(0.01)	
Personal contact quality				0.11	0.22 *	2.16	0.10	0.19	1.81
					(0.10)			(0.10)	
Pers. cont. quality × Customer firm size							–0.10	–0.16 *	–2.04
								(0.08)	
Pers. cont. quality × Relationship length							–0.10	–0.16 *	–2.05
								(0.08)	
Pers. cont. quality × Frequency of contact							–0.11	–0.27 *	–2.14
								(0.13)	
Constant		7.57 ***	27.06		6.67 ***	13.26		6.77 ***	13.41
		(0.28)			(0.50)			(0.50)	
R^2		0.54			0.55			0.58	
ΔR^2		–			0.01			0.04	
F		46.29 ***			40.23 ***			30.56 ***	
F of ΔR^2		–			4.67 *			5.63 **	

Note. Ordinary least squares (OLS) estimation was used ($n = 207$). β refers to standardized OLS regression estimates, b refers to unstandardized OLS regression estimates (standard errors in parentheses).
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).