

## SALES EFFORT AND PERFORMANCE: DARK SIDE OF CUSTOMER PRODUCT KNOWLEDGE

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*Salespeople have to allocate time and effort working with different types of customers. Is there a trade-off associated with expending salesperson effort on customers with high versus low product knowledge? Does this potentially impact sales performance? Extant research is limited in its ability to provide insight into these issues, reinforcing the need to better understand how a sales force, spanning boundaries between a company and its customers, can effectively manage customer product knowledge to maximize sales outcomes. The current research conceptualizes and empirically tests the interplay of salesperson effort and salesperson perceived customer product knowledge in shaping sales performance. Specifically, the paper postulates that perceived customer product knowledge attenuates the positive impact of salesperson efforts on sales performance. Using data collected from a sample of 185 automobile salespeople, we find support for the main effects of salesperson effort and perceived customer product knowledge, and the proposed negative interaction. The findings suggest that high product knowledge customers can do well with relatively little effort on the part of the salesperson. At the same time, salespeople can benefit by expending more effort toward customers with low product knowledge. We conclude with a discussion of implications for research and practice.*

### INTRODUCTION

While customers remain the “lifeblood” (Gupta and Lehmann, 2005, p. 2) of firms, the traditional passive role of customers is giving way to a more active, involved, and consultative one. Moreover, customers come to the buying process more educated and prepared than ever before, often with their desired solution already mapped out (Adamson, Dixon, and Thomas, 2012). Consequently, salespeople confront the increased complexity that comes from managing customers with different levels of market knowledge. While factors influencing sales performance lie at the heart of decades of scholarship in sales force management (e.g., Brown and Peterson, 1994; Churchill et al., 1985; Murshed and Sangtani, 2016; Schmitz and Ganesan, 2014), studies explicitly linking customer product knowledge to sales performance are notably lacking. As an important exception, DeCarlo, Laczniak, and Leigh (2013) examine how subjective customer product knowledge moderates the role of suspicion in sales call attributions and outcomes in the context of financial services selling.

The current research is an attempt to improve understanding of how the effect of customer product knowledge bears upon sales performance. To that end, we investigate how salesperson effort and salesperson perceived customer product knowledge (hereafter, perceived customer product knowledge) jointly affect sales performance. Specifically, we provide a systematic conceptual and empirical integration on how customer product knowledge attenuates the positive effect of salesperson effort on performance.

This research pursues three contributions to extant theory and practice. Foremost, to the best of our knowledge, this study is the first to examine perceived customer product knowledge within the context of sales management. Previous studies have noted the performance implication of customer knowledge development (e.g., Menguc, Auh, and Aypar, 2013), with relatively little consideration for a more fine-grained construct of customer product knowledge. Second, we contribute to the sales effort literature by offering conceptual and empirical evidence that a higher level of perceived customer product knowledge can reduce the positive effect of salesperson effort on sale performance. Research to this point is limited in its ability to provide insight into the moderating role of

customer product knowledge in the effort-performance paradigm. By offering a contrasting perspective to previous research, the current study is responsive to calls for gaining a more meaningful understanding of factors that shape sales performance (e.g., Stewart, 2006). Finally, from the perspective of practice, our study provides several actionable insights for firms to improve personal selling strategies. At a broad level, this research depicts customer product knowledge as a relevant metric for sales managers and offers guidance regarding how to allocate time and efforts across customers with different levels of product knowledge and manage individual customers more effectively. For example, according to our findings, a firm's interests are best served by paying close attention to understanding the needs and interests of customers with low product knowledge. By the same token, it also follows that salespeople may not have to go to great lengths to deal with customers with high product knowledge.

The remainder of this paper is organized as follows: First, we present the theoretical background to the study and derive the hypotheses. Next, we describe our method and present the empirical analysis of survey data from a sample of automobile salespeople. Finally, we discuss the theoretical and managerial implications of these findings, describe the limitations, and offer suggestions for future research.

### Theoretical Development

Our conceptual model (See Figure 1) depicts the relationships among salesperson effort, perceived customer product knowledge, and sales performance. We expect that the positive impact of salesperson effort on sales performance will be moderated by perceived customer product knowledge.

*Salesperson effort.* Effort has been defined as the “force, energy, or activity by which work is accomplished” (Brown and Peterson, 1994, p. 71). For the purpose of this research, we subscribe to the prior notion that effort is within the control of the salesperson (Ingram, Lee, and Skinner, 1989) and represented by the drive associated with both physical and cognitive demands of performing job tasks (Churchill et

al., 1985; Krishnan, Netemeyer, and Boles, 2002). Sujan, Weitz, and Kumar (1994, p. 40) have aptly conceptualized effort as “persistence - in terms of the length of time devoted to work and continuing to try in the face of failure.” Extant research has distinguished between two components of effort - level (working hard) and direction (working smart) (Rapp, Agnihotri, and Forbes, 2008; Sujan, 1986). For example, Rapp, Agnihotri, and Forbes (2008) have defined effort as working hard and adaptive selling as working smart. Schmitz and Ganesan (2014) classify effort as activities directed at interactions with customers (customer directed effort) and activities spent on internal coordination with other departments (internally directed effort).

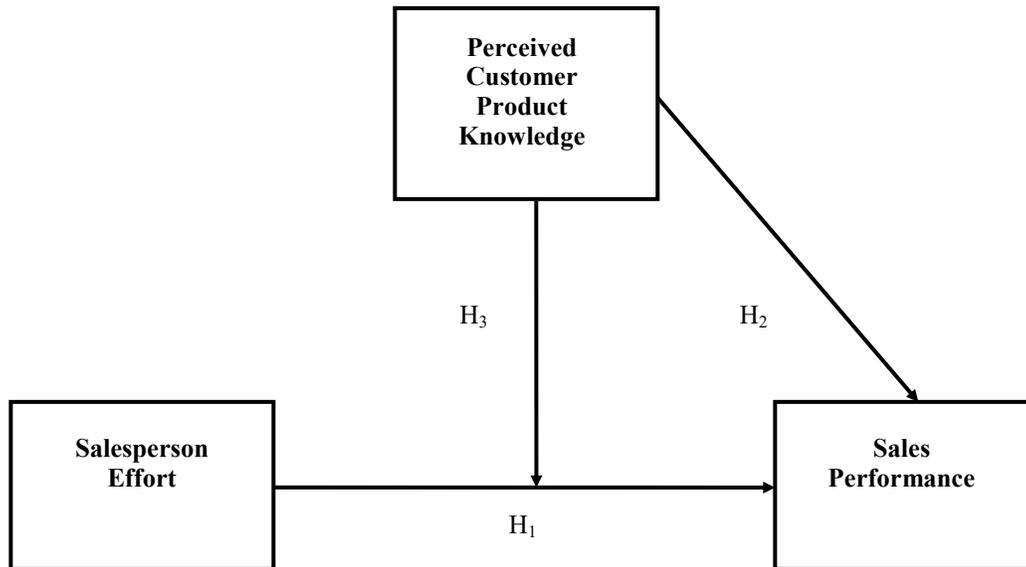
Prior research has provided significant insight into factors prompting salespeople to expend greater effort and its downstream impact (e.g., Brown and Peterson, 1994; Rapp et al., 2006). A stream of research also shows that salesperson effort improves sales performance (e.g., Jaramillo and Mulki, 2008; Rapp, Agnihotri, and Forbes, 2008; Schmitz and Ganesan, 2014; Sujan, Weitz, and Kumar, 1994). As frontline boundary spanners (Singh, Marinova, and Brown, 2012), salespeople are the key implementers of the marketing concept (e.g., Hughes and Ahearne, 2010). As such, it has been well documented that in the face of a slowing economy and intense competition, an increasing amount of salesperson effort is needed for maintaining existing customer relationships and prospecting for new customers (Wagner and Hansen, 2004). Similarly, research has alluded to salespeople's commitment and execution as contributing factors towards the success of the products they sell (Anderson and Robertson, 1995). Significant evidence of the positive effects of salesperson effort on sales performance has also been documented in Brown and Peterson's (1994) meta-analysis.

Formally, we propose the following replication hypothesis:

**H<sub>1</sub>:** Salesperson effort is positively associated with sales performance.

*Perceived customer product knowledge.* Customer product knowledge represents the amount of domain-specific information about a

**FIGURE 1:  
Conceptual Framework**



product category that is stored in the customer's memory (Brucks, 1985; Wood and Lynch, 2002). Alba and Hutchinson (1987) associate this with familiarity and prior knowledge about the product. Researchers have identified two major approaches for measuring product familiarity: one refers to accurate product-related information stored in memory and measures how much a person knows about a product (objective knowledge), and the other approach is concerned with how much a person thinks he or she knows about a product, or the metacognitive feeling of knowing (subjective knowledge) (Brucks, 1985; Carlson et al., 2009; Flynn and Goldsmith, 1999; Hadar, Sood, and Fox, 2013). Research across a range of domains has found that objective and subjective knowledge are distinct constructs and correspondence between these two types of knowledge is not high (Alba and Hutchinson, 2000; Brucks, 1985; Carlson et al., 2009). Our conceptualization of customer product knowledge reflects the subjective knowledge domain. Specifically, this research examines salespeople's subjective perceptions about customers' product knowledge. It has been documented that subjective knowledge is strongly related to experiences and consumers' confidence in their ability to make a good choice (Alba and Hutchinson, 1987; Bearden, Hardesty, and Rose, 2001).

Customers with a higher level of product knowledge possess extensive general knowledge about the product category: the attributes of different models and brands, and how the attributes might affect product performance (e.g., Mitchell and Dacin, 1996) or price. Furthermore, when customers are more knowledgeable about a product domain, they can detect new information about that domain more efficiently (Johnson and Kieras, 1983), and use fewer cognitive resources to categorize it (Alba and Hutchinson, 1987). Research has long suggested that customer product knowledge plays a role in the inference process in response to persuasion effort (Friestad and Wright, 1994; Hong and Sternthal, 2010; Kirmani and Campbell, 2004). Accordingly, higher product knowledge is associated with greater interpretive abilities concerning product and persuasion cues, and allows customers to retrieve the brands appropriate for a usage situation (Cowley and Mitchell, 2003). This resonates with the notion that high product knowledge customers will be more efficient in interpreting market information. Possessing high product knowledge will also make it easier for customers to perform certain tasks, and for salespeople to perform relationship enhancing activities. Based on this notion, while dealing with customers possessing strong product knowledge, a salesperson can save considerable time and effort, which can be redirected to

generate and qualify more leads, thereby, potentially leading to superior sales performance. Therefore,

**H<sub>2</sub>:** Perceived customer product knowledge is positively associated with sales performance.

*Moderating effect of perceived customer product knowledge.* Salespeople serve as important intermediaries between the product and customers and, as such, successful selling is most often built on joint contribution of salespeople and customers. Studies in this area take the view that customer characteristics can play an important role in shaping sales performance (e.g., Homburg, Droll, and Totzek, 2008; Homburg, Müller, and Klarmann, 2011a). We posit that higher perceived customer product knowledge will compromise the positive impact of salesperson effort on sales performance. The logic underlying the proposed relationship can be explained in three ways: perceptions of knowledge redundancies (Noordhoff et al., 2011), less appreciation of salesperson effort, and worries about opportunism (Wathne and Heide, 2000). Below we describe these three mechanisms.

First, prior research has alluded to the phenomenon of “knowledge redundancy” where the degree of similarity or overlap in partner capabilities, knowledge, and skills may create inefficiency (e.g., Anderson and Jap, 2005; Rindfleisch and Moorman, 2001). We posit a potential dysfunctional context when a high level of sales effort is expended toward customers with high product knowledge.

Second, we postulate that strong product knowledge instills confidence in customers and they are likely to make informed decisions on their own. Consequently, they are more inclined to discount the salesperson effort focused on them. Customers who possess higher product knowledge may perceive a salesperson’s product knowledge to be inadequate, the presentation to be uninformed, and interpret extra initiatives by a salesperson as an attempt to undermine them. Given this sensitivity, these customers would prefer the salesperson to play a marginal role, especially, in advanced stages of a sales encounter (i.e., while making decisions).

Third, customers with high product knowledge may perceive salesperson effort as an opportunistic overture. Previous research conceptualizes opportunism as a partner misbehavior, where actions of one party (i.e., salesperson) transgress specific relational norms and directly harm the interests of the other (i.e., customers) (e.g., Selnes and Sallis, 2003; Wathne and Heide, 2000). For example, Selnes and Sallis (2003) observe a negative interaction between trust and knowledge exchange activities. To put this into perspective, consider an automobile sales encounter: the salesperson might explain that computerized control units can drive up the price of the vehicle. Whereas, a customer knowledgeable about the evolving nature of the product is aware that most, if not all, new vehicles have a fairly high degree of computerization. Under this condition, high level of effort may provoke a discord and trigger a negative impact on the sales encounter, and consequently on sales performance. Consistent with this perspective, intensified effort put forth by a salesperson on a high product knowledge customer could create a potential conflict and may not translate into a positive outcome. On the contrary, when the sales encounter is with customers with low product knowledge, ramping up effort and going the extra mile will add value at every step of the sales process. In light of this view, we suggest that customers with low product knowledge are more likely to seek relationship-enhancing activities focused on them and show more appreciation for any extra efforts aimed at understanding and satisfying their needs.

Following from the preceding discussion, we propose the following moderation hypothesis.

**H<sub>3</sub>:** Perceived customer product knowledge negatively moderates the relationship between salesperson effort and sales performance. The positive effect of salesperson effort is weaker for customers with high product knowledge and stronger for customers with low product knowledge.

## EMPIRICAL STUDY

### Sample and Data Collection

To test the proposed relationships, we surveyed salespeople working at automobile dealerships. This serves as a ripe context for investigating the effect of perceived customer product knowledge, our focal construct, for three reasons. First, automobiles are perceived as a high-involvement category. Second, customers can arm themselves with knowledge and information available on the internet. And, third, product knowledge varies considerably from one customer to another.

The sample was drawn from 27 different automobile dealerships located in four cities/towns within 100 miles of each other in the southern United States. Even though we contacted the dealerships' general managers to introduce the study and encourage participation, to avoid any bias, we collected the completed questionnaires in closed envelopes. The cover letter explained the purpose, and assured confidentiality. Our data collection efforts yielded a total of 193 questionnaires out of which 185 were usable, for a response rate of 61.6% (185 out of 300). The average age of respondents was 41.25 (SD = 6.52), with a range from 36 years to 45 years; 90% were males. They had been automobile salespeople for a mean of 8.14 years (SD = 7.9) and their average tenure at current dealership and average sales experience were 5.26 years (SD = 6.09) and 11.7 years (SD = 9.8), respectively.

### Survey Development

A self-administered cross-sectional survey was developed to measure all variables at the individual level. For salesperson effort and sales performance, we relied on existing scales. We developed the measures for perceived customer product knowledge in the following steps. First, we specified the domain of the construct through a review of pertinent literature. Second, we operationalized the construct and developed the initial pool of items. Then, in-depth interviews were conducted with four industry sales representatives (not part of the survey), who indicated whether the questionnaire was easy to understand and consistent in terms of

interpretation. Accordingly, initially proposed scales were refined. We present the full battery of scales employed, items loadings, and literature sources in Table 1 and detail measurement results in the next section.

### Measures Salesperson Effort ( $\alpha=.88$ )

The four items measuring salesperson effort were adapted from Dixon, Spiro, and Jamil (2001). Respondents indicated their level of agreement on a seven-point Likert scale with statements ranging from "strongly disagree" (1) to "strongly agree" (7).

### Perceived Customer Product Knowledge ( $\alpha=.90$ ).

The scale for perceived customer product knowledge was composed of six items. A seven-point Likert scale asked respondents to indicate their level of agreement with statements ranging from "strongly disagree" (1) to "strongly agree" (7).

### Sales Performance ( $\alpha=.90$ )

The dependent variable of sales performance was measured with five items adapted from the scale developed by Behrman and Perrault (1982). These measures reflect salespeople's evaluation of themselves with respect to achievement of sales objectives and have been used extensively in past research (e.g., Sujan, Weitz, and Kumar, 1994). Respondents were asked to rate each dimension of their sales performance as "Compared to most salespeople I am" on a seven-point semantic differential scale (1 = "much worse" to 7 = "much better"). Adaptations were made to capture the automobile sales context and one item, "converting prospect to customer," was added. Preliminary analysis examined age and experience as potential covariates. The effect was not significant and therefore, they were not included in further analysis. In Table 2, we present descriptive statistics and a correlation matrix for the variables of interest.

**TABLE 1:**  
**Measures and Psychometric Properties**

Constructs	Factor Loadings		
Sales performance (Adapted from Behrman and Perreault, 1982: $\alpha = .90$ ) <sup>b</sup>			
Compared to most car salesperson I contribute to my dealerships acquisition of market share	0.04	<b>0.864</b>	0
Compared to most car salesperson I generate high volume of sales dollars	0.129	<b>0.869</b>	-0.027
Compared to most car salesperson I quickly generate sales of new additions to car inventory	0.067	<b>0.857</b>	0.083
Compared to most car salesperson I convert prospects to customers	0.113	<b>0.823</b>	0.137
Compared to most car salesperson I assist the sales manager at achieving goals	0.119	<b>0.846</b>	0.046
Salesperson effort (Adapted from Dixon, Spiro, and Jamil, 2001: $\alpha = .88$ ) <sup>a</sup>			
About last sale-I worked hard and it paid off	0.013	0.145	<b>0.786</b>
About last sale-I tried very hard to make this sale	0.201	-0.048	<b>0.887</b>
About last sale-I put in a lot of effort in this sale	0.181	0	<b>0.901</b>
About last sale-I gave the effort needed to make the sale	0.006	0.073	<b>0.677</b>
Perceived customer product knowledge (newly developed scale: $\alpha = .90$ ) <sup>a</sup>			
Most customers know a lot about cars	<b>0.7</b>	0.095	0.14
Most customers compare car prices on the internet	<b>0.863</b>	0.009	0.048
Most customers compare rebates offered by different companies	<b>0.76</b>	-0.012	0.11
Most customers check the invoice price on the internet	<b>0.864</b>	0.155	-0.02
Most customers compare features of different brands on the internet	<b>0.845</b>	0.134	0.029
Most customers check consumer ratings on the internet	<b>0.78</b>	0.15	0.147
Eigenvalues	4.005	3.732	2.759
Variance explained	26.699	24.878	18.395

<sup>a</sup>Seven-point Likert scale anchored by “strongly disagree” (1) to “strongly agree” (7)  
<sup>b</sup>Seven-point semantic differential scale ranging from “much worse” (1) to “much better” (7)  
*Notes:* Loadings greater than .60 appear in bold for visual clarity.

**TABLE 2:**  
**Correlation Matrix**

	Mean	SD	1	2	3
1. Salesperson Effort	6.06	1.02	1		
2. PCPK	4.81	1.25	.210**	1	
3. Sales performance	5.57	.89	.135	.209**	1

*Notes:* PCPK= Perceived customer product knowledge \*\* $p < .05$

## RESULTS

### Validation of Measures

We conducted an exploratory factor analysis in SPSS to assess the underlying factor structures of the items, using the maximum likelihood method. This resulted in a three factor solution, as theoretically expected. Internal consistency reliabilities of the three variables were respectable, with all scales attaining Nunnally

and Bernstein's (1994) suggested Cronbach's alpha level of .80 or higher.

In order to further assess measurement properties, next, all scale items were subjected to principal component analysis with a Varimax rotation. A clean factor structure emerged; as table 2 shows, all items have substantial loadings on their intended factors and not on other factors, thereby confirming discriminant and convergent validities, respectively.

Because both dependent and independent measures stem from the same respondents with the same questionnaire format, potential for common method bias exists. To diminish the potential impact of common method variance, several steps were taken in developing the instrument (Podsakoff et al., 2003). First, in order to reduce socially desirable responses, we promised anonymity and assured respondents that there were no correct or incorrect answers. Through the pretest, we ensured there was no ambiguity in the scale items. Second, following Rindfleisch et al.'s (2008) suggestions, we used a combination of semantic differential and Likert scales for different constructs. Third, constructs were ordered on the instrument in such a way that the predictor variable did not precede the criterion variable. Finally, we ran a post hoc test and performed exploratory factor analysis (EFA) on all items. EFA yielded a 3-factor solution accounting for 70% of the total variance with each factor having an eigenvalue greater than 1. The factor which made the largest contribution to variance in the model, sales performance (variance explained = .33), accounted for less than half the sum total of the variance explained by all three factors (Menon et al., 1999, p. 31). Thus, the influence of common method bias, if any, was negligible.

### Approach to Analysis

Average scores of the item parcels representing each construct were used in a moderated regression analysis where, sales performance was regressed on salesperson effort, perceived customer product knowledge, and salesperson effort x perceived customer product knowledge interaction. We mean-centered the variables before creating the interaction term to reduce any collinearity between the main and interaction effects (Cohen et al., 2003). The estimated equation is as follows:

$$\text{Sales Performance} = b_0 + b_1(\text{Salesperson effort}) + b_2(\text{Perceived customer product knowledge}) + b_3(\text{Salesperson effort} \times \text{Perceived customer product knowledge}) + e.$$

### HYPOTHESES TESTING

Table 3 displays unstandardized estimates of the multiple regression model. To begin our analysis, we first entered the main effects of the predictor and the moderating variable involved,

but not the interaction (main-effects only model). Next, we included the two-way interaction (full model). Comparison of these two models indicates significant improvement in the model fit when the interaction term is included. Table 3 reports overall significance of the full model with the additional interaction effect (change in  $F$  and the associated change in  $R^2$ ). Since change in  $F > F_{\text{critical}}$ , the full model with the interaction demonstrates better fit than the main-effects only model does. This also indicates that the full model with the two-way interaction terms has significantly more explanatory power than the main-effects-only model as well as a good fit as suggested by  $F(3,185) = 5.12, p < .01$  and multicollinearity between the independent variables was not evident (variance inflation factors  $< 10$ ).

Results of the regression analysis of the full model indicate that the two hypothesized main effects, in support of  $H_1$  and  $H_2$ , are significant at the .05 level. In  $H_1$ , we expected salesperson effort to be a positive predictor of sales performance and it is supported ( $b_1 = .12, p < .05$ ). Turning to  $H_2$ , we observe that perceived customer product knowledge has a positive effect on sales performance ( $b_2 = .13, p < .05$ ), as per our expectation. This confirms the support for  $H_2$ . Examining the interactions effects reveals that the relationship between salesperson effort and sales performance is negatively moderated by perceived customer product knowledge ( $b_3 = -.11, p < .05$ ).

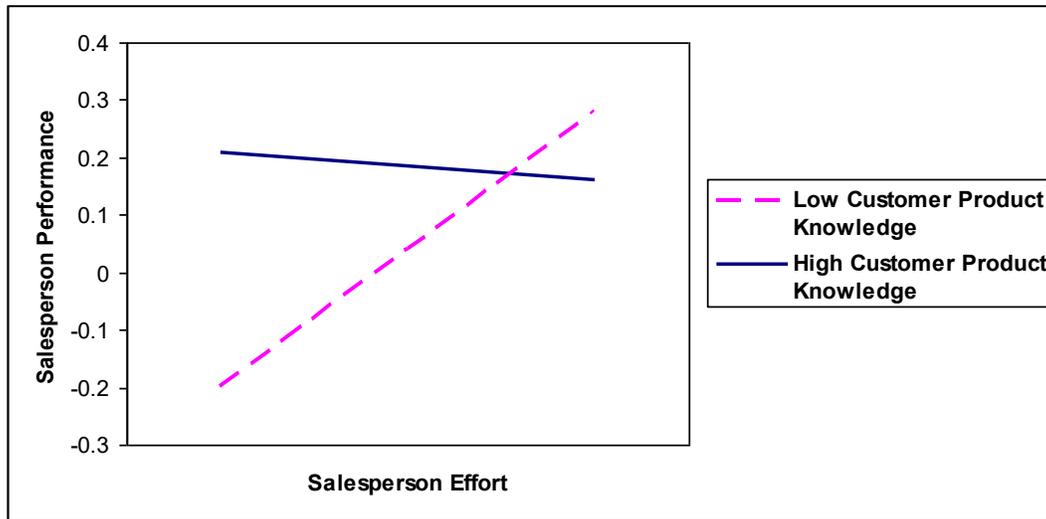
To further analyze and demonstrate the nature of this interaction, we conducted a simple slope analysis following Cohen et al.'s (2003) recommendation. This method helps interpret whether and how the intercepts and slopes of the regression equation differ at various levels of the moderator. That is, how the relationship between salesperson effort and sales performance is contingent on the level of perceived customer product knowledge. Two lines were positioned on the graph to demonstrate how the slope changes at differing levels of perceived customer product knowledge. The corresponding plot appears in Figure 2.

**TABLE 3:**  
**Regression Analysis: The Effects of Salesperson Effort and Perceived Customer Product Knowledge on Salesperson Performance**

Independent Variables	Hypothesis	Main Effect –only Model	Full Model
Salesperson effort	H <sub>1</sub>	.08* (1.21)	.12** (1.78)
PCPK	H <sub>2</sub>	.13** (2.51)	.13** (2.46)
Effort x PCPK	H <sub>3</sub>		-.11** (-2.37)
F value		4.74*	5.12***
Sig. of F change			.03
Model R <sup>2</sup>		.05	.08
Adjusted R <sup>2</sup>		.04	.06

*Notes:* PCPK= Perceived customer product knowledge. For each variable, the reported values are unstandardized beta with corresponding t-values in parentheses. N=185. Two-tailed significance tests \**p* < .10; \*\**p* < .05; \*\*\**p* < .01.

**FIGURE 2:**  
**Interaction of Salesperson Effort x Customer Product Knowledge**



**CONCLUSIONS**

**Discussion**

In many industries, salespeople are the focal point for forging relationships with customers. Sustaining these relationships goes a long way in determining the sales performance and in turn governs the firm’s bottom line (e.g., Hughes and Ahearne, 2010). With this study, we set out to enhance understanding of the

effect of perceived customer product knowledge on sales performance. While knowledge-based sales literature has focused on certain aspects of customer knowledge (e.g., Menguc, Auh, and Aypar, 2013; Rapp et al., 2008), this is the first known study to place emphasis on the impact of perceived customer product knowledge on sales outcome. Given the variance in customer product knowledge, understanding its potential ramifications on sales performance holds significant importance.

Based on a sample of automobile salespeople, this study examined the moderating role of perceived customer product knowledge on salesperson effort-performance link. To that end, we illustrate an important nuance: the positive impact of salesperson effort on sales performance is weakened when perceived customer product knowledge is high. Consistent with our prediction and largely in agreement with prior research, we also find the main effect of salesperson effort and perceived customer product knowledge on salesperson performance to be positive and significant. Depiction of a high product knowledge customer as a double-edged sword is novel and offers implications for both theory and practice.

*Theoretical implications.* This study contributes to the literature in four important ways. First, by investigating perceived customer product knowledge as a moderator, we stretch the current understanding of the nature of salesperson effort-performance link. Second, by investigating how salesperson effort interacts with perceived customer product knowledge, this study builds on recent scholarly interests about how salesperson performance may be shaped by the interplay of external (i.e., perceived customer product knowledge) and internal resources (i.e., salesperson effort) available to salespeople (Murshed and Sangtani, 2016). Third, by focusing on perceived customer product knowledge, this research enriches the application of knowledge related work in the sales management literature. Thus, it adds to the emerging sales research stream based on the knowledge-based-view of the firm (DeCarlo, Laczniak, and Leigh, 2013; Rapp et al., 2006). Finally, this research brings new understanding to the work of Homburg, Müller, and Klarmann (2011b), who show there might be times when customer oriented selling would not maximize sales performance. Our findings that effectiveness of salesperson effort could be context specific is compatible with their work.

*Managerial implications.* Due to scarce time and resources, salespeople often need to decide how much effort they should expend on individual customers for greater impact (e.g., Homburg, Bornemann, and Kretzer, 2014). This research offers direction to help guide these decisions by leveraging perceived

customer product knowledge. First, this work demonstrates that customers with low product knowledge may require more intervention from the salesperson, and hence, salespeople would be well advised to expend relatively higher levels of effort on these customers. Based on this notion, we contend that when dealing with customers with low product knowledge, a salesperson should spend significant time to work up the sales pitch, communicate the product information, and close the sale. The findings add important clarity to Homburg, Droll, and Totzek's (2008) contention that to attain higher profitability, efforts could be strategically directed toward specific customers. Previous investigations tend to ignore the possibility that customers with high versus low product knowledge may merit different levels of attention from salespeople. With better insights, the current research illuminates mechanisms for how customers with high versus low product knowledge might produce value and contribute differently to sales performance. For example, based on our results, B2B straight rebuy or routine re-purchase settings characterized by more knowledgeable customers may not warrant a lot of attention from salespeople.

Second, in light of our findings, we urge practitioners to consider a more tempered approach to manage salesperson effort for more effective sales performance. There is a widespread belief that the more effort a salesperson puts in, the better he or she will perform. This research raises the question whether an optimal level of effort exists in regard to sales performance. We suspect the answer to this question is yes, and it lies at the level of customer product knowledge. Our findings are of direct relevance to managers as we identify specific condition under which it is more (or less) beneficial to ramp up salesperson effort. Our analysis indicates that salespeople may not need to expend a high level of effort on customers with high product knowledge and should consider shifting to other means of communication to engage them. This aligns with the notion that customers with high product knowledge demand relatively less face time and may not have the patience to go through lengthy sessions to review something they are already aware of. Our findings also imply that customers with high product

knowledge may devalue salesperson effort. We speculate that customers with high product knowledge prefer some autonomy and firms may bear a potential negative impact if the salesperson intervention were to undermine that. Thus, according to our findings, exerting additional effort towards customers with high product knowledge may not be conducive to improved sales outcomes. On the other hand, we contend that customers with low product knowledge may require a comfortable environment to communicate their needs without the fear of being embarrassed; which in turn, warrants intensified effort from salespeople. Casciaro and Lobo (2005) label salespeople as 'competent jerk' when they do not make customers feel comfortable and tend to overwhelm them. Based on our findings, salespeople can avoid such a scenario by ramping up effort and creating a comfort zone for customers with lower product knowledge.

#### Limitations and Future Research Considerations

The current study has several limitations. These, in turn, raise issues that could be addressed by future research. First, there are limitations associated with research design and measurements that need to be acknowledged. For example, salesperson effort was based on the last sales, while perceived customer product knowledge was based on salesperson's perception of all the customers. Further, our analysis is based on self-reported perceptual measures which tend to suffer from subjectivity bias. Cross-sectional design does not facilitate testing of the causal sequence and thus, cannot capture the temporal dynamics and the underlying process explanation. Further research could add value in this regard by taking a longitudinal approach. Second, future researchers might want to use dyadic data to reconcile the perspectives of both salesperson and supervisor, which might lend more insights into issues related to customer product knowledge and salesperson effort. Taking a customer perspective on this topic also represents a worthwhile path forward. Third, because the sample was comprised of salespeople from a single industry, our results should be generalized with caution. Even though cleaner effects were obtained by controlling for industry-specific factors,

reexamining this model in other types of selling situations (e.g., consumer packaged goods) might allow for better scrutiny of the relationships among these constructs.

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