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Salespeople knowledge search behavior and sales performance: An investigation of printing equipment industry

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ABSTRACT

Despite a general consensus that salespeople's knowledge is an important determinant of sales performance, the extant literature provides only a limited explanation as to whether and how salespeople's learning styles and knowledge structures affect performance. This study investigates whether and how two learning styles – deep and surface – and two knowledge structures – vertical and horizontal – in respect of salespeople searching behavior in an inter-organizational information system lead to higher performance outcomes in printing equipment industry. We use a unique longitudinal dataset composed of 21,256 online search logs created by 408 salespeople and quarterly sales performance across 21 European countries from 2009 to 2013. The results show that salespeople must conduct a deep search to build rich product knowledge rather than surface search. Furthermore, instead of conducting a horizontal search across competing brands broadly, salespeople must focus on a vertical knowledge search for proximate competitors' products in addition to their own products. Finally, this study presents that the inter-organizational information system as a sales force control system can facilitate the identification and acquisition of external product knowledge and enable a firm to achieve superior performance.

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1. Introduction

As we move into a knowledge-intensive economy, knowledge acquisition by salespeople becomes more urgent and challenging (Hauser et al., 2006). Salespeople are seen as knowledge brokers that transfer knowledge about products to customers and learn about changing customers' preferences and needs (Chonko et al., 2003; Rapp et al., 2014). In front of well-informed customers via Internet and social media, salespeople need to possess rare knowledge which is unavailable to customers, so they, as learning individuals that acquire knowledge, can better serve their customers (Chonko et al., 2003). Moreover, knowledge brokering abilities to access knowledge dispersed in networks become an important precursor for selling-related knowledge of salespeople (Hargadon, 2002).

While much of the prior literature has found evidence that selling-related knowledge is among the most important determinants of sales performance (Verbeke et al., 2011), how salespeople search and acquire the selling-related product knowledge is still underexplored. Salespeople's product knowledge captures the quantity and richness of product knowledge that salespeople use in selling the products and services of the selling firm in ways that might help solve customer problems (Kumar et al., 2008). More effective salespeople possess richer categorization systems of selling-related knowledge in terms of who, when, what, and how to approach (Sujan et al., 1988). Furthermore, due to the increasing adoption of information technology (IT) in sales force, prior research indicates that how the IT is managed and used by salespeople is important for creating a sustainable competitive advantage for firms (Bhatt and Grover, 2005; Mata et al., 1995). However, few studies have explored (1) how salespeople search and acquire what type of knowledge, especially their and competitors' product-related knowledge, from IT-enabled external sources and (2) how their knowledge search behavior affects actual sales performance, which represents an important gap in the extant literature.

To address these gaps in the literature, we use two views of the learning styles (Säljö, 1975; Tait et al., 1998) and knowledge structures (Alba and Hutchinson, 1987; Leong et al., 1989) to extend the research on salespeople's knowledge search and sales performance. According to Säljö (1975), learning styles mainly consist of (1) deep learning, related to creating new knowledge by filtering and relating it to previous understanding and (2) surface learning, related to reproducing knowledge which could be attained by rote learning and memorization. These two learning styles are applicable to salespeople's knowledge searching behavior because deep learning salespeople can exhibit more sophisticated sales scripts than surface learning salespeople, consequently showing better sales performance (Leong et al., 1989). In addition, knowledge structures are classified into two dimensionalities: vertical and horizontal (Alba and Hutchinson, 1987; Leong et al., 1989). Vertical dimensionality pertains to an individual's depth of knowledge within a

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particular situation whereas horizontal dimensionality pertains to an individual's breadth of knowledge across different social situations. In this research, these two dimensionalities are applied to salespeople's knowledge structures acquired from searching for competitors' products.

Though salespeople's knowledge search is critical to sales performance, empirical work in the area is still lacking (Sujan et al., 1988). Specifically, whether and how (1) deep and surface learning styles and (2) vertical and horizontal knowledge structures lead to superior sales performance are not clear. In this study, by using salespeople's knowledge search data in an inter-organizational information system (IOS) (Johnston and Vitale, 1988), we examine how salespeople's learning styles (deep versus surface) and knowledge structures (vertical versus horizontal) influence sales performance in the context of printing equipment industry. This study posits that salespeople must conduct deep knowledge search, rather than surface search, and focus on vertical knowledge search about leading competitors' products, rather than horizontal search across diverse brands.

This study makes several theoretical contributions to sales force research. First, this study deals with the lack of literature on issues related to salespeople's role in retrieving knowledge from external sources (Liu and Comer, 2007). More precisely, the study examines how salespeople must build their selling-related product knowledge from the learning style perspective. In order to be more effective, salespeople should conduct a deep search to build rich product knowledge. Previous studies highlight that more knowledgeable salespeople are able to enhance sales call success by more precisely and personally fit selling approaches to each customer's specific requirements (Leong et al., 1989; Weitz et al., 1986). Second, drawing on the knowledge structures, this study specifies and analyzes a measurement model of the determinants of knowledge structures with a consideration of competitors' products. As competitive cognition to organize and retain knowledge about competitors enhances sales call success (Walker et al., 2005), this study examines that, rather than knowing competing brands broadly (i.e., horizontal dimensionality), salespeople should focus on acquiring in-depth product knowledge of proximate competitors (i.e., vertical dimensionality). As such, this study is one of the first to examine the effectiveness of salespeople's learning styles and knowledge structures in an inter-organizational information system (IOS). Very little research has attempted to empirically analyze salespeople's online knowledge search behavior in the competitive context.

2. Theoretical background and hypotheses

2.1. Deep and surface knowledge search and sales performance

Previous research highlighted the importance of information technology as a source of firms' competitive advantage (Porter and Millar, 1985). Now, information is widely available and is changing the way of doing business and rules of competition (Evans and Wuster, 1997). In order for firms to maintain their competitive advantage, in face of well-informed customers with changing needs and preferences, firms need to capture these needs and preferences promptly and respond in an effective way. Salespeople, as the primary contact point with the customers, constitute a valuable source of market information because they are in an excellent position to learn and satisfy those needs (Chonko et al., 2003; Evans and Schlacter, 1985). They are often seen as knowledge brokers that possess rare knowledge which is unavailable to customers in order to present the ability of their products to solve consumers' problems (Verbeke et al., 2011). This knowledge has been shown as an important determinant of salespeople performance (e.g. Churchill et al., 1985; Verbeke et al., 2011).

Knowledge, in general, is defined as information with meaning (Amidon, 1997) or actionable information (Tiwana, 2001). Information-seeking behavior[1] refers to the individual's way of responding to his/her information need, including factors which initially influence the response and process involved in the response (Wilson, 1997). The information-seeking behavior consists of four interrelated stages such as accessing, searching, processing, and ending (Meho and Tibbo, 2003). Among them, the searching stage can be further decomposed into six activities (Ellis, 1989; Meho and Tibbo, 2003): (1) starting includes the initial search for information such as identifying references; (2) chaining includes following chains of citations or referential connections between sources; (3) browsing includes casually looking for information in areas of potential interest; (4) monitoring includes keeping updated of developments in an area; (5) differentiating includes using known differences (e.g., nature and quality of information); and (6) extracting includes selectively identifying relevant material from sources. Such information searching processes can be applied to the analysis of salespeople's knowledge search behavior.[2]

People have different ways to search and learn information and knowledge. Searching and learning styles can be mobilized according to approaches to studying model (Heinström, 2005; Tait et al., 1998), distinguished by deep and surface learning (Säljö, 1975). Deep learning is related to creating new knowledge by filtering and relating it to previous understanding (e.g., extracting materials) while surface learning is more as reproducing knowledge which could be attained by rote learning and memorization (e.g., browsing information) (Säljö, 1975). Deep and surface learning styles are two polarities (Heinström, 2005), so learners can use flexibly either the surface or the deep approach depending on which is suited to a particular task. This behavior is called a strategic approach (Ramsden, 1984).

The deep and surface learning styles have been identified in library and information studies. For example, Pask (1988) and Pask and Scott (1972) studied two routes taken by learners through a range of complex academic topics. “Holists” tend to adopt a global approach to learning and examining interrelationships between several topics early in the learning process whereas “serialists” tend to use a predominantly local learning approach, concentrating on several topics and the logical sequences linking them. In a study of online searching behavior, Wood et al. (1996) also found statistically significant differences between global/analytic differences and aspects of information searching such as awareness of broadening and narrowing search techniques and perceived search success.

Considering the salespeople's learning style perspective is important because people with a deep learning approach are quality-conscious, work hard in order to obtain high quality information, find out the deeper meaning in texts, and relate what they learn to their previous knowledge (Heinström, 2005; Tait and Entwistle, 1996). The deep learners have a controlled and structured information behavior and tend to use many different kinds of material and many different search paths in their information search. They strive to find much information in order to be able to critically analyze it, reflect on it and place it in a wider context (Ford, 1986). On the other hand, surface learners are people who skim the surface of the information wave (Heinström, 2005), want information available quickly and easily with the least possible effort, and focus on memorizing without any effort to find a deeper meaning or understanding of the material. These surface learners judge

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[1] Information-seeking behavior is an umbrella concept because it captures a broad range of information-related phenomena such as information-seeking, information gathering, and information-dissemination activities (Case, 2002). In this study, we used the information-seeking term (Wilson, 1997) because this study builds on a cognitive approach.

[2] We build our assertion on Wilson (1997) who mentioned that search behavior has been studied in several disciplines such as personality in psychology, consumer behavior, innovation, health communication, organizational decision-making, and information systems design. As such, it is applicable in the context of salespeople.

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