

# Organizational learning in high-technology purchase situations: The antecedents and consequences of the participation of external IT consultants

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## Abstract

Typically, research on organizational learning has been conceptual in nature. In a departure from this tradition, we develop and test a structural model of organizational learning in the context of the purchasing of an expensive and complex product in the information technology (IT) area. The key focus of our research is the participation of external IT consultants and our model links seven explanatory constructs that are consistent with the process school of thought in organizational learning. More specifically, two organizational variables—formalization, strategic importance—and two individual-level variables—stakeholding, prior experience—are viewed as antecedents of consultant participation. In contrast, we view internal search effort, external search effort, and organizational learning as consequences of consultant participation. As predicted, all four antecedent variables affected consultant participation. Moreover, we found that, while consultant participation had a positive impact on internal search effort and organizational learning, its impact on external information search effort was negative.

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## 1. Introduction

Though the topic of *organizational learning* was first highlighted by Cyert and March (1963), it did not gain much attention from researchers until the late 1970s when it became a focus of activity for a few organizational theorists (Argyris, 1975; Argyris & Schön, 1978). Research activity however did increase in the 1980s, but it was not until the 1990s that the topic became a central one in a variety of management disciplines, such as strategy and production management (Easterby-Smith, 1997).

Similarly, scholars in the field of marketing have only recently begun to address this topic. Though early studies did examine the closely related areas concerning the use of market information (Deshpandé & Zaltman, 1987) and knowledge

utilization (Menon & Varadarajan, 1992), Sinkula (1994) was the first to explicitly examine organizational learning by linking it to market information processing. More recently, studies have extended this work by focusing on how organizational learning relates to marketing channels (Lukas, Hult, & Ferrell, 1996), marketing strategy (Menon, Bharadwaj, Adidam, & Edison, 1999), purchasing (Hult & Nichols, 1996; Hult, Hurley, Giunipero, & Nichols, 2000), and how market-based organizational learning is linked to values, knowledge, and behavior (Sinkula, Baker, & Noordeweir, 1997).

In marketing, as in other disciplines, the majority of studies of organizational learning have been conceptual in nature and it is only in the last few years that empirical studies have been conducted (Hult & Nichols, 1996; Hult et al., 2000; Hurley & Hult, 1998; Menon et al., 1999; Sinkula et al., 1997). In the research presented here, we add to this growing body of empirical literature and our central focus is on the link between *information search (acquisition)* and *organizational learning* in the context of the purchasing of complex and expensive technological products. Typically, this type of decision making involves people from several functional areas and the search

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processes (both internal and external) often take many months before they are completed. In short, this context was chosen because it is information intensive, which means there is ample opportunity for firms to acquire new information and knowledge (Weiss & Heide, 1993). As a result, there is significant potential for organizational learning to take place.

Importantly, the participation of outside IT consultants is the key focus of our study of organizational learning. The inclusion of these external members of the decision-making unit (DMU) is predicated on the grounds that: (a) numerous theorists (Huber, 1991; Menon & Varadarajan, 1992; Slater & Narver, 1995) argue that learning from external consultants is likely to be an important factor in the process of organizational learning; (b) the use of consultants in firms making IT purchase decisions is so widespread (Economist Staff Reporter, 2000); and (c) research shows that technical consultants have a profound effect on search processes in situations involving the purchasing of large-scale IT products (Patterson & Dawes, 1999).

As noted by Bell, Whitwell, and Lukas (2002), research on organizational learning can be classified into four schools of thought, the economic, the managerial, the developmental, and the process school. Here, we adopt the *process school* of thought which is characterised by the view that (a) organizations have the capacity to learn when required; (b) the constructs of learning (e.g., information acquisition, dissemination, and utilization) are common to all organizations; (c) learning is grounded in the cognitive and behavioral capabilities of individual members; and (d) the idiosyncrasies of the individual explain differences in individual learning and that such idiosyncrasies are also likely to translate to learning at the organizational level (Bell et al., 2002).

Drawing on theories in organizational buying behavior (Webster & Wind, 1972), knowledge utilization (Menon & Varadarajan, 1992), and organizational learning (Levinthal & March, 1981), we include four exogenous variables in our structural model of organizational learning. Two of these variables—formalization and strategic importance of the purchase—relate to the organization and are included because leading theorists in this field (e.g., Cyert & March, 1992) argue that this type of variable is likely to have a significant impact on learning. The remaining two variables—prior experience and stakeholding—relate to the key member of the DMU. These latter two variables are included because (a) they are consistent with our process view of organizational learning and (b) Nonaka (1994) argues that it is the individual members of an organization who are the prime movers in the process of organizational knowledge creation and learning. Moreover, an organization can only learn through its members (Tsang, 1997), and so the link between the individual and organizational learning occupies a critical position in any theory of organizational learning. Here, we focus on the link between the key member of the DMU and organizational learning. An advantage of this approach, as opposed to averaging responses from all DMU members, is that the key member/informant is likely to be the most knowledgeable on the core constructs in our model viz., internal information search effort, external

information search effort, and organizational learning. As argued by Van Bruggen, Lilien, and Kacker (2002), using the most knowledgeable informant on particular constructs can help reduce systematic error, which is often substantial in organizational studies (Phillips, 1981).

Here, we contribute to the literature by being the first to examine how consultants affect organizational learning in the context of the purchasing of complex IT products. We also investigate how these external experts affect both internal and external information search effort (or syntactic information search) and how these two processes themselves affect organizational learning. Moreover, our multiple-participant study provides new insights by showing how consultant participation in the buying process is affected by four exogenous variables. Two of these variables relate to the individual (the key DMU member's prior experience and stakeholding), while the other two relate to the organization (formalization and strategic importance). Finally, we assess how these four exogenous variables directly affect organizational learning in our study context.

## 2. Conceptual framework

### 2.1. Organizational learning

It is commonly agreed that organization learning is a complex concept, which has been examined from a wide variety of disciplinary perspectives. Due to this multi-disciplinary interest, it is therefore hardly surprising to find that a widely accepted definition of organizational learning has yet to emerge. But, as noted by Tsang (1997), almost all definitions contain both *cognitive* and *behavioral* changes. With respect to the cognitive aspect, most researchers agree that this is concerned with gaining knowledge, understanding, and new insights. But there is a split among definitions on whether a change in actual or potential behavior is required for learning to occur.

In marketing, a variety of definitions have also been put forward. For example, Sinkula (1994, p. 36) defines organizational learning as 'the means by which knowledge is preserved so that it can be used by individuals other than its progenitor.' On the other hand, Slater and Narver (1995, p. 63) propose that 'organizational learning is the development of new knowledge or insights that have the potential to influence behavior.' Lastly, Lukas et al. (1996, p. 234) argue 'that the process of understanding and gaining new insights is at the core of organizational learning.' Though these definitions do differ, the common thread is that they focus mainly on cognitive change.

Even though there is disagreement about how to define this construct, most authors agree that organization learning is a process which consists of three distinct stages namely, *information acquisition* (generation), *information dissemination* (distribution), and *shared interpretation* (Huber, 1991; Slater & Narver, 1995). Because the activities in the first two stages of the learning process are generally more overt, explicit, and observable, they are more amenable to research (Sinkula, 1994).

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