



Exploring knowledge creation processes as a source of organizational learning: A longitudinal case study of a public innovation project



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ABSTRACT

The purpose of the study is to reestablish the link between theories of organizational learning and knowledge creation – theories that in research, have been pursued as independent themes for almost two decades. Based on the literature review, I build a framework that proposes how the two streams of literature complement each other, how they are similar, and how they are different. To understand the framework's empirical applicability, I utilize it as a theoretical lens to study an innovation project in a Danish public service organization. Based on a longitudinal and participatory research strategy, I build eight propositions that are used to discuss and extend the organizational learning and knowledge creation literatures and to justify the framework's applicability. Finally, I present the managerial implications and the conclusions of the study.

1. Introduction

According to Lyles (2014), the study of knowledge creation and organizational learning is “*pursued as independent themes in research (...) and the links between them tend to be forgotten (...) because it is hard to reconcile fundamental assumptions about knowledge, information, environment and learning*” (Lyles, 2014 pp.132–133). Hence, the study of knowledge creation in relation to organizational learning is a research avenue that is seldom taken (Argote, 2011; Crossan & Berdrow, 2003), and this parallel development of both fields has supported a limited awareness of theoretical and practical advances between them for decades (Brusoni & Rosenkranz, 2014; Easterby-Smith & Lyles, 2007).

When Nonaka and Takeuchi (1995) insisted that knowledge creation in a firm was different from organizational learning, they created a membrane between the two fields that lead to the development of different theoretical constructs and definitions. This deliberate choice to disregard organizational learning has since then been noticeable in the knowledge creation literature, since the concept of learning is hard to find (Nonaka, Kodama, Hirose, & Kohlbacher, 2014; von Krogh, Ichijo, & Nonaka, 2000). Moreover, this explicit distinction between knowledge creation theories and organizational learning theories is also evident in the organizational learning community. Here, scholars utilize constructs such as change of behavior, actions or routines (e.g. Argyris, 2009) instead of speaking of the creation of new knowledge (for more examples, see e.g. Vera & Crossan, 2007). So when scholars in the field of knowledge creation do not utilize the word *learning*, and other scholars in the field of organizational learning do not apply the word *knowledge* to their research, it is a daunting task to compare and

contrast the two fields (Lyles & Easterby-Smith, 2007; Lyles, 2014).

With this study I aim to alter the tendency of diversification, since the two research paradigms can cross-fertilize each other and thus increase our understanding of how innovation and change emerge (Argote, 2011; Easterby-Smith & Lyles, 2014). This argument is predicated on the premise that knowledge and learning are intertwined. Knowledge is the dynamic content/stock created as part of the learning process, and the same knowledge influences the learning process occurring on multiple levels within the organization (see, e.g., Crossan, Mauer, & White, 2011). In this study, *organizational learning* is defined as the principal means by which an enterprise achieves strategic renewal (Brix, 2014; Crossan, Lane, & White, 1999). *Knowledge creation* is defined as the act of making knowledge created by individuals available, amplifying it in social contexts, and selectively connecting it to the existing knowledge in the organization (Nonaka & von Krogh, 2009).

In the spirit of Gioia and Pitre (1990) and Corley and Gioia (2011), I argue in the following, that my bridge-building between two theoretical orientations will enrich our current understanding of how the two phenomena interact and particularly how their theoretical and practical linkages can lead to new insights for research and practice. Consequently, the purpose of my study is to theoretically and empirically explore how knowledge creation can act a fundamental part of organizational learning and vice versa (Argote, 2011; Lyles, 2014). The goal of this exploration is to investigate and provide implications for how an empirical study that combines the two paradigms can link and extend theories in both fields.

By identifying the common ground between organizational learning theory (e.g., Crossan et al., 1999) and knowledge creation theory

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(Argote, 2011; Nonaka & Takeuchi, 1995; Nonaka, von Krogh, & Voelpel, 2006; von Krogh, Nonaka, & Rechsteiner, 2012) I propose a framework that establishes the interactions, differences, and similarities between the two theoretical orientations. Through this conceptualization I establish, that knowledge creation can occur without it leads to organizational learning, as well as organizational learning cannot occur without the creation of new knowledge. Moreover, I argue following the work of Hernes and Irgens (2012) and Weick (1996) that organizational learning can occur without using new knowledge, either because of a temporal dimension (that it is to early to use/implement new knowledge), or because the use/implementation of the new knowledge will lead to a decrease in firm/product/service performance. This framework is the manuscript's key contribution. I utilize the framework as a theoretical lens to report on a longitudinal case study (Yin, 2013) being an innovation project in a public service organization. The findings from my participatory research strategy led to the development of eight propositions. Two of these propositions represent a novel contribution by linking organizational learning and knowledge creation theory to opportunity recognition. The remaining six propositions e.g. identify how organizational knowledge influences the work of the team members more in the beginning of an innovation project compared to the later stages of their project; or that dissimilar interpretations of 'strategic important ideas' on different managerial levels lead to the decision to use and implement ideas with lower strategic ambitions than the ones asked for by the top management when defining the project. Finally, since I report on a longitudinal case study of a public service organization's entire innovation project my study contributes with its empirical usage to organizational studies (Rashman, Withers, & Hartley, 2009).

The study proceeds as follows. First, I develop the literature review to synthesize the relationship between knowledge creation theory and organizational learning theory. Then, I present the study's methodology. Thereafter, I present the findings from my participatory research strategy, during which I build 8 propositions. Then, I discuss and relate the findings to the extant theory on organizational learning and knowledge creation and I highlight new directions for further research. Finally, I present the study's limitations and the conclusion.

2. Literature review

Both organizational learning and knowledge creation theories stem from broad academic fields that do not have uniform definitions and units of analysis in their individual paradigms (Crossan et al., 2011; Easterby-Smith & Lyles, 2014; Von Krogh et al., 2000). To provide a common ground for this study, I present a brief overview of both academic fields before I focus on describing the specific streams of literature that I strive to integrate.

The field of *knowledge creation* is part of the knowledge management literature. However, studies of knowledge creation are different from studies of knowledge management since knowledge management focuses on the storage and distribution of knowledge that has already been created – often via databases and information and communication technologies (Easterby-Smith & Lyles, 2014). Therefore, knowledge management research is viewed as a constricted stream of research that does not seek to change existing knowledge but rather to distribute it (Easterby-Smith & Lyles, 2014; Nonaka et al., 2006). However, in the knowledge management research paradigm, the knowledge creation literature focuses on the creation of new – or the recreation of existing – knowledge (Argote, 2011). This stream of literature has a transformative and dynamic view of knowledge, based on the premise that knowledge changes as people become more knowledgeable (Brix, 2014). Hence, for the purposes of this study, I rely on the knowledge creation literature that explores and describes *organizational knowledge* (Easterby-Smith & Lyles, 2014; Nonaka et al., 2006). This choice is made because the organizational knowledge literature relates to the *content* of knowledge-creating processes. This issue is further explained

below.

In the *organizational learning* research paradigm, over the last four decades, many theoretical advances have been made. One stream of research is founded in psychology, viewing the individual as the change agent in the organization seeking to detect and/or correct errors (e.g., Argyris & Schön, 1978). Another stream delves into the sociological perspective, examining organizational routines and their effect on organizational learning (e.g., Cyert & March, 1963). For the purposes of this study, I rely on multi-level theories of organizational learning (Argote, 2011; Crossan et al., 1999, 2011) which integrate the individual, the group/team and the organizational levels of aggregation. This line of research is reviewed below.

2.1. Organizational learning as a systemic, multi-level view

Crossan et al. (1999) argue that organizational learning is “*the principal means of achieving strategic renewal of an enterprise*” (Crossan et al., 1999). Moreover, these scholars claim that organizational learning is a dynamic process that occurs over time across three levels: the individual, the group and the organization. Crossan et al. (1999) argue that organizational learning is associated with four micro-processes: intuiting, interpreting, integrating and institutionalizing¹ (the 4I framework). In the context of, e.g., interpreting and integrating knowledge, these scholars stress that organizational learning is a process that creates tension between the assimilation of new knowledge (feed forward) and the exploitation of what has already been learned (feedback) (also, see Crossan et al., 2011). Hence, the learning processes are related to exploration and exploitation (March, 1991). These processes enable the company to improve the performance of existing processes and products, and the processes create knowledge that is used to build and develop portfolios of new products/services that are imperative for future survival (Brix & Peters, 2015; Tushman, Smith, Wood, Westerman, & O'Reilly, 2010). Complementing Crossan et al. (1999), Argote (2011) argues that the organizational learning process can be understood by using the following tri-partition: *knowledge creation*, *knowledge retention* and *knowledge transfer*. According to Argote (2011), organizational learning (as opposed to individual learning) first occurs when individual members embed new knowledge into a variety of repositories such as databases, tools, routines, social networks and transactive memory systems. It is here important to stress that organizational learning does not necessary have to result in a change of course or action for the organization (Hernes & Irgens, 2012). This argument is based on the study by Weick (1996), who determines that “*When people equate learning with change, they strip the learning process of much of the constancy, continuity, and focus that are necessary for adaption*” (Weick, 1996 p.738). Hence, according to Hernes and Irgens (2012), organizational learning can occur during times of continuity and without implementing the new knowledge that has been created.

In short, organizational learning is a *process* that enables collaboration between organizational actors to improve the organization's overall performance in, e.g., efficiency and effectiveness as well as new product development (Burton, Obel, & Håkonsson, 2015; Easterby-Smith & Lyles, 2014). According to Argote (2011), the first part of the organizational learning process is knowledge creation (Argote, 2011).

2.2. Knowledge creation theory

Before delving into the discussion of *knowledge creation*, it is important to define knowledge as a construct. Knowledge is defined by Nonaka and Takeuchi (1995) as the “justified true belief” that enables

¹ According to their organizational learning theory, Crossan et al. (1999) stress that *institutionalizing* should not be confused with institutional theory on the population level. Instead, institutionalizing means capturing learning and using it so that it becomes embedded in the organization. For a further explanation, see Crossan et al. (2011).

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