Chapter 30
External Knowledge Integration

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INTRODUCTION

The field of knowledge management has concentrated on the creation, storage, retrieval, transfer and application of knowledge within organizations while underexposing external knowledge (Alavi & Leidner, 2001). Although the importance of external knowledge is well-recognized (Cohen & Levinthal, 1990), there remains a need for a better understanding of the organizational processes through which external knowledge is integrated (Grant, 1996; Ranft & Lord, 2002). This article addresses this lacuna by proposing a process model of knowledge integration consisting of three stages – identification, acquisition, and utilization of external knowledge. We propose a model of modular subprocesses that parsimoniously reflect the variety of knowledge integration concepts in the literature and integrates them in a coherent way. Such understanding serves as a bedrock for solving knowledge integration problems and for designing knowledge integration solutions (Markus, Majchrzak, & Gasser, 2002).

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BACKGROUND

In the current literature, the term knowledge integration is used for the integration of knowledge from individuals or departments within an organization (Becerra-Fernandez & Sabherwal,

2001; De Boer, Van den Bosch, & Volberda, 1999; Grant, 1996; Leonard-Barton, 1995; Okhuysen & Eisenhardt, 2002; Patnayakuni, Rai, & Tiwana, 2007; Szulanski, 1996). Based on the meaning of the word 'integration' ('to incorporate into a larger unit', Merriam Webster Online) we extend the term knowledge integration with three stages that model the incorporation of external knowledge. We call the processes associated with the term knowledge integration in the current literature *utilization*. Because external knowledge needs to be acquired before it can be utilized, we include a stage of *acquisition* in the model. Correspondingly, to acquire external knowledge it needs to be identified first. Acquisition is therefore preceded in our model by a stage of *identification* (see also Kraaijenbrink, 2007; Kraaijenbrink, Groen, & Wijnhoven, 2005; Kraaijenbrink, Wijnhoven, & Groen, 2007).

Although there is excellent research done on each of the stages, we found no contribution that covers them all. Typically, scholars concentrate on one or two knowledge integration stages and leave out either identification (e.g. Almeida, 1996; Crossan, Lane, & White, 1999; Tsang, 2002), acquisition (e.g. Galunic & Rodan, 1998; Rosenkopf & Nerkar, 2001), or utilization (e.g. Leifer & Huber, 1977; McEvily, Das, & McCabe, 2000; Shenkar & Li, 1999). Other scholars regard knowledge integration as a black box or elaborate on explanatory models of successful knowledge integration (e.g. De Boer, Van den Bosch, & Volberda, 1999; Hamel, 1991; Hansen, 2002; Lane & Lubatkin, 1998; Mitchell, 2006; Mowery, Oxley, & Silverman, 1996; Szulanski, 1996; Zander & Kogut, 1995). As such, they provide an understanding of the outcome of knowledge integration but less so of the process.

Though they do not provide a holistic model, these scholars give us the ingredients for a holistic knowledge integration model. In this article, we try to put the pieces of the knowledge integration puzzle together. We follow a pragmatic approach in which we borrow relevant concepts from literature and position them in the knowledge integration model: an approach similar to what Glaser called 'transcending' – taking relevant variables from theories while trying to raise their conceptual level (Glaser, 1978: 14-15).

MAIN FOCUS: STAGE MODEL

Although there is no consensus on what constructs form the essential basis of a process model (Curtis, Kellner, & Over, 1992), we define a process as a configuration of connected subprocesses, performed by certain actors. Within this article, we suggest an ordered set of knowledge integration subprocesses (see Figure 1) and four views on actors that perform them.

Identification

All subprocesses between initiating a knowledge integration process and locating specific external

Figure 1. Stages and subprocesses for external knowledge integration