

Knowledge Transfer within Interorganizational Networks

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INTRODUCTION

Increasingly, knowledge is recognized as a critical asset, where a firm or an individual's competitive advantage flows from a unique knowledge base. The subsequent degree to which knowledge is then recognized and valued as a resource has been the theme of many papers on competitive advantage (Barney, 1991; D'Aveni, 1994; Nonaka & Teece, 2001; Prahalad & Hamel, 1990; Spender, 1996; Teece & Pisano, 1994). As a result, the ability to value and leverage external knowledge has become recognized as the basis of competitive advantage.

Gulati and Gargiulo (1999) suggest that membership in a networked community satisfies the need for knowledge as a way to help cope with environmental uncertainty. Consequently, inter-organizational networks or communities of practice represent a significant conduit for knowledge transfer to help manage this environmental uncertainty (Madhavan, Koka & Prescott, 1998).¹ Researchers in organizational learning have effectively concluded that organizations participating in a networked community will realize superior economic gains from their increased access to knowledge relative to independent or non-aligned firms (Argote, 1999; Baum & Ingram, 1998; Carlsson, 2002; Darr, Argote & Epple, 1995).

Although the implications of membership in a network having any structure versus no membership (and therefore no structure) are generally accepted, the implications of the different structural types that these networks can assume are less understood. Networks can accommodate, for example, different levels of competition, different degrees of centralization, and different operational objectives.

Knowledge may or may not transfer within different types of networked communities, raising an important question: Given that network membership is accepted as preferable for knowledge transfer relative to non-membership, does the specific network type in

question have an effect on the degree to which knowledge will or will not transfer? This is the guiding research question of this article.

Prior to an exploration of this question, it should be noted that a multi-entity network (or community of practice) is very different from a dyad, and therefore represents unique challenges with respect to research. Unlike a dyadic relationship, networked communities can take on a life of their own that supersedes the presence of any individual member. Simmel (1950), who studied social relationships, found that social triads (and relationships involving more than three entities) had fundamentally different characteristics than did dyads. First there is no majority in a dyadic relationship—there is no peer pressure to conform. In any group of three or more people, an individual can be pressured by the others to suppress their individual interests for the interests of the larger group. Second, individuals have more bargaining power in a dyad. This is not only true because of percentages, but if one member withdraws from a dyad, the dyad disappears—this is not true in a networked community. Finally, third parties represent alternative and moderating perspectives when disagreements arise. As a result of these differences, multi-entity networks are more complex to study and less understood than dyads.

MAIN FOCUS: FACTORS OF KNOWLEDGE TRANSFER

A foundational concept from the Knowledge-Based View of the Firm is that within the context of knowledge management, knowledge is viewed as moving unencumbered by and transferring without cost within and among organizations (Grant, 1997; Kogut & Zander, 1992, 1996); although knowledge is recognized as an asset, unlike other assets its transferability

has no associated costs. As von Hippel (1994) described, this may not be the case.

Knowledge has been described as a “sticky” asset that is costly to acquire and difficult to transfer between locations, even within the boundaries of a single firm. This stickiness is caused by, among other factors, the form of knowledge being transferred (Is the knowledge in question explicit? Or is it tacit?), as well as different attributes of the source(s) and the recipient(s), such as their situational absorptive capacity, their respective levels of causal ambiguity, and the degree of trust or motivation shared between the source and the recipient (Szulanski, 1996; von Hippel, 1994). I will refer to this last attribute as the source-recipient relationship. In this section, these three established factors of knowledge transfer—absorptive capacity, causal ambiguity, and the source-recipient relationship—are examined in terms of their effects on inter-organizational knowledge transfer.

Absorptive Capacity

Organizations must possess some degree of absorptive capacity to first recognize and then realize any value from the external knowledge to which it is exposed as a member of a network. The concept of absorptive capacity has received a significant amount of research attention since Cohen and Levinthal’s seminal work on the topic (1990). Their definition of the concept is the most widely cited,

...the ability of a firm to recognize the value of new, external information, assimilate it and apply it to commercial ends is critical to its innovative capabilities. We label this capability as a firm’s absorptive capacity. (p. 128)

In a networked context, the absorptive capacity of the recipient organization is integral to the success of the knowledge transfer process. In his work examining the effectiveness of inter-organizational alliances, Walker argues that firms that emphasize their relationships with other firms will be more successful, in large part because of their ability to recognize and apply new knowledge (1995). The ability to “sense” new external knowledge and have the processes in place to then bring it internal to the organization quickly becomes a competitive advantage when translated into economic rents. This “sensemaking” is a

critical function, which enables an organization to more effectively connect with its operating environment and allocate resources efficiently (Teece, 1998). Cohen and Levinthal (1990) and others (e.g., Lane & Lubatkin, 1998) suggested four types of commonalities, which represent the contributors to a recipient’s overall level of absorptive capacity. These commonalities include language, knowledge base, process, and problem solving. If these commonalities are not present, absorptive capacity is considered to be low and knowledge transfer is less likely to occur.

Causal Ambiguity

The concept of causal ambiguity centers around “knowability” (the extent to which something *can* be known) and “knowness” (the extent to which something *is* known) of two sets of elements—(i) the organizational inputs and (ii) the causal factors that are used in combination to generate outcomes. Organizational inputs can be understood, for instance, as the raw materials used to manufacture a product, and the causal factors can be viewed as the processes used. When an organization does not know what combination of inputs and process factors cause the final outcome, its knowledge is, at best, causally ambiguous. For example, in the 1890s, Procter and Gamble had been manufacturing Ivory Soap (outcome) utilizing the same ingredients (inputs) and the same processes (causal factors). When an employee had inadvertently left one of the soap-making machines on during his lunch break, he returned to a frothy mixture unlike any soap mixture ever seen. Because none of the inputs had changed, P&G elected to package and distribute the soap as normal. Several months later, they were inundated with orders for the “floating soap”. At this point, they were operating under causal ambiguity: having forgotten about the frothy accident several months before, they were unclear as to what input or causal factor could have generated the outcome of floating soap. Eventually the connection to the extra air in the soap-making process was discovered, and “It Floats” became an advertising slogan for Ivory Soap.

Causal ambiguity has been recognized as a factor in knowledge transfer difficulty across much of the research in organizational learning and knowledge management. For example, Wilcox-King and Zeithaml (2001) examined, in part, the tacitness of the knowl-

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