Building exploration and exploitation in the high-tech industry: The role of relationship learning

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ABSTRACT

This study advances prior theoretical research by linking relationship learning to exploratory and exploitative innovations. Findings indicate that relationship learning contributes significantly to both exploratory and exploitative innovations. We argue that power asymmetry needs to be taken into account to fully understand the effectiveness of relationship learning. We present a model for analyzing relationship learning, power asymmetry, as well as their impacts on innovative outcome. Specifically, using a sample of 241 high-tech firms, we find that power asymmetry does not significantly moderate the impact of relationship learning on exploratory innovation. However, power asymmetry significantly increases the impact of relationship learning on exploitative innovation. Hence, this study contributes to the debate on the role of relationship learning on generating exploration and exploitation, not only by examining how relationship learning impacts specific innovative outcomes, but also by revealing how the impact of relationship learning is moderated by power asymmetry.

1. Introduction

Researchers have argued that sustained innovative performance in organizations is rooted in exploring new capabilities and exploiting existing resources [1]. The notion of exploration and exploitation innovation has increasingly come to dominate theories on technology innovation [2]. An organization that is engaging in exploratory innovation implies its behavior is characterized by search, discovery, and experimentation, while an organization that is pursuing exploitation innovation implied its behavior is characterized by reinforcement, efficiency, and implementation [3].

Organizational learning has become increasingly accepted in the technological management literature as a set of pivotal strategic tools that differentiate firm innovative capability.

Although the importance of organizational learning in pursuing exploration and exploitation has been highlighted [4,5], the specific means through which organizational learning influences organizational innovation are still under-development [2]. The extant literature has focused narrowly on intraorganizational learning, resulting in a clear lack of understanding for the processes of relationship learning. Selnes and Sallis [6] conceptualize relationship learning as a joint activity between partner firms. Thus, relationship learning is defined as the collection of knowledge of partner organizations, making sense of information, and integrating acquired sharing information into relationship-specific knowledge [7].

From the partner's standpoint, the major motivation behind relationship learning is learning a partner's know-how [8]. Through developing a learning relationship, the organization and its partners engage in ongoing innovation as the two interact with each other. However, less attention has been devoted to examining the collective learning of organizations in interorganizational collaborations. In other words, no research effort is known about relationship learning facilitating exploitative and exploitative innovations, respectively. In light

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of the importance of relationship learning for creating innovative outcome, additional research effort examining the relationship between relationship learning and innovation is much needed.

This paper contributes to this emerging dialog in two ways. First, there is little systematic evidence of how relationship learning affects exploratory and exploitative innovations at the interorganizational level [9]. Although previous research has asserted that relationship learning may differentially affect both types of innovative outcomes (e.g., [10]); there are few empirical studies examining such relationships. While some evidence exists for the organizational learning-innovative capabilities (e.g., [11]), the impact of relationship learning on organizational innovation is still unclear. By addressing these gaps, this study provides new theoretical and empirical insights linking relationship learning to exploratory and exploitative innovations.

Second, we consider the potential moderating effect of power asymmetry on the effectiveness of relationship learning in relation to organizational innovation. Power asymmetry refers to differences in resource dependence, competencies, financial strength or size of equity holdings between partners [12,13]. Researchers have found that the effectiveness of partner learning on innovative outcomes varies with levels of power [14]. But less well documented is the contingency perspective we propose, which underscores the effectiveness of relationship learning to pursue exploratory and exploitative innovations under different levels of power asymmetry. At the heart of this basis is the premise that the relationship between relationship learning and the various types of innovation enables organizations to draw upon learning in distinct ways by moderating power asymmetry differently. The nature of this link, however, needs to be further delineated and empirically verified, and that effort is the focus of our current research.

2. Literature and hypothesis development

This section delineates the relationship learning need of an organization, and Fig. 1 depicts the effects of relationship learning on innovation. In addition, this Fig. 1 shows the moderating effects of power asymmetry on the relationship between relationship learning and innovation, which we discuss below.

2.1. Relationship learning

Learning has been approached not only as an organizational phenomenon but also as an interorganizational phenomenon. Relationship learning differs from the more familiar term organizational learning. We here distinguish relationship learning from organizational learning since relationship learning is the collection of the knowledge of partner firms, which embodies in shared beliefs and reference framework [6]. Relationship learning emphasizes the effects of close relationship between partners on the outcomes of learning. Through close relationships, partners can share and jointly interpret information, which is integrated into a shared relationship-specific knowledge. The relationship marketing literature identified relationship-specific knowledge as being the main resources of knowledge in relationship learning. Relationship-specific knowledge results in learning when know-how and know-what exchange between the partners. In contrast, organizational learning is a collection of the knowledge of individual members and it is embodied in collective beliefs, routine, or documents of organizations [15].

2.2. Relationship learning and exploratory/exploitative innovation

Studies in the field of relationship learning indicate that the acquisition of knowledge is a primary mechanism by which not only intraorganization but also interorganization members learn from each other [16]. Such outcomes of learning through the acquisition of knowledge may be either exploratory and/or exploitative [17]. Moreover, exploratory innovations challenge institutionalized learning and are intended to drive latent environmental trends by creating innovative technologies and new markets [18]. Exploratory innovations are major transformations of existing technologies that often render the prevailing product designs and technologies obsolete. They resulted from activities focused on searching for new organizational norms and routines and innovation a long-term orientation. Thus, exploratory innovation is to generate innovations that draw upon transformations of prevailing knowledge, with innovations changing old technologies into something significantly new [19].

Relationship learning that challenges interactional knowledge learning, including knowledge of issues related to interaction, coordination, and implementation of cooperative programs, is ideally suited to exploratory innovation. Relationship learning, which can be viewed as a strategic asset of organizations, is composed of learning with other organizations through network relationships and cooperative relationships [20]. Relationships are conducive to exploration since network relationships provide organization with opportunities to access partners' novel information [21]. Moreover, relationship ties are usually informal ties, which conceal important information and enable network members to access large amounts of information and to explore new opportunities [2]. The knowledge exchanged and jointly
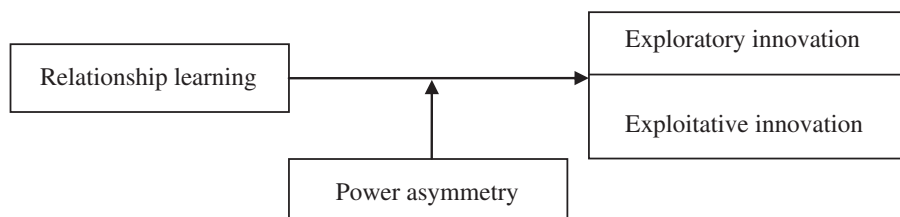

Fig. 1. The proposed model.