

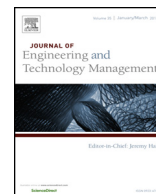


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The impact of networking on competitiveness via organizational learning, employee innovativeness, and innovation process: A mediation model



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ABSTRACT

Despite an extensive body of literature on the role of organizational networking in enhancing a firm's innovativeness and competitiveness, to the best of our knowledge the multivariate influences of organizational learning, employee innovativeness and innovation process, as well as the interplay among these three in the prediction of the organizational networking–competitiveness relationship, have not been integratively explored in the context of information technology-based new product and service development. This research attempts to fill this gap by presenting and testing a new mediation model showing the relationships among organizational networking, employee-innovativeness, innovation process, competitiveness and the effectiveness of the technology-innovation-strategy. We then derive hypotheses about these relationships, testing the hypotheses using data from 110 firms operating in India. The results show that organizational networking leads to competitiveness through organizational learning and innovation process; however, it leads to competitiveness through employee innovativeness only if an effective technology strategy is implemented. The results also show that innovation process does not only mediate the organizational networking–competitiveness relationship but also the employee innovativeness–competitiveness relationship. In particular, our results provide evidence of the importance of organizational learning and innovation process as mediating variables between organizational networking and competitiveness.

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1. Introduction

It has been observed in practice and reported in the literature that firms that provide a conducive environment for innovation and that promote innovativeness exhibited by employees at various levels will be more competitive in local and global markets (Song and Di Benedetto, 2008). Hence it is not surprising to see firms across the globe placing tremendous emphasis on employee innovativeness in order to remain competitive (Senge, 1990; Tsai, 2001; Nonaka and Toyama, 2003;

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Bishwas, 2015). Information technology (IT), with an annual revenue of USD 150 billion for developing IT software solutions (NASSCOM, 2012), is a rapidly changing industry and innovation is critical to success (Lin, 2003). When the base technology in an industry changes rapidly, people and firms who do not change with the technology will become obsolete equally rapidly (Husain and Sushil, 1997). To keep pace with rapidly changing technology one has to innovate continuously, hence innovation is not only a commercial necessity but also a survival imperative (Makri and Scandura, 2010).

In an effort to examine the factors that are affecting the innovativeness of firms, prior research has explored the innovation process (Tidd and Bessant, 2009) and the way it affects innovativeness (Golish et al., 2008). The development of organizational networks with other competing or complementary firms to enhance innovativeness has also been examined in past studies (Ford, 1988; Prahalad and Hamel, 1990; Georgantzias and Madu, 1990; Hagedroom, 1995; Davenport et al., 2003; Dibrell et al., 2014). Some research does find that organizational networking enhances organizational learning, although it does not indicate how it affects the competitiveness of firms (Park and Luo, 2001). A firm's employee innovativeness may diminish rapidly if it is not converted into competitiveness through the aggressive marketing of innovative products (Benner and Tushman, 2003). In a high-technology industry such as IT, firms developing technology-based solutions rely heavily on their organizational networking with firms at both ends of the supply chain, that is, their vendors and customers (Porter and van der Linde, 1995; Prahalad, 2012). These firms monitor emerging technologies and have an application in mind at their clients' end. Organizational networking therefore could be an important starting point in being innovative by being a fast learner, evolving and consolidating the innovation process and eventually becoming competitive (Nonaka and Toyama, 2003; Song et al., 2010).

In the information technology industry, firms that develop IT solutions work closely with their vendors to provide innovative computer software and hardware technologies, and with clients to implement newly developed technologies to take clients' businesses to the next level (Danneels, 2007). Organizational networking therefore helps in learning, which is then manifested in innovation (Lucia-Palacios et al., 2014). Successful innovation breeds innovativeness and helps evolve and consolidate the innovation process (Tidd and Bessant, 2009), which in turn makes firms competitive (Tsai, 2001). Competitiveness can be visualized in being cost effective (Yang et al., 2009) and in being innovative in offering products or services (Özçelik and Taymaz, 2004). Organizational networking, therefore, is a crucial element in being competitive for technology-based solution-development firms in general and IT solution-development firms in particular (Voudouris et al., 2012). Appendix A presents a list of constructs and corresponding References

Despite an extensive body of literature on innovativeness, the innovation process and the role of organizational networking in enhancing this process (Song et al., 2009a,b), to the best of our knowledge the multivariate influences of organizational learning, employee innovativeness and innovation process, as well as the interplay among these three in the prediction of the organizational networking–competitiveness relationship, have not been integratively explored in the context of information technology-based new product and service development. In particular, our fundamental argument in this study in the context of innovative solution-development companies (like IT companies) is threefold. First, a firm needs to convert its innovativeness into competitiveness for business success. Second, establishing a systematic innovation process would facilitate this conversion. Third, there are factors that support the conversion of innovativeness and organizational learning into competitiveness (for example, having an innovation strategy). The research relating to organizational networking, innovativeness and competitiveness reported in the literature draws inferences from case studies, anecdotal evidence and the experience of management experts and consultants (Cassiman and Veugelers, 2002; Baker and Sinkula, 2007; Hult et al., 2007; Voudouris et al., 2012).

This research attempts to fill the gaps mentioned above by presenting and testing a new mediation model showing the relationships among organizational networking, employee innovativeness, competitiveness and the effectiveness of the technology innovation strategy. Based on an extensive literature review and an exploratory study, a theoretical model (see Fig. 1) is put forward to explore: (1) organizational networking's potential indirect effects on competitiveness via organizational learning, employee innovativeness and innovation process; (2) organizational learning's potential mediating role in the relationships between organizational networking and competitiveness, and between organizational networking and employee innovativeness; (3) the innovation process's potential mediating role in the relationships between organizational learning and competitiveness, employee innovativeness and competitiveness, and organizational networking and competitiveness; (4) employee innovativeness's potential mediating role in the relationships between organizational learning and competitiveness, and organizational networking and competitiveness; and (5) the moderating impact of a technology innovation strategy on the relationships between employee innovativeness and competitiveness, and innovation process and competitiveness.

Employee innovativeness is a key factor in attaining competitiveness (Özçelik and Taymaz, 2004; Golish et al., 2008). Innovation and innovation capability (Song et al., 2010) need to be systematically developed with a proper innovation strategy to translate employee innovativeness into competitiveness (Borjesson et al., 2014). Sporadic innovation (i.e., not emerging from an innovation strategy) can bring success, but could be short-lived (Shilling, 1998). To translate employee innovativeness into competitiveness, it is essential that an effective innovation strategy be specified (Ford, 1988), an innovation process should be developed, organizational learning (Senge, 1990; Vera and Crossan, 2004) should be enhanced and organizational networking with vendors, business partners and customers should be strengthened (Song et al., 2010). Technology innovation strategy and the innovation process will differ from firm to firm depending on the customer base, vendor base, local innovation culture, risk-taking capacity and freedom to explore different solutions and so on. The notion of innovativeness is based on a firm's ability to innovate continuously on the products and solution that it develops for its

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