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Process innovativeness in technology services organizations: Roles of differentiation strategy, operational autonomy and risk-taking propensity

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Abstract

This paper examines the effect of differentiation strategy on process innovativeness in technology services organization (TSOs). In addition it examines the direct and moderating effects of two organizational constructs—*operational autonomy* and *risk-taking propensity*. Analysis of data from 102 firms in the mid-Atlantic region of the USA indicates that both differentiation strategy and operational autonomy are positively related with process innovativeness, while an organization's risk-taking propensity has no such relationship. In addition, operational autonomy moderates the relationship between differentiation strategy and process innovativeness, while no evidence was found for the moderating effect of risk-taking propensity on this relationship. Further sub-group analysis shows that in TSOs with high levels of operational autonomy, risk-taking propensity has a positive moderating effect on the above relationship. *Post hoc* analysis also establishes positive links among process innovativeness and firm performance.

Keywords: Service operations; Operations strategy; Business strategy; Empirical research

1. Introduction

In their proposed research agenda for service operations management (SOM), Roth and Menor (2003) provide an ''architecture'' for service systems that incorporates ''strategic design choices'' as an important component. The internal relationships between the infrastructural elements of strategic design choices have been examined in a model by Roth et al. (1997), which delineates the linkages between these elements (known as value constellations of practice drivers). The Roth et al. (1997) model suggests that leadership drives ''people'' as well as ''service process''. Further research suggestions for this model include examining the values promoted by the leadership of the service organization, level of employee empowerment and discretion, types of processes used, setting of standards, etc. The authors further suggest that these elements are synergistic and represent strategic complementarities, implying that elements of strategic design choices reinforce each other.

We base our research on this model by examining a service company's leadership decisions on the choice of a business strategy, and its effect on service processes at a functional level. Further, we extend the Roth et al.

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(1997) model by proposing that ''people drivers'' (employees of the organization in this study), also have a direct impact on service processes (process innovativeness in this study). Finally, we examine the synergies (or strategic complementarities) implied in this model by proposing that providing ''people'' with broader latitude in their behaviors can enhance the relationship between strategy and process.

Several researchers have suggested that the boundaries of research in SOM need to be extended into cross-functional areas (Roth and Menor, 2003; Karmarkar, 1996). For example, researchers have advocated boundary spanning research on managing services that draws on many disciplines in addition to operations management; including organizational theory, marketing, psychology, strategic management, information systems, and economics (Bowen and Hallowell, 2002; Boudreau et al., 2003; Hill et al., 2002; Johnston, 1999; Schneider, 1994).

Following the suggestions of SOM researchers to expand the boundaries of the field, we draw from the strategy area and assert that the top management team makes choices on what business strategy to follow. There exists considerable research in the strategic management area on how the top management team affects a firm's strategy. The research stream in this area has at times focused on the ''upper echelon'' theoretical framework as proposed by Hambrick and Mason (1984). Alternatively, strategy research has drawn from the economics and finance literature and applied ''agency theory'' to understand the role and position of an executive and how these affect a firm's strategy (Cannella and Monroe, 1997). Recently researchers have argued that that an integrative approach that draws from both streams of research would provide a better explanation of the relationship between a firm's upper echelon and firm strategy (Jensen and Zajac, 2004). It should be noted that both theoretical frameworks emphasize that top management plays a major role in the choice of a business strategy. Therefore, our research arguments assume that the choice of an appropriate business strategy has already been decided by top management, and in turn we exclude these decisions taken by the top management team from the purview of our research framework. We further assert that the successful implementation of this business strategy depends upon the organization's risk-taking propensity, and the level of operational autonomy provided to members of the organization. These strategic choices and organizational factors have a direct effect on operational outcomes such as the level of process innovativeness in the organization. The organizational factors also moderate the effect of business strategy on process innovativeness (See Fig. 1, adapted from Roth et al., 1997).

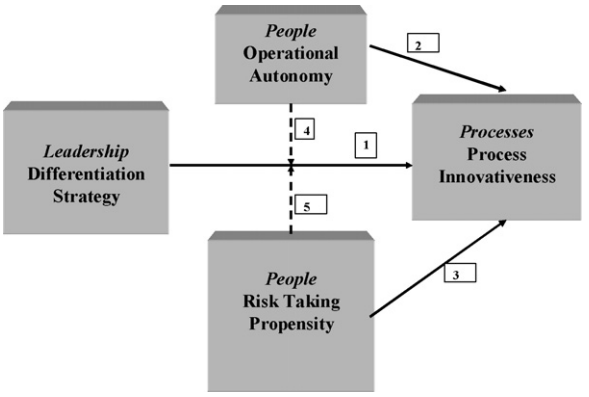

Fig. 1. Differentiation strategy vs. process innovativeness (adapted from Roth et al., 1997).

2. Literature

2.1. Theoretical framework

The concept of ''fit'', ''consistency'', or ''alignment'' is a central theme in the field of strategic management (Venkatraman and Camillus, 1984; Venkatraman, 1989; Jain et al., 1998). It is based on contingency theory which says that organizations will adapt their internal organizational structure to fit their environment (Lawrence and Lorsch, 1967; Donaldson, 2001). Strategy researchers have focused on external fit when their interest was on strategy development, and on internal fit when the focus was implementation of chosen strategies. Our paper examines internal fit, which is fostered by aligning and adjusting key systems, processes, and decisions within the firm, including reward systems, information systems, resource allocations, and corporate culture, with organizational objectives and goals (Galbraith and Nathanson, 1978; Lorange and Vancil, 1977; Stonich, 1982).

Similarly, it has been argued in the OM literature that competitive capabilities must be aligned with the product or service concept (Skinner, 1978; Hayes et al., 1988; Miller and Roth, 1994). Specifically with regard to manufacturing strategy, Skinner's (1969) groundbreaking work in the area and subsequent development by other OM researchers (e.g., Wheelwright, 1984; Swamidass, 1986; Schroeder et al., 1986; Papke-Shields and Malhotra, 2001; Joshi et al., 2003), have provided the field with ongoing theoretical and empirical support for the basic proposition that manufacturing strategy