

## Chapter 2

# Organizational Slack and Information Technology Innovation Adoption in SMEs

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### ABSTRACT

*This study explores the relevant dimensions of organizational slack in small and medium enterprises (SMEs) and investigates their impact on adoption of different types of information technology (IT) innovations. Using recent data from a representative sample of 2,296 U.S. SMEs, we find that the slack-innovation relationships previously described in larger firms do not hold well for SMEs. Our results show potential slack (measured as access to external credit) to be a strong predictor of technology adoption in SMEs. By contrast, available slack appeared not to be a significant factor in SME innovation adoption. Moreover, the direction of the effects of potential slack was moderated by the capital-intensity of the innovation. In particular, e-commerce, which required lesser financial resources for SME adoption, was found to be pursued by those with lesser potential slack. We argue that, in some cases, innovation adoption may represent a form of “bricolage” by resource constrained SMEs.*

### INTRODUCTION

Organizations must strike a balance between stability and innovation –i.e., between exploitation of their current business model and processes and exploration and adoption of alternative solutions (March, 1991). Accordingly, understanding the processes by which organizations adjust their propensity to innovate, as well as the condi-

tions most likely to foster innovation in a firm, is an important endeavor that has motivated a large innovation literature in management (see Daniel et al., 2004; Damanpour, 1991; Drazin & Schoonhoven, 1996; and Fiol, 1996, for reviews of this literature).

Prior theory predicting innovation rates highlights the role of organizational slack as an important condition that facilitates exploration and, thus, contributes to a firm’s innovativeness (Cyert & March, 1963; Greeve, 2003). On the

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other hand, slack is also argued to be related to inefficiencies in the use of resources (Bourgeois, 1981) and to less disciplined investment (Jensen, 1986), which may be detrimental to innovation. Given these competing arguments, Nohria and Gulati (1996) argued and found support for an inverted U-shaped relationship between slack and innovation. Their findings suggest that greater levels of slack increase the rate of adoption of technical and administrative innovations, but only up to a point. Beyond this point, excess slack appears to be counterproductive and results in reduced innovation rates.

Subsequent research by Geiger and Cashen (2002) extended Nohria & Gulati's (1996) work by examining the shape of the slack-innovation relationship for different dimensions of slack. Prior studies had distinguished among available slack, recoverable slack, and potential slack (Bourgeois & Singh, 1983; Bromiley, 1991). Geiger & Cashen (2002) found available and recoverable slack to have a curvilinear, inverted-U shaped, relationship with innovation, while potential slack had a linear positive relationship to innovation.

An important limitation of the prior organizational slack literature is that it has overwhelmingly focused on large, publicly traded firms<sup>1</sup>. With regard to the slack-innovation relationship, the technology adoption literature in information systems (IS) has shown a greater interest in small and medium enterprises (SMEs) and, thus, can be seen as filling some of the void left by the broader literature. In particular, a number of studies have explored the role of financial resources as an antecedent to SME adoption of specific IT innovations (e.g., Iacovou, Benbasat, & Dexter, 1995; Kuan & Chau, 2001; Mirchandani & Motwani, 2001). To date, however, this literature can offer only limited and tentative insights regarding slack-innovation relationships: First, most prior SME technology adoption studies undertake a superficial treatment (at best) of financial resource considerations as one of the many factors in the typical technology adoption model. Also, the definition and mea-

surement of financial resource variables differs widely across studies and often deviates from the concept of financial slack. Moreover, in the few cases where financial drivers are operationalized as financial slack (i.e., Grandon & Pearson, 2004; Wang & Cheung, 2004), the reliance on relatively small samples and the focus on a single technological innovation limits the generalizability of findings and prohibits a comparative analysis of the characteristics of the innovation as a possible moderator of the slack-adoption relationship. In sum, there is limited evidence regarding the role of organizational slack on SME innovation adoption. Also, no prior study has investigated how different dimensions of organizational slack may influence innovation in SMEs. Furthermore, the presence of curvilinear relationships between slack and SME adoption has yet to be explored.

Given the importance of SMEs to the U.S. economy (e.g., Bharati & Choudhury, 2006; Small Business Administration, 2006), as well as the expectation that prior findings using samples of large firms will not generalize to the SME context (Dandridge, 1979; Thong, 1999), the lack of in-depth study of the role of organizational slack in the context of small firms represents an important gap in our understanding of slack-innovation relationships. SMEs represent 99.7 percent of all U.S. employers, are responsible for about half of the private sector jobs, and generate about half of the private GDP (Small Business Administration, 2006). Moreover, SMEs play a critical role in industrial innovation and renewal of economic sectors (Baumol, 2002; Small Business Administration, 2003) and, thus, are major contributors to the competitiveness of the economy. At the same time, there are fundamental differences between SMEs and large businesses (Dandridge, 1979; Welsh & White, 1981; Thong, 1999) which suggest that both the levels and types of slack, as well as the mechanisms by which slack influences innovation, may vary across contexts. In particular, SMEs are usually severely resource constrained (Oviatt & NcDougall, 1994; Baker & Nelson, 2005). Also,

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