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# An information technology trilogy: business strategy, technological deployment and organizational performance

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## Abstract

The objective of this empirical study is to identify various profiles of technological deployment specific to various types of business strategy that best support organizational performance. Top managers from 223 organizations completed two questionnaires analyzed using a Partial Least Squares tool (PLS graph). Profiles of technological deployment based on the strategic impact of the information system department, the technological architecture, the information system performance evaluation and technological scanning were identified. Using Miles and Snow's typology to characterize business strategy, an outward technological profile contributes directly to organizational performance for the analyzer strategic activities, while an inward profile of technological deployment contributes indirectly to organizational performance for the prospector strategic activities. © 2001 Elsevier Science B.V. All rights reserved.

*Keywords:* Strategic alignment; Profile of technological deployment; Business strategy; Information technology; Organizational performance; Miles and Snow's typology

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## 1. Introduction

Information technology plays a significant strategic role within organizations (Bergeron and Raymond, 1995; Henderson and Venkatraman, 1999; Porter and Millar, 1985; McFarlan et al., 1983). Strategic information systems (IS) can support or even shape business strategy. Furthermore, some conventional information systems become strategic when used in innovative ways (Wiseman, 1988). Since the early 1990s, improving the information system planning process has been one of the top 10 concerns of senior IS executives (Janz et al., 1996). In order to carry out this planning process successfully, it is important to align the IS plan with the organization's business plan (Busch, 1999; Luftman, 1998; Saviano, 1997). GartnerGroup's 1999 annual survey reports that aligning information technology with business goals is still among the Chief Information Officer's top 10 issues in management of technology (Raphaelian and Broadbent, 1999).

Some studies have successfully observed the effect of the alignment of information technology with organizational variables on organizational performance. These variables are the strategic management of IS, the organizational structure or the business strategy (Bergeron and Raymond, 1995; Raymond et al., 1995; Chan et al., 1997).

The importance of strategic alignment of information technology is being acknowledged; however, some issues still need to be addressed. For example, how organizations really deploy their information technology with respect to their business strategy. None of those studies mention any particular types of technological deployment belonging to a specific business strategy.

The original contribution of this study is the identification of the profiles of technological deployment associated with various types of business strategy. This article will also further the understanding of the impact of IS on organizational performance as recommended by DeLone and McLean (1992) as well as the interaction between business strategy and other organizational components such as the deployment of information technology (Miller, 1996). Using a contingency approach, this article looks at the different profiles of technological deployment associated to different types of business strategy.

## 2. Literature review

The literature review is organized according to the three basic constructs of the research: business strategy, technological deployment, and organizational performance.

### 2.1. *Business strategy*

Business strategy is the outcome of decisions made to guide an organization with respect to the environment, structure and processes that influence its organizational performance. Approaches to identifying business strategies are textual, multivariate or typological (Hambrick, 1980). The typological approach to identifying business strategy is recognized as creating a better understanding of the strategic reality of an organization, since all types of business strategy are viewed as having particular characteristics. There are several typologies (Ansoff and Stewart, 1967; Freeman, 1974; Porter, 1980; Miles and Snow, 1978). According to Zahra and Pearce (1990) and Smith et al. (1989), the most

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