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## Strategic alignment of ERP implementation stages: An empirical investigation

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### ABSTRACT

We applied the notion of strategic alignment to ERP system implementation and used a balanced scorecard approach to analyze business performance. The PLS analysis showed a positive association between realized strategic alignment, shorter and more cost efficient ERP projects, faster reaction times to business events, and the benefits of ERP systems. While each stage of ERP implementation has its inherent intricacies, we concluded that there was a substantial interdependency between the stages of ERP implementation and the success factors in one stage influencing the success of another.

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### 1. Introduction

There is a substantial body of existing literature on the relationship between IT and business performance [16,17]. Many papers have suggested that IS investments impact the bottom-line but it has been difficult to show this empirically. There are still gaps that need further investigation of factors that may leverage their financial impact. Questions still remain: what kinds of process changes and to what extent should they be implemented to improve the bottom-line performance? What are the IS investment related factors on which companies should focus so that the investments pay off?

A global provider of market intelligence and advisory services for IT and consumer technology markets, International Data Group (IDC), found that global spending on ERP systems increased at an aggregate annual rate of 13.5% between 2001 and 2006, reaching \$187 billion in 2006 while a later study anticipated a 5% annual growth from 2006 to 2010.

Some studies investigate the alignment of business and IS strategies as an organizational factor with leveraging effect on business performance [2,3,11]. In addition, some factors that aided the integration of IS were considered critical, because they increased the effect of IS on business performance: project management, organizational adaptation, and package adaptation [1,5,8,14]. However, researchers had not examined the role of strategic alignment on the success of ERP implementations. ERP

systems combine business processes and IT technology of the implementing organizations in order to ease the flow of information through business functions. Nowadays ERP systems provide the business infrastructure in a large percentage of organizations, and any change in business strategy needs to be supported by the ERP system. Thus, if a company decides to change its strategy due to pressure from competitors and intends to ensure that customers receive the products within a specified time, then it must make sure that the ERP system provides such information during the distribution process.

A company implementing an ERP system: (1) may need to make changes to its business processes and procedures, (2) customize the ERP system, and (3) become dependent on the ERP vendor for support and updates. The first two characteristics apply to the project stage of ERP implementation; the third applies for the whole ERP lifecycle. The business process changes resulting from the ERP system customizations need to fit the organizational processes to the ERP system, and may be critical in successful use of the ERP system after its go-live stage.

Success stories of ERP implementations have emphasized process efficiency as a success measure. For example, Southern Book Company observed a 10% increase in margins and a doubling of revenue since implementing Compiere, an open source ERP system. The company attributed this growth in performance partly due to improvements in the order, inventory, and invoicing processes. The link between business process changes induced by ERP implementations and business performance still needs to be empirically investigated.

After the go-live stage, ERP implementations require a continuous improvement effort that involves alignment between

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