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Constance Knapp
Pace University

Namchul Shin
Pace University

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IMPACTS OF ENTERPRISE RESOURCE PLANNING SYSTEMS SELECTION AND IMPLEMENTATION

Constance A. Knapp

School of Computer Science and Information
Systems

Pace University
cknapp@pace.edu

Namchul Shin

School of Computer Science and Information
Systems

Pace University
nshin@pace.edu

Abstract

Enterprise resource planning (ERP) is an approach for managing and integrating business processes across organizational functions and locations. This study looks at the organizational impacts from a business performance point of view, seeking answers to the question, how do organizations evaluate ERP system implementation? This is a multi-part project. In the first stage of this project we will develop a theory about the impact of ERP selection and implementation on business performance. We will be using multi-site case studies to build the theory. This paper will report on the results from the first case study. We will develop a theory about ERP implementation and performance based on these case studies.

Keywords: Enterprise resource planning, business process reengineering, business performance

Introduction

Enterprise resource planning (ERP) is an approach for managing and integrating business processes across organizational functions and locations. ERP systems are based on interoperable application modules and serve all major business functions, including manufacturing, marketing, finance, accounting, and human resources.

Much of the published literature looks at ERP systems from the point of view of penetration of ERP systems (van Everdingen, et al., 2000), success or failure with a particular vendor (Anonymous, 1999; Diana, 1999; Gibson, et al., 1999), critical success factors relating to ERP (Bingi, et al., 1999; Holland and Light, 1999; Holland, et al., 1999), and implementation issues that might make an ERP implementation different from any other software implementation project (Marcus, et al., 2000; Scheer and Habermann, 2000; Soh, et al., 2000; Sprott, 2000; Willcocks and Sykes, 2000).

This study looks at the organizational impacts from a business performance point of view, seeking answers to the question, how do organizations evaluate ERP system implementation?

Goals and Objectives of the Research

Companies adopting ERP systems expect improved business performance because ERP systems support the entire business process and integrate them across business functions and locations (Shin and Knapp, 2001). However, despite these strong organizational incentives, adopting ERP systems does not assure improved business performance (Davenport, 2000; Dong, 2000; Jesitus, 1997; Poston and Grabski, 2000).

The on-going research project will examine what motives companies have for installing ERP systems, both stated and unstated, and if firm's stated objectives are reached. We will look at what companies said they would get out of ERP systems, and what they did get. We will study how success was measured and how benefits were assessed, and what impact the ERP implementation had on the firm's business performance. Business performance will be assessed both from a financial perspective, looking at financial results, and a marketing perspective, assessing competitive advantage.

This is a multi-part project. In the first stage of this project we will develop a theory about the impacts of ERP selection and implementation on business performance.

Research Methodology

We will be using multi-site case studies to build the theory. Case studies are appropriate for this type of work (Curtis, et al., 1988; Darke, et al., 1998; Goodhue, et al., 1992; Holland and Light, 1999; Lee, 1989; Yin, 1993; Yin, 1994). We will conduct semi-structured interviews with key people in the organization, including the CIO, the CFO, and members of the team that implemented the ERP package in the organization. We will also examine written material, such as memos, internal publications and external reports (where available) discussing the project.

Preliminary Findings

From preliminary interviews, we have learned that the decision to purchase and install an ERP system is often made by high level executives who may not understand information systems. The decision to install an ERP system may be made for political, tactical or strategic reasons. The difficulties of installing such a complex software package are often underestimated.

When organizations say that they have implemented an ERP system, do they mean that they have installed all the modules or only some of the modules? Preliminary interviews suggest that CFO might have more influence than other executives might in the organization because the financial modules sometimes drive the ERP system implementation. This may result in only the financial modules being implemented; it often results in the financial modules being implemented first. This raises the question, what constitutes an ERP implementation? Are there performance differences in firms that have installed only the financial modules, all the modules, or something in between?

Finally, these preliminary interviews suggest that in most cases a vendor or a consulting company presents an organization with a methodology that is to be followed. This methodology may or may not suit the organization. Does the choice of a methodology for implementation of an ERP affect business performance?

Future Work

We will develop a theory about ERP implementation and performance based on the multiple case studies. Further work will also analyze the performance impacts of ERP systems quantitatively to test the theory, employing published financial and marketing data. Future papers will report on the theory and its robustness.

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