



Quality of postimplementation review for enterprise resource planning systems

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Abstract

This paper examines the process of system review during the postimplementation stage of an enterprise resource planning (ERP) system, or postimplementation review (PIR), and identifies factors that contribute to high-quality PIRs. The present study utilizes an exploratory, qualitative research approach in examining the concept of PIR and its potential importance in successful ERP system implementations. A case study methodology was employed that allowed detailed examination of significant events after the implementation of ERP systems in two different organizations. Insights from the case studies were subsequently used to conceptually define the construct of PIR quality, distinguish the construct from antecedent conditions during the implementation process and from potential outcomes, and propose a research model that could be useful in future empirical investigations. Past research efforts that addressed the extent to which organizations realize expected benefits from ERP system implementations could use this construct to reexamine performance relationships and more completely interpret their results (or lack of results) according to the extent to which organizations engage in high-quality PIRs. This study, therefore, presents contributions for both the practice and research on ERP system implementation effectiveness.

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Every scientific inquiry is thought to aim at some good; some goods are means to ends, some are ends in themselves; systematic inquiry is evaluated according to the comprehensiveness of the ends it leads; excellence in human action is no result of habit, but exercise of virtue at a high level of quality is due to an informed and systematic reasoning process. (Aristotle, *Nicomachean Ethics A*).

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1. Introduction

Information systems (IS) development has been conceptualized in past research as a process that leads to a decision about the choice, design, and development of an information system (e.g., Nicolaou, 1999). Past research findings suggest that the effectiveness or success of an information system depends on a variety of factors, most importantly those relating to the extent of user participation and involvement in system development, the extent of business process and needs assessment during the analysis stage of the systems development process, and the level of data integration designed into the system (e.g., Govindarajan and Fisher, 1990; Zaheer and Venkatraman, 1994; Nicolaou, 2000). In a similar fashion, researchers in the fields of accounting and management decision making have promoted the shared assumption that a better designed information system would contribute to the efficiency with which organizational functions are carried out and the effectiveness of attaining desired outcomes (Galbraith, 1995; Zimmerman, 1995). Consequently, the factors that influence the process of system development would also have a significant effect on both organizational performance and user perceptions about the system after its implementation and continued use in an organization, that is, during its postimplementation stage.

The postimplementation stage in a system's life cycle encompasses a number of processes that are critical for a system's success. Following the implementation of the system, an organization would engage in a number of activities, such as postimplementation review (PIR), support, and maintenance (e.g., Gelinias and Sutton, 2002). The focus of this paper is on the process of PIR, which entails analyzing the project to determine what was successful and what needs to be improved with regard to the system or with regard to the implementation process itself (Burch, 1992; Cerullo, 1982; Gelinias and Sutton, 2002). Although past literature has provided a useful descriptive analysis of the PIR process (Benchmarking Partners, 1998; Holland and Light, 2001; James and Wolf, 2000; Peterson et al., 2001), the focus has mostly been on the development of stage models that describe a set of sequential activities useful for the planning of future actions and not on the examination and understanding of factors that contribute to process effectiveness. In a stage model of system development, the quality of a PIR is heavily dependent on the quality of the implementation process itself and on its effectiveness to influence appropriate modifications or enhancements that can improve the performance of the system or improve the project management and system development processes. With the recent expansion in the number of organizations using enterprise-wide systems, including both large and small organizations, and the Web-based capabilities they now offer, the successful implementation of these systems has become a critical issue. In addition, a very significant investment in resources is required for the implementation of enterprise resource planning (ERP) systems, while the realization of system benefits is reported to significantly lag expectations (Benchmarking Partners, 1998; META Group, 1999; Peterson et al., 2001). As a result, the issue of PIR and its potential effect on the realization of potential system outcomes provides a new area of research of significant interest to both researchers and practitioners and provides a solid motivation for the present study.

This paper examines issues that contribute to high-quality PIRs in ERP systems. The study explores the concept of PIR and attempts to develop a conceptual definition of high-

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