

Management of information systems: Insights from accounting research

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Abstract

This paper advances our knowledge of information systems (IS) management by applying ideas and insights from accounting. An integrative cost–benefit framework is developed and applied to four areas of research: chargeback, outsourcing, decision support, and business process re-engineering and improvement. We show that the accounting literature contributes significantly to scholarship on the management of IS.

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1. Introduction

Information systems (IS) are managed at various levels. Enterprise level decisions primarily deal mainly with allocation of resources. Functional level IS decisions include where and when to apply IT, and whether the application should be made or bought. A decision to “make” a new IT application internally will inevitably lead to the initiation of a project that must then be managed.

Important issues related to each of the aforementioned decisions have been considered by both IS and accounting scholars. For example, a steady stream of IS research on outsourcing began to emerge after the landmark decision by Kodak to contract its IS management to IBM. Similarly, accounting research has

examined the initial outsourcing decision. However, a review of the IS literature suggests that other management questions have been addressed inadequately, particularly those involving post-implementation decisions. We address these inadequacies directly by applying an accounting perspective to four specific areas important to both practitioners and researchers [32]: chargeback for IS services, post-contractual management of IS outsourcing, management decision support systems (DSS), and IT-enabled operational process improvement.

The accounting perspective is relevant to many IS issues, but recent advances focus on decisions and management control issues *after* an IS has been implemented. As a result, we show how accounting insights can help the IS profession to manage: (i) the intangible aspects of IT projects, including risk assessment, control, and coordination; (ii) biases that are associated with DSS use, and (iii) the authority and incentive structure of the firm. The next section presents a conceptual framework, which highlights the overlap

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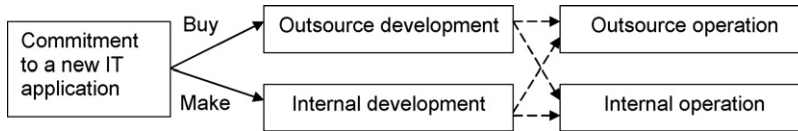


Fig. 1. The process of information technology (IT) application.

between IS and accounting research. We then consider each of the aforementioned areas in turn, to (1) summarize the IS literature, (2) specify how the accounting perspective can augment mainstream knowledge, and (3) identify key issues for further research.

2. Conceptual framework: accounting costs–benefits

By more accurately attributing costs to specific products, services and customers, accounting can greatly improve the quality of information for decision-making. Similarly, by more accurately attributing employee effort to organizational outcomes, accounting can improve the motivation and goal alignment of employee efforts. Both of these efforts enhance the management of IS. Their success ultimately depends on what is measured (e.g., costs, activities, or processes) and how well these objects are measured. Typically, these measurements are translated into monetary terms to evaluate the costs and benefits.

To introduce and relate the four areas of IS management, it is useful to consider the process of IT application as shown in Fig. 1. An organization must decide the extent to which it will develop and operate its

own IS; it may decide to outsource some or all of the activities.

The economic benefits of IS generally take one of two forms: (i) the reduction of operational costs through process improvement (by automating, streamlining or re-engineering capital and labor intensive activities), and (ii) the improvement of resource allocation by providing more accurate and timely information to decision makers. The potential scope of IT applications ranges from the strategic to the operational level. The cost–benefit framework in Fig. 2 shows these two general types of IT benefits and depicts IT costs, which include: (i) initial development and (ii) on-going maintenance costs. The core issues (questions) from an accounting perspective are highlighted, because they drive the relevant part of IS design and thus ultimately affect the effectiveness of the design.

3. Four areas of IS research

3.1. Managing the costs of information systems

A significant concern of an organization is to recover the costs of operating and maintaining the IS: the “chargeback” issue.

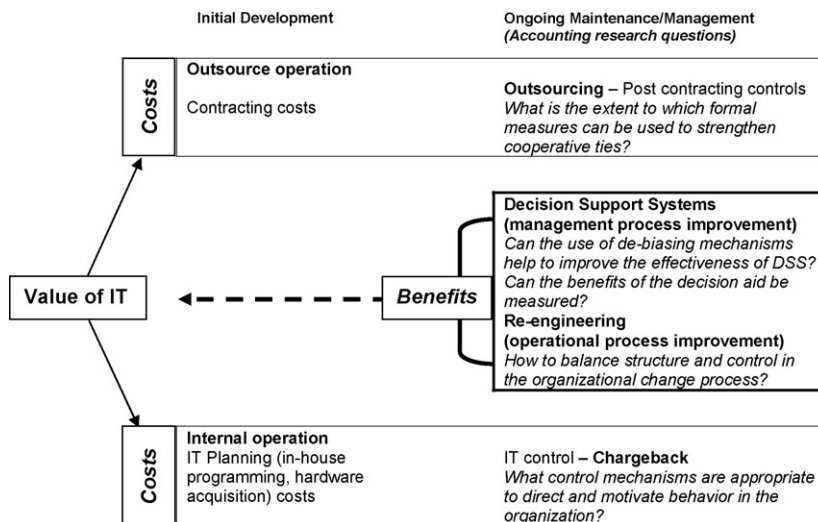


Fig. 2. Information technology (IT) cost–benefit framework.

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