A Case Study Using the Analytic Hierarchy Process for IT Outsourcing Decision Making

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ABSTRACT

Decisions related to managing IT resources - which resources to keep in-house and which resources to outsource - are critical to business success. The goal of this paper is to show the usefulness of the Analytic Hierarchy Process (AHP) as a decision-making tool for IT sourcing decisions, based on an analysis of factors that recent literature found to be associated with IT sourcing risk. Although the AHP previously has been suggested for IT outsourcing decision making, this study is the first to consider evaluating the risks of offshore outsourcing, rural outsourcing, and in-sourcing IT processes by using the AHP. From the perspective of the expert decision maker, three IT sourcing strategies were evaluated with respect to 58 criteria. The case study example presented in this paper shows the effectiveness of the AHP to support management for this business decision. The authors’ results show that a systematic approach to analyzing outsourcing can reduce the uncertainty and risk that is common in such decisions.

Keywords: Analytic Hierarchy Process (AHP), Case Study, In-Sourcing, IT Sourcing Under Risk, Offshore Outsourcing, Rural Outsourcing

INTRODUCTION

Outsourcing is the process of obtaining services or products from another firm rather than creating the services or products in-house. Offshore outsourcing reflects the use of non-U.S.-based service providers, and rural outsourcing represents contracting with U.S. firms with delivery centers located in low-cost, non-urban areas (Lacity et al., 2010). In-sourcing, the opposite of outsourcing, is a business practice in which work that would otherwise have been contracted out is performed in house. In this paper three IT sourcing options, in-sourcing, offshore outsourcing and rural outsourcing are prioritized under risk and uncertainty.

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The use of outsourcing, mainly offshore outsourcing, has become a basic strategy, and has expanded over time in response to challenges in the U.S. economy: increased labor costs, lowered levels of productivity, and competition on a global scale. The global outsourcing industry is expected to grow by about 15% in 2012, and IT outsourcing is expected to grow by 4%, despite the current recession that is slowing much economic growth (Everest Group, 2012). Deloitte & Touche’s (2012) recent survey of executives reports that the ongoing growth in the use of outsourcing is expected to continue for all business functions (Deloitte & Touche, 2012).

Organizations choose to outsource their information technology (IT) processes for many reasons, and primary among them is the goal of increasing financial strength and profitability through substantial cost savings. Cost reduction can result from a global search for lower production costs - primarily personnel costs - as well as service providers that may have economies of scale and/or specific expertise that is not available in-house.

The use of IT outsourcing can also assist a firm in its desire to focus on activities reflecting its core competencies rather than on IT activities, and thereby maintain its competitive advantage while increasing its productivity and efficiency. The IT service provider also may have specialized skills that can maintain and support a firm’s legacy systems. And, an outside vendor may have technical capabilities in areas in which the in-house IT staff are inexperienced, resulting in a higher quality IT service as well as easier access to new technologies.

Total spending on IT outsourcing is growing, and continued growth is expected. Currently, IT represents the primary outsourced function, followed by finance and human resources (Deloitte & Touche, 2012). Decisions related to managing IT resources - which resources to keep in-house and which resources to outsource - are critical to business success. Other key and related decisions include: to whom should we outsource, for what period of time, and how best to manage the arrangement. The decision to outsource IT services may be costly and irreversible. Effective oversight by a firm’s board members and auditors is vital for IT outsourcing success, and should reflect their understanding of the nature and extent of outsourcing risks (Hall & Liedtka, 2005).

Although firms often outsource to reduce costs and improve the cost/benefit ratio, it does not represent an appropriate choice in all circumstances. The potential benefits of IT outsourcing must be carefully weighed against the associated risks, and these risks represent the focus of this paper.

The number of cases of an unsuccessful IT outsource implementation is extensive, and suggests that care must be taken in making this decision. Offshore outsourcing losses have been attributed to paying substantial fees that exceed the contracted amount, theft of intellectual property and related cultural/governmental conflicts, loss of IT staff expertise, and poor service quality. These potential losses may even exceed expected gains from outsourcing. U.S. business leaders note that they are now more likely than ever to consider in-sourcing business functions (Deloitte & Touche, 2012). Another emerging trend is rural outsourcing (Lacity et al., 2010).

Both the benefits and the risks of IT outsourcing should be considered for a successful implementation (Hsu & Wu, 2006). Cost - along with reliability, flexibility and data security - must be measured in the IT sourcing decision. Issues related to the quality of the service provided have been the driving force in decisions by firms to end IT outsourcing arrangements (Deloitte & Touche, 2012). Choosing the right service provider is an important success factor in the decision to outsource IT services (Gonzalez et al., 2010b).

The goal of this paper is to show the usefulness of the AHP as a decision-making tool for IT sourcing decisions, based on an analysis of factors that recent literature found to be associated with IT sourcing risk. Multi-criteria decision-making techniques have been used to evaluate the nature of a service to outsource (Miri-Nargesi et al., 2011) and the outsourcing process (Udo, 2000, Yang & Huang, 2000, Wang...
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