Investigating Adoption of E-Procurement Systems: An Empirical Study

Ozden Bayazit, Department of Finance and SCM, Central Washington University, Ellensburg, WA, USA

ABSTRACT

This paper attempts to provide insights into current E-procurement practices. A survey was conducted among 342 members of Institute of Supply Management—Western Washington (ISM-WW), the local chapter of the Institute of Supply Management (ISM). This paper reports on the findings of the survey conducted. The research helped the author to identify numerous critical success factors to effective implementation, key factors in making the decision to implement E-procurement systems, problems encountered during the implementation, and unanticipated things that were not considered in a company’s original plan to implement E-procurement systems as well as the benefits that the companies gained as a result of successful E-procurement implementation. The author’s aspiration is that the results of the survey will help companies develop a better understanding of use and implementation of E-procurement systems and avoid the problems encountered by other firms.

Keywords: E-Procurement, Electronic Procurement, Institute of Supply Management (ISM), Supply Chain Management, Survey

INTRODUCTION

Developments in technologies have made it possible for organizations to improve efficiency and save money in many areas of the business. Procurement—a vital part of supply chain management—is one of those areas that has been significantly impacted by the new technologies. Rather than using traditional, paper-based methods for acquiring goods and services, organizations have begun to take advantage of technology-enabled acquisition of goods and services. Looking for ways to improve operating efficiency and cut costs, supply chain managers have looked to electronic procurement (E-procurement) systems and methodologies to aid them in this effort. Moving away from the traditional tactical view of procurement and evolving into more of a strategic role contributed to that development significantly (Smart, 2010). Although there are many different definitions of E-procurement in the literature, E-procurement mainly refers to the use of Internet and related technologies to streamline and perform all operational and strategic procurement activities (Teo et al., 2009). Well implemented E-procurement systems enable users to systematically and

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efficiently connect with suppliers, resulting in increased productivity, lowered operational costs and optimization of resources. However, decisions to purchase and implement E-procurement systems and methodologies can sometimes be costly and painful. Acquisition of E-procurement tools must be balanced against return on investment.

One of the very first applications of E-procurement systems included electronic data interchange (EDI) which was developed in the 1970s to help companies improve their purchasing process (Wisner et al., 2012). The EDI system which enabled computer-based exchanges of data between buyer and seller has been adopted by a number of organizations since its introduction. However, an EDI system is very expensive and difficult to implement, and often inflexible. As Presutti (2003) noted, implementation cost was a significant barrier to the widespread use of EDI as a large-scale facilitator of E-procurement. The emergence of the Internet in the 1990s offered significant opportunities and opened up new possibilities for companies to be able to perform most purchasing activities online. As a result of the increasing use of the Internet, a number of Internet-based E-procurement applications including e-sourcing, e-catalogs, e-marketplaces, and electronic contracts management systems have been developed. These systems have been in use by many organizations since the 1990s and have become viable alternatives to traditional paper-based systems. Amongst those systems e-sourcing includes forward and reverse electronic auctions, online bidding and tendering (Johnson & Klassen, 2005). E-sourcing helps the buying firm in all stages of the supplier selection process, from prequalification of suppliers through the construction of a comprehensive request for proposal to the selection of the final supplier (Presutti, 2003). Another widely used E-procurement system is E-catalogs that are the electronic representations of information about the products and/or services of an organization (Baron & Shaw, 2000). Therefore e-catalogs provide a passage to sourced products, suppliers and the ordering process which will all lead to increased operating system efficiencies. One of the most common E-procurement applications is e-RFX which is an electronic tool that allows procurement professionals to issue and manage electronic requests for information (eRFIs), requests for quote (eRFQ), and requests for proposal (eRFPs). It is a suite of applications which support buyer analysis of supply markets and suppliers (Smart, 2010). Because of the differences between E-procurement systems, companies should be careful in choosing the one that is most appropriate for them. No matter which application is used, E-procurement is a viable and valuable way of doing business and promises to be something that will soon be adopted by companies large and small (Neef, 2001).

This paper attempts to provide insights into current E-procurement practices. To achieve this, a survey was conducted among members of Institute of Supply Management – Western Washington (ISM-WW). ISM-WW is the local chapter of the Institute of Supply Management (ISM) and is the leading organization for purchasing and supply management professionals in the Pacific Northwest. ISM-WW was founded in the early 1900s with the goal of bringing purchasing professionals together in the Western Washington region. Its membership consists of a wide variety of supply management professionals in different industries and at all levels in their careers. This paper reports on the findings of the survey conducted. The major objectives of this study are to: (i) examine the factors affecting the decision to purchase and implement an E-procurement solution versus outsourcing E-procurement services, (ii) identify the key factors affecting the implementation of a successful E-procurement solution, (iii) identify factors hindering the success of E-procurement implementation, and (iv) identify the advantages of using E-procurement systems.

This paper is organized as follows: Literature review of previous studies, the methodology employed in the study, and the results from the survey. The paper concludes with a summary to highlight the important findings from the study and future research direction.
A Concept for Improving the Security and Efficiency of Multimodal Supply Chains


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