Chapter XII

User Satisfaction With EDI: An Empirical Investigation

Mary C. Jones
Mississippi State University, USA

Robert C. Beatty
Texas Christian University, USA

This study was undertaken to identify antecedents of user satisfaction with EDI systems by surveying key end-users of EDI in a variety of firms across the United States. Although there is much empirical evidence about factors underlying EDI adoption and implementation, there is little information from the perspective of the end user. The vast majority of what we know about EDI success (or failure) is based on the EDI manager's or IT perspective. However, there is evidence that suggests if users are not satisfied with a system, they will not use it. Thus, a study of user satisfaction with EDI can provide firms seeking to better leverage their EDI investment with a different and useful perspective on factors that underlie EDI. Two findings indicate that the greater the perceived benefits of EDI, the greater the user satisfaction; and the more compatible EDI is with existing organizational practices and systems, the more satisfied the users are with the system. Although EDI managers may have suspected this was true, empirical support of heretofore largely anecdotal evidence has several implications for successfully managing EDI adoption and integration. These implications hold not only for the adopting firm, but also for firms that may require, or are considering requiring, trading partners to implement EDI. Finally, implications for future EDI research are discussed.

INTRODUCTION

Corporate use of electronic data interchange (EDI), the computer-to-computer exchange of business transactions, has grown rapidly over the last several years (Hart & Saunders, 1997; Turbide, 1994). Although many firms are now engaging in

Web-based electronic commerce, there is significant investment in EDI, and it remains a widely used form of business-to-business electronic commerce (Ramamurthy, Premkumar, & Crum, 1999; Zwass, 1999). For example, approximately 90% of U.S. Fortune 1000 firms have implemented the traditional value-added-network (VAN)-mediated EDI (Austin, 1998), and the number of firms implementing EDI has grown steadily over the past two decades (Hart & Saunders, 1997). Those that have made substantial investments in EDI are still looking for ways to leverage their investments. In addition, many firms that are pursuing electronic commerce with business partners on the World Wide Web are maintaining existing EDI relationships and using the Web to investigate alternative suppliers or buyers (Carbone, 1999). Others have begun to move away from the traditional VAN-mediated, proprietary EDI framework to use Web-based EDI (Tucker, 1997; Carbone, 1999). However, firms "aren't sure if the Internet will replace EDI. ... Many believe they will use both EDI and the Internet as e-commerce tools" (Carbone, 1999, p. 2). Therefore, EDI is still a viable, widely used electronic commerce technology, and research that can help firms better understand the factors that shape their use of EDI is still relevant.

Much of the research that has been done about EDI has focused on the success of EDI from the organization-level perspective, and EDI representatives or managers are the primary sources of data collection efforts in these studies (Jelassi & Fignon, 1994; Teo, Tan, Wei & Woo, 1995). However, the users are the ones who determine the extent of use and integration in the firm. Because initial EDI adoption has been widely due to external pressures, its adoption is often mandated (Hart & Saunders, 1997; Webster, 1995). However, EDI integration is often limited after initial implementation (Massetti & Zmud, 1996). For example, on average, firms that have implemented EDI use it for less than half their transactions and do business using EDI with less than half their trading partners (Massetti & Zmud). Furthermore, private discussions with firms about their suppliers' use of EDI revealed that some suppliers still manually key in data for purchase orders and invoices, although the same suppliers submit them to their trading partners electronically through EDI VANs, thereby nullifying many of the benefits for which EDI was implemented. Although many factors have been identified to underlie this lack of integration (Saunders & Clark, 1992; Scala & McGrath, 1993; Webster), few have considered the user perspective. However, many EDI managers are not extremely satisfied with the extent to which users have accepted this way of doing business (Arunachalam, 1995). However, without user satisfaction, it is difficult for firms to realize the benefits from an information technology regardless of external pressure to mandate adoption (Barki & Hartwick, 1994; Davis, 1989; Lyytinen, 1987; Rice & Aydin, 1991). "The more receptive an organization is to establishing ... electronic relationships, the more likely that organization is to be successful in adapting and competing within the emerging electronic marketplace" (Massetti & Zmud, p. 337). Thus, user satisfaction with EDI seems critical to a firm's ability to use it to compete effectively in today's marketplace.

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/user-satisfaction-edi/4586

Related Content

Life After a Disastrous Electronic Medical Record Implementation: One Clinic's Experience
Karen A. Wagner, Frances Wickham Leeand Andrea W. White (2001). *Annals of Cases on Information Technology: Applications and Management in Organizations (pp. 153-168).*
www.irma-international.org/article/life-after-disastrous-electronic-medical/44613

Use of RFID Technology for Automatic Job Costing
Jeremy C. Bellah, Kunpeng Li, Pamela J. Zelbstand Qiannong Gu (2013). *International Journal of Information Systems and Social Change (pp. 72-88).*
www.irma-international.org/article/use-of-rfid-technology-for-automatic-job-costing/84802

Cloud Computing Implementation Strategy for Information Dissemination on Meteorology, Climatology, Air Quality, and Geophysics (MKKuG)
Sardjoeni Moedjionoand Ali Mas'at (2012). *Journal of Information Technology Research (pp. 71-84).*
www.irma-international.org/article/cloud-computing-implementation-strategy-information/72715

ICT and the Orang Asli in Malaysia
Pauline Hui Ying Ooi (2008). *Information Communication Technologies: Concepts, Methodologies, Tools, and Applications (pp. 2656-2658).*
www.irma-international.org/chapter/ict-orang-asli-malaysia/22839

Software Agents in E-Commerce Systems
Juergen Seitz (2009). *Encyclopedia of Information Science and Technology, Second Edition (pp. 3520-3524).*
www.irma-international.org/chapter/software-agents-commerce-systems/14098