ABSTRACT

What is the future of the conventional phone-based corporate sales teams? As consumers grow more and more accustomed to purchasing online everything from holiday gifts to weekly groceries to boats and homes, companies have better and better opportunities to automate their own corporate sales processes. Today's companies are encountering an era of accessible and scalable information technologies (IT) and of an increasingly e-commerce-savvy customer base. This paper explores a decision process in a case company using analytical hierarchy process (AHP). Decision profiled in this study is to determine the most viable decision between developing an automated custom sales order interface system and using the existing manual process in which customers contact sales teams to place orders. Decision model is based on multiple criteria in order to assess each candidate system risks and benefits. Study analyzes the current trend of IT integration throughout the supply chain, develops a decision model based on user interviews, and aims to determine the circumstances under which automating the process is the best choice. Results indicate that, importance of decision criteria differs with respect to duration of contracts each customer makes. For instance, development cost has been identified as the most heavily weighted decision criterion at six month long contract cases whereas all decision criteria which are data quality, development costs, organizational politics and customer experience are weighted equally at one year contract cases. Results have also shown that although organizational politics has been ranked relatively lower in six months and one year contract cases it takes considerable precedence at contracts with duration of two years and more.

Keywords: Analytic Hierarchy Process (AHP), Automated Custom Sales, Decision Making, Information Technologies (IT), Interface System

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INTRODUCTION

As information technologies are integrated deeper into corporate structures, departments that historically have been operated manually are pursuing ways to adapt to these changes. Supply chain, materials management, and accounting departments have all identified ways that IT can streamline processes, increase communication, and reduce costs through efficiency. Based on the experience gained from previous implementations, sales order automation has also been conceived. Sales order automation process connects customers and suppliers via a computerized interface, allowing customers to select and specify their preferred orders. It addresses planning, sourcing, manufacturing and delivering which are the four processes required to bring an order initiation to termination (Quinn, 1997). Sales order automation system which can be clustered under electronic data interchange (EDI), directly links electronically processed customer orders to order management for quality control, to accounting for billing, to inventory for product supply, and to manufacturing for production. Electronic back-end automation systems can connect physical processes to information-based integration throughout the operations (Zhu, 2004).

Traditionally, sales orders have been paper and process intensive. Customers would initiate their orders via telephone or fax through customer service before orders are initiated. Traditional customer services would edit, evaluate, and correct orders for quality purposes before order data is processed and distributed among various departments along the supply chain. Each department in the cycle would require a copy of the processed order and often a secondary level of quality control. Although quality of the order would be assured through number of processes, workload placed upon the organizations would require considerable amount of resource. As mentioned before, automation has been successfully implemented in various departments and results have been proven to be beneficial, but automation may not always be the right answer. Thus, it is important to clarify if sales order automation is always worth the cost of interface implementation or whether traditional sales order process can benefit its customer friendliness and flexibility, and how companies can decide which route to follow in giving such decisions.

As mentioned in the literature, 56% of commercial buyers are using electronic data interchange (EDI) as an e-commerce tool (Vigoroso, 1999) and automation provides clear advantages for suppliers in increasing performance and organized efficiency (Mackay & Rosier, 1996; Hill et al., 2009). Mackay and Rosier (1996) identified an increase in data accuracy, improved productivity, and increased speed of information distribution due to use of automation. A study by Leonard and Davis also showed that use of EDI throughout sales processes increased productivity because of the focus on quality, lead times, and inventory management (Leonard & Davis, 2006). It is also emphasized that benefits support suppliers to push for automation at the front-end and back-end.

In order to ensure successful sales automation implementation both suppliers and customers should be able to benefit from the new system. Required front-end performance, quality of order, system integration, and interface understanding can drastically affect customers’ behaviors. Leonard and Davis showed that customers can gain value from EDI through increased effectiveness, performance increase, streamlined inventory management, and decreased delivery time. On the other hand, risks associated with suppliers by automating sales order processes are as significant as the benefits. Automation with EDI requires substantial up-front investment of financial and IT resource. This risk is compounded when custom sales order interfaces are created to work individual clients’ purchasing systems. Added to cost of developing sales order interface there are also risks involving lack of customer adoption. Since the automation process starts with the customer’s order entry procedure, errors upfront will delay...