

ENTERPRISE RESOURCE PLANNING FOR COMPETITIVE ADVANTAGE

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Abstract—Enterprise Resource Planning (ERP) software vendor says that ERP has become a source of the competitive advantages for companies around the world and dynamic force driving the process of global integration through information. However, many argue that ERP provide base commonalty across the industries as it is available for many and its benefits have been realized by many firms. This paper asks who is right.

Keywords— competitive; advantages; ERP; Technology;

1 INTRODUCTION

For the last few decades, Information technology (IT) implementation has become a significant activity for any business to increase productivity, improve efficiency and reduce cost of production. Consequently, information systems play a key role in the various fields of our lives especially in business. Companies acquire information systems that are designed specifically for their business needs in order to manage their business effectively and enhance their services and products. Information systems also help businesses to remain competitive. The development of information system aims at improving the quality of service and products enhancing productivity, optimizing resources as well as enriching customer services. Furthermore, standards of certain businesses help to develop applications that can serve small and medium sized enterprises as well as organizations that are working in the same field. This kind of reusability helps to lower the cost of information systems development. Accordingly, companies ends up to running on different kinds of applications to meet their business needs for planning and decision making. Often there is not integration among departments and software programs used by separate departments. This means that data has to enter into each department of the enterprise resulting in time inaccuracy and data redundancy. In addition, this heterogeneous implementation resulted in serious problems in software maintenance, upgrades, data backups and data formats. This negatively affected the optimized functioning of enterprise's business activities. In such cases, companies end up spending a lot of money, miss integration among the applied systems, and as a result wasting resources including money and business development opportunities. Enterprise Resource Planning (ERP) sounds to be the answer of all these problems as it delivers services to improve functional areas of a company in an integrated way. The main goal of designing ERP systems is to enhance

competitiveness of an organization by increasing its ability to create timely and accurate information throughout the enterprise and its supply chain (Muhammad et al, 2008). This paper aims at discussing the advantages and disadvantages of ERP as well as how an organization receives competitive advantage through the use of Enterprise Resource Planning.

2. BUSINESS CHALLENGES AND ERP

In our competitive world, businesses face mounting challenges to enhance the productivity, optimize the use of resources and keep customer loyalty. For example, manufacturing companies face massive pressure to reduce cost and concurrently improve market agility and enlarge product assortment (Ghoshal, 1987). Service firms are also expected to achieve personalized responsiveness and smooth integration over all aspects of delivery systems (Schneider and bowen, 1995). All business areas need continuous improvement in operational effectiveness to achieve superior profitability and performance (O'Brien, 2011). Firms try to overcome these challenges by implementing Enterprise Resource Planning (Lengnick-hall et al, 2004).

3. ENTERPRISE RESOURCE PLANING

Enterprise Resource Planning is business process management software that integrates an enterprise's entire value chain from different functional areas of a business including production, sales, marketing, finance, human resources and after sales services. At its core is a single, centrally located database to collect and store data that is then available to all departments of an organization and is updated in real time environment. (Monk and Wagner, 2009). For example, when an employee enters a client's order, available material is deducted from the inventory, unavailable material is ordered from the suppliers and the production forecast is updated to reflect the new order

3.1 advantages

The potential benefits that may be achieved from ERP system implementation varies from one company to another depending on company characteristics. However, there are common significant benefits that all companies can receive from the system. First, ERP builds common information vision of an enterprise that integrates all functions and departments. This support consistency of data in the enterprise and reduction of data redundancy. Secondly, ERP solution increases structural connectivity and removes barriers across units and activities. That makes it easier for tracking the choices made in one department across all other organization activities. The interconnectivity among all modules of ERP system minimizes the time to complete different operational tasks. Consequently, the enterprise's efficiency can be maximized which enable the firm to achieve superior profitability (Yakovlev, 2002). For example, the city official of Pasadena decided to install ERP package in 1996 and that increased information transaction speed. Before the installation of ERP, it took the city 10 days per month to produce several financial reports. ERP minimized this time by 1 day. As result, the city efficacy and performance was improved. Thirdly, ERP improve customer satisfaction by providing quality services and products. ERP use stander method for automating some of business processes that speed up the typical process time, quick response benefits and improved financial management. Fourthly, ERP provide a single, comprehensive database in which all business processes are entered, recorded, monitored and reported. This minimizes the margin for error created by information being entered by different employees

in different database. Additionally, ERP facilitates the use of tacit knowledge as well as enabling the coordination of customer driven strategies. Based on the above advantages, ERP has become more popular. ERP survey of US manufacturing firms that was conducted by Indiana University and APIC shows that ERP package are being installed by many industries. More than 44% of the companies indicate that they had installed ERP system and over 18% indicate that they were in the process of installing ERP package. Manufacturing and business organizations are not the only beneficiaries of ERP systems. Many universities and college are also benefiting from ERP systems. For Example, American University of Washington DC, Columbia College Chicago and Dominica University of California are using ERP to enable students to enroll and make payment online. They also use the system to track factually record, check instructor and class room availability for course timetable (Yakovlev, 2002).

3.2 disadvantages

Despite the many powerful advantages of ERP system, ERP system is extremely expensive to implement. It cost Fortune 500 Company \$200 million in consulting fees and \$30 million in license fees (Lengnick-hall et al, 2004).Disney also spent \$400 million implementing its finance and human resources ERP system (Waldner, 1992). In addition, it takes too long to implement the ERP system with most of them taking 3 years or more to become operational. Furthermore, ERP vendor have the ability to implement and convey business activities across the industries in way that influence the cumulative enterprise performance. ERP system is customizable in order to support critical process followed by firms. However, customization is difficult or limited as it is costly and time consuming. According to Davenport (1998),” most firms find that they need to adapt or even completely reconfigure their business processes to conform to the requirements of the ERP system”

4. CAN ERP BE A SOURCE OF COMPETATIVE ADVANTAGES

There are a number of benefits of ERP system that have been used to solve many business problems despite the drawbacks associated with it. Being able to weight the two will enable the firms to decide if this solution will properly meet their needs. A crucial question, can ERP systems be a source of competitive advantage? First and foremost the concept of competitive advantages needs to be understood. According to Porter and Millar (1995) “A business is profitable if the value it creates exceeds the cost of performing its value activities. To gain competitive advantage over its rivals, a company must either perform these activities at a lower cost or perform them in a way that leads to differentiation and a premium price (more value).” ERP advocates argue that implementing ERP will lead into distinct type of strategic gain. One, ERP system can be source of operational effectiveness because of benefits of seamless functional integration which is important requirement to gaining superior profitability. Two, an integrated system that improve communication between customers and suppliers thus allowing a firm and it’s extended supply chain to function as a total enterprise system (Davenport, 1998). However, many argue that ERP provide base commonalty across the industries as it is available for many years and its benefits have been realized by many firms. That leads to difficulty in achieving distinctiveness.

4.1 Competitive advantages Evaluation.

In order to evaluate the competitive utility of ERP systems, the following criteria should be assessed. First criterion is: Does ERP system provide competitive value to the firm? This

relates to the possibility of cutting down the cost or increasing the revenue when implementing the system. ERP improve customer satisfaction and loyalty by streamlining business process and provide visible, precise and reliable information. Automation of business processes and placing them into useful format that is common for whole enterprise allow firms to coordinate and manage the entire supply chain more efficiently than is possible with legacy system. That provides further means of distinguishing the capabilities of the firm. The net result is ERP are competitively valuable resource and capability

(Lengnick-hall et al, 2004). The second criteria: Are ERP system a rare resource? If all companies have access to the same resource, the resource will not provide distinctiveness and will become basic business requirement. Thus it can provide the company with competitive disadvantage if the company chooses not to use that resource. ERP systems are no longer unique resource as many global organizations are using it. Adding value to the firm and being rare are not evident that the resource provides competitive advantages, it could be temporarily.

To deliver sustained competitive advantage, the resource needs to have attributes that are hard to duplicate which this is the third criteria. Since popular ERP vendors develop software and configuration that are designed to meet the most significant needs for common industry activities and relationship, the potential for system replication has increased (Lengnick-hall et al, 2004). In addition, one important ERP benefits is to improve interactions within the supply chain and as many companies depend on the same supplier, the likelihood of system duplication has also increased. The imitability of ERP depends on the vendors ability to make customization base on their customer needs and enterprise ability to create unique blend of culture, human capital complementary organizational processes. The fourth criteria: Are ERP system robust resource? This related to the resource ability to resolve current problems without introducing limitation that prevents an enterprise from responding effectively to unpredictable event in the future. ERP robust capabilities focused on reducing cost, streamlining process and improving customer responsiveness. Therefore, ERP is a strong resource because it is strong on implementation of short term tactic. However, long term, revolutionary flexibility is often hampered by ERP system because of the strict formalization of the processes. The resistance comes from the scale and scope of the system, the complexity and specialized of application program and also from the cost of application upgrades. In addition, many organizations face difficulties of obtaining both the tacit knowledge and technical experts needed to various modules within entire package (Lengnick-hall et al, 2004). For example, in February 2005, an ERP implementation agreement was made between Oman Telecommunication Company (Omantel) and Oracle. The project was planned to be completed in 12 months. However, the completion of the process overran by about 6 months because there was limited in house experts within Omantel on Oracle products (Maguire,Ojiko,said,2009).

To summarize the above discussion, ERP systems are valuable but they are definitely not rare, nor inimitable. But an enterprise can uniquely combine the ERP systems to businesses processes which will make it inimitable. Lengnick-hall et al (2004) stated that ERP systems do not provide competitive advantages themselves, but that they have to be combined with intellectual and social capital within the organizations. Thus, whether the enterprise gains competitive advantages from ERP software depend on how the enterprise manages this resource.

5. CONCLUSION

Information system and information technology plays as main support platform for many companies to build competitive success for their business. One type of information system is ERP which design to integrate all business processes within one enterprise to one centralized repository that all business area have access to. The integration facilitates information flow throughout the entire enterprise. ERP often provide advantages such as improved business processes, information quality and coordination. However, since ERP system has been available for many years and its benefits have been realized by many firms, it is argued that ERP provide base of commonality across an industry which make distinctiveness much more difficult to achieve. In my opinion, firms might gain competitive advantages from innovative use of ERP system to achieve strategic position in marketplace

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