

**THE STRATEGIC AND ORGANIZATIONAL IMPACT
OF ELECTRONIC BUSINESS ON LARGE FIRMS**

Hooshang M. Beheshti, Radford University
hbehesht@radford.edu

Esmail Salehi-Sangari, Lulea University of Technology
ess@ltu.se

Dale A. Henderson, Radford University
dahender@radford.edu

ABSTRACT

This research examines the impact of and the benefits derived from e-business integration in large manufacturing and service organizations in Sweden. Business managers are increasingly under pressure to improve the financial performance and the profitability of their companies. The Internet-based electronic business can provide opportunities for business to improve the efficiency and the effectiveness of their business operations, to form partnership with suppliers, improve customer service, and to manage better their supply chain. The results show that large Swedish firms are benefiting from e-business implementation in many key areas of their business.

INTRODUCTION

Intense international competition and globalization of markets have pressured corporations to look continually to improve their competitive position in the marketplace. Over the years, organizations have incorporated new technology into their business activities to achieve both effectiveness (customer satisfaction) and efficiency (lower costs) in their operations.

In recent years, the convergences of information and communications technologies and technological innovations have made it possible for large and small organizations to implement Internet-based electronic business models. The implementation of e-business enables the firm to reduce transaction costs of the business and to improve productivity and profitability. According to eMarketer (2008), about one billion people worldwide are linked to the Internet, which makes it possible for companies to offer a variety of goods and services to customers around the globe.

There are many benefits to e-business when properly implemented. Cost savings is an obvious one. In addition, organizations can extend the reach of their business, bypass traditional channels, establish partnerships with other businesses, and improve their service capabilities.

Overall, there are three primary areas of economic and competitive opportunity provided by e-business: costs, customers, and supply-chains/distribution-channels (Winsor et al., 2001). However, high costs of developing and implementing an e-business system as well as security concerns and customer protection issues such as cyber fraud and privacy concerns are important factors that must be considered before implementing e-business.

The full benefits of Internet-based e-business are realized when e-business implementation is examined from two perspectives: assessing e-business capabilities and limitations; and formulating and implementing an e-business strategy. The strategic view of e-business implementation allows the organization to exploit any strategic opportunities offered by e-business to enhance the competitive advantage of the firm and ensuring that e-business is supporting the company's business strategy (Earl, 2000; Venkatraman, 2000; Hooft & Stegwee, 2001; Porter, 2001).

In addition to the development of an e-business strategy, managers must be willing to make changes to their business processes when required. Successful implementation of an e-business system requires commitment and support from top management, effective project management, user training, and involvement of key employees in areas such as purchasing, inventory, customer service, and marketing and sales. E-business goes beyond the boundaries of the firm. Participation by suppliers, distributors, and key customers, during both the strategy development and implementation of e-business, can contribute to the successful use of e-business.

Businesses can use various Internet-based electronic business models; however, the majority of firms use business-to-customer (B2C) and business-to-business (B2B) models with B2B being the dominant of the two models. The B2C model is an electronically driven commercial activity between a business and the consumer. B2B models are designed to streamline the supply chain, to reduce procurement costs, and to increase operating efficiencies; they require an information and communications technology infrastructure capable of supporting complicated tasks such as inventory control management systems, procurement, pricing, and logistics.

These models rely on the Internet, intranets, and/or extranets to link the firm to customers and other businesses in order to conduct business activities on line. In recent years, with the advent of wireless telecommunication networks, mobile commerce or m-commerce is gaining popularity in the business community allowing business transactions to be carried out via wireless technology.

RESEARCH OBJECTIVES AND METHODOLOGY

The main objective of this study is to assess the use of electronic business in large companies in Sweden. Major research objectives are to determine the degree of electronic business integration and applications, the impact of electronic business on the supply chain, the improvement made on various performance areas after e-business implementation, and the overall impact of e-business on different areas of the organization.

Sweden is considered an advanced industrial nation and a leader among the European nations in Internet access and has a population that is well educated in Internet usage (Asfaw et al., 2001). In fact, The Internet usage in Sweden grew by 68% between 2000 and 2005 and about 77% of

the Swedes use the Internet (Internet World Stats, 2007). In addition, Swedish firms are considering e-business as a strategic and long-term business decision and about 55% of these firms have integrated e-business strategy in their organizations (Dudley, 2002).

In this study, we adopted the European Commission's definition of large firms; that is, any firm that has 250 or more employees is considered large. The *Swedish Statistical Centre* was used to randomly select 500 large corporations without regard to their location or industry for analysis. A survey questionnaire was developed and pretested using Swedish practitioners and academicians in e-business. The revised questionnaire was mailed with a cover letter explaining the objectives of the study and a return envelope to the chief information officer of these organizations. Mailing to the selected firms provided 105 responses of which 19 responses were not usable due to missing data or lack of internal validity in the responses. Thus, 86 usable responses (17.2%) furnished data for analysis.

RESULTS

Data provided by the responding firms showed that 48% were service and 52% manufacturing. The average service respondents were larger in number of employees (2756) than the manufacturing respondents (2036). This is not surprising because service organizations are more labor-intensive than are manufacturing firms. The majority of the service companies (59%) use a business to customer (B2C) model and 41% use both B2B and B2C models. The significant majority of manufacturing respondents (89%) use B2B and 11% use both B2B and B2C models. More service firms (54%) had implemented or upgraded their e-business system in the last 5 years than manufacturing (41%).

THE NEED FOR E-BUSINESS STRATEGY

Few would argue with the notion that electronic business or e-business has potential benefits for improving financial performance. From managing customer volume, to managing supply chain logistics, to improving revenue cycles, to improving knowledge management within firms, core processes are being better facilitated and streamlined to enhance performance (Malcolm, 2001). In fact, one could make a case that e-business is revolutionizing how companies do business. Lee and Kim (2007) argue that e-business integration constitutes a paradigm shift on how businesses compete in markets and interact with their customers. However, McGrath and Heiens (2003) warn that companies should be wary of getting caught up in going digital at the expense of not having a sound e-business strategy. If organizations are to build an effective e-business strategy, they must consider the basic strategic and operating decisions that apply to their e-business initiatives.

Malcolm (2001) reported that 71% of survey respondents in the healthcare industry felt that developing an e-business strategy is their top IS management issue. The more alarming fact reported was that only 38% of the respondents had an e-business strategy in place. Conducting business electronically transcends organization and country boundaries; it has worldwide significance and implications. For example, in 1998, Canada's Department of Industry established an Electronic Commerce Task Force to forge partnerships and develop an electronic commerce strategy (Wood, 2001). In this study on Swedish firms, survey respondents were asked

whether the decision to integrate e-business was based on e-business strategy. Both manufacturing (88%) and service (79%) indicated they had developed an e-business strategy before integration. Clearly, top executives in large Swedish firms exhibit awareness with regard to the importance of e-strategy.

Montealegre (2002) suggests that some specific process lessons can be learned from the e-business strategy developed at an Ecuadorian stock exchange. The study makes the case that by beginning to understand the process used for implementing a successful e-business strategy, companies can adopt a similar process model for building the necessary organizational capabilities for launching a successful e-business initiative. Therefore, an effective process can and should support the firm's strategy formulation and implementation. The three key capabilities developed in support of the e-business strategy included the capability to strategize, the capability to be flexible, and the capability to integrate and endanger trust. Moreover, the study emphasizes the need for managers to integrate their e-business strategy with the organizational processes while using their resources and capabilities.

A study of e-business implementation in China (Zhao, Huang, & Zhu, 2008) states the potential pitfalls of not using an e-business strategy with implementation efforts. They report that over 70% of such e-business initiatives have failed to turn resources adequately into valuable capabilities. In addition, the study found support for the causal links from e-business strategy to integrative use of IT related resources, which in turn aided in generating distinctive e-business capabilities. Likewise, the adoption and acceptance of e-business integration in Korean organizations lends insights into successful implementation (Lee & Kim, 2007). Their research suggests that the full benefits of e-business are achieved when it is integrated with internal applications and used by many customers. Senior management support is necessary for overcoming suspicions, reducing resistance, and promoting trust by both customers and internal stakeholders. In addition, the researchers believe that an e-business strategy would be prudent to include the organizational contexts of compatibility, relative advantage, top management support, IS infrastructure, and IS expertise because of their identified positive associations with implementation success. Thus, e-business implementation is not merely adopting new software to do business, but a new way of thinking about and conducting business that requires strategic oversight.

The planning effort for the development, implementation, and maintenance of an e-business system is a tremendous undertaking and for this reason an organization may decide to outsource all or part of the project to a third party. Henceforth, participation of functional area representatives in the development of e-business strategy makes it easier to decide whether the company should develop and implement an e-business system in-house or form a strategic alliance with an outside agency to carry out e-business integration in the organization. The decision to outsource is generally based on economics and does not diminish the strategic value of e-business to the firm. In fact, Zhao et al. (2008) reported that in China, strategic alliance is especially critical for local firms with regard to their e-business success. Thus, outsourcing in certain organizational contexts might be necessary to add strategic value with e-business integration.

Outsourcing allows the organization to convert fixed costs to variable costs by shifting the cost of developing, maintaining, and upgrading the system to an outside agency. However, because

the corporate data is maintained at the third party's site, outsourcing requires a great deal of trust and stringent controls and security measures should be negotiated with the service provider in order to ensure data integrity and to prevent unauthorized access. The majority of the manufacturing organizations (54%) outsourced the development and implementation of their e-business whereas the majority of the service firms (51%) chose the in-house development and implementation option. However, once the e-business is implemented, the majority of respondents in both sectors took over control of their e-business and opted for in-house management and technical support. Table 1 shows the outsourcing decision with regard to e-business by the responding companies.

TABLE 1. E-BUSINESS DEVELOPMENT AND SUPPORT

E-business	Manufacturing		Service	
	In-house (%)	Outsourced (%)	In-house (%)	Outsourced (%)
Development and implementation	46	54	51	49
Managed and maintained	82	18	85	15
Technical support	64	36	62	38

ORGANIZATIONAL CHANGE

The integration of e-business often requires organizational change by streamlining and automating business processes, reducing layers of management and staff. E-business can be a valuable tool for top management to improve operational and financial performance of the firm and to react to market conditions quickly.

The majority of firms in both sectors reported that no major changes were made to their organizational structure. Considering that the information and communications technologies have been around for a relatively long time, that most large organizations have integrated and upgraded these technologies over time, and that Electronic Data Interchange (EDI) was the start of B2B electronic business, it is safe to assume that many of the surveyed organizations had made structural changes during EDI implementation and did not find it necessary to make major structural adjustments. Table 2 shows these changes. However, more service organizations (41%) than manufacturing firms (21%) had to make structural changes to their organizations because of e-business integration.

TABLE 2. THE IMPACT OF E-BUSINESS ON THE ORGANIZATIONS

Change	Manufacturing (%)	Service (%)
Structural change	21	44
Reduction in management	09	08
Increase in management	05	03

Although it is expected that the new technology reduce the layers of management in most companies, there are instances in which the organization needs additional managers and

employees. The highest percentage of reduction in the number of managers working for the responding groups was reported by manufacturing firms (9%) followed by service companies (8%). It is interesting to note that more manufacturing corporations found it necessary to add more managers (5%) than the service group (3%).

The service sector accounts for a large portion of the employment in the U.S. However, in the service sector, e-business benefits can be more difficult to measure than in traditional manufacturing. Organizations often gain an increased ability to expand their market shares with economies of scope that allow a firm to offer a larger range of services or bundles of services better tailored to customer's needs (Carayannis, Alexander, & Geraghty, 2001). Other e-business investments may be even more difficult to measure the tangible effects in terms of worker productivity, but tracking credit card fraud, linking airline bags with customers, and reducing unnecessary risk when providing insurance policies all have significant benefit factors.

Carayannis et al. (2001) offer four areas where e-business strategy can help improve business processes in service sector firms. First, the strategy can focus on refining existing competences. Second, it can focus on developing new competences. Third, it can expand reach by identifying and building new business relationships. Lastly, a firm's e-business strategy can focus on integration by leveraging existing business relationships. Therefore, adopting this four-pronged business model approach to a firm's e-business strategy gives organizations a new means to evaluate and determine successful e-business initiatives along these four dimensions.

Many strategic and tactical issues have to be determined before a company decides to have an online presence and to do business electronically. Top management and representatives from key functional areas of the organization should participate in the development of e-business strategy and integrate it throughout the firm. Top management's participation provides the necessary linkage between corporate objectives and a firm's e-business plan. Effective implementation of e-business integration dictates the need for an e-business strategy that understands underlying competitive forces and links the firms' Internet initiatives with the traditional business strategy (McGrath & Heiens, 2003). Thus, companies must know where they are going and what they want to achieve with their e-business strategy.

IMPLEMENTATION TIME AND BUDGET

Technology based projects such as e-business systems are costly and slow to implement. It requires skillful planning and hard, dedicated work in executing the plan. In order to ensure satisfactory implementation, top management must be involved in the development of an implementation plan, be the driving force behind every phase of the implementation, and resolve any problems encountered to secure the desired outcome.

In addition, a budget to cover the costs of implementation and a detailed schedule of activities associated with e-business functions from the start of implementation to the end should be developed. Factors such as inadequate technology planning and infrastructure, user involvement and training, budget, and schedule overruns, and availability of adequate skills are considered reasons for dissatisfaction with e-business implementation or failures (Epstein, 2005; Radovisky & Hedge, 2004; Begin & Boisvert, 2002).

The questionnaire sought information about the time, budget, and satisfaction with e-business implementation. Table 3 depicts the results. The majority of the manufacturing firms (68%) and service companies (59%) who reported satisfactory implementation of e-business models finished the project on time and within budget (81% of manufacturing and 74% of service firms).

TABLE 3. E-BUSINESS IMPLEMENTATION TIME AND BUDGET

Time and budget	Satisfactory		Unsatisfactory	
	Manufacturing (%)	Service (%)	Manufacturing (%)	Service (%)
Ahead of schedule	9	3	0	0
On-time	68	59	21	36
Behind schedule	23	38	79	64
Under budget	5	7	0	0
Within budget	81	74	38	32
Over budget	14	19	62	68

However, the majority of dissatisfied manufacturing (79%) and service (64%) organizations were behind schedule on e-business implementation and experienced cost overruns (62% and 68% of manufacturing and service firms respectively). When developing an e-business strategy, provisions for delay of completion time and extra project costs due to unforeseeable events should be made.

THE IMPACT OF E-BUSINESS ON THE SUPPLY CHAIN

For both manufacturing and service firms, supply-chain costs often comprise a considerable proportion of revenue. The Internet based e-business enables buyers and sellers to manage better their supply chain management system by establishing electronic linkages, improve communications, monitor the flow of goods and services in real time, eliminate paper work, and conduct business electronically. In addition, it can lower the amount of on-hand inventory and expand the range of prospective suppliers. Overall, managing supply chain electronically can reduce organizational costs, increase operational efficiency, expand market prospects, increase profit margins, and strengthen the competitive position of the firm in the long run (Chen & Siems, 2001; Folinas, Manthou, Sigala, & Vlachopoulou, 2004; Handfield & Nichols, 2002).

The survey asked respondents to score the impact of e-business integration on several key supply chain activities shown in Table 4. Scores ranged from 1 (no impact) to 5 (highest impact). Supply chain costs reduction scored the highest impact (4.17 by manufacturing and 4.05 by service firms) of all the activities in both sectors. This indicates good coordination between buyers and suppliers in identifying activities in the supply chain that can benefit the most by using electronic business.

Managing inventory is considered one of the most important areas of supply chain management (Ganeshan, 1999; Fisher, 1997; Presutti, 2003). The use of the electronic business provides opportunities for improving this costly aspect of doing business. The Internet allows suppliers to monitor stock levels for inventory planning and communicate stock-outs to customers, to avoid backorders, and to enable effective coordination of just-in-time (JIT) supply programs (Lancioni,

Smith, & Schau, 2003). Survey participants in both sectors reported improvement in their inventory management with scores well above the median of 2.5.

TABLE 4. THE IMPACT OF E-BUSINESS ON THE SUPPLY CHAIN

Improvement	Manufacturing (Mean)	Service(Mean)
Reduced supply chain cost	4.17	4.05
Inventory management	3.94	3.21
Information sharing	3.84	4.02
Supplier collaboration	4.19	3.63
Order taking	3.98	3.66
Order fulfillment	3.17	3.34
Collaborative planning	3.94	2.89
Collaborative design	3.45	2.03
Collaborative forecasting	3.63	2.47
Supplier competition	3.02	3.32

In today's cost sensitive marketplace, buyers and suppliers collaboration is critical to maintaining the costs of products and services offered as low as possible. Both manufacturing (4.19) and service organizations (3.63) in the survey have recognized the importance of collaboration between the buyer and supplier.

One of the advantages of the Internet-based e-business is that it provides a platform for business partners to share and view information across the supply chain and manage the chain effectively. However, it is important to address and to agree on security issues such as type of information, accuracy, and frequency of exchange, data formatting, and integrity prior to sharing information with business partners. The data in Table 4 show that the integration of e-business improved information sharing among participants, which in turn can help to manage better the supply chain.

Collaborative planning allows business partners to develop and to agree on a range of activities that will be conducted among the partners. Collaborative demand forecasting helps to smooth out demand uncertainty and the availability of goods and services from the supplier to customer in a timely fashion. Collaboration on design of a product or service between suppliers and manufacturing/service firms can reduce the overall cost of the final product especially when product variety and customization are concerned. Not surprising manufacturing firms scored higher than did service companies in collaborative planning, demand forecasting, and design.

Successful integration of e-business with order-taking and fulfillment processes can ensure on-time delivery of goods to customers. This success depends on a well-thought-out and well-focused business model and strategy. It should be noted that order fulfillment is both expensive and critical for both manufacturing and service enterprises. E-business can reduce this cost and offer the company an edge by providing reasonable priced products in acceptable time.

Manufacturing and service companies scored higher in the area of order taking than order fulfillment as shown in Table 4. This is not surprising because order taking is an easier task than fulfilling it.

The Internet enables buyers to search and collect information about a product or service and its cost on line and choose the least expensive one. This ability has significantly changed the nature of the competition in the electronic markets. The data show that e-business has affected the supplier competition with an average rating of 3.02 and 3.32 in manufacturing and the service firms, respectively.

E-BUSINESS IMPLEMENTATION AND PERFORMANCE

Successful companies use measurements that are derived from their strategy to evaluate performance in key areas such as customer service, operational processes, and profitability. A set of indicators linked to customer and company expectations can provide a foundation for statistical analysis resulting in critical information with regard to company performance and benchmarking efforts.

The most important success factor for any company is commitment to exceptional customer satisfaction and service. The customer is satisfied when a company provides goods or services that meet or exceed the customer's expectations. To decide how the organization is fulfilling customer needs, service standards leading to customer satisfaction and processes for providing feedback to employees must be established. Management should communicate these standards and feedback mechanism to all customer service representatives through rigorous training.

Customers in the digital age expect their suppliers to have accurate, current data in real time and available at their instant call. The focus of effective e-business integration should be on internal and external customers. The Internet-based e-business has made customer service a major competitive tool by reducing the paperwork of ordering, ensuring timely delivery, automatic billing and fund transfers, and accurate shipment data.

Emphasis on the processes that yield higher levels of customer service can enhance several features such as, order taking and processing, order status, after-sale information, 24/7 access to information, searchable online catalogs, technical information and after purchase warranties. Creating and maintaining an updated Web site that is attractive, easy to use, and friendly to the customer is critical to the development of good customer relationships.

Survey participants were asked to rate the impact of e-business integration in eight different performance goals on a scale ranging from 1 (no impact) to 5 (highest impact). The highest impact of e-business in manufacturing (4.26) and service (4.20) firms were reported to be customer service as shown in Table 5.

Quality products and services, as well as superior customer service will result in customer loyalty and retention. Customer retention is another area that e-business has improved in the surveyed companies with an average rating of 3.52 and 3.34 in manufacturing and the service organizations, respectively. The results show clearly that e-business integration can be most

beneficial with respect to improving customer service performance and retention in both sectors.

**TABLE 5. PERFORMANCE IMPROVED BY E-BUSINESS IMPLEMENTATION – AVERAGE RATING
1 LOW TO 5 HIGH)**

Performance Area	Manufacturing (Mean)	Service (Mean)
Product promotion	2.78	4.04
Product/service customization	3.88	3.43
Customer service	4.26	4.20
Customer retention	3.52	3.34
Productivity	3.93	3.84
Advertising on the Web	2.24	3.95
Marketing Strategy	2.52	3.41
Pricing Strategy	3.12	3.71

Companies use the Internet and run promotions such as rebate, discount, or coupons to increase sales of their products and services and attract new customers. Data indicate that manufacturing firms are not using this aspect of their e-business as much as service organizations do. The second highest rating was given to promotion by service companies (4.04).

In today's global business, managers are increasingly under pressure to improve the financial performance and the profitability of their organization. One method of improving profitability is to focus on a strategy that improves productivity by reducing costs of business activities in the firm. Over the years, corporations have adopted new technology to integrate business activities in order to achieve efficiency in their operational activities. Proper implementation of e-business should result in improving productivity by reducing the costs of business processes and by upgrading an organization's ability to generate timely and accurate information throughout the enterprise and its supply chain.

Productivity is considered a measure of efficiency of a worker, a business unit, or a company. E-business integration improved productivity of companies in both sectors with manufacturing reporting slightly higher impact (3.93) than service (3.84). This suggests that e-business is used as a tool for improving productivity and functional efficiency, and to strengthen the organization's competitive position.

E-business allows customers to use the manufacturer or service provider's Web site to customize a product or service based on their needs. Many companies use this feature today as a tool for companies to boost sales and to create a competitive advantage in the marketplace. Both manufacturing and service respondents seem to be using customization effectively.

Availability of the search engines on the Internet enable businesses and consumers to compare prices for various products and services on line and find the best price offered. A majority of the firms have both on line and off line presence, for these companies, pricing strategy for off line as well as on line goods and services becomes critical. Lee and Gosain (2002) found pricing strategies differed between off line and online retailers. Off line locations lowered their prices for popular products at first, but then increased prices by as much 18%, whereas on line retailers

increased prices by about 4% at first and then decreased prices over time. It appears that service (3.71) and manufacturing (3.12) companies in the study have realized the importance of on line pricing and are taking advantage of this aspect of e-business.

E-business integration requires corporations to revise and replace their traditional marketing channels to reduce costs. In addition, many companies advertise on the Web to attract customers to their Web site to increase sales. In both instances, service organizations reported a higher impact on advertising and marketing on line than manufacturing firms (3.95 and 3.41 vs. 2.24 and 2.52, respectively).

E-BUSINESS TRANSFORMATION

E-business transformation requires management to consider and to focus on the impact of e-business on the internal processes as well as the external processes that include customers and business partners. E-business can be a valuable tool for managers to improve operational and financial performance of the firm. Long-term financial gains can be realized only when a company delivers increased customer value while simultaneously lowering the cost of delivering that value.

Commitment by top management to process improvement and change management is the key to a successful e-business transformation. This commitment needs to be incorporated into the business culture and employee population through training programs, team building and continuous improvement efforts, and recognition of each success. E-business integration should be based on a value chain view of the business where functional departments coordinate their work, focus on value-adding activities, and eliminate redundancy.

TABLE 6. THE OVERALL IMPACT OF E-BUSINESS ON THE ORGANIZATION – AVERAGE RATING (1 LOW TO 5 HIGH)

Area	Manufacturing (Mean)	Service (Mean)
Changed the nature of work	3.63	3.95
Changed business model	3.34	3.41
Improved corporate agility	3.65	3.71
Reduced facility costs	3.74	3.72
Organizational communications	3.40	3.52
Increased market share	3.21	3.54
Improved business processes	3.25	3.81
Customer relationship management	3.64	3.49
Improved business profitability	3.57	3.81
Keep up with competition	3.59	3.87
Composite Index	3.50	3.68

The benefits derived from e-business system implementation vary from one company to another. However, all companies can receive some common benefits from the e-business transformation. Table 6 presents the ratings on the overall impact of e-business in 10 different areas.

The scores for reduced facility costs in Table 6 are almost identical for the two sectors (3.74 and 3.72 for manufacturing and service, respectively), but there are major differences in several key areas. On the one hand, manufacturing firms reported a higher score in the area of customer relationship management. On the other hand, service companies scored higher in eight different areas than their manufacturing counterpart.

An item of interest is the relatively low scores given to increased market share and improved business processes by manufacturing respondents. In the areas investigated for the impact of e-business, the composite score for the overall impact showed a slightly higher score for the service than manufacturing companies. Earlier start with technology implementation and process improvement in the manufacturing sector may have caused the integration of e-business to have a lower overall impact on manufacturing firms rather than service firms.

CONCLUSIONS

In recent years, one of the most significant opportunities offered by new computing technology is electronic business. E-business is a way for companies to become more efficient and to promote operational flexibility. In addition, responsiveness to consumer needs and supplier relations can be improved.

The Internet-based e-business has provided business opportunities for both small and large firms. Large companies are finding e-business to be a competitive advantage and a powerful management tool for their complex supply chains. E-business implementation allows businesses to share information with suppliers, buyers and partners, and to plan and to manage supply and demand. Companies can use e-business to conduct business at anytime, day or night, and to reach potential, Web-connected buyers regardless of their location. In addition, they can present better customer service and reduce the costs of production and distribution of products and services.

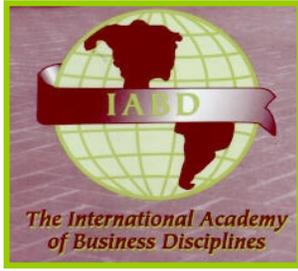
Manufacturing and service organizations, although structurally different, are benefiting from e-business in many areas the same way. Identifying organizational goals and objectives during e-business development and examining those goals to determine where e-business can help a company gain a competitive edge. Once these goals have been established and appropriate benefits are identified, the next step is to develop an implementation plan for e-business integration. Managers must decide whether e-business development and implementation should be in-house or outsourced. Providing technical support and maintaining e-business can also be done in-house or outsourced.

This paper provides analyses and insights into the practical implications of e-business integration in large Swedish manufacturing and service firms. Management of firms that participated in the survey seems to have recognized the importance of e-business strategy when considering e-business implementation. The results discussed in this research should provide useful information about the importance of e-business to practitioners and provide a framework for future research in the role of electronic business in operational efficiency and effectiveness as well as competitiveness in a rapidly changing business environment.

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*JOURNAL OF
INTERNATIONAL
BUSINESS DISCIPLINES*



University of Maryland University College

Volume 2, Number 3

Summer 2008



Published By:

International Academy of Business Disciplines, Frostburg State University, and University of Maryland University College

ISBN 1-889754-95-1

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ISSN 1934-1822

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