

E-BUSINESS IN THE CONTEXT OF GLOBAL COMPETITION

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Abstract: *The explosion of digital connectivity, the improvements in communications and the enforced global competition are revolutionizing the way business is performed. A new, complex and rapidly changing economic order has emerged based on disruptive innovation, discontinuities, abrupt and seditious change. In this new landscape, knowledge constitutes the most important factor, while learning together with the increased reliability and trust, is the most important process (B.A. Lundvall and B. Johnson: 23-42). These trends suggest that private and public organizations have to reinvent themselves in order to achieve strategic competitive advantage. The extant literature highlights the great potential of ICT tools for operational efficiency, cost reduction, quality of services, convenience, innovation and learning in private and public sectors.*

Key words: e-business, competition, communication

1. Introduction

In March 2000, at the Lisbon summit, the European Union representatives set the goal of becoming the world's most dynamic and competitive knowledge-based economy by 2010 with the need to promote an "Information Society for All", and to address the issues of the digital divide in the adoption of Internet and e-business use. The overly pessimistic and hesitant attitude towards ICT that the burst of the new economy bubble provoked in many companies became a thing of the past. E-business has gained new momentum in the EU and in other advanced economies of the world. The cost-saving potential of ICT has been broadly recognized by companies. Efficiency and productivity gains have been a key driver for growth in ICT investments.

The aim of this paper is to show that in the emerging global economy, e-commerce and e-business have increasingly become a necessary component of business strategy and a strong catalyst for economic development. The integration of information and communications technology (ICT) in business has revolutionized relationships within organizations and those between and among organizations and individuals.

2. "E-business"– definition, typology and some characteristics

E-business (electronic business), derived from such terms as "e-mail" and "e-commerce," is the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners. One of the first to use the term was IBM, when, in October, 1997, it launched a thematic campaign built around the term. Today, major corporations are rethinking their businesses in terms of the Internet and its new culture and capabilities. Companies are using the Web to buy parts and supplies from other companies, to collaborate on sales promotions, and to do joint research. Exploiting the convenience, availability, and world-wide reach of the Internet, many companies, such as Amazon.com, the book sellers, has already discovered how to use the Internet successfully.

E-business is just business using electronic networks to transform a business process or business system to create superior value for current or potential customers. It is more than e-commerce, even though the terms are often used interchangeably (www.epsilonium.com). The latter is focused on buying and selling products and services, using network technologies. E-business goes beyond mere transactions. It facilitates new types of connections among a broad range of entities. It enables any type of business activity over the network. E-business changes the meaning of the word "firm". The boundaries of the firm are blurring to the point that the enterprise transcends the firm to also encompass partners, suppliers, and customers - the extended enterprise, a business without boundaries. The linking of these entities makes possible new applications to build, manage and strengthen relationships among them.

E-business represents in fact a number of processes, such as: Communicate with customers, clients or suppliers via email; Send emails to other businesses to order products and services; Sell products or services via website; Use the Web to find information, such as prices, phone numbers and reviews of products; Use the Web for research (such as the latest industry trends) and to provide information about products and services; Use the website as a means of managing the information in the business; Use the Internet for online banking and paying bills (<http://www.e-businessguide.gov.au>)

What e-Business IS NOT?

E-business is not:

- 1) a bolt-on to the business; rather it's an integral component of it;**
- 2) about technology;**
- 3) a middle-management initiative - It's the CEO's job;**
- 4) tied to a particular department or functional area;**
- 5) a fixed target - It's about adapting and keeping up with changes around.**

The intensity and impact of electronic business depend on the business activity of companies, and on the configuration of the value system in which these companies operate. *In manufacturing sectors*, companies focus on procurement processes, optimizing supply chain management and integrating with retail and distribution. *In a project-oriented business* such as construction, applications supporting project management have a high potential. *In tourism*, online information and reservation services have become a commonplace. *In telecommunications*, it is hardly possible to make a clear distinction between the use of e-business by telecom firms themselves and the provision of related services to customers. *Hospitals* aim at improving the efficiency of their internal processes as well as document exchanges within the health system by means of ICT, thus cutting costs.

Companies are increasingly using ICT to link together their business processes and systems internally: hooking departments together to provide better products and more responsive services more efficiently; with those of their suppliers, distributors and other partners, increasing efficiencies even further; with public authorities; with their customers, allowing them to respond more directly to market trends and sell worldwide. E-business therefore allows new forms of partnership, and improves both the way companies work and the products and services they offer. One must take into account the fact that, e-business means talking about new issues: business-to-consumer (B2C), business-to-business (B2B), e-tailing, business-to-business-to-consumer (B2B2C), consumer-to-business (C2B), consumer-to-consumer (C2C), peer-to-peer (P2P), mobile commerce (m-commerce), location-based commerce (l-commerce), intra business EC, business-to-employees (B2E), collaborative commerce (c-commerce), e-learning, exchange (electronic), exchange-to-exchange (E2E), e-government (F.S. Parreiras, 2005: 12-25).

According to well-known specialists the trading partnerships that business-to-business electronic marketplaces are also known as “**B2B e-markets**”, defined as: a) electronic trading platforms that bring together businesses with the purpose of buying and selling (European Commission Staff Working Paper, 2002: 4-6); b) “virtual online markets where buyers, suppliers and sellers find and exchange information, conduct trade, and collaborate with each other via an aggregation of information portals, trading exchanges and collaboration tools” (Prime Faraday Technology Watch, 2001: 9).

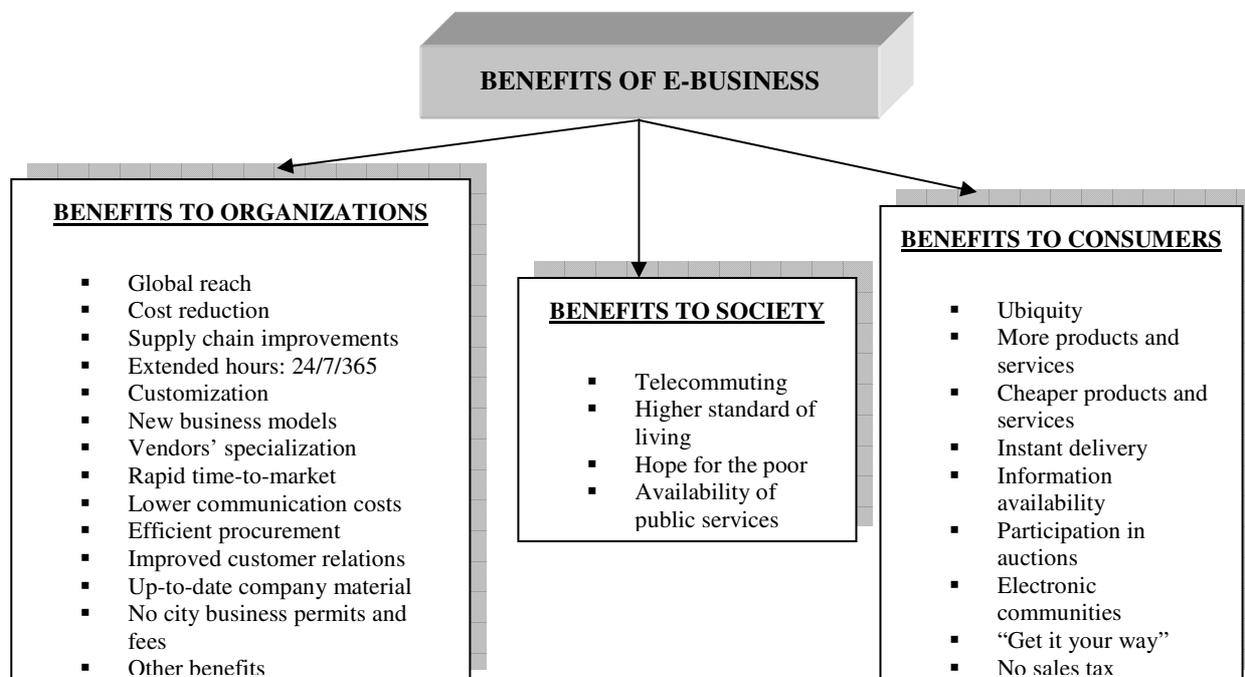


Figure no. 1: Some benefits of E-business

Despite such potential benefits, not every firm is ready to embrace e-business as a purchasing tool (G. Lambros and S. Moschuris, 2001: 351-372). Some serious hurdles to the successful implementation of e-business include a host of security, legal and financial problems (M. Quayle, 2002: 151-159). In particular, the incoherence of the web and concerns about security and flexibility limit the confidence of business in internet based trading systems. Current e-business systems do not yet fully address these concerns, and most concentrate on bilateral relationships between sellers and buyers (R. Van Hoek, 2001: 21-28).

The rapid development of e-business as a mainstream reality has been such that it is difficult for legislators to catch up. The legal framework for trading on-line can therefore be a little unclear. Inevitably, the exponential rise in Internet usage and trading has not been met with the adoption of legal regulations over how to trade in the borderless World Wide Web. The law and regulation of e-commerce is a rapidly developing area attempting to keep track of the growth of online business. The EU is to the forefront of ensuring that e-business is adequately regulated and that "e-customers" are provided with the protection enjoyed by consumers in the traditional markets.

The net can be both Europe-wide and international as well, so one has to think carefully about whom you want to advertise or sell to as well as the business conditions for that particular country. From a business perspective with the growth and maturity of the Internet, comes economic opportunities and penetration of international market potential. Companies and individuals are still by nature reluctant to dive head first into reaping the rewards instead choosing to weigh up the risk vs. cost analysis before implementation. The entrepreneurs that have made e-business work for them have understood the potential and applied themselves correctly to the sound principles of e-business management which involves researching basic contractual issues and putting into play basic business principles for doing business on-line.

From an individual (consumers) perspective there is still a reluctance to embrace on-line shopping because of perceived lack of security for conducting financial transactions, concerns about reliability of on-line purchasing, privacy considerations in terms of personal information kept on them (spending practices, credit rating, etc) and general unfamiliar with the Internet environment, but this aspect is slowly improving.

3. The impact of ICT

Competing in mature markets requires not only optimized cost structures, maximal efficiency, and products or services of excellent quality, but also the ability to communicate effectively and indeed cooperate with customers and with potential customers. The flexibility offered by ICT applications permeating business operations is an

essential precondition for this new relationship with customers. Particularly in enterprises serving large numbers of customers, complementary ICT systems such as CRM (customer relationship management) facilitate the comprehensive collection of data on marketing and sales activities, the analysis of this information, and their use for a broad range of strategic and operational decisions.

3.1. The influence on productivity

That ICT use in enterprises has an impact on productivity is fully acknowledged in research and policy. Over the past 10-15 years the impact has been particularly strong on US enterprise. However, the impact in European enterprises has not been as great and this discrepancy continues to be a major concern in EU policy. Maliranta and Rouvinen (2006: 605-616) find strong evidence for productivity-enhancing impacts of ICT in **Finland**. After controlling for industry and time effects, the additional productivity of ICT equipped labor ranges from 8% to 18%, which corresponds to 5-6% elasticity of ICT capital. The effect was much higher in younger firms and in the ICT-producing sector, notably ICT producing services. *"Manufacturing firms benefit in particular from ICT-induced efficiency in internal communication (...), while service firms benefit from efficiency in external (Internet) communication."* Hempell (2002: 32-45) studied the joint impact of ICT use and permanent technological innovation on productivity for **German and Dutch** service firms. He found evidence that such impact exists and is of the same magnitude in the two countries, while the direct impact of innovation on multi-factor productivity appears to be more robust for German companies. A general conclusion is that ICT is used more productively if it is complemented by innovation efforts in the firms concerned.

Gretton find for **Australia** that ICT and related effects raised Australia's annual multi-factor productivity (MFP) growth by around 0.2 percentage points in the 1990s. This is significant, even if it is a relatively small part of Australia's 1990s rate of MFP growth of 1.8% a year. The analysis found positive links between ICT use and productivity growth in all sectors that were examined.

3.2. The influence on innovation

Another important mechanism by which ICT impacts on competitiveness, which is closely related to productivity effects is the link between ICT and innovation. The European Commission has for good reason long placed great emphasis in policy actions on the critical role of innovation in ensuring European businesses stay competitive in the global economy. At the same time, competitive pressure provides powerful incentives for companies to continuously engage in innovation and R&D. Thus, innovation, competition and competitiveness are closely intertwined.

In many cases, the implementation of e-business processes in a company will in itself constitute process innovation. In manufacturing sectors, e-business has triggered significant innovation inside the companies, notably in supply chain and delivery processes, such as automatic stock replenishing and improved logistics. In service sectors such as tourism, the innovative impact of ICT is more evident in the way that external transactions are accomplished. For example, if a company starts to sell its services online, this usually implies significant innovation in the service delivery process and in customer communication. (<http://www.ebusiness-watch.org>)

As ever more companies strive to exploit the innovation potential of ICT, it becomes more difficult for the individual company directly to gain competitive advantage from this technology. In many fields of application where penetration rates are moderate or high, e-Business has become a necessity to stay in business rather than a means to differentiate from competitors.

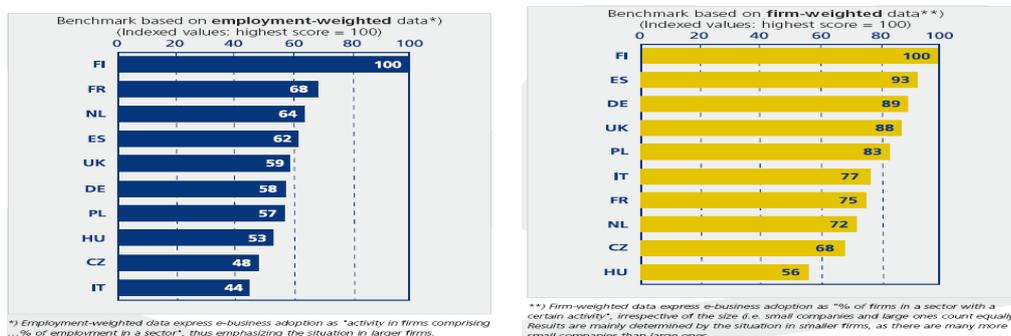
3.3. Disparities in ICT use for doing business

In international comparisons, EU enterprises are – on average – level with their counterparts in other advanced economies in their use of ICT. There are differences within the EU, however, particularly with regard to the average ICT maturity of smaller companies. In general, firms in Northern European countries are more advanced than companies in Southern European countries and from most of the new Member States in linking their business processes internally and with business partners.

The e-Business Index 2006, composed of 16 indicators, shows Finland as the e-business benchmark in a comparison of eight EU countries. Companies from France, the Netherlands, the UK and Germany are very similar in their use of ICT, particularly if emphasis is laid on the larger companies. Firms from the new Member States, although taking the lower ranks in this benchmarking exercise, are not far behind in their use of ICT. With the possible exception of the Nordic countries, the location of a company is by no means a reliable predictor of its level of e-business activity. This may be due to structural characteristics (The European e-Business Report

2006/07 edition: 15-40). In Italy, for example, sectors dominated by small firms are much more prevalent than in other countries. Since large firms are more advanced in electronic business, aggregated data may point at a lower level of e-business activity in Italy. This reflects, at least to some extent, the structure of the economy rather than the overall e-maturity of firms. In contrast to Italy, the relative performance of French and Dutch companies is significantly better if the emphasis is on larger firms. These benchmarking results suggest a pronounced digital divide between small and large firms in these countries.

Figure no. 2: Benchmark based on Employment-weighted and on firm-weighted data



Source: e-Business W@tch (2006)

E-business activities of large companies are rapidly maturing, as they have powerful ICT systems for linking business processes, understand their benefits and possess the necessary know-how to steadily improve these systems to their advantage. Many smaller companies, by contrast, still struggle with the requirements of getting digitally connected with their suppliers and customers. If they cannot cope with requirements of the digital economy, they risk being eliminated from the value systems that tend to be orchestrated by large firms. There are now over 19 million SMEs in Europe. In most EU Member States, they make up over 99 % of enterprises. SMEs generate a substantial share of GDP and, are a key source of new jobs as well as a breeding ground for entrepreneurship and new business ideas. SMEs will also in particular benefit from the lowering of entry barriers to markets as a consequence of e-business, which is often described as the SMEs' gateway to global business and markets. Thus, the success of e-Europe is critically dependent on whether SMEs are fully engaged in this process. (http://www.usherproject.org.uk/support/index_scenarios.html, *The current and future barriers to SME-volution*).

ICT implications for SMEs are ambivalent. On the one hand, ICT may offer increased economies of scale. Large enterprises can afford powerful ICT systems at proportionally lower cost than SMEs have to meet for their comparatively simple infrastructure. The E-business Index 2006 confirms that the diffusion of ICT systems for internal and external process integration increases in a linear fashion according to firm size (The European e-Business Report 2006/07 edition: 15-40).

E-business offers some opportunities for small firms, such as: facilitates cooperation (e.g. through project management tools or online collaboration tools for design), new technologies, integrating: The value of any communication technology is proportional to the square of the number of users of the system. Large companies have recognized that they need to get their small business partners "on board" in order to reap the full benefits of e-business. Policy is also focusing on the integration of small firms in their "digital eco-systems"; going international.

All companies - big corporations, SMEs - face various challenges when contemplating E-business implementation. These obstacles can be grouped into 6 main categories: Management and Strategy; Cost and Financing; Skills and Training; The Supply Chain; Technology Choices; Security & Reliability. The decision to apply e-Business technologies to a traditional business involves a huge number of choices at all levels of the organization: Strategic, Tactical or Operational. In the current business environment one wrong choice could cause the company to close, but on the other hand the trend is generally towards the greater use of technology in business and one right choice could transform the company into an industry leader. SMEs provide clear opportunities for economic development both locally and nationally. Developing SME e-business expertise is essential to sustaining (and in some cases, achieving) competitive advantage. SMEs appear to be aware of (even if they do not embrace) the basic elements of e-business. The challenge, perhaps, is getting them to realize the same elements are also

prerequisites for developing an organization's competitive advantage. The future belongs to those who can use new technology to make themselves more efficient and develop better products and services. The results may not be instant. Nevertheless SMEs ignore e-business at their peril.

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