

# USE OF ICT IN SMES MANAGEMENT WITHIN THE SECTOR OF SERVICES

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*The knowledge-based economy, along with the impact of the information and communication technologies (ICT) in management of the organizations, presents a growing interest in strategic management literature. Nowadays, information and communication technologies are recognized as key tools in management processes, having a remarkable potential to contribute to sustained competitive advantage for businesses. However, some difficulties in using information and communication technologies and aligning them with strategic development could appear in case of small and medium enterprises (SMEs). The aim of this study is to reveal and analyse the key factors of implementing information and communication technologies in small and medium business within the sector of services. We examined how information and communication technologies could influence the organizational practices of SMEs within the sector of services. Based on the results of the study we offer some reflections on knowledge-based economy practices in SMEs management within the sector of services.*

*Key Words: information and communication technologies, small and medium enterprises, management, services, knowledge-based economy.*

## **Introduction**

This study investigates how the use of ICT could contribute to the success of small and medium enterprises (SMEs) within the sector of services. Within the knowledge-based economy, SMEs are facing both opportunities and challenges due to the information and communication technologies development. We consider that ICT should be used in small business management within the sector of services because ICT are key tools in management processes and could improve managerial practices. The study is based on evidence provided by articles and research reports. The research question was answered by analysing published sources and interpreting evidence. Another way of approaching this question could be collecting and analysing empirical data from the SMEs within the sector of services and comparing the results with the findings of this study.

## **Background**

The rapid development within society of the use of information and communication technologies has meant a revolution in the way businesses work, as indeed it has changed the way in which very many people in Europe work. Information technology generally means the convergence of computers, hardware, software, telecommunications, Internet, electronics and the resulting technologies and it can be measured through the inventory of applications that organisations have (Ruiz-Mercader et al., 2006). Information and communication technology includes networks, computers, other data processing and transmitting equipment, and software (e-Business W@tch, 2006). Nowadays people need to have skills and competences to be able to use information and communication technologies. The development of the knowledge society is raising demand for the key competences in the personal, public and professional spheres. The way in which people access information and services is changing, as are the structure and make-up of societies. As a result, the way of doing business has to change, and for the SMEs within the sector of services this could be a real challenge.

The growing internationalisation of economies affects the world of work, with rapid and frequent change, the introduction of new technologies and new approaches to organizing companies. E-business represents

new ways of conducting business, where electronic networks of companies to a large extent make e-business an inter-organizational activity. The performance of the inter-organizational alliance and ability of the partners to create value in such networks would therefore depend on their relationship competency. With better knowledge of how to influence their business networks, SMEs could increase their influence and their outcome of such relationships (Eikebrokk T. R. and Olsen D. H., 2007). The application of ICT in business processes leads to e-business, defined by the e-Business W@tch (2006) in the broad sense, relating both to external and to company internal processes, considering that it includes external communication and transaction functions, but also ICT-supported flows of information within the company.

### **Role of SMEs within the new economy**

The economic importance of SMEs within the sector of services is highly recognized at the European Union level. According to Eurostat (2008), in total, there were almost 19 million enterprises in the EU-27's non-financial business economy in 2004. Of these, 99.8 % were SMEs, the majority of which were micro enterprises (employing fewer than 10 persons). However, in order to have a significant impact on Europe's economy, SMEs need to grow bigger, meaning that they should increase employment, expand their variety of services, and enlarge their markets and earnings. Innovation is the most important driver of SMEs growth, because it could lead to new products and services or more efficient ways of delivering existing ones, through the introduction of new technology, know-how, additional staff with new skills, and access to new markets (European Commission, (a), 2008).

SMEs are very diverse, despite that all of them, by definition, employ less than 250 employees. SMEs could be dynamic, flexible and innovative companies, or traditional, family-based enterprises, embedded in local business environments. A small firm is not a scaled-down version of larger firms. Larger and smaller firms differ from each other in terms of their organizational structures, responses to the environment, managerial styles and, more importantly, the ways in which they compete with other firms (Man W. Y. T. et al., 2002). In many cases, the skills and experiences of an entrepreneur are not necessarily sufficient to grow the business to a much larger size. Further stages in the company's development require, amongst other things, new technologies and the know-how to implement them, new staff, with additional skills, access to new markets, and financial investments (European Commission, (a), 2008). In this respect, SMEs could use ICT in order to grow and to become more innovative. eBusiness, for example, eliminates the barrier of distance, allowing them to trade throughout Europe's vast Single Market - and indeed the world - without having to expand a physical network of offices and shops (European Commission, (b), 2008). Their size, however, means that many SMEs do not invest in ICT. Some reasons for this situation could be that SMEs face resource constraints on one hand, and are sceptical about ICT and eBusiness, finding many IT solutions still too expensive or untrustworthy, on the other hand.

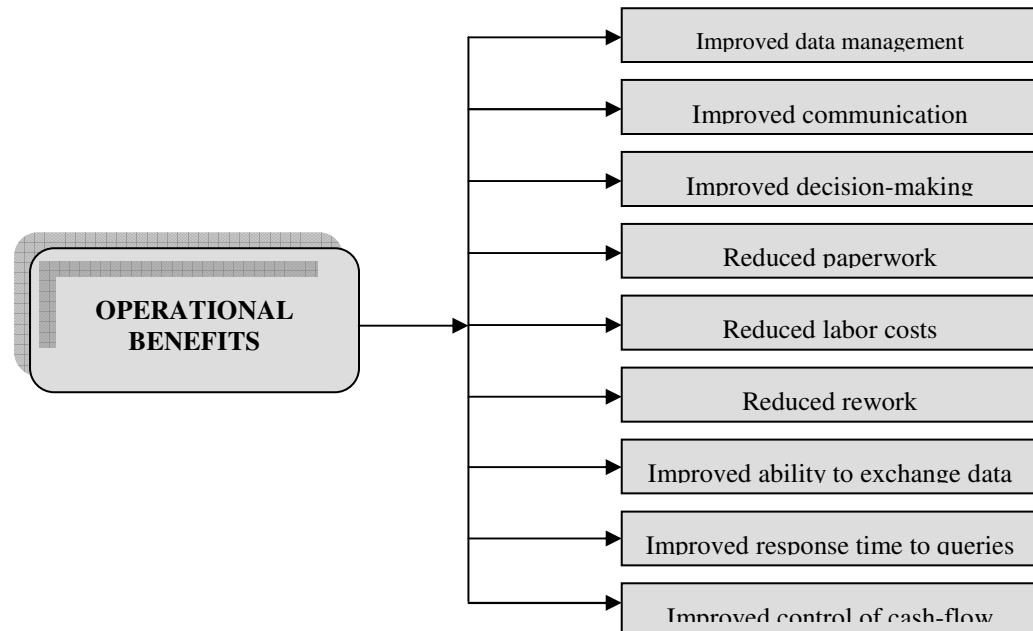
The use of ICT in SMEs should be more encouraged and this could involve improving technical and managerial skills, making appropriate eBusiness solutions for SMEs available, addressing the high cost of ownership of ICT equipment (European Commission, (b), 2008). Public policy makers are important for stimulating programs for SMEs and they should initiate relevant actions in order to motivate SMEs associations to run programs to increase e-business competency in member organizations (Eikebrokk T. R. and Olsen D. H., 2007).

### **Benefits of adopting ICT in SMEs within the sector of services**

SMEs within the sector of services should use ICT because it provides many benefits at different levels (Love P. et al., 2004): operational level, tactical level and strategic level. As the figures 1, 2 and 3 reveal, the use of ICT in SMEs within the sector of services could improve communication, ability to exchange data, teamwork, customer relations, visibility of services, market share, and competitive advantage etc. This statement is based on the fact that ICT allows companies to obtain, to process, to accumulate and to exchange information. Furthermore, in a knowledge management context, ICT can support transformation within and between tacit and explicit knowledge. Successful knowledge management initiatives could transform the small business innovation capacity into a sustainable higher performance (Ruiz-Mercader J. et al., 2006). Another benefit of adopting e-business could be the higher efficiency obtained in business transactions due to a fast and accurate processing of information. Web-enabled services increase the

competitiveness of SMEs because they change the relationship with customers by creating a stronger link between firms and its clients (Lal. K., 2005).

Using ICT in SMEs within the sector of services could also facilitate cooperation within the company and between the company and other firms. SMEs could use tools and Internet technologies such as business modelling tools, service development tools, discussion groups, training tools etc. As Lal K. (2005) stated, e-business has the potential to redefine the existing business infrastructure organisations and to re-evaluate the way in which they do business. It has capabilities in re-engineering business processes across the boundaries that have traditionally separated suppliers from their customers. Previously separated activities such as order processing, payments, and after sales services may be merged into a single process. As a result, the costs of creating, moving, processing, and managing documents are reduced.



*Figure 1 Operational benefits of ICT adoption by SMEs within the sector of services*

Use of ICT in small and medium enterprises management within the sector of services could improve the competitive advantage and the performance of firms. The entrepreneur's demographic, psychological and behavioural characteristics, as well as his/her managerial skills and technical know-how are some of the factors that could influence the performance of a SME. The relationship is also affected by many characteristics of the services sector, environmental, firm-specific features and firm strategies. Competitiveness of a SME is revealed by the long-term performance of the company related to its competitors, which is the result of being competitive (Man W. Y. T. et al., 2002).

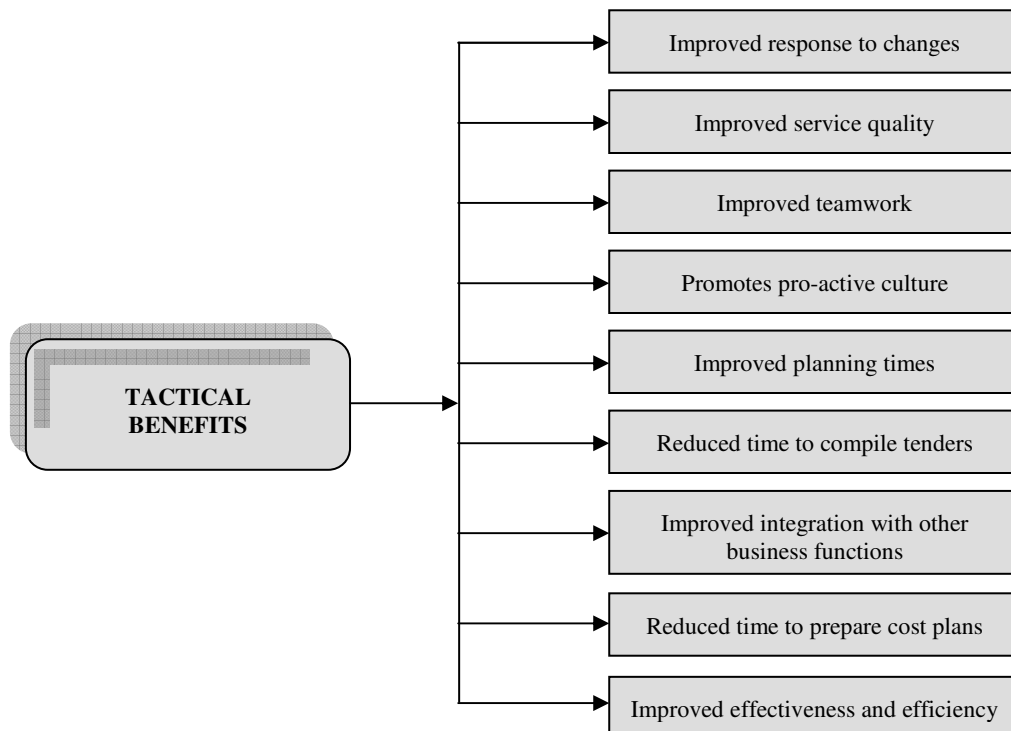


Figure 2 Tactical benefits of ICT adoption by SMEs within the sector of services

ICT technical skills are essential in ICT use and application, but they are not a source of competitive advantage, due to their availability and mobility. In order to obtain benefits from using ICT both ICT technical skills and managerial skills related to ICT are needed. Managerial skills involve management's ability to develop ICT applications to support and contribute to other business functions. Such skills could be real sources of sustainable competitive advantage because of their nature and development. Therefore, effective ICT capabilities could be reached through aligning or fitting ICT resources (particularly managerial skills) with each other and with other important organizational resources (Celuch K. et al., 2007).

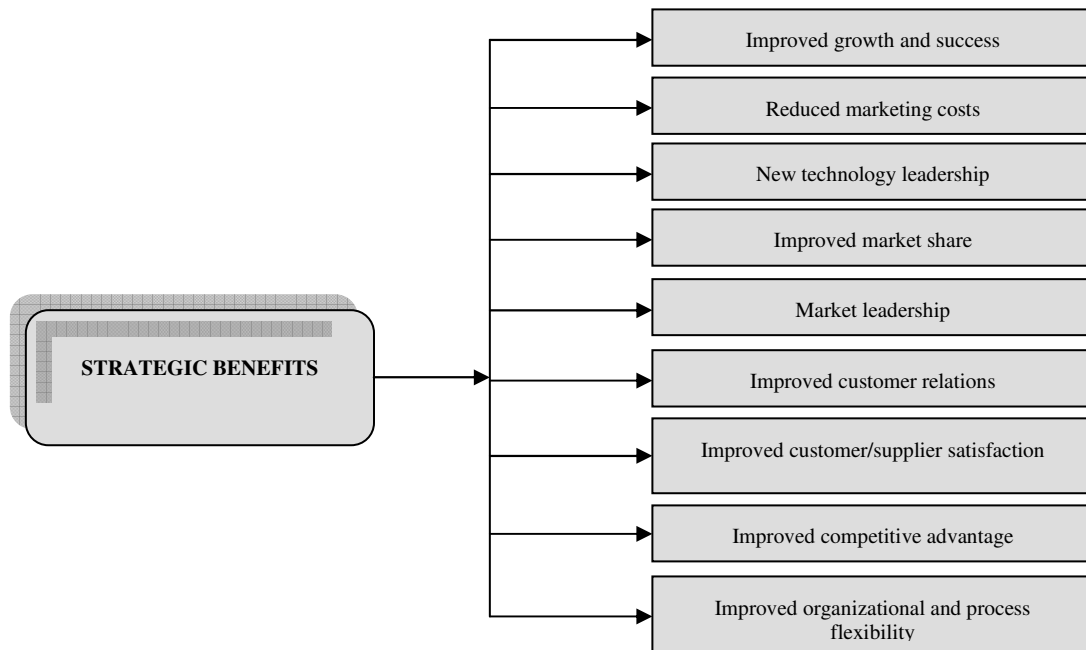


Figure 3 Strategic benefits of ICT adoption by SMEs within the sector of services

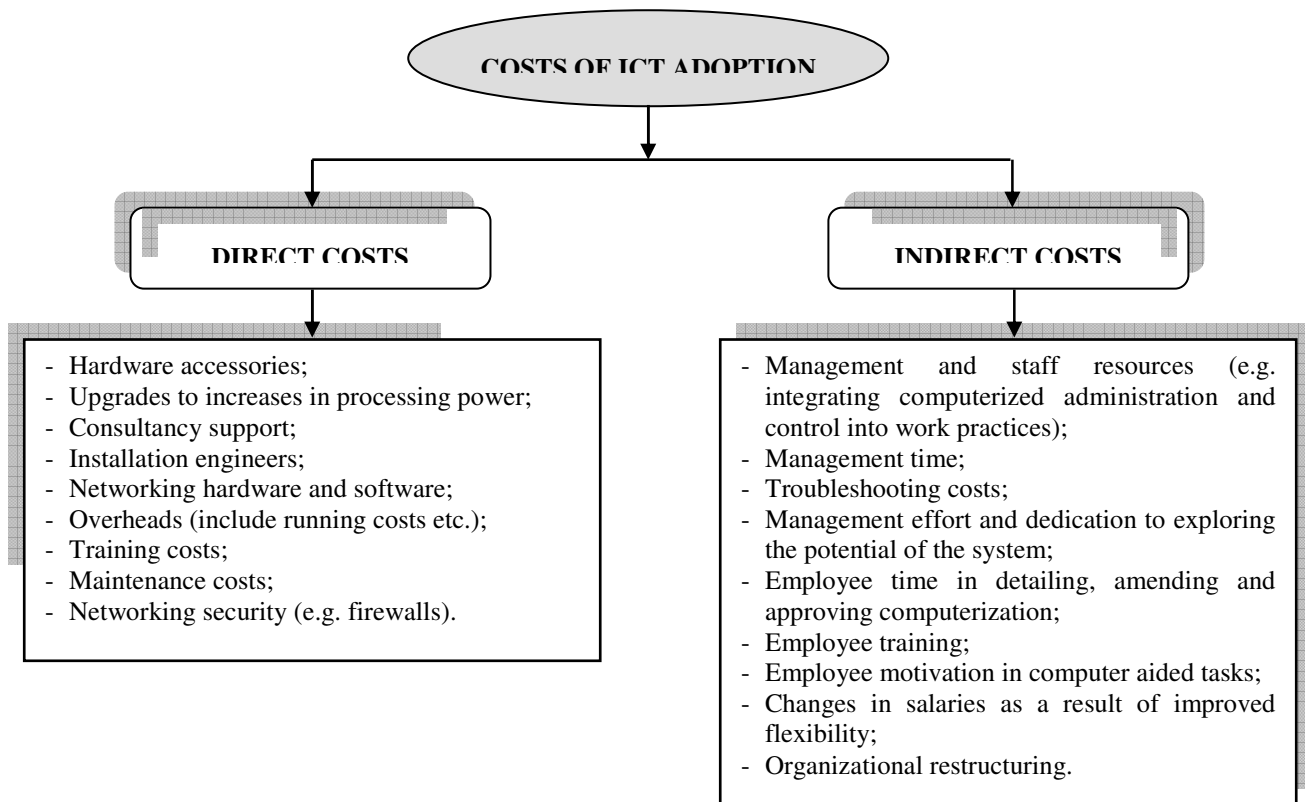
The competencies in ICT business process integration could be defined as their ability to integrate ICT and business knowledge to create and develop new business processes. Eikebrokk T. R. and Olsen D. H. (2007) have examined the competencies that affect e-business success in European SMEs and their empirical analysis identified three competencies associated with e-business success: e-business strategy, IT-business process integration, and systems and infrastructure. Competencies in strategic planning and IT management were not found to be significant predictors. E-business success in terms of efficiency, complementarities, lock-in and novelty were explained by competencies in e-business strategy, IT and business process integration, and systems and infrastructure. The results showed that the type and extent of competency in SMEs were important determinants for success.

The competitiveness of SMEs depends on the basic role of the owner/manager, intangible investment (intellectual capital), tangible investment in information and communication technology, and strategic capability, meaning the ability to be innovative and adaptive to change (Love P. E. D., Irani Z., 2004). Successful e-business initiatives and strategies depend on the mentalities of managers, their understanding of ICT, and the organisational implications of adopting ICT (Damaskopoulos P., Evgeniou T., 2003). The most fundamental challenge to SMEs may lie in changing the attitudes of an organization (Eikebrokk T. R., Olsen D. H., 2007). Managerial perceptions and commitment are critical factors for the successful implementation of ICT in SMEs within the sector of services (Damaskopoulos P., Evgeniou T., 2003). If the managers do not have positive perceptions and commitment to the pursuit of competitiveness and growth in the e-business environment than e-business strategies of SMEs could not be developed. However, awareness and commitment, though necessary, are not the only conditions that ensure ICT uptake and success of e-business initiatives. The successful implementation of e-business strategies depends on the capacity of SMEs to generate synergies between technology, organisational goals and strategies, and people's abilities and skills. Therefore, SMEs within the sector of services must understand how they can gain and add value through developing their ICT capability. Smaller firms often lack a coherent ICT investment strategy or the related skills, partly because most SMEs cannot afford to employ ICT practitioners, and for that reason ICT strategy and implementation critically depends on respective skills of the management (E-Business W@tch, 2006).

Success in e-business networks is heterogeneously distributed between partners, and success for the e-business relationship as a whole is different from success for each participant. As a result, related competencies could also differ (Eikebrokk T. R., Olsen D. H., 2007). The value of any communication technology is proportional to the square of the number of users of the system. Large companies have already recognised 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 ecosystems" (E-Business W@tch, 2006). We could argue that SMEs within the sector of services could combine their services with those of other SMEs or large firms in order to achieve performance. As a result the market area could be expanded through the use of ICT and the customer satisfaction could be improved.

### **Costs of adopting ICT in SMEs within the sector of services**

The use of ICT in small and medium businesses management within the sector of services implies different costs, and these costs are both direct and indirect (figure 5).



**Figure 4 Costs of ICT adoption in SMEs within the sector of services**

Direct costs of ICT adoption, such as the costs of hardware accessories, the costs of upgrades, training and consulting costs, maintenance costs, the costs of maintaining networking security are often underestimated. In fact, they might include unexpected additional hardware, installation and configuration costs.

The indirect costs are more significant than direct costs. Organisational costs can arise from the transformation from old to new work practices. At first, a temporary loss in productivity may be experienced. Additional organisational costs may be experienced once the basic functions of the system are in place. These are associated with management's attempts to capitalise on the wider potential of the system at the business and project level (Love P. E. D., Irani Z., 2004). The managers of the companies with extensive ICT infrastructures tend to reorganize their activity, but organisational restructuring is expensive, mainly when people are resistant to change. However, ICT companies are increasingly addressing the SME market by developing affordable, smaller-sized solutions, like ERP and CRM suits (E-Business W@tch, 2006). Moreover, current technological developments like Voice-over-IP telephony and mobile e-business solutions could help SMEs and could reduce the resistance to change, because they tend to become instruments within day-to-day life. This fact could lead to another indirect cost related to employees who have developed new skills requesting revised pay scales or leaving to go to competitors (Love P. E. D., Irani Z., 2004).

Management time could also be a significant indirect cost because time is spent leading, planning, and organising the integration of new systems into current work practices. The result of implementing newly adopted technologies may also force management to spend time revising, approving, and subsequently amending their ICT strategies. In addition, significant resources are used to investigate the potential of ICT and in experimenting with new information flows and modified reporting structures (Love P. E. D., Irani Z., 2004). However, electronic information tends to be today more accurate, timely and easily available (Lal. K., 2005) and therefore using ICT in small business management will reduce the operational costs.

## Conclusions

The study reveals that ICT should be used more in SMEs within the sector of services. This conclusion is based on several premises: (1) within the knowledge-based economy, SMEs from the sector of services are facing both opportunities and challenges due to the information and communication technologies development; (2) ICT are today key tools in management processes; (3) ICT could improve managerial practices of SMEs within the sector of services; (4) SMEs could use ICT in order to grow and to become more innovative; (5) ICT provides many benefits for SMEs within the sector of services; (6) the costs of ICT adoption in SMEs within the sector of services have a good potential to decrease.

Our findings could give good reasons for intensifying the efforts of promoting the use of ICT in SMEs within the sector of services and attempting to change mentalities. SMEs within the sector of services should change their managerial practices by integrating ICT in their day-to-day activity. Otherwise, they will not be able to benefit from the opportunities that knowledge-based economy offers and moreover, they will face the risk to be eliminated from the services market.

Further research could focus on collecting and analysing empirical data from the SMEs within the sector of services, comparing the results with the findings of this study, and developing a model for the integration of ICT in SMEs management within the sector of services.

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