

# Information Technology and Digitalization of the Kosovo Economy Market and Competition

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In the last decade, information technology had a significant development. As the result, enterprises have undergone a series of changes in the way of cooperation, presentation, finding buyers, suppliers, and placing products at the market. The main objective of this study was to find evidence on development and use of information technology by SMEs in Kosovo. Moreover, the study aims to reveal level of cooperation between businesses and costumers. The data used in this study were obtained through direct interviews with 500 managers of enterprises included in the sample. The study's results show that computers were initially used mostly for financial records and as text processors. Nowadays, the use of computers by SMEs has qualitatively changed. In the last three years, there was a positive dynamic use of computers in market research, planning and quality control. The trend of internet access by SMEs was steadily growing since 2004. This had a significant impact on increasing cooperation and presentation of opportunities those businesses offer. In order to compete in global market, enterprises must utilize information technology. Therefore, expansion use of information technology by SMEs was seen as a vital component of success among businesses.

*Keywords:* information technology, enterprise, global market, competitive, digital economy, new product, new service

## Introduction

In recent years, the global economy is undergoing fundamental changes as a result of the rapid development of information technology, and its use is also very fast. Especially the dynamics of development of information technology and its products and business development opportunities based on the use of internet technology have enabled growth of the role and importance of using information and communication technology in business processes known as the new economy or the digital economy.

Digital economy is the economy which is based on material goods, intangible products and services, and management processes and communication with partners and customers through the use of web technology or

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computer networking technology. Digital economy has a significant implication in transforming business and creating new digital businesses. Although more digital economy offers great opportunities for small and medium, this does not mean that they will definitely succeed in the electronic market for growth of the digital economy, but means that computers operate in conditions of constant global competition.

The best way to be safe and to avoid possible mistakes in this direction is to understand the interrelationship between business risks and opportunities offered by information technology. An example might be digital Amazon.com Company in 1996, which brought business on the net, where companies such as brochures presenting catalogs, orders received, make payments, accept returns of assist customers in the process of business transactions over the internet. In other words, Amazon provides an example of a private market.

Economically explained investment on infrastructure of information technology always turns to increase productivity and profitability of the enterprise.

### **Definition of Information Technology and Digitalization of Economy**

Computerization and digitization of the economy effectively integrates the organization's employees, management, technology for the flow of information, material, and continued funding efforts to produce quickly to disperse, high-quality products with low price and excellent services in a clean environment.

The emergence of the digital economy presents new opportunities for all sectors of the economy to be competitive and computerized. In this economy, consumers provide quick access and easy on the global market as well as information concerning the place where competing goods and services (see Figure 1, European Commission, 2000). Businesses while providing opportunities to access global markets and also develop on-line business activities. The full realization of these potentials to the digital economy is essential for enterprises and companies to create competitive advantage compared with business competition, industries of various countries.

The world economy has changed due to the greater development of information technology, and enterprises are forced to survive in a modern global market economy characterized by competition, short life cycle of products and diversity of products. Many enterprises have difficulty in understanding the new information because of their poor concept of investment, especially in information technology and modern management.

It is difficult with a poor development of this technology (including computer technology, communication technology and automation technology) to reach the fair value of customer requirements for their products. Therefore, the main purpose of computerization of enterprises is that these companies become more flexible, more powerful and better adapted to the racing competition to win the domestic market as well as outside (Chen & Ma, 2004).

In terms of digital economy, information technology opens opportunities for specialization and cooperation between companies from different regions. It also reduces transaction costs in business cooperation, facilitate access to foreign markets and ensures that different companies might specialize in products various digital and cooperate by exchanging digital products between companies of different regions depending on customer demand. This collaboration facilitates the development of small businesses and medium and electronic access to these markets and developing forms and new business models such as business or electronic business.

Information technology and the internet provide the opportunity to buy everything from books and various other items because of the countless internet sites which advertise products and services on various e-mail that



provide buying and selling these products. Therefore, the rapid and fast development of this technology, the development of electronic business, increased demand for accurate and relevant information on time and increased the large number of users who have contributed to the computerization of small and medium enterprise which are significance to the development and increased competitiveness in the economy of various countries.

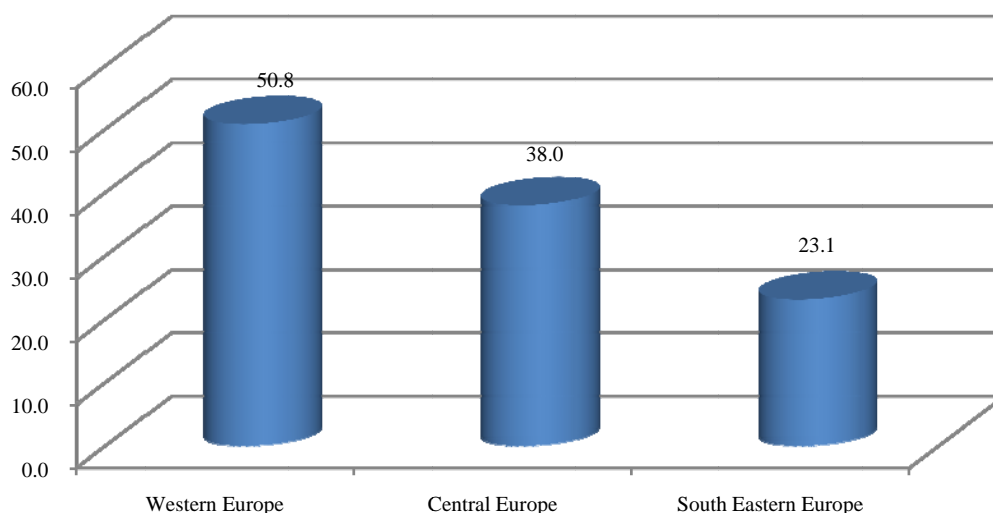


Figure 1. The internet penetration in the Europe. Source: European Commission (2000).

### Electronic Business Market and Competition

Analysis of competition is an essential element of any strategic plan, business plan or marketing plan. Managers must understand the business environment for any business enterprise that does not exist in a vacuum, and any business does not lack competition. Enterprises in the market are constantly accompanied by the competition. Therefore, to cope successfully with the competition, they should pay a special attention to these elements:

- Customer;
- Products;
- Price;
- Innovative processes;
- Distribution channels.

The elements mentioned are of special importance, because enterprises have to exist in markets with large competition primarily to produce products that meet customer demands and needs. Products manufacture have to meet customer needs better and should contain innovative elements, competitive prices, and distributed through the best channels of distribution.

Enterprises that operate in a digital economy and global markets are constantly forced to think about new products, low prices, and new distribution channels. Therefore, the role of computerization of SMEs in terms of market and global competition means the insurance and existence of the company itself in the competitive environment, which can only be achieved if they have relevant available data, such as technical and technological



development, economic policies, budget planning, financial, etc.. So SMEs could develop, or we can formulate a long-term development if they use application of information technology in their business processes, which relates to the fact that these forecasts, will be achieved through the current computing system, or will be incurred the need for a more perfect system to cope with market challenges and competition (see Figure 2, Keh-jang Liu, 2004).

Information technology is one of the relevant factors which today are helping businesses to penetrate new markets for being innovative and producing new products and services. Therefore, with full right, we can conclude that the role of information technology in the manufacture of new products and services is enormous. If an enterprise does adequately identify the information technology for its competitive business market by providing appropriate software, it will be able to perform the organization and accumulation of data and information necessary and timely to develop new products and services.

It should be noted that small businesses are feeling the benefits of the reforms underway in the European economy. Therefore, they should follow the reforms underway aiming at the future of the internal market, create a user-friendly for small business, include in particular electronic commerce, telecommunications, utilities, procurement and public payment systems in critical areas for the development of small businesses, on different sides of borders to gain as much from the common market.

Electronic business via electronic mail, voice mail with video conferencing, data conference, teleconferencing and electronic exchange of data enable the internet which gave a new boom in sharply changing market, economy, society and politics by changing products, services, consumer behavior, etc.. At the same time, the rules of European and national competition will be implemented to ensure that small businesses to have all opportunities to enter new markets and compete on fair terms, etc. (European Commission, 2000).



Figure 2. The logic operation of SCM. Source: Keh-jang Liu (2004).

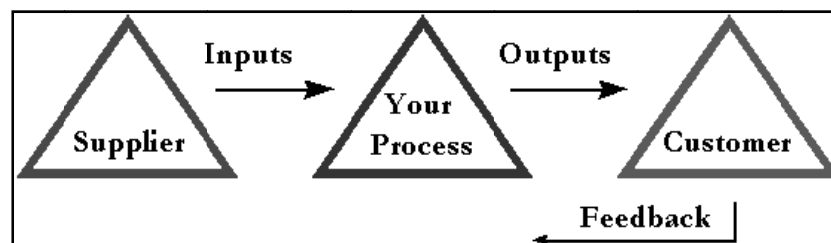


Enterprises are those which have to decide which type of ICT technology products to be used based on specific benefits. They then must decide which equipment to be installed in the enterprise, ranging from ICT-capacity software, staff and financial resources available. Most people are familiar with the basic technology of ICT, such as fixed telephone lines, mobile phones, fax, computer, and MS office software packages, such as the document processor (Word), calculation tables (Excel, etc.). However, advanced communication technology, though creates more space for benefits is more complex, and therefore are less used by company. It is mainly based on the internet and within company intranet where people can communicate through the network between its own.

So, being connected to the internet, companies have the opportunity to do research faster, build websites that promote their products, to monitor consumer behavior and to develop video conferencing. It is worth to mention one of the most revolutionary developments in advanced communication technologies, such as voice over internet protocol (VoIP), which includes all types of voice communication transmitted through the internet, between the computer with the computer or in hybrid form between PC and regular phone. Advanced computer technology is sophisticated, though it is often very expensive and takes more time to be implemented by an enterprise.

### **Impact of Competition in the Implementation of Information Technology**

Using information and communication technology (ICT) contributes significantly to the growth and development, because it raises productivity and work efficiency by enabling creativity and stimulate innovation, and most importantly helps the penetration and the existence in global markets. ICT enables the participation of all stakeholders in the programs and projects regardless of their location and physical distance, if available and have access to the network infrastructure of ICT.



*Figure 3. Business process.*

Enterprises are often motivated to apply IT in business processes, if it is necessary in internal business processes for better quality information or even the impact on competition. Business processes are a series of activities that transform inputs into outputs, goods, and services (see Figure 3).

Enterprises are required to improve business processes to stay competitive in today's market. During the last 10-15 years, companies have been forced to improve their business processes, because we, as clients are demanding products and services better. And if we do not get what we want from a supplier, we have many to choose from other business competitors. Therefore, many companies begin the process of improving business performance with a continuous improvement model. This model made efforts to understand and measure the actual business process and its performance accordingly. This method for improving business processes is



effective. However, during the last 10 years, several factors have accelerated the need to improve business processes with the most appropriate method. Internet technology and its use of which has rapidly increased competition, the opening of global markets and creating opportunities for free trade has extended enterprises make changes in performance and speed of introduction in the market with products and services.

Because the rate of change has reached everyone, few businesses can afford a slow process of change. An approach to rapid change and dramatic improvement in business is definitely reengineering process of business process (Business Process Reengineering (BPR)). That is to say that in terms of the new economy to compete in global markets and in step with the achievements in IT, enterprises are forced to make reengineering of their business processes, aiming at improvements in business processes by increasing efficiency and effectiveness of the process business.

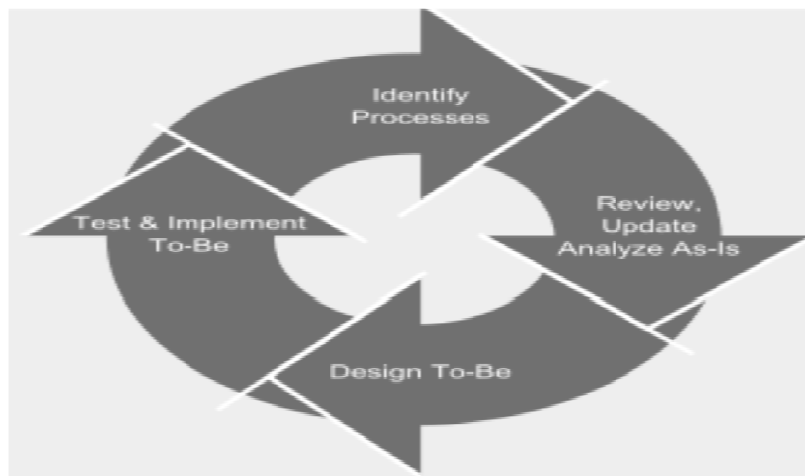


Figure 4. Reengineering of business process.

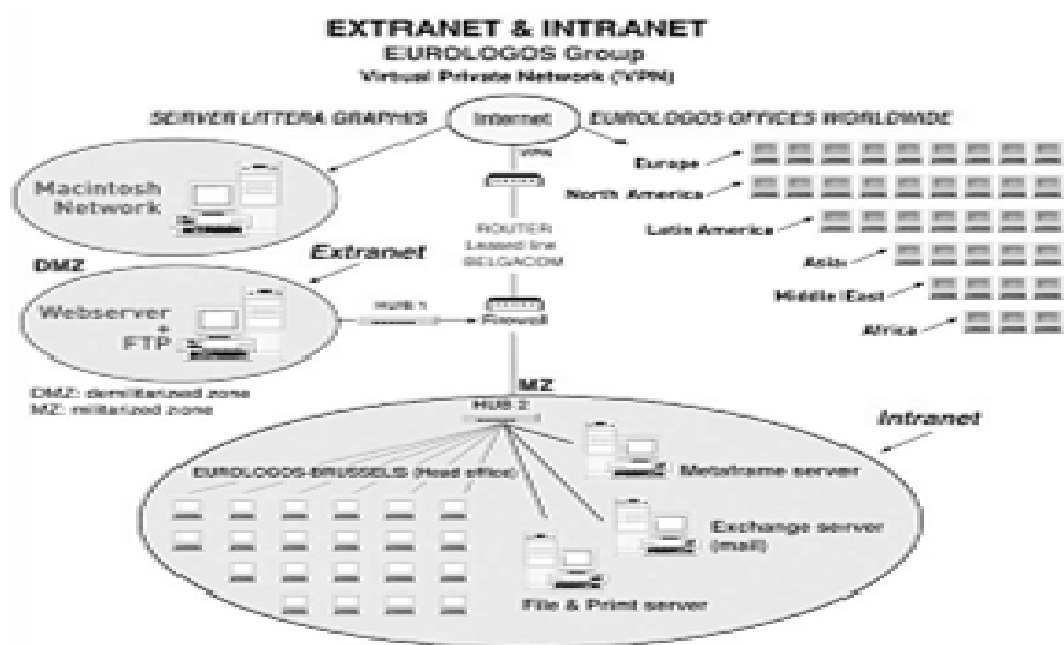


Figure 5. The way how works the intranet and extranet.



Reengineering of business processes (BPR) (see Figure 4) is the process of redesigning the business process which means the business transformation or change management process. Reengineering is a radical reconstruction of business processes to achieve improvements in cost, quality, speed, and services. BPR combines a strategy for business innovation with a strategy to make major improvements in business processes so that a company is very strong competitive and successful in the market (Jimmy, 2010).

Given the fact that SMEs are considered as helmsman of economic growth and innovation in the economy of a country, and the total number of SMEs in the economy depends on the creation or establishment of them, improving their business processes is particular importance. Profitable market opportunities occur when companies work with a positive turnover, increase the chances of creating the greatest possible number of new enterprises, and perfect the production processes and go by introducing innovative elements into products and services that differ from the competition (see Figure 5). With the establishment of new enterprises, the number of new jobs come to increase, thus increasing the potential for increasing income per capita. Enriched populations made the opportunities greater. Increase consumption increases the opportunities for creating more innovative SMEs. Therefore, the right can be said that SMEs are “engine” of growth of national economies.

Aiming to keep up with competition with the application of new technologies into products, processes and services, SMEs create competitive advantage against others, and are distinguished from others with better services and productivity. This shows that the redesign of business processes (BPR) made companies manage to generate more profit, which affects the growth rate of creation of new SMEs. So, competition is what pushes SMEs to apply information technology in their business processes (Vadim, 2007).

### The Use of New Technology in Kosovo SMEs

In Kosovo, under new economy and globalization, the use of information technology has increasingly expanded in business cooperation between business partners and customers. Small and medium enterprises in Kosovo have started their development in the early 1990s. However, due to the constant pressure from the regime, they do not mark a significant development. Their rapid development started only after 1999 when it also began to become the main generator of employment and overall economic development of the country. The number of SMEs registered on March 31, 2008 was 86,000, which is one of the best evidence of the importance of this sector (Ministry of Trade and Industry, 2009). SMEs' thought is the backbone of economic development. They are the main source of new jobs and a breeding ground for new business ideas. Attempts to enter the new economy will succeed only if small business will be placed on the agenda of the important institutions of the country (see Table 1).

Table 1

#### *Percentage of Using Computer by SMEs in Kosovo*

	2005 (%)	2008 (%)	2011 (%)
Financial evidence	41.6	33.8	37.7
Planning	13.7	14.2	16.7
Word processing	14.5	16.0	11.7
Market research	14.2	14.2	15.3
Leadership production	6.8	10.4	8.0
Quality control	5.0	6.6	6.8
For something else	4.3	4.6	3.8
Total	100.0	100.0	100.0

*Notes.* The number with underlines in this table means: the use of computers in the past three years was higher in market research and planning. Source: Riinvest Institute, 2008.



Initially, small and medium enterprises have used computer for financial records and as a text processor. Today, the use of computers by SMEs is a qualitative change. In particular, there is a positive dynamic of using computers in the past three years in market research and planning (15.3%). Also, the positive trends recorded using computers for planning (16.7%) and for quality control (6.8%).

Internet services for SMEs are of great interest because of increasing cooperation and presentation of opportunities that offer business, finding buyers, suppliers and placing of products on-line and distance. Since 2008, approximately 76.2% of SMEs in Kosovo had access to the internet. In comparison with 2004 and 2005, the internet users increased to 7.2%. According to last year 2011, this trend has been steadily growing by 2.4% from 2008 (see Table 2).

Table 2

*Access to the Internet by SMEs in Kosovo*

	2003	2004	2005	2008	2011
Access to the internet	25.1%	48.2%	68.6%	76.2%	78.6%

Note. Source: Riinvest Institute, 2008.

Bidder is the largest fixed telephony in Kosovo Post and Telecommunications (PTK) of Kosovo. Fixed telephony is one of the licensed networks which provide services to individual and business customers. It has launched a project to install public telephone booths telephone (pay phones) with cards busiest places in all the centers of Kosovo. Fixed telephony services are also provided by companies IPKO, KUJTESA and other companies at the local level (see Figure 6, Riinvest Institute, 2009).

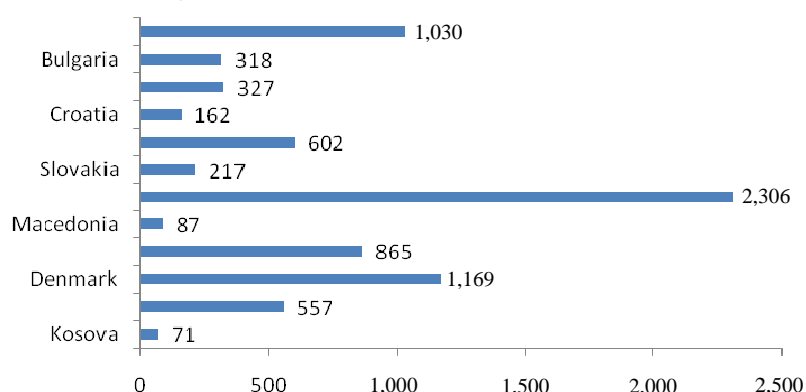


Figure 6. The number of ICT companies to millions of inhabitants in the year 2004 in some countries. Source: Riinvest Institute (2009).

Besides IPKO and KUJTESA companies, since 2001 DardaNet Company also began offering internet services. Today it is one of the three operators by the regulatory authority (TRA) to provide internet services in Kosovo, though there are more than 10 local smaller companies operating in this field. Requests for these services increased by large especially after the war, especially for internet services, e-mail, intranet, fax, video conferences, professional software and data transfer. Also, they are creating investment opportunities for international companies that wish to compete. Larger companies that offer internet services are: Dardaneti IPKO Net, KUJTESA, these companies are investing quite a lot in this area. Investments in this area are expected to grow again this year, mainly in equipment, jobs and operating costs (Ministry of Trade and Industry, 2009).



## Conclusion

Countries in the world are moving from the industrial economy to knowledge economy, and the growth of a country is dependent on the ability to create, accumulate and disseminate knowledge. Computer and internet are a catalyst for economic growth of knowledge by enabling people to codify knowledge in a digital form easily, and transmitted throughout the world. Advancements in information technology are a vital component of success among business. ICT has been constantly studied and used because it helps many businesses to expand and compete with competitors. Using ICT to enhance the impact and effectiveness processes to support business decisions and cooperation in the group. A successful case is that companies use this technology are creating entirely new business and advantage.

Businesses that still do not use technology or use ICT to reduce the mass will have problems to survive in the global market. In addition, businesses that are not adapted to the fast pace and complexity of the business will lose from growing globalization and competition.

So, competition is what pushes businesses to apply information technology in their business processes. Typically they create their business processes with an emphasis on internal and local efficiency. The problem becomes more acute when they decide to work with external partners. In this case, data systems and incompatible information technology make it difficult to harmonize all activities of production and distribution. Another area of concern is the lack of detailed documentation.

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