

# E-COMMERCE IN A DIGITAL ECONOMY

ALIN DANIEL MUNTEANU

UNIVERSITATEA „TIBISCUS” din TIMIȘOARA, FACULTATEA DE ȘTIINȚE ECONOMICE,  
DALIEI 1/A, 300551 TIMIȘOARA,  
a\_munteanu@yahoo.com

**Abstract:**

*Innovations in information technology and communications have generated real digital revolution. Knowledge and information have been and will remain major sources of information. Digital revolution has had its impact on Romanian society and its direct or indirect influence is reflected in the various processes that occur in the new economy.*

**Key words:** e-commerce, digital economy, ITC

**JEL classification:** L86, H55, M15

Digital Revolution through revolutionary changes in ICT and its applications and their impact are still present in society today. Grand winner of the digital revolution is defined as a new information society era of global communication involving all traditional activities. The digital revolution, characterized by the information society is everywhere in the world.

The term e-commerce goes far beyond the meaning of doing business electronically. E-business requires that all processes involved are computerized and are made via the Internet. In addition electronic trading environment allows the seller to innovate the entire business process, from producer to consumer services by integrating it into a whole, depending on requirements and customer behavior in real time.

Electronic commerce or e-commerce is the exchange and processing of information on business transactions between two partners with the telecommunications infrastructure for the computers connected over a network. E-commerce has unique advantages for SME's. This allows business to be open 24 hours a day, seven days a week. In conclusion, time zone differences are not a problem.

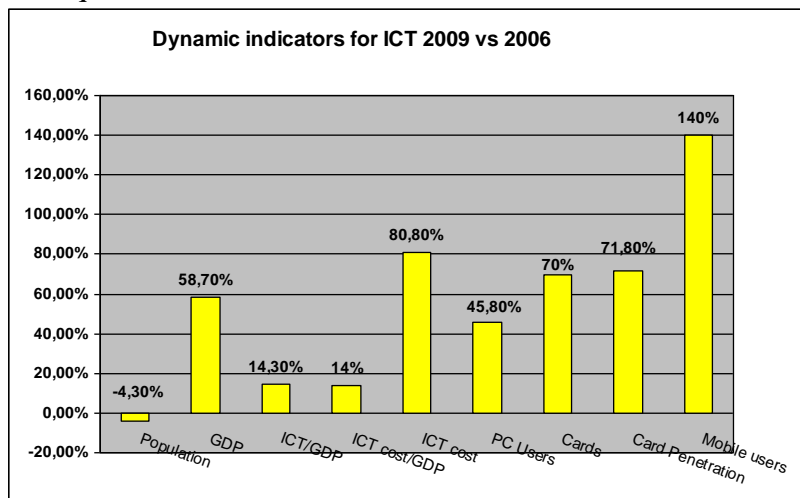
In terms of advertising and direct customer information, an e-commerce website is an alternative that can solve the same problems without involving any other medium. Adoption of new information technologies, especially e-commerce, is expected to lead to reduced sales costs and closer coordination of economic activity among business partners. Also, using e-commerce facilitates entry into new markets or expanding existing markets and greater integration of systems with suppliers and customers. [2]

Besides cost reduction, e-commerce solutions enabling customers to order customized products based on individual needs and preferences. In this basis there is an increase in Internet access and also need to close the client via the Internet has created fundamental changes in the thinking of society in which we live.

These issues provide many business opportunities presented by investors, but the effects are more complex in that society and policy makers. Continued growth of e-commerce in recent years has significant effects on social and economic structures of the economy.

Currently, there is a gap between nations, between industrialized states and the least industrialized and the impact of the digital revolution tends to widen the digital divide between nations. Digital society revolution is unintended effects but could create conditions disadvantageous for personal affairs (identity theft) which may have social

consequences. Balancing the negative and positive influences of e-commerce we can say that the balance is positive, but negative effects of the computer society (computer addiction) can be quantified in future.



Source: www.mcti.ro

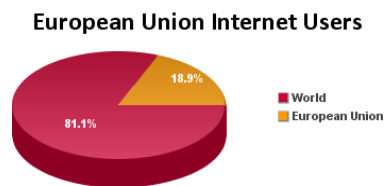
**Figure 1.** Penetration of ITC 2009 vs 2006

Changes in the last decade in the field of ICT and the ICT penetration (Figure 1) indicates that technological progress and use of information technology will continue at a rapid pace.

Increasing the share of Internet use in daily life and e-commerce started by creating fundamental changes in society and the economy with social, economic and political. The value that brings e-commerce business is the fundamental way of collecting the products, marketing, delivery and customer interaction.

Relations and interactions between different stakeholders interested in electronic business, is entirely changed. Great advantage of e-commerce was the geographical barriers between customers and businesses. The main purpose of e-commerce is to have a global market for all products by minimizing all costs.[1]

Many of the benefits of e-commerce from a consumer convenience improved, allowing the choice of price, a rich variety of products and better interaction with all parties involved in trading.



Source: Eurostat, 2009

**Figure 2.** Internet access in EU

Digital economy is a convergence of communications, computing, and information. The new economy is based more on the exploitation of ideas rather than material things, on information, innovation and creativity in the economic development potential.

Digital economy affects both how to make products and services within organizations and their size and limits. Influences of the digital economy can be classified into influences on the organizational system, management, decision and information.[2,5]

a) Organizational system

Use of ICT brings new opportunities, problems for organization and help expand the company's organizational boundaries. To adapt to rapid change and often

unforeseen market organizations should be small, flexible, adaptable, requiring a modular organizational structure. Vertical organizations are fragmented into smaller units, each unit having different sources of competitive advantage and have some autonomy. Relations within organizational units must be free and dynamic relations. Organizational structure becomes flatter and more fluid communication performance through computer systems used in the company, through ICT.

b) System management

Management system within a reduction of hierarchical levels by increasing formalization and decentralization controlled. Computer systems within the organization while allowing centralization and decentralization. All computer systems occurs due to reduced environmental management level. Relations within this system is more collaboration, free, to foster human creativity and less authoritarian relationships. The upper level managers become "chief learning officers and dealing with the development of knowledge management architecture and business strategic issues. Under this system recorded the information flow pressures and the need for highly trained employees.

c) Decision-making system

The decision scheme used different computer systems such as decision-assist systems, simulation tools. All this leads to:

- delegating routine decisions by mid-level management;
- handling strategic decisions by higher management;
- use the dashboard and other performance management tools;
- more time to think, create, decide;
- displacement task by computing sites, thus releasing higher level managers such tasks.

Decisions taken in this environment are well-founded decisions based on information and / or knowledge derived directly from the information system.

d) Information System

Information System is a decentralized system that gives each user the amount of information needs. Within the organization using integrated information systems that help manage the business processes quickly, in a swift and effective communication of information. Information systems contribute to:

- reducing transaction costs;
- improving products, services and customers satisfaction;
- optimizing internal processes;
- gaining new customers, new markets;
- reduce the time needed to perform transactions and others.

Digital economy raises some difficult problems to solve because of objective and subjective factors, which are generally adopting new information and communication technology:

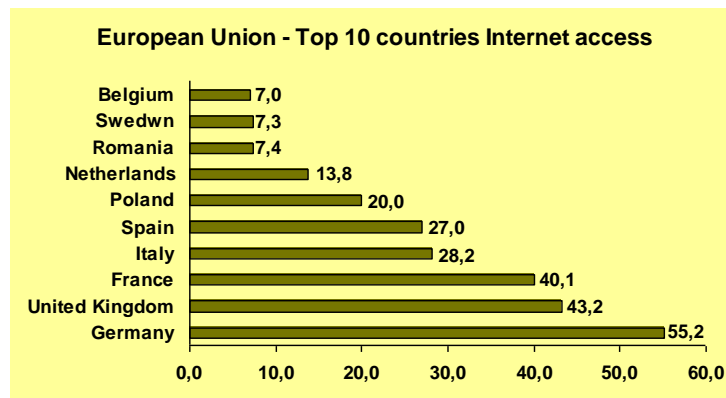
- lack of specific ICT infrastructure;
- insufficient availability of communications networks developed and high costs;
- low informatisation and other economic organizations;
- lack of a culture in Informatics at the employees;
- resistance to upgrade part of staff;
- fear that the introduction of new information and communication technology will inevitably lead to a decrease in jobs.

Internet offers considerable opportunities for firms to develop new types of business in the electronic environment. More and more companies are present in the

electronic environment by migrating to Internet-based systems, have increased efficiency, lower costs and ability to operate in real time.

Internet, because information and communication technologies (ICTs) has led to an increase in e-commerce and created a huge influence on services and market structure, information society and these changes are felt in all fields.

On the one hand, e-commerce offers new opportunities for growth. On the other hand, it creates a social problem that the digital divide, the gap between those who use and have access to information and communication technologies (ICTs) and those who do not. More than two thirds of the world population is still deprived of access to information and communication technologies.[4]



Source: [www.internetworldstats.com](http://www.internetworldstats.com)

**Figure 3.** Internet users in the EU

Firm-level internal and external changes are due to emerging technologies for e-commerce. These changes affect how companies adapt to market and how it works with participants in the electronic environment. Implementation of modern communication technologies create an impact on business relations with partners, and while the company's internal and external organizations in terms of competitiveness. Adoption of e-commerce strategies generally involve, redefining internal functions and business processes by adapting them to new systems and telecommunications information.

By introducing new technology in the field of ICT is expected to increase productivity. ICT technologies are an important part of business processes and have become indispensable for the proper functioning of the enterprise in the new information society. Optimized to work within the enterprise ICT technologies should be viewed as generating increased value added. This is a new concept in electronic commerce today is characterized by innovation, cost, quality and prompt delivery. Therefore, productivity growth can be achieved by improving the content of products that service, or by lowering the unit cost of production, or a combination of both.

Adoption of e-commerce technologies is important for the survival of SMEs. Internet can eliminate many of the competitive advantages of large companies and provide opportunities for small businesses. However, SMEs should be aware that the Internet and electronic commerce will generate more demanding customers with higher expectations and more rapid responses to their requests.

From a theoretical perspective of SMEs in rural areas can benefit from electronic commerce is global in that market (access to more customers) and can compete with large companies, because electronic commerce is the same for everyone.

E-commerce adoption in SMEs such as B2B or B2C is not as rapid as anticipated. Reasons given for this include cost, technology barriers and lack of feasibility studies. Applications for e-commerce solutions from SMEs are not lacking, and the reason for the slow speed of implementation of solutions is that SMEs have limited access to information on business models and technologies that are based on e-

solutions commerce. However, lack of knowledgeable personnel in SMEs is also responsible for the failure of e-commerce solutions.[3]

The Internet provides access to the digital economy in which small businesses can compete on a level with much larger competitors, as long as they possess an infrastructure capable of supporting business. Accelerated development of mobile technologies, particularly those applications that use WAP and 3G technologies, and increase the speed of transmission through wireless devices is that the Internet and Internet-based transactions become accessible to a growing number of people regardless of location. For developing economies (Romania), consist mainly of small and medium sharp increase in the use of new technologies is an important step in raising money.

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