

ASPECTS OF IMPLEMENTATION OF INFORMATION TECHNOLOGY IN RURAL DEVELOPMENT IN ROMANIA

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Abstract

Current rural development should focus on new activities that are happening in rural areas: agriculture and forestry (remaining activities), small industry, handicrafts and services, rural tourism, housing, social life and culture, preservation of natural environment cultivation of cultural heritage, education and telecommunications development. The mobile communications have created new opportunities for computerization of activities carried out in the countryside. Thus, broadband penetration in Romania is still lagging behind the European average, with a rate of 21% to 8% in small towns and rural areas, according to Eurostat, Romanian and nearly two thirds have never used the Internet, according to European Commission statistics Technology Information and Romania is placed at the end of the ranking in terms of infrastructure, penetration of the Internet and online services. In Europe, in recent years may find a systematic approach, supported by the European Commission and national governments to use IT in their activities in rural areas, these issues are highlighted in the present article.

Key words: information technology, internet, rural development, infrastructure

INTRODUCTION

Sustainability concerns dating back over 30 years when, at the Stockholm Conference on Environment (1972) was agreed on the need to address issues raised inexorable deterioration of the natural environment, to prevent the worsening ecological imbalances and to ensure balance environmental on Earth. The conference marks the time when mankind began to recognize that environmental issues are inseparable from those of welfare and economic processes in general. But, when reference marks a new vision of development of the contemporary world countries is the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. On this occasion, economic development and environmental protection were based on a new concept known as sustainable development, adopting it in this regard, Agenda 21 and the Rio Declaration, sustainable development program documents. [5]

Component of the general process of development and form of manifestation of macroeconomic dynamics, economic development requires, in addition to growth, a set of quantitative changes, structural and

qualitative, both in economy and scientific research in manufacturing technologies, the mechanisms and components of organizational functioning economy in their thinking and behavior of people.

In a long time, the existence of rural communities was based on the abundance of natural resources. But big technological, political and economic characteristic of the twentieth century led to profound changes in agriculture that have affected the rural economy, way of life of rural communities, the relationship between rural and urban space. The computer was threatening and "fate" of rural communities, for the new information economy.

The speed with which society is evolving steadily increasing. Progress in the last century is reached within a few decades ago can be reached in just a few years or even months. The explosive growth of information services sector radically changed global economic landscape. The introduction of personal computing, software technology and the rapid growth of data networks and Internet-based services have produced major changes worldwide. Currently showing ever

more clearly that the world is a rapid transition from an economy based on knowledge-based industry.

Another major problem is the high cost of the latest technology as to limit accessibility to these technologies only people with a relatively good material situation.

MATERIAL AND METHOD

Knowledge economy is a new step in the development of civilization, which promises a new way of life better. The economy is based on the use of information in all spheres of human existence having a business and economic impact and also socially important.

Social factors and human resources

Studies show that poverty in Romania is still a large share due to factors such as unequal distribution of income or level of education differently. This is trying to be remedied by measures and strategies for

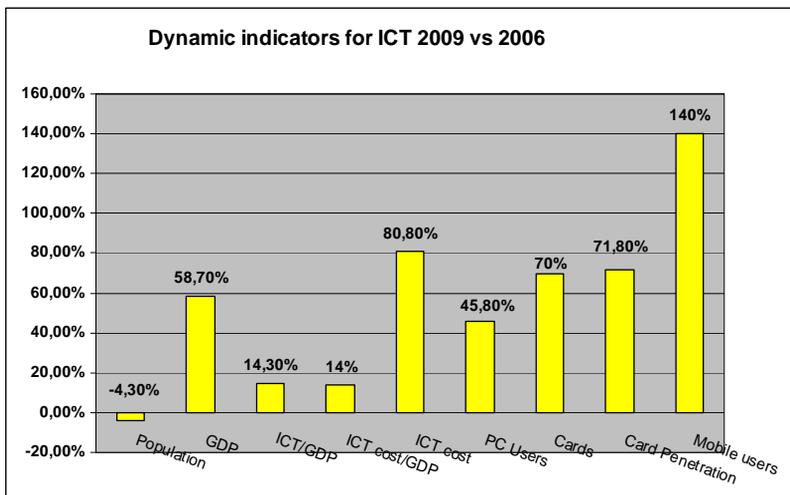
economic development in education, health, agriculture, social assistance and labor market legislation. [6, 10, 11]

It is noted that the younger generation is more flexible and more interested in using ICT than generations of adults who still have a limited understanding of the benefits and scope.

Another major problem is the high cost of the latest technology as to limit accessibility to these technologies only people with a relatively good material situation.

Technological factors

Despite their high costs, information and communication technologies (ICTs) have a penetration rate of the Romanian market ever higher. PC, Internet, mobile and fixed telephony, cable television but things are becoming very popular in Romania. However, absorption power of these technologies is still low compared with other developed European countries, due to high costs. [3, 8, 10]



Source: www.mcti.ro

Figure 1.1. Penetration of ITC 2009 vs 2006

Economic factors

A plus for Romania is the more dynamic private sector producer of software and services for the past 10 years. This can be a real advantage in improving the local economy by selling their goods in foreign markets especially.

Another advantage is financial policy that aims to bring EU and NATO standards. Its improvement for greater stability could attract new foreign investment.

Political factors

The policies applied, it tries to support the field of ICT through a range of measures

to encourage the development of information society. It provided also a priority to ensure quality education and qualifications, including specific actions for equipping educational institutions with ICT resources and increasing Internet connectivity.

The concept of the digital divide is closely connected with the theory of information society. With this indicator researchers measured the extent to which certain segments of the population can participate in the information society.

In "Digital divide" expression, the digital divide meaning "divide" makes us think a gap that separates communities based on access to media and communication. Organization for Economic Cooperation and Development (OECD) defines the term as "the difference between individuals, households, business and geographical areas of different socioeconomic levels in the ability to access information and communications technology, namely the use of the Internet". You can talk about this phenomenon on two levels, the international world on the one hand, on the difference between the level of computerization and telecommunications infrastructure in the developed and developing, and nationally on the other hand where these differences can be found in social categories, depending on the environment of origin (rural / urban), gender or ethnic.

The gap is caused by economic and social inequalities between groups, it affects access to digital information. These differences or inequalities arising from the knowledge of computer operation and use of technology by those present on the labor market and the marginalized, rich and poor, young and old.. [5, 11]

Access to Internet and telecom services in Romania

In the EU, 60% of the population have access to the internet from January to March 2009, up from 54% of households in the first three months of 2008, while 48% have broadband connection compared to 42% in 2007.

Romania is situated in the penultimate place in the European Union (EU) based on the population's access to the Internet in the first

quarter of 2009, with a total of approximately 7.5 million households, of which only 30% of Romanian rural households were connected to the Internet, according to the European Institute of Statistics.

Local telecommunications industry has made to "safely" challenges of financial crisis, the adjustment of supply to customers and boost consumption, leading to increased traffic by over 30% on mobile networks for 2009.

According to the National Authority for Administration and Regulation in Communications (ANCOM), traffic growth in mobile phone networks was 33.9% in first six months to the end of 2008, while the number of visitors fell by 60,000 to 24.4 million. [9]

In the fixed telephony, the number of lines increased by 17.8% to 5.3 million, while voice traffic declined by 16% compared to June 2008.

Regarding access to the Internet via broadband, only 13% of Romanian households had a high-speed broadband. High-speed Internet continues to grow and will continue to drive the telecom market in Romania for the next 5 years.

European Commission warns of difficult access to high speed Internet in rural areas in some countries, stressing that Romania only 50% of rural population has access to high-speed Internet.

If developed countries on average 93% of Europeans now enjoy high speed Internet access in rural areas only 70% of citizens have Internet access, and in some countries like Greece, Poland, Slovakia, Bulgaria and Romania, only 50% of people in rural areas enjoy the benefits of the Internet, according to a release of the EC, published by European portal Europa.eu. [13]

But to increase even more in rural operators will have to work on that potential customers would be useful to understand the computer and the Internet.

Romanians said they had used the Internet to read online media (14%), to find health related information (11%) and interact with public authorities (9%). Only 2% of respondents in Romania of the study conducted by the European Statistical Office

replied that they were interested in Internet banking.

As of December 2005 of the National Regulatory Authority for Communications (ANRC), the number exceeded 1.8 million Internet connections, which means an increase of almost 100% compared to previous year's data.

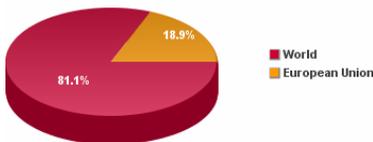
According to data provided for the period 2006-2009, the Department of Statistics of the European Union, EUROSTAT, access to the Internet in Romania increased from 14% in 2006 to 38% in 2009. [7]

Access to broadband Internet has increased by 96%, the number of users increased from 382,783 to 750,000 by the end of 2005, as the penetration rate of broadband Internet reaching 3.46%, which gives first place Romania among the countries of Southeastern Europe. [4, 5, 9]

ANRC estimated upward trend of Internet connections continues. New xDSL technology has appeared in early 2005 the biggest growth potential and popularity, for 57.17% of households that meet the technical requirements for installing this technology (being connected to the telephone operator Romtelecom infrastructure). It is important to note that the increase recorded in the present and expectations now are "supported, in particular, individual users in urban areas with above average income", stated ANRC. Thus only a portion of the population has and can afford to have Internet access.

Thus, according to Eurostat data, between 2006 - 2009 we had an increase from 5% in 2006 to 24% in 2009, access to broadband Internet.

European Union Internet Users



Source: Eurostat, 2009
Figure 1.2. Internet access in EU

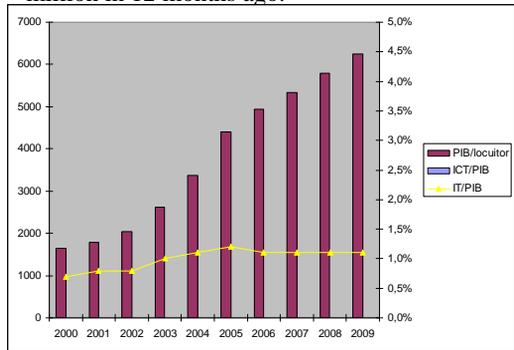
Penetration of Internet and telecom services

Comparing the situation in Romania to that of developed countries, the findings may be predictable, but even after joining the European Union, Romania is still behind in terms of Internet penetration compared to countries but also with some countries in Central and Est.

Related to the EU average Internet penetration in Romania amounts to half. Internet services will remain the engine of growth in future years of local communications industry given that penetration of computers and the Internet is 50% in urban and less than 20% in rural areas. [9]

Fixed telephony penetration rate reached 24.7% per 100 inhabitants, up from 3.6% in June 2008. Per 100 households, penetration has advanced by 3.1 points to 54.6%.

ANCOM data show that the number of Internet connections has reached five million at the end of the first half of 2009 from 3.9 million in December 2008 and from 3.2 million in 12 months ago.

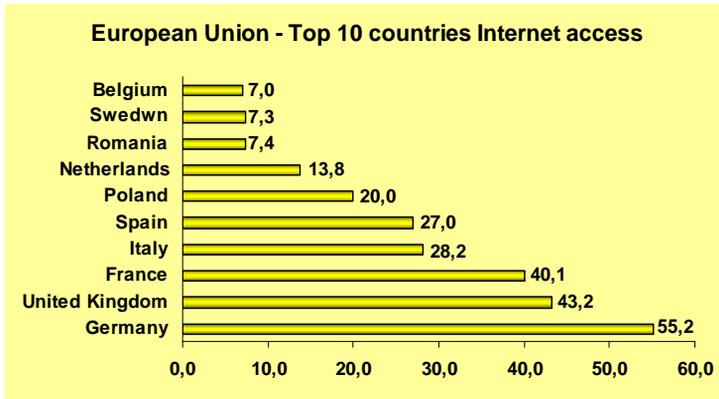


Source: www.mcti.ro

Figure 1.3. The penetration rate of Internet

According to EUROSTAT, in Romania were 2.2 million personal computers in 2004, meaning that the number of computers per thousand persons was 10 times lower than the average in Europe. A few months before entry into the EU in Romania the rate of Internet penetration is lower than in Bulgaria, and compared with countries already members, where penetration is 51.9%, the distance that separates us in this regard is

considerable. The state with the lowest penetration rate is Poland with 27.8% and in Romania this value is 23.2%. [8, 12]



Source: www.internetworldstats.com

Figure 1.4. Internet users in the EU

RESULTS AND DISCUSSION

In the last decade, the information society through information and communication technology (ICT) has penetrated all spheres of economic and social. ICT has been a significant increase in productivity of the economy and GDP growth. Our society due to the impact had it, that ICT has transformed into a profound and unprecedented. Introducing the Internet and World Wide Web has led to the development of information society. Because Internet access is very easy to obtain information on almost all areas. Search engines provide easy, quick access to websites and information sources on the World Wide Web. Many activities such as communication and sales and purchases of goods and services can be made online. These developments have created new dimensions of economic participation, social or political community. ICT support module working from home or elsewhere outside the enterprise, leading to greater flexibility in work organization from which both the company and employees can benefit. Ubiquitous presence of ICT generates a new potential to participate in the economy and society.

With an annual growth rate of 10% for Internet access and 26% for broadband access between 2006 and 2008, makes it possible to have user information society and

broadband connections allow Internet users to explore the full potential network Internet.

Regional differences in Internet and broadband access are still quite high both in the Romania and across Europe. Rates of broadband are similar to those of Internet access, with an average difference of 12% for the EU-27 in 2008, compared with 19% in 2006 .. Most regions of the Netherlands have levels of Internet access and broadband connections for households above 70% and the regions of Germany, Slovakia and Croatia, are above the EU-27 and for most regions of Italy and for Ireland, Luxembourg and Romania, the national average is closer to the EU-27.

CONCLUSIONS

European Commission (EC) emphasized that access to the Internet is that some small and medium companies can become more competitive and productive by synchronizing with international markets.

Connecting to 30% of rural citizens to the Internet is a primary objective for the EU to meet its deadline is 2010.

Internet contributes to half of productivity growth in the European Union and Member States can not afford to lose this potential rural areas, especially during the crisis.

After the major changes that information technology has resulted in many areas, we

are witnessing today an influence on this technology are exerting a most important area of our entire civilization: the economy.

Changes expected for the very near future we will look to close a deal that will not need the traders to meet payments will not be effected by the usual procedures, the revenue will not come from one place, not May have to come to our shop. All this because of the Internet.

New models of commercial relations are developing as businesses and customers in the electronic market and see the benefits it can bring.

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