

INFORMATION, THE RESOURCE OF THE NEW ECONOMY

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Abstract:

The new economy is sustainable economy which wants to reduce the consumption of natural resources, to achieve social cohesion, to increase the number of jobs. Support this type of economy is provided by information and communication technology through which information becomes the main economic resource. This article presents the role of information in the context of new economy and the quantifications of results through indicators.

Keywords: *information, technology, knowledge-based economy, sustainable development*

JEL Classification : D80, O10, O15, O32

Introduction

In a world in constant evolution, information is the main resource. In economic activities, the data is converted into information through information and communication technology, the wave of technology appeared in 1990. Through IT businesses become efficient and competitiveness is reached. Information is modern resource economy. It can be used indefinitely. It provides the necessary support in decision making. In any organization, information is needed both at operational and management level.

Material and Methods

In achieving this paper, the scientific literature materials were used. There was used quantitative interpretation of eurostat indicators.

Information and digital economy

In the activities of a company, information technology acts both from outside and inside. Data processing in informations contributes to the effectiveness office activity. Acquired and used in a timely manner, informations are support decision making.

Promotion of new IT solutions develops a new type of relations between firms. Using ITC techniques, stimulation of extensive development occurs (opportunity to access new markets, to promote and sell products and services in the internal market by electronic means). Also, the production of goods and services develops intensive (lower production costs), due to significant increase of productivity factors used.

Any economic organization is composed of three systems: decision making, informational, operational. At the operational level, data are collected from various sources; from here the data are transmitted to the information system, the place where information is produced; the next step is to transform information into decisions within the decision-making system.

The relationship computer system - informational system should be regarded as part of the whole. The computer system is the part of the informational system that uses automated equipment for obtaining information. Similarly, the digital economy is the part of the economy where information, gained through automated processing of data is the key resource. The digital economy is based on the development of the information society due to the advance of information and communication technology.

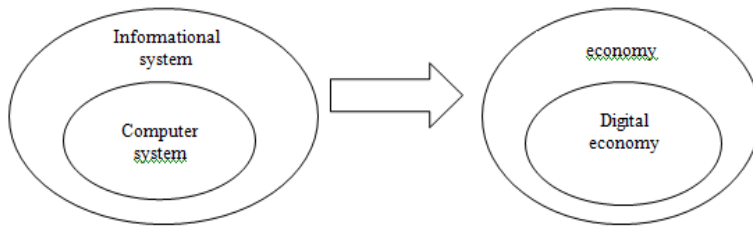


Figure 1 - The information- economy relationship

It is known that human society followed steps in its development: stone age, iron age, agriculture age, industry age, technology (information) age, knowledge age (Homocianu, 2005, p.1). Since 1969 the transition to a knowledge society prefigured when Peter Drucker reminded about "knowledge worker age" (Giju, Badea, 2010, p.17).

The dynamism and complexity of the new type of society, which leads to a continuous increase in the volume and diversity of information processed and widely used information and communication technologies (ICT) have led to the concept of information society (OECD, 2001), first enunciated in 1980.

The information society is the stage of human development in which the role of information and knowledge is essential to economic and social development and the high-tech economic sectors are key drivers of development, supported by a technology infrastructure mainly consists of computers and computer networks and communication (Enachescu, 2014, p.230).

All information form the knowledge in a particular field. Thus, the data - information - knowledge form a sequence of elements necessary in a world in constant evolution.

Viewed from a social perspective, the knowledge society is characterized by long life learning population. Knowledge is power. The knowledge society means education. From an economic perspective, new forms of business appear (e-bussiness, e-banking) which reduces the consumption of resources (materials, time), and the economy is associated the characteristic "sustainable".

The term "new economy" or "digital economy" appeared in 1995 in the US. In the new economy, information has a significant share, besides the classic factors of production (labor and capital). Internet, one of the technological vectors of information society, is the required lever for handling the information.

The new economy is sustainable economy which wants to reduce the consumption of natural resources, to achieve social cohesion, to increase the number of jobs. The emphasis is on quality products and services acquired through advance technology and innovation in the production process and not on the amount of resources consumed. Investments in technology are paramount. Although not all manufacturers have direct access to information, many companies, although not produce technology, operate in conjunction with those that do it, using wider or narrower, their products (Albu, Chilian, p.7)

American consulting company expert in IT, Gartner, believes that to get a digital economy, states must turn their attention to: training population, creating conditions for a free competition, adapting the legal framework, telecommunications infrastructure (<http://www.scribub.com/management/aparitia-economiei-digitale-si32717181.php>).

Indicators of the new economy

Although the desire announced at European level was that knowledge economy promote creating jobs, care for the environment, social cohesion until 2010, results indicators show that major efforts are needed. Quantification of the new economy is a pretty hard task, considering the fact that there is no strictly oriented statistical indicators to measure this new type of economy. An attempt to classify indicators that reflect the status of the digital economy consists in grouping such indicators (Albu, Chilian, p.15): IT occupations and knowledge (number of IT jobs in offices, managers, technicians and education level), globalisation (export-oriented production, foreign direct investment), economic dynamism and competition (number of jobs in dynamic companies), the transition to a digital economy (percentage of population connected to the Internet, existing communication technologies in schools, the use of information technology services by local governments and government), technological innovation capacity (number of jobs advanced technology, number of scientists, investments in research and development).

Based on this classification, I consider *e-commerce category* appropriate to reflect the new economy. In this category the indicators Internet skills, number of online orders would fit. In table number 1, the average, maximum, minimum and Romania recorded values for indicators reflect the status of the digital economy in 2010-2014 period.

Table no. 1
The average, maximum, minimum and Romania recorded values for indicators of new economy, 2010-2014

Indicator	Average values	Minimum values	Maximum values	Romania values
IT occupations and knowledge category				
Number of jobs in IT (%)	2,53	1,45(Romania)	4,41 (Sweden)	1,45
Education level (higher education graduates)	4.838.704	1.289- Luxemburg	638.957 (Poland)	200.106
IT occupations and knowledge category				
The value of exports of goods and services (% of GDP) in current prices	42,9	28,4 (France)	45,7% (Germany)	41,1
Foreign direct investments (% GDP)	2,6%	0,1% (Slovakia)	13,4% (Ireland)	1%
Transition to a digital economy category				
Internet access	81%	57% (Bulgaria)	96% (Netherlands)	61%
Technological innovation capacity category				
Number of jobs advanced technology (% active population)	43,4%	23,8% (Slovakia)	61%- (Luxembourg)	25,2%
Number of researchers	1.726.103	8.707(Slovenia)	360.310- (Germany)	18.704
Research and development expenditure (% of GDP)	2,01%	0,39 (Romania)	3,31% (Finland)	0,39
E-commerce category				
Internet skills (medium level)	26%	13% (Romania)	33% (Luxembourg)	13%
Online orders (procent of individuals)	41%	6% (Romania)	62% (Luxembourg)	6%

Source:

<http://ec.europa.eu/eurostat/data/database>

IT occupations and knowledge category

At European level, only 2.53% of total jobs include those in IT. The Europe 2020 Strategy aims to increase by 16 million the number of jobs in this field. To handle jobs offered in a knowledge economy, the population must be trained. That is why, it is necessary to quantify the number of graduates with higher education. Across the 28 European countries in 2012 there were a number of 4.838.704 higher education graduates of which 200,106 in Romania. In 2010, only 32% of Europeans aged between 20-29 years were enrolled in universities.

IT occupations and knowledge category

As for the export-oriented production, in 2013, Germany participated with a share of 27.1%. Romania registered a 0.9% share of export-oriented products. The average for the EU Member States in 2014 was 42.9% of GDP. In the EU-27 Foreign Direct Investment amounted to 6,611,814 million euros for 2012. For Romania were oriented FDI amounting to 52,199,000 euros. A gratifying aspect is the increasing foreign direct investment in Romania for the period 2005-2012 from EUR 17.853 million.

Internet access is an indicator of the category "*The transition to a digital economy.*" In the EU member states, 81% of the population was connected to the Internet in 2014, 72% regularly use the service, and 47% of Europeans interact online with public authorities. Large discrepancies exist in this indicator, considering the fact that 20% of Europeans have never use the Internet. Since 2001, during the Gothenburg Summit, the plan "E-Europe - An Information Society for All" has outlined. The objectives of this plan were Internet access in every home, school, institution. Only 29% of Europeans hold high-level computer skills.

Technological innovation capacity category

The advanced technology offered 5.6% jobs in 2013. In Romania there was an increase of this result by 4.6% (2012) to 4.8% (2013). Total knowledge-intensive sector hired a share of 39.2% of europeans. In reaching this result, the largest contribution was from Sweden, with a percentage of 51.7 jobs. Of the total number of employees at european level a percentage of 43.4% were employed in 2013 in the Science and Technology. In Luxembourg 61% of all employees were employed in this field, norwegians (56.9%), Finland (56.5%). In 2011, government spending on research-development sector accounted for a share of 0.73% of European GDP (GDP value was 92.308 million euros). The highest value of the investment was directed toward Industrial production and technology (9.9%), followed by exploitation of space (5.5%), energy (4.2%). For 2013, spending on research-development represented 2.01% of the GDP of the European Union. One of the objectives of the Europe 2020 Strategy is to achieve a expenditure level 3% as a percentage of GDP. The only member states that have managed to overcome the threshold of 3 percent have were Finland (3.78%), Sweden (3.37%) and Denmark (3.09%). As sources of funds in the research and development expenses, the total of 256.587 million euros in the 27 EU Member States, 159 976 millions euro from the enterprise, 32,528 from governments, non-profit sector by 2528 and 61,555 by higher education sector. As for the quantification of research, in 2010 Germany has issued 21,880 patents, followed by France with 8751 patents.

E-commerce category

Unfortunately, the outcome indicator concerning internet skills ranks Romania last in the european countries with 13% of the population who has average knowledge in internet usage. The Romanians are also the most suspicious to buy online. In 2014, just 6% of romanians citizens have preferred this method.

Conclusions

Knowledge is the final component of the data-information-knowledge axis. Information and knowledge are modern factors of economy. Knowledge leads to innovation. Sustainable economy can not exist in the absence of innovation.

Europe 2020 Strategy launched in March 2010 by the European Commission complements the ideas of sustainable development through interest in smart, sustainable, for inclusion growth. Knowledge-based economy is based on these priorities. The emphasis is on quality products and services acquired through advance technology and innovation in the production process and not on the amount of resources consumed. Investments in technology are paramount.

To quantify the new economy, there are used indicators that are part of the categories: IT occupations and knowledge, globalization, technological innovation capability, transition to a digital economy, e-commerce. For each category of indicators efforts by member states in order to accomplished targets are needed. Only 2.53% of total jobs include those in IT. The advanced technology offered in 2013 a 5.6% jobs. In the EU Member States, 81% of the population was connected to the Internet in 2014. One of the objectives of the Europe 2020 Strategy is to achieve a level of spending 3% as a percentage of GDP, which needs to be improved considering the figure of 2.01 % achieved in 2013. Since 2001, during the Gothenburg Summit, the plan "E-Europe - An Information Society for All" has outlined. The objectives of this plan were Internet access in every home, school, institution. Only 29% of europeans hold high-level computer skills and 26% of europeans hold medium-level Internet skills. Romania recorded the lowest values of the indicators on the number of jobs in IT, R & D expenses, Internet skills, on-line orders.

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