

ROMANIA AND THE DIGITAL ECONOMY

Paul PASCU¹, Eugenia IANCU²

Stefan cel Mare University Suceava, Faculty of Economics and Public Administration,
ROMANIA.

¹paulp@seap.usv.ro, ²eiancu@seap.usv.ro

ABSTRACT

In a digital economy must be created an optimal ratio between those who produce and develop applications and, respectively, those who use them without causing deformations in the process of intermediation by creating monopolies. Informatics workforce should be trained so as to consider reaching out through applications to real citizens with qualities and defects that have the ability to accept or reject that product. This paper brings to the fore the situation in the ICT (information and communication technology) in Romania and at the same time the distribution of virtual companies.

Keywords: New economic, e-commerce, electronic business, digital goods

INTRODUCTION

Today there is no field in which it is not processed and transmitted information both within the area in question and to the outside, so we can say that the information is very valuable, it must be stored, processed and transmitted under conditions which ensure fairness and accuracy.

New digital technologies make access, storing and transmitting information increasingly easier and more affordable. Featuring digital information, it can be transformed into new economic and social values, creating huge opportunities for developing new products and services. Information becomes the key resource for the digital economy.

The new economy has, in the foreground demand, needs of consumers who engage in a measure increasingly higher in conception, production and use of goods and services, from early stage research and development. We could say that from this point of view, the new economy - the so-called digital economy has an interactive, participatory character, making the interface between supply and demand on an area of volume and structure in space and time, more rigorously. Consumer role grows mostly in the sense that it could become an important source of innovative ideas for the manufacturer, or forcing innovation in order to maintain or expand market, of increasing level of comfort or, what is very important, of increasing our sustainable economic development.

LABOR MARKET IN ROMANIA

Gordon Moore, cofounder of Intel, said in 1965 that the number of transistors in a chip doubles about every two years, and so far his observation was confirmed.

According to Moore, the technology will reach its physical limits in 10-15 years if scientists fail to find an alternative. Meanwhile, experts believe that the observation made nearly 45 years ago by Gordon Moore will eventually be contradicted, but it remains to be seen whether this will happen tomorrow, over decades or over 600 years. Although persistent imbalances between supply and demand in some segments of the labor market and low levels of job mobility, human resources show a high capacity to adapt to the European labor market standards (one of the areas being even ICT) [3].

Table 1. Labor market in Romania

<i>Indicator</i>	<i>Total</i>	<i>Urban</i>	<i>Rural</i>
<i>Total number of employees: (thousands), of which:</i>	<i>10.148</i>	<i>4930</i>	<i>5218</i>
Intellectuals and scientists (%)	6,8	12,5	1,3
Workers, technicians and similar (%)	8,4	14,1	2,9
Workers in trade, services and others (%)	7.0	0,8	3,5
Civil servants (%)	4,0	6,6	1,6
Farmers, forestry workers (%)	36,8	3,1	68,6
Businessmen, trade (%)	17,8	26,1	10,0
Executives and senior officials (%)	2,4	4,3	0,6
Other occupations (%)	16,8	22,5	11,5

Source: Household Labour Survey AMIGO, 2013

A special place in government programs is occupied by central and local public administration reform, programs supported by the widespread use of ICT to improve both the flow of documents and activities of these institutions and to better communicate with citizens and businesses [4].

Government policies also attaches priority to ensuring quality of education and professional qualifications, including special actions to equip educational institutions with IT resources and increase Internet connectivity. While in some countries in Central and Eastern Europe IT spending / GDP increased remarkably in the last decade, in Romania they were below the average of 1.5% annually, as shown in the table below:

Table 2. IT/GDP ratio and value of expenses for IT field

<i>COUNTRY</i>	<i>IT/GDP (%)</i>	<i>IT expenses per resident (US\$)</i>
Bulgaria	1.19	11.60
Czech Republic	2.74	106.25
Hungary	2.50	80.35
Poland	1.49	41.07
Romania	0.72	11.35
Russia	0.61	12.50
Slovakia	1.90	53.57
Slovenia	1.64	109.82
Estonia	3.21	73.21
Croatia	1.35	40.17

Source: IDC, USA, <http://www.idc-usa.com/>

It should be noted that Romania has the lowest level of IT spending per capita, ranking the last places, with both the IT / GDP ratio of only 0.72, and the level of IT spending of \$ 11.35 / head capita.

Economic development strategic options in the medium term are[2]:

- Achieving a consolidated macro-stabilization, including the development of the internal market, stimulating domestic production and supporting SMEs
 - The substantial improvement of business environment,
 - Accelerating tax reform,
 - Speeding up privatization and restructuring,
 - Strengthening the banking system,

Promoting a coherent policy compatible with EU mechanisms,

Electrical and electronics industries accounted in 2000 for 5% of the country's industrial output, 5.1 of staff, 8% of exports and only 3% of the volume of foreign investments in Romania.

Table 3. IT companies in Romania

<i>Number of IT societies</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
Hardware	186	205	224	232	286
Software	2093	2955	3408	4025	4795

Source: Trade Register, 2013

The ICT industry in Romania produced between 2006 and 2013, computer equipment, data transmission, telecommunications, software and services to over 2 billion \$, with a growth rate that reached 45%, as shown in Table 4.

Table 4. ICT production in Romania (million \$)

	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
Computer Equipment	225	198	218	400	460
Data transmission equipment					
Semiconductors	7	13	14	15	16
Telecommunications equipment	407	510	440	515	570
Other components / accessories	429	531	402	632	711
Office equipment	14	17	15	16	24
Measurement and control equipment	88	81	81	122	132
Software and Services	50	60	100	150	200
<i>Total</i>	<i>1220</i>	<i>1410</i>	<i>1270</i>	<i>1850</i>	<i>2113</i>

Source: Yearbook of World Electronics / Industry and Resources, 2013

Thus, the hardware companies that have experienced a strong fall after 1989 have become again profitable by local assembly equipment imported from Asian sources. Production qualities, efficiency of assembly, intelligent design and efficient management have led to some computer equipment and data transmission performance, which occupied 48-50% of the Romanian market. Many ICT companies have received ISO 9001 certificate for this type of activity, which produces approx. 50,000 PCs annually.

System configuration services, hardware sales, installation, training and service are taken from a number of companies integrating the private sector, providing such services, including software products. These firms have averaged around 10-15 employees and high turnover. This is because of the fact that those companies provide also services for known foreign companies: IBM, Compaq, HP, Dell, Acer, Cisco, 3COM, etc.

Foreign companies have an active presence in Romania, with a 50% market of hardware, which they sell through distributors / local contractors.

The activities of small companies refer to the development of software for Small and Medium Enterprises (SMEs), building and loading database with a known search engine and Romanian interfaces, the sale of imported software. In addition, large companies offer diversified consulting services, modeling, development, deployment, integration, testing, re-engineering, maintenance. These companies develop applications and web-based tools, applications, e-commerce, electronic business, design, development for distributed architectures, development of open systems, standards implementations. Thus, in these companies concentrated a segment of the production of software and IT services.

Table 5. Number of virtual stores at county level

<i>No.</i>	<i>County</i>	<i>Number of Stores</i>	<i>No.</i>	<i>County</i>	<i>Number of Stores</i>
1.	Bucharest	551	2.	Neamt	7
3.	Cluj	34	4.	Prahova	7
5.	Timis	26	6.	Arges	6
7.	Brasov	25	8.	Braila	6
9.	Iasi	24	10.	Sibiu	6
11.	Constanta	18	12.	Botosani	5
13.	Bihor	16	14.	Hunedoara	5
15.	Mures	13	16.	Valcea	5
17.	Arad	12	18.	Alba	3
19.	Dolj	12	20.	Bistrita-Nasaud	3
21.	Maramures	12	22.	Satu-Mare	3
23.	Ilfov	8	24.	Buzau	2
25.	Bacau	7	26.	Covasna	2
27.	Galati	7	28.	Dambovita	2

Source: <http://www.link2ec.ro>

Regarding the geographical distribution of virtual stores, Bucharest is posted in first place with more than half of online stores (i.e. 551) followed by Cluj with 34 online stores, Timis with 26 and Braşov with 25 (table 5). Iasi County is on 5th place with 24 virtual stores.

It seems that local shops have not started the great national offensive and are still on local market and do not yet accept the national challenge.

There is no surprise in the geographical distribution of e-commerce stores in Romania. Large shopping centers with tradition in Internet lead. Bucharest (if we add Ilfov) has an overwhelming 64% of the market, while the next are at almost 20 times the distance. We do not believe that in the coming years these figures will improve given that stores heavily depend on logistics centers, more than the actual location.

The value brought by guests of firms differs depending on the specific business relationships developed with them. To quantify customer profitability and performance companies have created and developed management systems customer relationship focused on harnessing data warehouses that store massive amounts of information collected from the interaction with customers during the life cycle stages. Because information flows through them, deployed software for customer relationship management tailored to companies, allows the analysis of information on clients and identify customer segments based on profitability caused; at the same time presents real-time communication capabilities with customers ensuring increased responsiveness to the needs of companies and customer requests.

Applicability of customer relationship management informatics crystallized once it was allowed the involvement of Internet in commerce and has shaped the role of web marketing in the communication mix of the company [1].

Management information systems of client relationships enables customer data analysis and forecasting customer behavior based on a specific level of support provided by contact centers.

ICT development and programs for customer relationship management gave rise to solutions that involve the use of automation tools for marketing activities, software packages for analyzing the purchasing behavior on the Internet, systems for managing databases containing information on customers, integrated in a single process that allows an organization to respond more effectively to customer needs [6].

IT systems for customer relationship management must respond to the information needs of project managers so that they can make the most effective decisions on attracting new clients and developing relationships with existing ones.

CONCLUSIONS

For various reasons the new economy identifies, in everyday language, with the Internet-based economy, and therefore it is also called "digital economy", "network economy" or "e-economy". But the new economy is not only the Internet economy or of dot-com companies.

The new economy is a complex synthesis between the digital economy (internet + digital goods and services + new business models + new ways of working) + globalization + innovation + sustainable development. In the new economy we are witnessing a fundamental transformation of production and consumption, which start to contain increasingly more "immaterial", digital products and services.

Digital goods and services include: online catalogs of products and services of firms; software and databases; financial services - electronic payments, bank deposits, financial information, insurance; professional services - architects, lawyers, accountants, consultants; travel services - booking hotels and airplanes, tourist guides; online newspapers; interactivity in real time; amusement; documents, including articles, books and electronic bookstore; news; weather forecasts; video and video-to-sound (TV, video-conferencing and video-clips); interactive voice (phone conversation and tele-conference).

REFERENCES

- [1]. Băduț M. (2003). *Informatica în management*, Ed. Albastră, Cluj-Napoca
- [2]. Costas V., Lepouras G., Fraser J., & Georgiatis P., (2005). *Barriers to Electronic Service Development*, E-Service Journal
- [3]. Iancu E., Cibotariu I., & Ciprian Hretcanu s.a. (2014). *Innovation -Important Source of Economic Growth?*, 24th IBIMA Conference Milano, Crafting Global Competitive Economies: 2020 Vision Strategic Planning & Smart Implementation,
- [4]. Sandor D., (2006). *Administrația publică în era revoluției informaționale*, Editura Accent, Cluj-Napoca
- [5]. <http://www.link2ec.ro>
- [6]. www.crm2day.com
- [7]. <http://www.idc-usa.com/B>