

DIGITALIZATION OF THE ECONOMY IN ROMANIA

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Abstract

The present period is marked by the emergence of the digital society with its explosion of integrated systems and intelligent devices, the dominance of the Internet, the infrastructure of paperless communications/ calculation systems, especially cloud-based document management systems and the proliferation of intelligent devices, computer simulation and design optimization, etc. The stake is, consequently, the competitiveness of the national and European industry in the NICT domain, but also the realization of progresses regarding: professional training, health, sustainable development, access to culture, design and production of goods, services and complex systems. At the same time, the development of a digital world in conditions of safety inspires trust to the users. The study elaborated analyzes the digitalization degree of the national economy compared to that at the EU level, expressed via the Digital Economy and Society Index (DESI).

Key words: DESI, connectivity, human capital, Internet, digital technologies, digital skills

JEL classification: M15

The priority development directions regarding the creation of the unique digital market are: connectivity, human capital, Internet use, integrating digital technologies and users' digital skills (Figure 1).

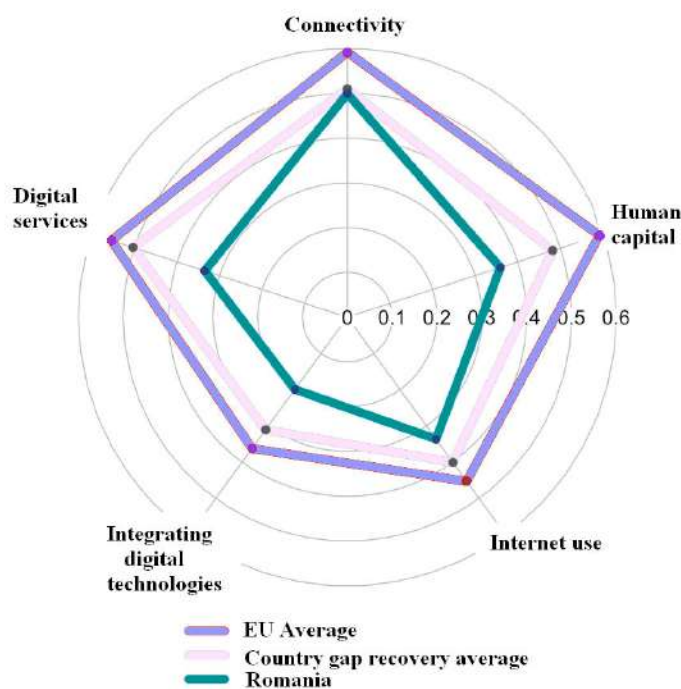


Figure 1. Priority development directions in the creation of the unique digital market

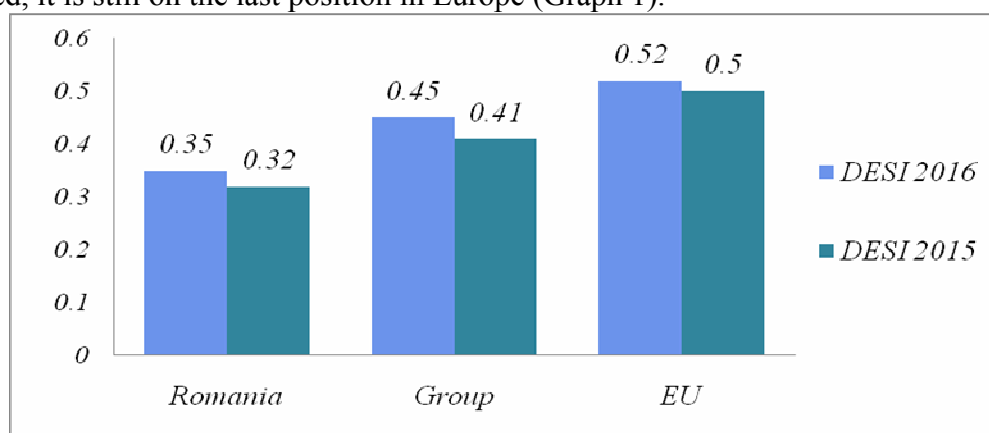
Source: European Commission, Digital Economy & Society, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania#4-integration-of-digital-technology>, consulted on 23.05.2016, 5:10 p.m.

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To identify the digitalization degree-level of the national economies in each of the EU Member States, one can analyze the Digital Economy and Society Index (DESI).

Regarding the results recorded by Romania, although the digitalization level evolved, it is still on the last position in Europe (Graph 1).



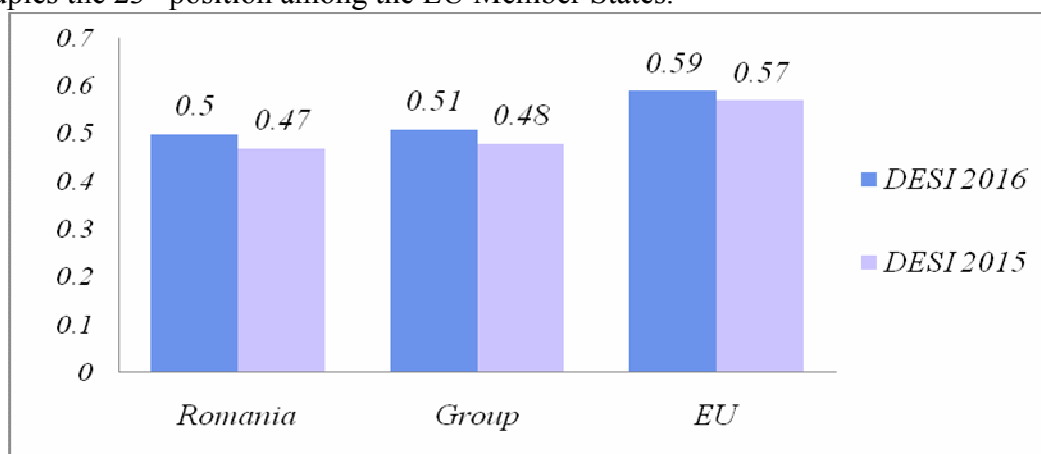
Graph 1. Digital Economy and Society Index (DESI)

Source: European Commission, Digital Economy & Society, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania>, consulted on 23.05.2016, 5:15 p.m..

Therefore, in Romania, DESI registers a general score of 0.35 and Romania occupies the 28th place among the 28 EU Member States. Compared to the year 2015, in the year 2016 the number of broadband subscribers increased, due to the broadband quality, but the low level of the digital skills still represents a barrier in the development of the digital economy. The Internet use increased, principally due to the use of social networks. For this reason, it is essential for the Romanian businesses to better exploit the possibilities provided by social media, on-line trade and cloud-based document management systems.

1. Connectivity

According to the European Commission, in the year 2016, connectivity is the dimension registering a global score of 0.5 (Graph 2) for Romania. Thus, Romania occupies the 23rd position among the EU Member States.



Graph 2. Connectivity

Source: European Commission, Digital Economy & Society, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania#4-integration-of-digital-technology>, consulted on 23.05.2016, 5:20 p.m..

Romania is faced with two main challenges in point of connectivity. First, it needs to enrich its coverage in fixed broadband networks, which covers only 89% of the households, significantly under the EU average (97%). Second, it needs to increase its

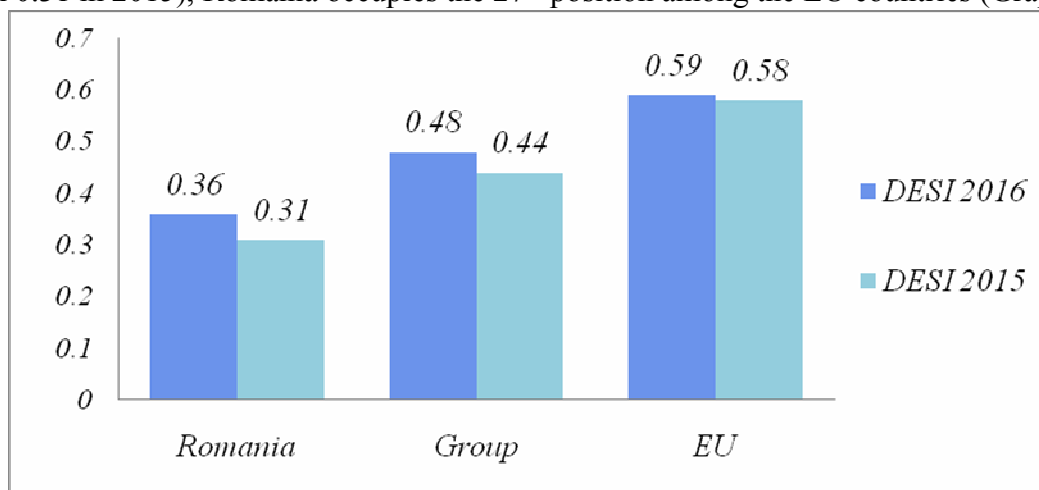
number of broadband subscribers: only 60% of the households are fixed broadband subscribers (the EU average is 72%) and 59 subscribers out of 100 people have mobile broadband subscriptions (the EU average is 75). Consequently, a low connectivity level limits Romania's capacity of exploiting the benefits of the digital economy.

One of the reasons of the poor fixed broadband network coverage in Romania could be the subscription price. A person requesting a broadband subscription needs to allot for it, on average, 2.7% of his gross revenue, which is more than double compared to the EU average, of 1.3%.

Romanians better positioned compared to the EU for the access to high-speed Internet. Networks able to provide at least 30 Mbps (NGA) are available for more than two thirds (72%) of the Romanian households (EU average - 71%). Concerning the subscriptions to high-speed broadband Internet, Romania is one of the leaders (63% of the subscriptions), occupying the second best position in the EU.

2. Human capital

With an improved score regarding the human capital, of 0.36 in 2016 (on the rise from 0.31 in 2015), Romania occupies the 27th position among the EU countries (Graph 3).



Graph 3. Human capital

Source: European Commission, Digital Economy & Society, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania#4-integration-of-digital-technology>, consulted on 23.05.2016, 5:20 p.m.

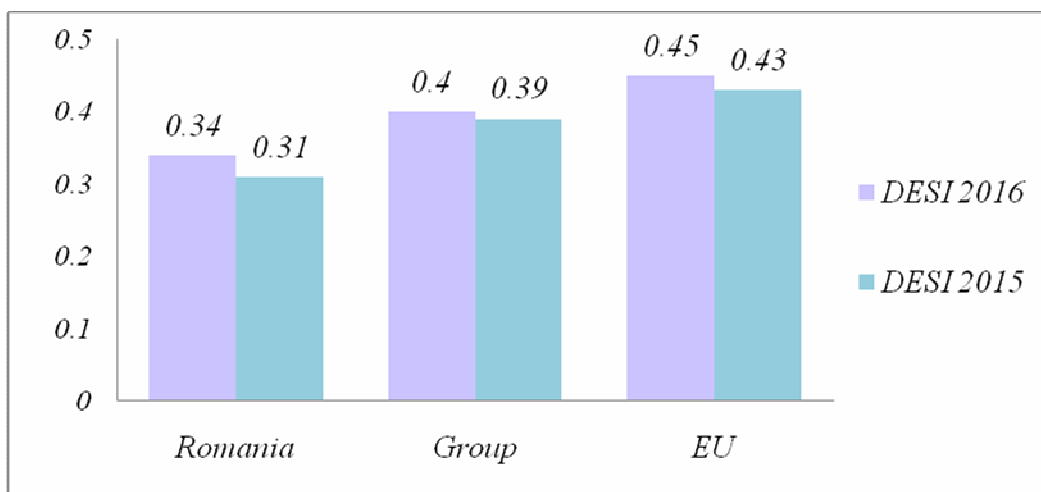
In the European Commission Report is highlighted the fact that half of the Romanians are regular Internet users (52% compared to 76% in the EU).

Considering that just 26% of the Romanians possess a basic digital skills level and that, at present, digital skills are necessary at any workplace, this could become an important barrier for the economic development of the country. The growth of the digital literacy level and digital skills can generate digital workplaces and can support the development of a digital economy.

Despite the existence of many qualified NTIC specialists, this is not enough to compensate for the deficit of digital skills in Romania.

3. Internet use

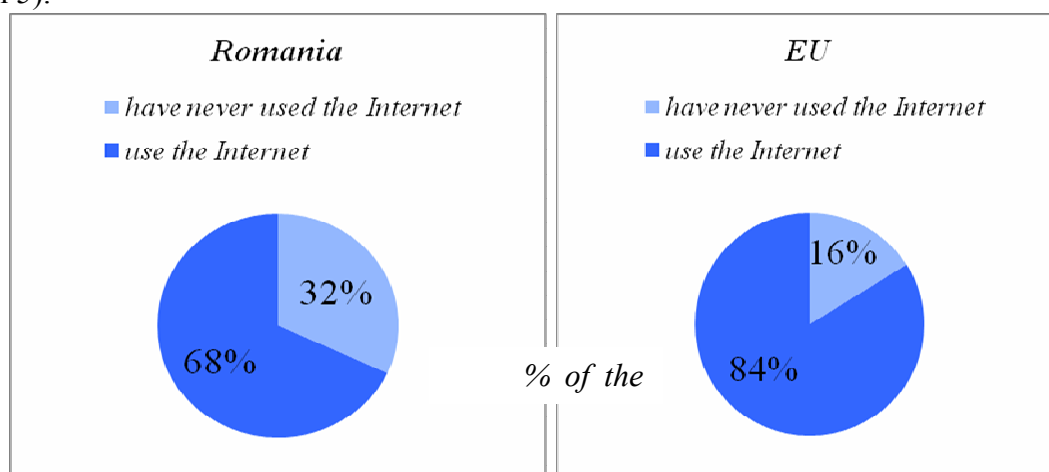
Regarding the individuals' tendency to use Internet services, Romania records a score of 0.34 in 2016, compared to 0.31 in 2015 and occupies the 27th place among the EU countries (Graph 4).



Graph 4. Internet use

Source: European Commission, Digital Economy & Society, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania#4-integration-of-digital-technology>, consulted on 23.05.2016, 5:20 p.m.

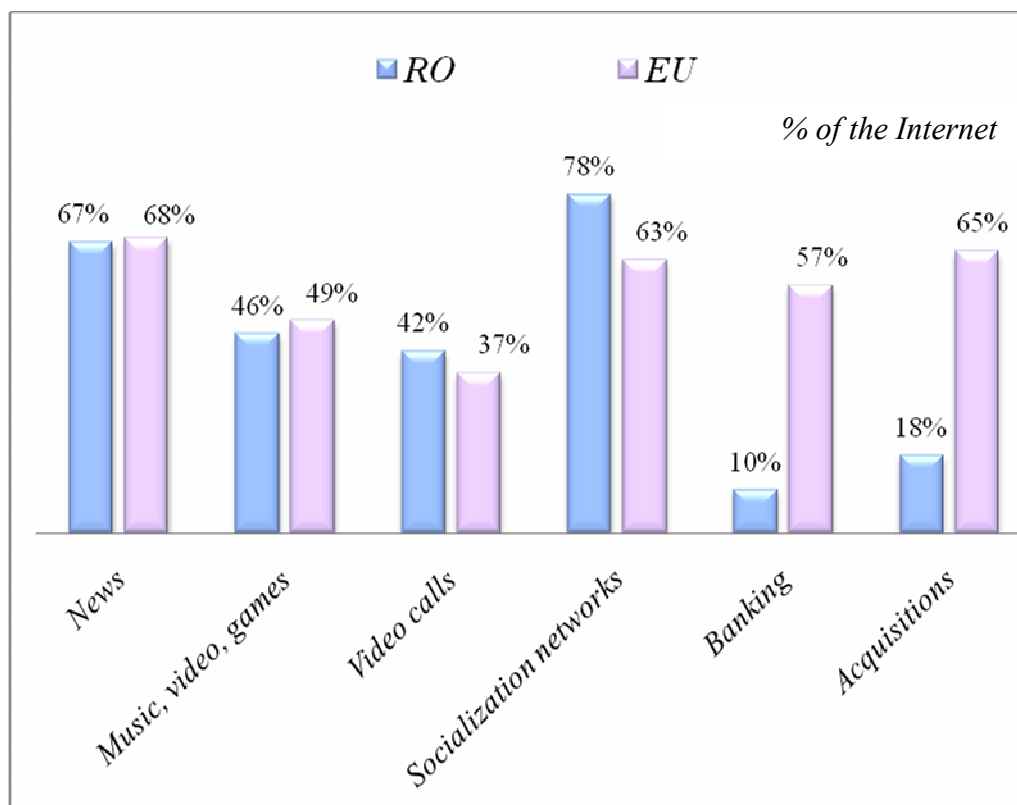
Moreover, another third (32%) of the Romanians who still haven't used the Internet yet (compared to 16% in the EU) and, consequently, they cannot benefit of the possibilities offered by the Internet and cannot contribute to the digital economy, either (Graph 5).



Graph 5. Weight of the citizens who have never used the Internet (2015)

Source: Eurostat – community survey on the use of ICT in households and by natural persons, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania>, consulted on 23.05.2016, 5:20 p.m.

Although the Romanians are using social networks in a percentage of 78%, i.e. 15% more than the EU average, they are very reticent regarding the use of online banking services, and regarding online acquisitions (Graph 6).



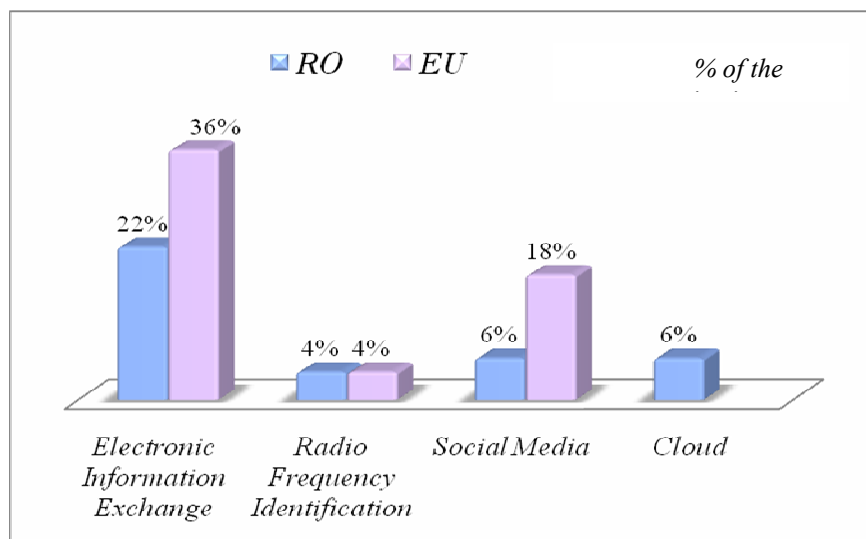
Graph 6. Online activities of the Internet users (2015)

Source: Eurostat – community survey on the use of ICT in households and by natural persons, IHS Technology - TV Media Intelligence Service databases, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania>, consulted on 23.05.2016, 5:20 p.m.

Yet, the Internet users in Romania are engaged in a large array of online activities, such as: reading the news (70%), watching movies and playing online games (46%), communicating by voice or video calls (42%), or by socialization networks (78%).

Despite the progresses recorded, the actions of the Internet users of Romania who use online banking (9.6%) or online shopping (18%) are the smallest of all the EU Member States. This is the main challenge for Romania regarding the use of the Internet by its citizens, because a digital economy is partially provided financially by its citizens' trust in the online channel.

The weight of the companies in Romania using technologies such as the Electronic Information Exchange (ERP - 22%), cloud services (6%) or socialization networks (6%) is among the lowest in the EU (Graph 7).



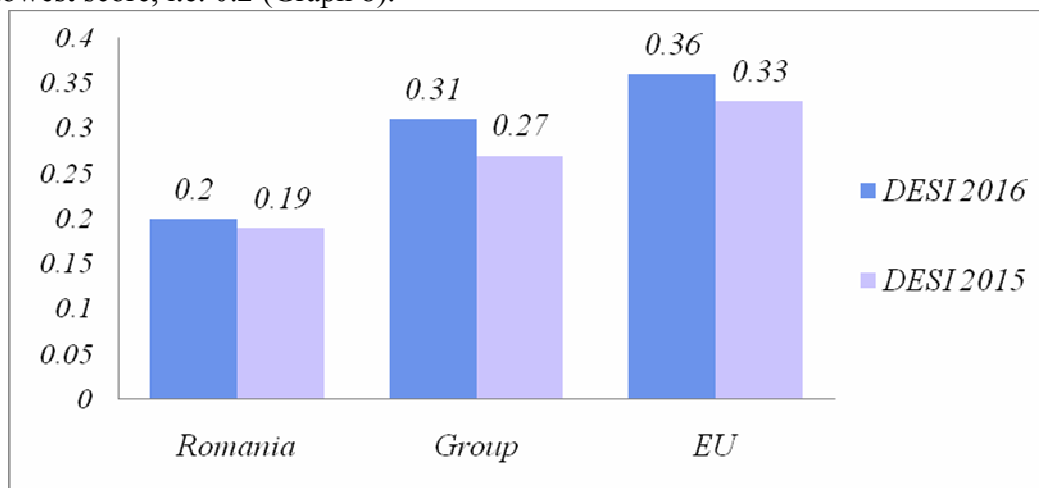
Graph 7. Adopting digital technology in business (2015)

Source: Eurostat – community survey on the use of ICT and e-trade in enterprises, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania>, consulted on 23.05.2016, 5:20 p.m.

Enterprises in Romania should show interest in the advantages offered by online trade, by the socialization networks and the cloud-type applications, because the use of digital technologies is a determining factor in the work productivity increase and it needs to be consolidated.

4. Digital technology integration

Regarding the integration of the digital technology by the enterprises, Romania is also on the last position among the EU Member States, this being the DESI dimension with the lowest score, i.e. 0.2 (Graph 8).



Graph 8. Digital technology integration

Source: European Commission, Digital Economy & Society, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania#4-integration-of-digital-technology>, consulted on 23.05.2016, 5:20 p.m.

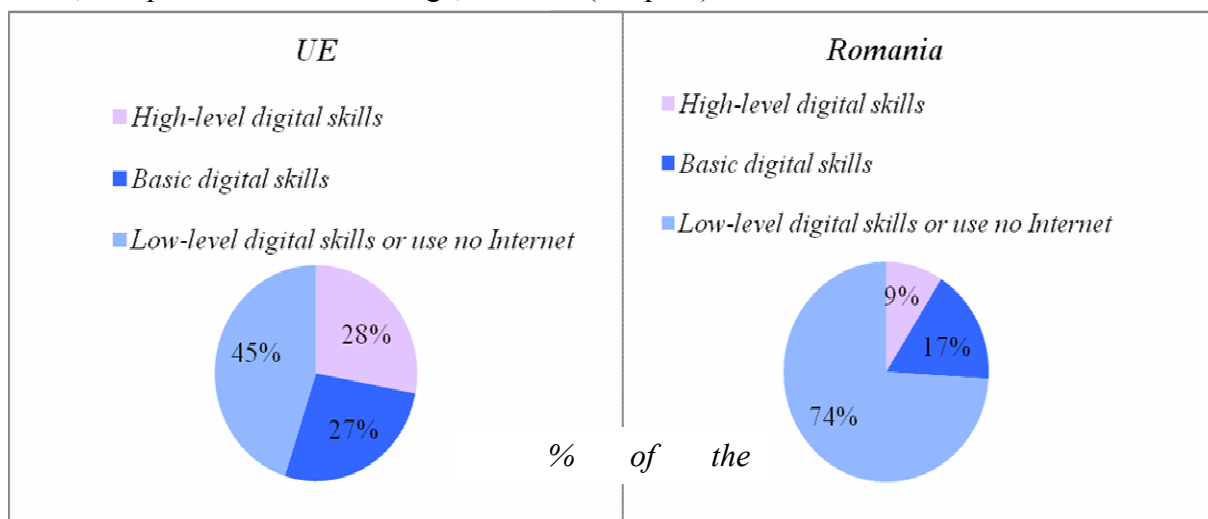
About an economy, one can say that it is really digital if its enterprises take full advantage of the possibilities and benefits offered by the digital technologies, both to improve their efficiency and productivity, and to get to their clients and realize sales. In this sense, Romania still has a long way to go.

Romanian enterprises also need to take advantage of the possibilities offered by the online trade. Very few SMEs in Romania sell online (7.4%), even fewer SMEs sell online to other EU Member States (1.9%), and those who do sell online, make a very small ratio

of their turnover out of these sales, about 4.9% . Without exploiting the online trade, the enterprises in Romania will have difficulties in competing in the global digital economy.

5. Digital skills

The European Commission Report situates Romania on the last position among the Member States, although, compared to the year 2015, in the year 2016 Romania recorded slight progresses in this domain. Therefore, 17% of the Romanians have basic digital skills, whereas the EU average is 27%; 9% of the citizens of Romania have high level digital skills, compared to the EU average, i.e. 28% (Graph 9).



Graph9. Digital skills (2015)

Source: Eurostat – community survey regarding the use of ICT in households and by physical persons, <https://ec.europa.eu/digital-single-market/en/scoreboard/romania>, consulted on 23.05.2016, 5:20 p.m.

To conclude, having the lowest percentage of NICT specialists (1.3% – in the total of the workforce of all the EU Member States) and manifesting reticence regarding the confidence in the use of online services, the development of the digital economy in Romania seems to be limited.

Conclusions

The beneficial changes brought by NICT have become a reality that has not happened over night, but has required both time and effort. However, according to a European Commission Report, Romania is on the last place at the chapter economy digitalization, and the Internet is less used than in other EU Member States to make work efficient. To conclude, having the lowest percentage of NICT (1.3% – in the total of the workforce of all the EU Member States) and manifesting reticence in point of the confidence in the use of online services, the development of the digital economy in Romania seems to be limited. For this reason, it is essential for the businesses in Romania to exploit better the possibilities offered by the social media, online trade and cloud-based applications.

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