

IS ROMANIA PREPARED FOR DIGITAL INDUSTRY? AN ANALYSIS OF PUBLIC POLICIES REGARDING DIGITISATION IN ROMANIA

Mihaela BUICA

*Bucharest University of Economic Studies
6 Piata Romana, 1st district, 010374 Bucharest, RO
mihaelabuica2002@yahoo.com*

Gabriela DRAGAN

*Bucharest University of Economic Studies
6 Piata Romana, 1st district, 010374 Bucharest, RO
gabriela.dragan@rei.ase.ro*

Abstract. *Considered to be the Fourth Industrial Revolution, the industry's digitalization might provide the necessary tools to both revive the economic growth in all EU member states and also to better support the competitiveness of the European economy on the global market. The European Commission's initiative on Digitizing European Industry, adopted on 19 April 2016, represents one of the most important measures assumed in the latest years at the European level. However, the last places that Romania has constantly occupied both in the European digitization and competitiveness rankings, should represent a big concern for Romanian authorities and its public policies. The gaps between objectives and results related to digitization process and competitiveness are very high and impose rapid and determined policy measures. The paper provides a brief overview of the current EU evolutions in the field of digitization process either from legislative, institutional and output perspectives. On the other hand, the paper focuses on the significant gaps between estimated and real results recorded by Romania in terms of economy digitization, in order to identify the main deficiencies of the country's digitization strategies and policies. This comparison intends to provide a clear picture of the Romanian's position in the field of digitization in order to respond to the secondary objective of the paper - increasing the awareness of public decision makers on this topic. The paper concludes that, taking into account, on one hand, the fact that the digitalization reality covers the entire world, proving a high degree of dynamism that imposes rapid and constant adaptation to these new realities and, on the other hand, the low national scores recorded by the Romanian digitization process, the Romanian public authorities must reanalyze its specific digital strategies and policies and better exploit the main threats and the opportunities provided by the current European and global context.*

Keywords: *European competitiveness; digitizing European industry; Romanian public policies; management deficiency; Europe's digital progress.*

Introduction

Digitization is a word which can be easily defined as a 'subject of the day' or even the 'subject of the era' due to its importance and impact. It gathers specific technological evolutions, huge expectancies in the field of economic growth and also major economic structural changes and significant social challenges, under the umbrella of the Fourth Industrial Revolution. As some authors have mentioned (Smit, Kreutzer, Moeller & Carlberg, 2016, p.72), in the process of digitization "There will be winners and losers, and adjustments to make". Regarding the challenges digitization has implied, Schwab (2016, pp.1-2) states: "In its scale, scope and complexity, ... the fourth industrial revolution is unlike anything humankind has experienced before" and "The changes are historic in terms of their size, speed and scope". Taking into consideration the impact and the challenges of this process, without very good leaders, either individuals, businesses or even national economies will face the risk of being left behind by this new revolution (Smit et al., 2016, p.72). Therefore, "Now is the time for leaders to be responsive and responsible..." (ManpowerGroup, 2016, p.2).

Among other factors, the role and quality of the policy makers' contribution are crucial "... the ability of government systems and public authorities to adapt will determine their survival. If they prove capable of embracing a world of disruptive change, subjecting their structures to the levels of transparency and efficiency that will enable them to maintain their competitive edge, they will endure. If they cannot evolve, they will face increasing trouble" (Rose, 2015, p.8). For these new challenges, experts in the management field offered various solutions, strategies, models, and ideas of new management, leadership, innovation, and creativity. For instance, Rose (2015, p.9) recommends to decision-makers to embrace "... 'agile' governance, just as the private sector ...". The same solution, both for private and public sectors, is supported by Isaksen and Tidd (2006, Preface): "Under these conditions, managers must learn how to become more flexible and agile in order to respond successfully". In their opinion "successful organizational transformation and managing change demand both leadership and management as well as creativity and innovation".

In the context of these significant and complex structural changes and challenges in the field of digitization, the latest places that Romania has constantly occupied in the European digitization official rankings should represent a big concern for Romanian authorities and their public policies. The gap between the objectives and results related to digitization process and competitiveness is very high. Although the Romanian authorities have established within a European specific framework (mainly related to the Europe 2020 Strategy) a number of very stimulating objectives, the current results and achievements are still very far from expectations.

The paper is structured in two main parts. The first part is dedicated to the digitization process in the context of the European framework. How is the digitization 'treated' in the EU public policies, which are their main strengths, weaknesses, threats, and opportunities in the context of global trends there will be presented in this section.

The second part is dedicated to the Romanian framework. It will focus on the main strategies related to the digitization process and competitiveness in terms of objectives and results achieved so far. The goal of this part is to put face to face the objectives

established by Romania and its corresponding results in order to identify the main insufficiencies and inadequacies of the country policies and strategies.

Digitization process of the industry in the EU public policies

The new industrial revolution known as the Fourth Industrial Revolution is considered to be the present stage of development of the industry based on sensor technology, interconnectivity and data analysis allow mass customization, integration of value chains and greater efficiency. An image of the classification for industrial technology development is given in Table 1.

Table 1. Industrial revolution (Davies, 2015, p.3)

	Time periods	Technologies and capabilities
First	1784 - mid 19th century	Water and steam powered mechanical manufacturing
Second	Late 19th century -1970s	Electric-powered mass production based on the division of labor (assembly line)
Third	1970s-Today	Electronics and information technology drives new levels of automation of complex tasks
Fourth	Today-	Sensor technology, interconnectivity, and data analysis allow mass customization, integration of value chains and greater efficiency

This new industrial revolution had been particularly triggered by the spectacular development of digital technologies that represent an opportunity for increasing the economic competitiveness.

Since 2010, with the adoption of the 'Europe 2020' strategy (European Commission, 2010d), the EU has entered a new era, an era with ambitious plans for changing. The 'Europe 2020' Strategy represents, in essence, the EU response to globalization, focusing both on the immediate challenge of the economic recovery and on the long-term challenges specifically of remaining competitive at global level.

To ensure the core priorities on smart, sustainable and inclusive growth, the 'Europe 2020' proposes seven flagship initiatives, four of which are particularly important for industry competitiveness: 'A Digital Agenda for Europe', 'New Skills for New Jobs' 'Innovation Union', 'An industrial policy for the globalization era'. The other three flagships refer to the 'Youth on the move', 'Resource efficient Europe' and 'European platform against poverty'.

The flagship initiative 'An Industrial Policy for the Globalization Era' (European Commission, 2010c) focuses on the central objective of this policy, namely promoting the competitiveness of European industry. Following this Communication, in support of increasing the competitiveness of the industry, the European Commission intervened through a series of other Communications. In 2016, an important step in this direction was officially taken by the European Commission, through the Communication 'Digitizing European Industry. Reaping the full benefits of a Digital Single Market' (European Commission, 2016b).

In May 2017, the European Parliament's Committee on Industry, Research, and Energy (ITRE) drew up an own-initiative report which proposes to develop an integrated Industrial Digitalization Strategy (IDS) aimed at creating favorable conditions to reindustrializing the European economy (European Parliament, 2017). At the European level, a Digital Scoreboard was created, as an instrument designed to measure the progress of the European digital economy, in order to help the Member States in monitoring the implementation of their digital policies. The Digital Scoreboard includes the Digital Economy and Society Index (DESI), a composite index, calculated as the weighted average of the five main DESI dimensions: 'Connectivity', 'Human Capital', 'Use of Internet', 'Integration of Digital Technology' and 'Digital Public Services'. Each one of the five main DESI dimensions is calculated as the weighted average of the DESI Sub-dimensions which in turn are calculated as the weighted average of the DESI Individual Indicators.

The process of digitization has its own weaknesses and threats besides benefits and opportunities which everyone speaks about. Nowadays "The European social partners have recognized that digitization is not just a technological issue, but it has wider social, work and economic implications. It is also a question of economic development and social cohesion" (European Commission, 2016b, p.14). The strategic analysis of strengths, weaknesses, opportunities, and threats (SWOT) of the Industry 4.0 is presenting in Table 2.

Table 2. Industry 4.0 – SWOT table
(Smit et al., 2016, p.72)

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> •Increased productivity, (resource) efficiency, (global)competitiveness, revenue •Growth in high-skilled and well-paid jobs •Improved customer satisfaction – new markets: increased product customization and product variety •Production flexibility and control 	<ul style="list-style-type: none"> •High dependence on resilience of technology and networks: small disruptions can have major impacts •Dependence on a range of success factors including standards, coherent framework, labor supply with appropriate skills, investment, and R&D •Costs of development and implementation •Potential loss of control over enterprise •Semi-skilled unemployment •Need to import skilled labor and integrate immigrant communities
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> •Strengthen Europe's position as a global leader in manufacturing (and other industries) •Develop new lead markets for products and services •Counteracting negative EU demographics •Lower entry barriers for some SMEs to participate in new markets links to new supply chains 	<ul style="list-style-type: none"> •Cybersecurity, intellectual property, data privacy •Workers, SMEs, industries, and national economies lacking the awareness and/or means to adapt to Industry 4.0 and who will consequently fall behind •Vulnerability to and volatility of global value chains •Adoption of Industry 4.0 by foreign competitors neutralizing EU initiatives

Other challenges may be related to the long-term tendencies affecting the growth (European Commission, 2014) and to the global trends (ESPAS, 2016). In Table 3 there is a parallel view between long-term tendencies affecting the growth and global trends previously specified. As we can easily notice, in both documents, there are the same long-term tendencies which can affect the growth.

Table 3. Parallel view between long-term tendencies affecting the growth (European Commission, 2014; ESPAS, 2016)

Long-term tendencies affecting the growth	Global Trends to 2030
<ul style="list-style-type: none"> -Social change -Globalization and trade -Productivity developments and the use of information and communications technology (ICT) -The pressure on resources and environmental concerns 	<ul style="list-style-type: none"> -Widening inequalities -Vulnerability of the sustained development of the world economy in front of challenges and weaknesses in the globalization process -Revolution in technologies involving digitization -Managing scarcity of resources -The interdependence of countries and global governance.

The industrial digitization in Romania between realities and wishful thinking

Because of the political situation in Romania before 1989 and the slow transition process after, the transformation of economy and society was delayed. The main tool which effectively 'forced' Romania, and all European countries, to initiate measures in the direction of increasing competitiveness was the 'Lisbon' strategy and since 2010 the 'Europa 2020' strategy.

Since 2007, the year when Romania became officially an EU member state, the monitoring of the progress achieved in reaching the Europe 2020' objectives was presented in the National Reform Program (NRP), a framework platform for defining structural reforms and development priorities that should guide the evolution of Romania by 2020.

Digitization process of the industry in the Romanian public policies

For the current analysis, we selected four relevant Romanian strategies for increasing competitiveness and digitization process of Industry, respectively: the 2020 *National Strategy on the Digital Agenda for Romania (NSDAR)*, the *Strategy of Education and Professional Training in Romania (SEPTR) for the period 2016-2020*, the *National Strategy for Research, Development and Innovation (NSRDI) 2014-2020*, and the *National Strategy for Competitiveness (NSC) 2015 -2020*.

These four strategies are presented below, with a particular focus on their main goals and objectives.

- *National Strategy on the Digital Agenda for Romania (NSDAR) 2020* approved by Government Decision no. 245/ 2015.

The aim of the strategy is to ensure Romania's information and communication technology (ICT) development at the level of the countries in the region and to establish the prerequisites of Romania's integration into the digital single market of Europe.

The strategy was developed on the basis of the 'Digital Agenda Europe 2020' program (European Commission (2010a), which is the reference framework for the development of the digital economy and society 2014-2020, and following a socio-economic study starting from the current situation and context.

Based on this strategy, Romania has defined four major action areas adapted to the current context: 1-eGovernment, Interoperability, Cyber Security, Cloud Computing, Open Data, Big Data and Social Media; 2 -Education, Health, Culture and e-Inclusion; 3 - e-Commerce, Research, Development and Innovation; 4 -Broadband and Digital Services Infrastructure.

According to the data published on the strategy website, the main targets set and assumed by Romania are:

- At least 60% of citizens use the Internet regularly;
- At least 30% of citizens make on-line purchases;
- At least 35% of citizens use e-Governance systems;
- Coverage of broadband communications networks (over 30 Mbps) of at least 80%.

- *The strategy of Education and Professional Training in Romania (SEPTR) for the period 2016-2020* approved by Government Decision no. 317/2016

The overall objective of the strategy is to develop a system of education and training adapted to the requirements of the labor market and the needs of the direct beneficiaries.

The objectives, principles, and directions of action of the strategy are based on an analysis of the education and training system. Also, the strategy was formulated in the context of 'Europe 2020' and responds to the strategic objectives for the 2010-2020 decade derived from the Education and training (ET) 2020 Strategic Framework.

The strategy established four strategic objectives:

- Improving the relevance of vocational training systems for the labor market;
- Increasing participation and facilitating access to vocational training programs;
- Improving the quality of vocational training; and
- Developing national and international innovation and cooperation in the field of vocational training.

- *National Strategy for Research, Development, and Innovation (NSRDI) 2014-2020* approved by Government Decision no. 929/ 2014

The strategy's goal is for Romania to become competitive by 2020 at a regional and global level, through innovation-driven R & D, generating wealth for citizens.

According to the preamble of the strategy, this strategic document was developed in the broader context of the Europe 2020 strategy, in particular, the flagship 'Innovation

Union' and its main implementation tool Horizon 2020, as well as in the context of policy alignment of cohesion. Also, it is specified that the decisions and actions which the strategy contains are based on a critical review of strategic experiences gained between 2007 and 2013 as well as a prospective assessment of Romania's research and innovation capacity and prospects.

The NSRDI 2014-2020 contains a set of principles of action supported by three main pillars:

- Regional affirmation, global assertion: firms become key operators of innovation;
- Excellence through internationalization: RDI sector as a space of opportunity;
- "Regional Leadership" at the frontier of science and technology: Breakthroughs in strategic areas.

The specific and the specific cross-cutting objectives are presented in Table 4:

Table 4. The NSRDI 2014-2020 objectives
(Own representation based on data from NSRDI 2014-2020)

Specific objectives	Specific cross-cutting objectives
Create a stimulating environment for the private sector initiatives	Meeting the critical mass of researchers by 2020
Support smart specialization	Developing advanced research organizations
Focusing a significant part of RDI activities on societal issues	
Supporting aspirations for excellence in frontier research	

- *The National Strategy for Competitiveness (NSC) 2015 -2020* approved by Government Decision no. 775/2015

The vision of this strategy is to develop a competitive business ecosystem based on a stable regulatory environment centered on entrepreneurship, innovation, and creativity, focusing on trust, efficiency and excellence and placing Romania in the top 10 European economies.

The strategy was developed through consultations with both the private sector and the line ministries (especially with the Ministry of Agriculture and Rural Development, the Ministry of National Education, the Ministry of Regional Development and Public Administration), in order to correlate the interventions dedicated to competitiveness.

The development directions and the strategic priorities of this strategy are presented in Table 5.

Table 5. The NSC 2015-2020 development directions and strategic priorities
(Own representation based on data from NSC 2015-2020)

NSC 2015-2020 Development directions	NSC 2015 -2020 Strategic priorities
Restructuring the economic sectors towards superior competitive positions.	Improving the regulatory environment

Creating a critical mass of competitive firms by creating an attractive, transparent and innovative environment.	Partner actions between the public and private sectors
Integrate major players into a coherent economic development project	Support services and factors
Integrate society into a coherent economic development project	Promoting the 10 sectors of the future
	Generation 2050 Training and Societal Challenges

The efficiency of the public policies regarding the industrial digitization process in Romania

The Europe's Digital Progress Report (EDPR) provides a very clear image of the efficiency of public policies regarding digitization process in Europe. Figure 1 presents the 2017 Digital Economy and Society Index (DESI) ranking, included in the 2017 EDPR (European Commission, 2016e).

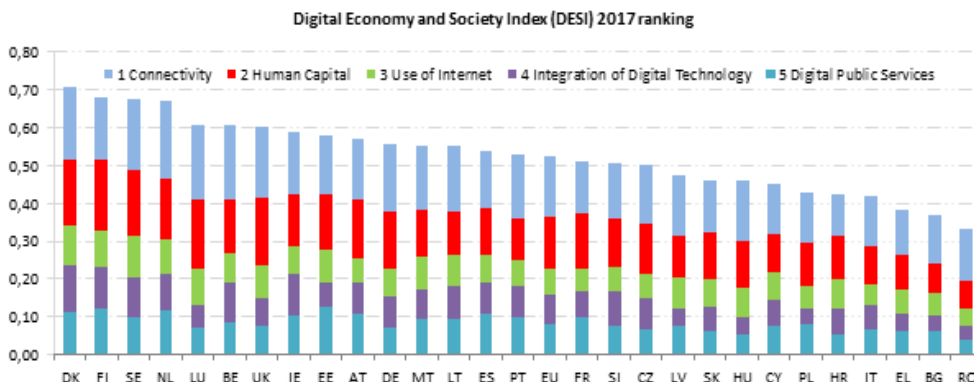


Figure 1. Digital Economy and Society Index (DESI) 2017 ranking
 (<https://ec.europa.eu/digital-single-market/en/desi>)

As can be seen, Romania is on the last position in the European ranking according to DESI 2017, a result of the last places in many monitored aspects, like human capital, use of the internet, integration of digital technologies and digital public services.

Romania's place in the European rankings on digitization by dimensions is presented as follow (Figure 2):

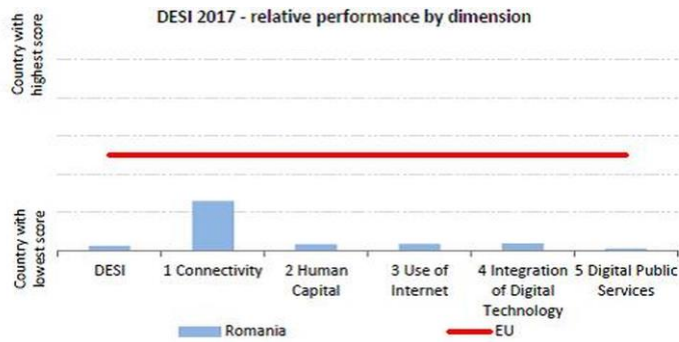


Figure 2. DESI 2017 –relative performance of Romania by dimension
(<https://ec.europa.eu/digital-single-market/en/scoreboard/romania>)

‘Connectivity’ is the only dimension for which Romania has the best ranking among all five, occupying the 22nd place in the EU. This position is due to Romanian consumer preference for high-speed broadband, mobile, and fixed point connections. Despite this position, the coverage of fixed and mobile (4G) broadband networks remains one of the lowest in the EU: coverage 45%, rank 28. For all other four dimensions, Romania occupies the last place, 28.

Despite the achieved progress in connectivity area, Romania is among the low performing countries in Europe, as can be seen in Figure 3.

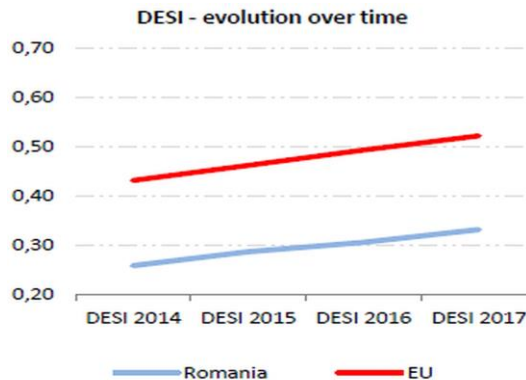


Figure 3. DESI 2017 –evolution over time in Romania in comparison with the EU
(<https://ec.europa.eu/digital-single-market/en/scoreboard/romania>)

The efficiency of each of the four strategies selected for this analysis is presented below.

- The efficiency of the public policies regarding Digital Agenda

The efficiency of this public policies is reflected in the Europe's Digital Progress Report and as we have seen ‘Connectivity’ is the only dimension where Romania is not occupying the last place in the ranking.

A parallel view of the Romanian results specified in the 2017 EDPR and the value of the indicators established in the Romanian National Strategy for Digital Agenda 2020 is presented in Table 6.

Table 6. A parallel view of the 2017 EDPR results and the value of the indicators established in the NSDAR 2020
(Own representation based on data from EDPR, 2017 and NSDAR, 2020)

Romanian National Strategy for Digital Agenda 2020 Indicators	DESI Dimensions	2017 EDPR results	
		2016	2015
Coverage of broadband communications networks (over 30 Mbps) of at least 80%.	Connectivity	45% (4 G coverage)	-
At least 60% of citizens use the Internet regularly	Use of Internet	56%	52%
At least 30% of citizens make on-line purchases	Integration of Digital Technology	18%	18%
At least 35% of citizens use e-Governance systems	Digital Public Services	6%	8%

Looking at regular internet users it seems that the national target is almost reached, even if this target positioned Romania from the start on the last place of the European ranking (the actual average EU percent for this indicator is 79%).

An essential factor for the 'Use of internet' can be identified in the second dimension 'Human capital' and is referring to the level of preparedness of human capital with digital skills. This aspect can be verified at the digital-agenda-data.eu/charts. Thus, after the analysis of the digital skills indicator (all individuals) and compare countries, the results for Romania, in percentages, are: 40.5% 'No digital skills', 31,8% 'Low digital skills', 19,1% 'Basic digital skills', and only 8,59% 'Above basic digital skills'. These percentages are based on 2016 data. The indicator 'No digital skills' is 40.5% for Romania, compared to EU average of 18, 9%. These percentages reflect in large part the second dimension 'Human capital' and highlight the major weaknesses in the preparedness of human capital with digital skills.

In the 'Digital Public Services' dimension, Romania continues to occupy the last place in the ranking for this indicator and even more worrying is the fact that internet users' percent decreased by 2 p.p. in 2016 compared with 2015 (from 8% to 6%).

- The efficiency of the public policies regarding Education and Professional Training

The 2017 EDPR, 'Human capital' dimension highlights the main Romanian weakness in approaching the process of digitization, namely the low level of preparedness of the human capital with digital skills.

The very low level of preparedness of human capital is corroborated with the data about the education and training system in Romania (European Commission, 2016c) (Table 7).

**Table 7. Education and training Monitor 2016 -Key indicators Romania
(Own representation based on dates from European Commission, 2016c)**

ET 2020 benchmarks	Romania		EU average		
	2012	2015	2012	2015	
Early leavers from education and training (age 18-24)	17.8%	19.1%	12.7%	11.0%	
Tertiary education attainment (age 30-34)	21.7%	25.6%	36.0%	38.7%	
Early childhood education and care (ECEC) (from age 4 to starting age of compulsory education) Data refer to 2011 and 2014	86.4%	86.4%	93.2%	94.3%	
Proportion of 15 year-olds with underachievement in:	Reading	37.3%	38.7%	17.8%	19.7%
	Maths	40.8%	39.9%	22.1%	22.2%
	Science	37.3%	38.5%	16.6%	20.6%
Employment rate of recent graduates by education attainment (age 20-34 having left education 1-3 years before reference year)	70.2%	68.1%	75.1%	76.9%	
Adult participation in lifelong learning (age 25-64)	1.4%	1.3%	9.2%	10.7%	

The OECD 'Programme for International Student Assessment' (PISA) (OECD, 2016b) is reflecting the same serious weakness in the quality of education. The PISA is testing the skills and knowledge of 15 year-old students, measuring their reading, math and science literacy. The highest performance in PISA tests was obtained by Romania in 2012 with 445 score in Maths, 439 in Science and 438 in Reading. The scores obtained in 2015 are 444 (Maths), 435 (Science) and 434 (Reading). Romania has been participating in PISA tests since 2006. The OECD 2015 averages are 490 (Maths), 493 (Science) and 493 (Reading).

- The efficiency of the public policies regarding Research, Development, and Innovation

The research and innovation performance of Romania can be seen in the annual 'European Innovation Scoreboard' (EIS), which provides a comparative assessment of the research and innovation performance of the EU Member States.

In the 'EIS 2016' (European Commission, 2016d), Romania and Bulgaria are included in the 'Modest Innovators' cluster, that gathers EU Member States with an innovation performance level well below the EU average, i.e. less than 50% of the EU average (Figure 4).

Figure 1: EU Member States' innovation performance

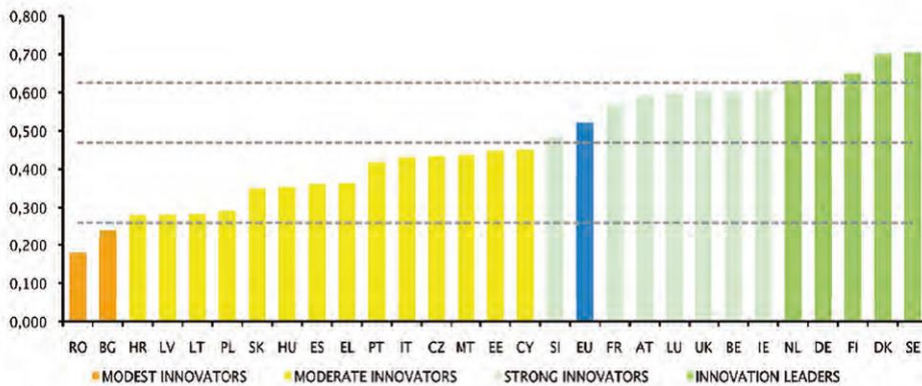


Figure 4. UE Member States' Innovation performance (European Commission, 2016d; European Innovation Scoreboard, 2016)

- The efficiency of the public policies regarding competitiveness

In order to monitor and help countries to evaluate their regional performance in competitiveness, at the European level, a Regional Competitiveness Index (RCI) was launched in 2010. It is published every three years and allows the regions to monitor and assess their development over time and in comparison with other EU regions.

The RCI consists of 11 pillars describing the various aspects of competitiveness, divided into three groups: elementary, efficiency and innovation. Pillars that represent the key elemental drivers of all types of economy are represented by 1 -institutions; 2 -macroeconomic stability; 3-Infrastructure; 4-health; and 5-Basic education. All these five pillars are grouped in the elementary.

According to with the strategy, at the time when it was elaborated, Romania's development regions occupy the last place both in terms of RCI and in almost all the rankings of indicators forming this composite index. The 'RCI 2016' (European Commission, 2017) reveals no improvement since 2010 (Figure 5).

CHANGES ARE HIGHLIGHTED IF ABOVE 5% THE SCORE RANGE (IMPROVEMENT: GREEN UPWARD ARROW; DETERIORATION: RED DOWNWARD ARROW)

Country code	Country name	NUTS CODE 2013	merged regions_code	capital region?	NUTS NAME	2016 vs 2013	2013 vs 2010	2016 vs 2010
RO	Romania	RO						
RO	Romania	RO11			Nord-Vest			
RO	Romania	RO12			Centru			
RO	Romania	RO21			Nord-Est (RD)			
RO	Romania	RO22			Sud-Est			
RO	Romania	RO31			Sud - Muntenia			
RO	Romania	RO32		yes	Bucuresti - Ilfov			
RO	Romania	RO41			Sud-Vest Oltenia			
RO	Romania	RO42			Vest			

Figure 5. 'RCI 2016' Annex -Time comparison

(http://ec.europa.eu/regional_policy/sources/docgener/work/rci2016_time_comparisons.pdf)

Conclusion

The global economy is under major transformation due to the process of digitization and the Fourth Industrial Revolution. Through a very concise SWOT analysis, the paper has presented the main benefits and challenges of this process and also the global risks it poses. Having regard the Romanian score reported to the digitization threats in the global context mentioned above, we can easily conclude that Romania risks being left behind by this new revolution, the catching up process being more than urgent to be managed by the Romanian public authorities.

The analysis of the four Romanian strategies related with the digitization process and competitiveness has revealed that all strategies were elaborated based on 2007-2013 experiences and their objectives and targets were correlated with the European framework. Despite this synchronism, the results achieved so far are below expectations, especially in the field of education, although digital skills represent a 'major priority' for Europe. The main recommendation addressed by the Organization for Economic Co-operation and Development (Kitchen, Fordham, Henderson, Looney, and Maghnouj, 2017) to Romania is to improve the strategic planning through a long-term national strategy for education, better linked with the wider national development objectives. The EDPR 2017 (European Commission, 2016e, p.5), mentions that the Romanian Ministry of Education and Research is preparing "some initiatives to tackle this issue" in order to "increase the digital skills of the new generation".

Since Romania's accession to the European Union (2007), the development and implementation of accurate and sustainable strategies have proven to represent a difficult task for the country decision makers. The management deficiencies have delayed Romania's progress and were identified as main obstacles in achieving better results. For Romania and for the other EU countries in a comparable situation, the European Commission' initiatives aiming to avoid the fragmentation of the single market are of outermost importance (Smit et al., 2016; European Parliament, 2017). Our analysis revealed that overall, Romania is still unprepared to face the changes and challenges the digital transformation implies. However, the Connectivity position in the European ranking (22 place of 28) and the adoption of new national strategies with new ambitious targets, intends to demonstrate that Romania might bridge the gap between potential and performance (measured by concrete results). In conclusion, while the potential and conditions to improve the current country status do really exist, Romania must prove determination and perseverance in the catching up process despite all threats posed by different internal and external factors.

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