DIGITAL SERVICES IN ROMANIA - PRESENT AND PERSPECTIVE

CECILIA-IRINA RĂBONŢU,
PHD, "CONSTANTIN BRÂNCUŞI" UNIVERSITY OF TÂRGU JIU
cecilia.rabontu@gmail.com

ANA-GABRIELA BABUCEA,
PHD, "CONSTANTIN BRÂNCUŞI" UNIVERSITY OF TÂRGU JIU
gabibabucea@gmail.com

ABSTRACT: In the actual society in which we talk more and more about digital connectivity, digital skills, online activity, digitalization of companies, and implicitly about a single European digital market, it is necessary to investigate the degree of digitalization of services in Romania. Nowadays, the process of development of companies, public administration, and society are governed by the key process named “digitalization”. It is because of technological evolution which completely changes the rules of the game, bringing to the fore a new paradigm in which revolutionary technologies appear, such as the use of Big Data or Artificial Intelligence, but also technology of blockchain, along with the use of the traditional computer-based systems. From this perspective, the services, as a sector of the growing economy in Romania, must align with the world trends. Important investments must be made, both materially and humanly, in order to achieve the performances at the European level. Whether we are talking about banking services where digitalization is already obvious, or tourist services, commercial services, public services, or even health or educational services, we must be aware that without the aligning to this process, all these services risk a regress, or even elimination from the services market, which becomes increasingly a digitalized one. This paper aims to present the current state of digitalization of services in Romania, the advantages and disadvantages of this process at the micro and macroeconomic level, but also concrete examples of highly digitized services.

KEYWORDS: Services, digitalization, Romania, European digital single market

1. Introduction

The digitization process appears as a necessity in any national economy and implicitly in Romania. In 2015, the European Commission laid the foundation for the strategy for the European Digital Single Market, thus laying the foundations of a unique and sustainable European digital society. The purpose of this strategy is to ensure that the European economy, industry, and society are aligned with the new digital age and are part of the EU project for digital Europe, alongside electronic solutions, data and cross-border digital services.

It must be made aware that digitalization is not a choice, but a necessity for European businesses and economies. Through this process, new opportunities are created and new jobs will be created, many other jobs will be transformed although at first glance many jobs can be said to disappear, and people will be replaced with robots and applications which are doing a lot of activities that until now were carried out only by people, especially in the field of services. We will soon talk about shops without a seller, hotels without staff, banks without counters with human operators, schools without teachers with online lessons and many other examples that can be extracted from the realities of other countries.

According to the country report published in March 2018, in Romania, the digital economy is characterized by:

- A low level of digitalization of the economy even though we have the highest penetration rate of connections in the high-speed broadband in the EU, broadband coverage (fixed and 4G).
- Increasing the number of ICT specialists in the economy, but with digital skills of the population among the lowest in the EU which greatly hinders the mobility of the workforce. Technology replaces manual labour in most aspects of life and in most segments of the economy, but life offline becomes impossible. The general conclusion of the studies is that,
in general, the lower the qualification of someone, and the higher chances of losing their job in favour of robots.

- Improving the results in terms of digital skills in schools by including in the curricula of programming and technology courses but also by providing teachers with appropriate training in the digital field. It is considered to be a priority area for the development of the economy and additional places are granted in the university education for the fields that involve digital competences.

- The implementation of the Digital Agenda is limited due to the lack of coordination between the institutions implementing the Digital Agenda, the government and the associations, initiatives, and stakeholders from the IT environment. Given these issues, weak national digital policies appear without a clear direction regarding digitization.

To understand the stage of the digitalization process of the Romanian economy and society compared to the other EU Member States at the level of the year 2019, the Digital Economy and Society Index (DESI) is presented in the graph below.

![Figure 1 - Digital Economy and Society Index (DESI), year 2019](https://ec.europa.eu/digital-single-market/en/desi)

Note that Romania has an extremely low index, being placed on the penultimate place in the digitalization of public services, the use of Internet services and the degree of integration of digital technologies. A high degree of digitization in the business, of all kinds including in the field of services, is an advantage because businesses that have understood that digitization can be used to their advantage constantly eliminate the competition.

The impact of the digital market on financial and banking services, tourism, transport, stock markets, or the energy and e-commerce market is gaining wider coverage in the context of the free movement of goods, services, capital, and people. An advantage of Romania in the context of the functioning of the digital market is the presence and development of digital banking and electronic payments services, financial markets, interbank transfers, stock exchanges, banks’ connection, the National Bank of Romania and the TransFund to the European electronic payment systems. An important role has the digital stock markets and commodity exchanges that will continue to operate in parallel with the digital single market, e-commerce systems or other regulated markets. [3]

A digital single market is one in which the free movement of people, products, services and capital is ensured, which can be accessed by natural and legal persons without interruption, and which allows for online activities under fair competition conditions, at a level high security for personal data, regardless of nationality or place of residence.

2. Fields of services and their digitalization stage

Although in the case of many types of services traditionally is difficult to discuss digitization, given that they are activities characterized by the inseparability of the provider and the consumer, the 21st century brings to our attention the adoption of IT technologies and in the
tertiary sector, to more and more categories of services. Whether we are talking about banking, tourism, health, education, public services or others, we find elements of digitalization that bring an increase in the satisfaction of the customers who are adept at the new technologies. Thus we will present some concrete aspects by which the services adopt the digitalization in order to align with the new requirements of the customers but also of the increasingly digitalized market. It must be made aware that the economy and development are based on electronic means, and the non-use of technology will soon become a hindrance to a nation's progress and performance.

If consider the banking sector it is very simple to observe how the digitalization was successfully adopted through the possibilities of conducting banking operations from anywhere, without having to go to the banking unit or to interact with the staff that was replaced by digital devices that respond promptly to our needs. Indeed, digitization is no longer just a choice but a requirement of the banking industry given the expectations of customers, the new consumer profile, the wave of technology that is taking over more and more companies and industries, where some directly competing with banks on certain levels. In recent years, digitization has gained ground at a faster pace in the global banking sector and, somewhat slower, also domestically. Banks are in a position to act more and more on two fronts, pursuing two business models, namely the traditional model - with branches and physical agencies - and the model focused on digitization.

With benchmarks in an increasingly digital world, banking services have become more accessible through technological innovation that gives new features to these services, namely: speed, accessibility, simplicity, autonomy. All these advantages, however, also involve important investments for the development of online banking or mobile banking applications, open banking products and services, new IT platforms, etc.

Public services is a field of the tertiary sector that is extremely important for all countries and the use of digital technologies in working with the public is beginning to become more and more obvious even if their supply is sometimes hampered by lack of funds, clear directions or integrated strategies. The digitalized of public services is also found under the term E-government which is considered as a complex interaction between society and technology and, at the same time, difficult to implement. But, in reality, many countries such as the US, Canada, the United Kingdom, Estonia, and other northern European countries are successful examples of e-government and here we can see that the digitalization of public administration is a necessary condition of the economic and social development of the whole society and of alignment with international standards. Innovation and creativity in the public sector must be adopted as this is the only way to increase efficiency and performance, and this is achieved through digitization, which in turn can lead to the provision of quality services in line with the new demands of citizens in terms of transparency and speed.

The innovative potential of ICT and social media refers to several features incorporated in these technologies, for example the ability to process large amounts of data, the information in a sophisticated way, the ability to improve access to information and knowledge from a functional and geographical point of view, the power to improve the transparency of processes, public organizations, the ability to monitor and control these processes, the potential to communicate, visualize and facilitate all types of interactions between administration and citizens.

For each country, two indicators measured the public services sector performance:
- Access, i.e. the extent to which the online environment is used at the level of administrative services and
- Digitization, which takes into account the level of digitization of the public administration offices.

Regarding these indicators in Romania, the statistical data say that it has an above-average level (63%; EU average 57%) of the use of the online channel in administrative services (Access) and a low level (40%; EU average 68%) of administrative digitization (Digitization).

According to the EU eGovernment Action Plan 2016-2020, until 2020, the public administrations and public institutions in the European Union should be open, efficient and inclusive, offering digital public services without borders, personalized, easy to use, and digital, for all citizens and companies in the EU.
In accordance with the needs and requirements of citizens and businesses, are used innovative approaches to design and deliver better services. Public administrations use the opportunities offered by the new digital environment to facilitate their interactions with stakeholders and with each other.

In this context, the secure electronic identification is an important element of data protection and fraud prevention online. These issues really matter in areas such as eGovernment. The citizens and businesses need to be certain that the processing of their data is being in full compliance with existing data protection legislation.

The contemporary information society transforms tourism in an industry with a high intensity of information, representing the key element. ICT has a huge impact on tourism business, and its role in the tourism industry cannot be underestimated because it is an essential driving force in today's information-based society. With the help of ICTs, a new, efficient, competitive business environment can be created through the new tools made available, by activating new distribution channels, by facilitating transactions, by creating networks with business partners, but also by offering a diverse range of information to tourism consumers. At the same time, ICT offers advantages to consumers who obtain and use information online to plan their trips. We can say that ICT can be beneficial in all activities related to tourism and the related industry. Many studies carried out in the field of tourism, it was determined that 83% of the tourists take with them in their travels the mobile devices for using them to the various purposes such as: payment of touristic services, use of various applications such as maps of tourist destinations, photography and the realization of reviews, interconnection with members of the groups they belong to, the use of virtual guides, information on certain categories of tourist units and many others. Given these issues, many tourism service providers have implemented websites that provide valuable information to tourists as well as mobile payment options to respond to the increasingly accentuated trend of using electronic payment means.

Medical services are another category of services where digitalization and technological progress influence their performance. First of all, in this segment of activity through digitalization, the needs of the population can be identified and the health services can be improved according to these needs. Thus we can have remarkable results in health by digitalization if the process is of quality and both parts of the service are involved, medical staff, but also the patients. Digitalized health services can provide a better prognosis to patients and can contribute to the sustainability of health systems if properly designed and implemented. However, it cannot be said that a health system is good or bad just because it is digitized.

Digital technology is currently used to build algorithms to assist radiotherapy procedures, robotic surgery and mobile applications that help patients cope with the conditions they face. Digital health services include eHealth, mHealth, telemedicine, teleHealth, imaging, artificial intelligence, electronic health records. Digitalization influences the promotion of health, prevention, primary care, long-term social care, and self-care. Mobile health services (mHealth) are examples of digitalization with a positive impact on population health, asthma treatment and smoking cessation, including in low- and middle-income countries.

At the same time, educational services are components of the Romanian tertiary sector that need urgent digitization, but before that, it must adopt new technologies to train professionals for an increasingly digitized labour market.

If we talk about the measures that are required in this sector of activity, we bring into discussion the European Commission's Digital Education Action Plan. To define the measures by which the Member States, and implicitly Romania, can be help to cope challenges and to take advantage of the offered opportunities by the education in the digital age, it is articulate around three priorities. We refer here to better use of digital technologies in the process of teaching and learning, the development of digital skills and skills, and the improvement of education through better analysis of the data and a prospective vision.

In order to digitize educational services, a significant role is played by the connectivity of educational institutions on the Internet, which offers many advantages, namely: access to updated resources and specialized materials; use of platforms for collaboration and supporting active
learning, use of video conferencing and streaming video, online software, cloud computing, and virtual reality.

Cloud services are deeply embedded in today's society and regardless of the associated technology field they act directly or indirectly: communication (Twitter, Facebook, Skype, ...), media (iTunes, Netflix, ...), Market (Amazon, eBay, stock exchange, advertisements, ...) etc. [1]

Another aspect of the digitalization of the education sector refers to the implementation of the digital signature of qualification diplomas; these being electronic documents issued by the educational and training institutions to confirm the granting of qualification to a person. Therefore, the employers, education providers, or other third parties part can be recognized them.

Some measures must be taken to ensure correctly understand and interpreted that certificates in one Member State in any other. Open standards and integrated into the new Europass Platform, where digitally signed qualifications can be stored and shared, can be a successful approach. Employers, education providers, and other bodies must be able to verify that certificates and other qualifications are valid and authentic and students must be able to provide certificates in the electronic form to employers or education providers.

Digital transformation can also bring a number of benefits to higher education institutions such as:
- Improving the quality and relevance of learning and teaching;
- Making higher education more accessible to a wider range of students;
- Creating links between higher education institutions, research institutions, employers and the wider community.

However, to foster the development of digital skills and to see this as a priority in higher education are needed many measures. The EU's objective in this regard is to involve, inform and train students, teachers, researchers, and higher education staff to enable co-design and co-creation of programs addressing societal and technological challenges.

An example of digitization in the field of services can be those offered by the libraries. If not long ago, provided users with only information on paper media, today, in a digital world, libraries reach readers through the virtual environment, via the Internet, computers, mobile phones, and social networks.

Another approach, which is gaining more and more ground, is that of crossing the borders of a simple internet connection and adding value by using IoT (Internet of Things). Thus the citizen goes to a "smart society - smart city, smart grid, smart solutions, smart education" all based on access to information. [6]

Influenced by outsourcing solutions, hosting sites benefiting from, E-commerce is another area of the tertiary sector that is growing in Romania. The Romanian Association of Online Stores (ARMO), part of the Ecommerce Foundation, conducted a study that monitored the evolution of trade at European level as well as at the level of Romania. The growth registered in Europe was 15 %, with revenues of 530 billion euros in 2016. At European level, the proportion of small companies that have a site increased from 67 % in 2010 to 77 % in 2016, but only 18 % of them have a platform that allows online commerce.[3]

The examples can also continue on other services if not on all services influenced to a greater or lesser extent by digitization. Here are the most digitized activities of the economy at the European level:
It can be observed that the companies with the most digitalized activities of the EU economy are in the field of telecommunications, service activity and computer manufacturing, followed closely by other service activities such as those of the travel agencies and the media sectors. The lowest digitalized enterprises are found in the field of construction, only 6.5%, or in the field of transport and storage. According to Eurostat data, the distribution of DII by economic activities is similar in the EU countries. Denmark, Finland, and Sweden perform in many sectors. Some positive exceptions from greater digitalization exist in the following sectors: "travel agency; tour operator reservation service and related activities" (Slovenia, Lithuania, Romania, Hungary, Estonia, Netherlands and Czech Republic), "professional scientific and technical activities" (Finland, Slovenia and Lithuania), "real estate activities" (Finland, Netherlands and Ireland) and "Transport and storage" (Malta).

CONCLUSIONS

Digitalization is an irreversible process, all economic activities must have to adapt to this trend and the faster and more efficient it will do, the higher the performance achieved. In Romania, there are many areas of services that are not adapted to this reality, which risks being eliminated from the market, but there are others that are more efficient given the implementation of digitalization. As we have seen, the travel agencies in Romania are the ones that have rapidly switched to digitalization in order to meet the consumers, followed closely by the banking units that have reduced in number and implicitly as staff.

Whether we are talking about tourist services, commercial services, transportation, public services, health or education, or discussing about digital television, digital libraries, digital marketing or many other areas of services, it is certain that digitalization is ubiquitous and indispensable to the development of our national economy. At the same time, it means competitiveness of the tertiary sector, but also for increasing the quality of life of the Romanian citizen.

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