

# DIGITALIZATION IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

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**Abstract:** *Digitization has changed the trajectory of the world and also the global economy.*

*This article aims to identify fundamental implications for technological developments, the labor market, e-commerce and, last but not least, the financial system. Beyond its advantage of increasing productivity but also improving the quality of life, digitization: does not affect jobs as a whole, but changes their content with the potential to change the way the retail and financial sectors respond to new environmental demands in the context of sustainable development objectives.*

*Electronic commerce and fintech technology will lead to an increase in financial inclusion while reducing the phenomenon of individual pollution as a result of the availability of financial services anywhere at a click away. Technology developments also bring new risks for technology-based service providers.*

*Unfortunately, with technological developments, cyber attacks have increased significantly, targeting financial entities that manage customer accounts.*

*Thus, in this research, I address the issue of risks induced by third-party providers and propose a way to qualitatively assess the operational and cyber resilience of these providers.*

*Technological developments must also be perceived as a key element that contributes to the sustainable development of a nation, ensuring among the population the availability of services that facilitate trade, including electronic commerce, and, last but not least, ensuring the confidence of the population in the national economy and currency.*

**Keywords:** *digitalization, sustainable development, risks management, third party risks,*

**JEL Classification:** *O1; O3; E27; F43; M21; O1; O11.*

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## **Introduction**

Starting from the desirability of maintaining financial stability to ensure the sustainable development of a nation, we must also pay special attention to the channels/leverages that support financial stability because "economic development depends, significantly, on the complexity of the financial-banking system".

In addition to the fundamental objective of central banks to ensure and maintain price stability, we must also analyze another statutory assignment of central banks in the European Union, namely the promotion and monitoring of the proper functioning of payment systems to ensure financial stability. These statutory powers are also provided at the level of the National Bank of Romania (BNR), and the central bank's interest in the reform and continuous development of the financial ecosystem in Romania has always been a priority of the institution.

Central banks' objectives in monitoring credit institutions can be summarized as ensuring and guaranteeing that people have access to efficient and safe financial services that meet their preferences and needs. The role of central banks is to strengthen the confidence of the population in the national currency and facilitate the functioning of the national economy.

Today we cannot talk about development without using technology. Unfortunately, with the advantages brought by technology, we observe a significant increase in incidents of a cyber nature, especially at the level of entities in the financial field that manage clients' funds.

Technological developments must also be seen as an element that contributes to the sustainable development of a nation, ensuring at the population level the availability of services that facilitate commerce, including electronic commerce, and ensuring the population's confidence in the national economy and currency.

## Literature review

According to the latest information highlighted by the recent history, it was found that the economic and social developments of humanity could no longer be separated from the consequences of human activity on the environment. These ideas were first highlighted in the report of the Club of Rome meeting in 1972, "The Limits to Growth", which pointed out that "if current trends of growth in world population, industrialization, environmental pollution, food production and resource depletion, this planet will reach growth limits in the next 100 years. The most likely result would be a sudden and uncontrollable decline in both population and industrial capacity."

Since that period, the problem of analyzing the evolution of the parameters related to population growth both at national and worldwide level, at the impact of industrialization both from the perspective of creating economic advantages but also from the perspective of negative effects on the environment, to the production and consumption of food and to depletion of natural resources. Rapid industrial development if it does not also take into account the consumption of natural resources and pollution cannot ensure a sustainable development model in the medium and long term.

Starting with the first UN Conference on the Environment in Stockholm in 1972, the issue of the impact of human activity on the environment was raised. These efforts were embodied in the 1987 Brundtland Report of the World Commission on Environment and Development, entitled "Our Common Future", which defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This important objective is to ensure a balance between economic development, social protection and environmental protection.

From that moment, we can consider that the concept of sustainable development was developed and long-term economic growth couldn't be achieved without environmental protection.

The complex issues of sustainable development have acquired a global political dimension, being addressed at the highest level at the World Conference on Environment and Sustainable Development in Rio de Janeiro (1992), at the Special Session of the UN General Assembly and the adoption of the Millennium Goals (2000), and at the World Conference on Sustainable Development in Johannesburg (2002).

In this way, concrete action programs were outlined at the global and local level according to the saying "to think globally and act locally".

In all these high-level meetings, the issue of nature's limited capacity to meet the growing demand for natural resources from the socio-economic system and to absorb the destructive effects of uncontrolled exploitation of these resources was raised.

Climate change, erosion and desertification phenomena, soil, water and air pollution, the reduction of forest areas, the disappearance of a large number of terrestrial or aquatic plant and animal species, the accelerated depletion of non-renewable natural resources already have negative, measurable effects on social development - economic and on the quality of life. The most eloquent example in this sense is represented by the large urban agglomerations where the degree of pollution is increasingly high.

Including at the national level, through the National Strategy for Sustainable Development of Romania, the aim is to restore and maintain a rational, long-term balance between economic development, social protection and ensuring the natural balance of the environment.

Romania, as an integral part of the European Union family, must consider sustainable development as the only rational perspective of national development through the confluence of economic, social and environmental factors.

Since 1997, sustainable development has become a political objective at the level of the European Union, through its inclusion in the Maastricht Treaty.

Later in 2001, the Gothenburg European Council adopted the Sustainable Development Strategy of the European Union, to which an external dimension was added in Barcelona in 2002.

In 2005, the European Commission started a process review of the Strategy and highlighted some unsustainable trends, with negative effects on the environment, which could affect the future development of the European Union, namely climate change, threats to public health, the degree of aging of the population, poverty and social exclusion, depletion of the natural resources and widespread damage to biodiversity. Thus, a Declaration on Sustainable Development Guidelines was adopted, incorporating the revised Lisbon Agenda for economic growth and job creation as an essential component of sustainable development.

The EU Council adopted, on June 9, 2006, the renewed Sustainable Development Strategy for an enlarged Europe. The document is designed to have as its overall objective the continuous improvement of the quality of life for present and future generations.

The EU Strategy for Sustainable Development is at the basis of the construction of Romania's national strategies in the field, with the aim of laying the foundations for future political decisions to ensure the sustainable development of Romania and a standard of living comparable to the developed states of the EU.

The responsibility for the implementation of the Strategy rests with the European Union and its member states, involving all institutional components at community and national level.

In order to achieve the objectives set by this strategy, we must pay special attention to the four key objectives:

1. Protection of the environment, through measures that allow economic growth to be dissociated from the negative impact on the environment;
2. Equity and social cohesion, by respecting fundamental rights, cultural diversity, equal opportunities and by combating discrimination of any kind;

3. Economic prosperity, by promoting knowledge, innovation and competitiveness to ensure high living standards and abundant and well-paid jobs;
4. Fulfilling the international responsibilities of the EU by promoting democratic institutions in the service of peace, security and freedom, the principles and practices of sustainable development everywhere in the world.

To ensure the integration and balanced correlation of the economic, ecological and socio-cultural components of sustainable development, the EU Strategy has developed the following guidelines:

- Promotion and protection of fundamental human rights;
- Solidarity within and between generations;
- Cultivating an open and democratic society;
- Informing and actively involving citizens in the decision-making process;
- Involvement of the business environment and social partners;
- Policy coherence and governance quality at local, regional, national and global levels;
- Integration of economic, social and environmental policies through impact assessments and stakeholder consultation;
- Use of modern knowledge to ensure economic and investment efficiency;
- Application of the precautionary principle in the case of uncertain scientific information;
- Application of the "polluter pays" principle.

Economic prosperity cannot be ensured without the consolidation and restructuring of the financial-banking sector, these efforts must be continued permanently with the aim of having stronger, digitized and well-capitalized financial institutions at the national level.

## Methodology

Information for this research was collected through a systematic review of academic articles, research papers, industry reports, regulatory documents and legislative frameworks relevant to the research area. Online databases, academic journals and authoritative sources in sustainable development were consulted to ensure the inclusion of the most recent and reliable information and to highlight the most relevant aspects to create a better future for our children. The collected data were subjected to rigorous qualitative analysis techniques, including thematic analysis and content analysis. The purpose of this effort was to identify how technology can help reduce pollution by using e-commerce and financial services that do not require consumers to travel to serve their needs.

Based on the literature and legislation review, we developed a list of relevant questions to ensure a management of the risks generated by the technology providers that are so present in our lives.

The need for this research effort came as a result of the inability of the local authorities to assess and supervise large technology providers.

The qualitative approach was chosen due to its ability to provide a deep understanding of complex phenomena, allowing exploration and gaining insights into the challenges and best practices associated with the management of risk induced by technology providers. Qualitative research allows for a nuanced examination of different risk factors, vulnerabilities and potential impacts on the entity, allowing for a more holistic view of an entity's resilience.

Further research is needed to develop decision-making models that can determine the types of providers that have the ability to provide quality services to the entity.

For risk management to be as effective as possible, easy-to-use risk analysis models are needed that can identify vulnerabilities both at the entity level and at the level of third-party providers.

## **Results and discussions**

All entities operating in the financial ecosystem that rely on the interdependencies between these entities, technology and communication providers and financial market infrastructures to ensure the settlement of financial and commercial transactions efficiently, quickly and securely to ensure economic and social stability and to ensure environmental protection by offering financial services anywhere without requiring consumers to travel to branches/agencies of financial entities.

Starting from the interdependence between these institutions and the companies that offer goods and services, especially those specialized in electronic commerce, we can say that electronic payments based exclusively on technology are the fuel for the engine of the economy and the digitization of the financial-banking sector helps to increase the speed of circulation of capital and will strengthen the interdependencies between financial entities. Digitization will ensure the development of electronic commerce and the connection of the national financial system with international financial markets in order to offer Romanian consumers the opportunity to access goods and services from anywhere in the world.

The last National Strategy for the sustainable development of Romania was adopted by the Government of Romania in the meeting of November 9, 2018, by HG no. 877/2018, with the involvement of the authorities, the private environment and civil society and establishes 17 strategic objectives for the development of Romania which, in addition to the pillars of economic, social development and environmental protection, also pay special attention to the health of the population. This strategy is in line with the 17 goals of sustainable development established by the United Nations.

With the emergence of the health crisis, humanity realized that health must be placed alongside the three great pillars of sustainable development.



Analyzing the health crisis, we can find that all the principles established in sustainable development strategies have been neglected to the detriment of ensuring the protection and health of citizens.

All sustainable development strategies should be built around the idea of "ensuring healthy lives and promoting well-being for all at all ages".

Starting from "Goal 8: Decent Work and Economic Growth" which sets as targets among others for the year 2030 "strengthening the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all" I consider that this objective must be treated responsibly so as to reach these difficult-to-achieve targets considering Romania's socio-economic situation today.

With the increase in the use of the Internet at a global level, a new way of commerce has also been created, that of electronic commerce, which offers consumers the opportunity to benefit from a much more diverse range of products and services. In order to be able to benefit from such services, it was essential to develop payment methods and digitize them so that e-commerce works efficiently and securely.

All these developments have facilitated the growth of e-commerce which, in my opinion, will soon surpass traditional commerce, so consumers can buy products and services from all parts of the globe and pay for them safely, quickly and most of the time without costs.

Digitization facilitated the interconnection of the financial system, creating the conditions for the cancellation of barriers related to the circulation of capital and the diversification of the financial market.

New technologies have helped the financial system to be competitive and address all the needs of the consumer of financial services.

All these developments also come with challenges related to ensuring the confidentiality, integrity and security of financial transaction data with increased attention to ensuring cyber resilience and the availability and reliability of IT systems.

With the advancement of technology and the traditional banking system had to update its products and services offered to customers so that they

continue to use banking services at the expense of the services offered by Fintech companies that offer innovative, easy-to-use and cheap products to consumers of financial products. Technology has increased the competitiveness of the financial sector and created the conditions for the development of new services, the reduction of operational costs and the increase of consumer satisfaction, creating the conditions for the principle of mutual advantage (win-win). Financial institutions attract more capital from consumers and they benefit from efficient and safe services.

Recent technological developments have facilitated the entry into the financial market of technology companies that have triggered the latest wave of innovation, accelerating the evolution in the financial field.

Many credit institutions, in the desire to remain in the attention of consumers, are expanding their range of services and products in the online environment as well. This was made possible by the conclusion of agreements between traditional financial institutions and Fintech companies. In some cases, traditional financial institutions have bought these Fintech companies to increase their competitive advantages.

With the launch of the new mobile banking applications, at the national level, there is an increase in the appetite of financial services consumers for digitized services. Thus, according to the information provided by these institutions, there are applications used by more than 1 million active users who use these applications in everyday life to make current payments and manage funds. Among the most popular applications we mention: George from BCR, BT Pay from Banca Transilvania and Revolut. These are some of the innovations brought by the Romanian banking system that can lead to a natural digitization of the financial-banking system at the national level.

When we talk about digitization, special attention must be paid to the global technological giants that aim to revolutionize the financial ecosystem and pose a threat to traditional financial intermediation. Among the biggest actors we mention PayPal, Google Pay, Apple Pay, Alipay, etc.

These companies benefit from major advantages such as their financial strength, their global footprint and the very large number of clients to whom they can provide financial services. These advantages and their superior ability to collect and analyze large volumes of data give them a strong informational advantage that is a strong foundation to expand in their range of services and in the financial field.

On the other hand, if they are not properly regulated, large technology companies can induce considerable risks both from an economic and social perspective because they are not specialized in providing services in the financial field similar to traditional actors.

The misunderstanding and lack of knowledge of the financial-banking market by these companies through the actions taken by them can affect the financial stability and the confidence of the population in the national economy. The most relevant example of this is the case of cryptocurrencies, which at the time of analysis have a market value of over 1.18 trillion dollars worldwide. If the value of these currencies were introduced into the real economy, it could destabilize monetary policy and affect the purchasing power of the population, especially in developing countries.

Another imported issue is related to the individual information managed by these large technology companies that has often been used for purposes other than those originally stated. This information may be misused for commercial or other purposes, with an impact on privacy and a major impact on commercial competition.

The fact that these companies are from outside Europe can make the European financial market heavily dependent on technologies designed and governed by other states, exacerbating Europe's vulnerability to external disruptions, including vulnerabilities to cyber attacks.

Technology is an essential component of today's financial ecosystem and increasing the speed of processing payment transactions is the natural response in a world where card transactions are increasing year on year and small Fintech companies are offering innovative products to consumers of financial products, cheap and easy to use.

Traditional institutions must have a quick reaction by offering similar products, otherwise they will lose their customers who are in constant search for the most effective and cheapest solutions, specially created for their consumption needs.

In order to respond to the new demands of consumers in terms of commerce, a complex process of digitization of payment methods is necessary in order to limit the pollution generated by the use of cash in the purchase of goods and services.

In order to ensure a high level of digitization, financial institutions must use the services offered by third-party technology providers.

The risks generated by these suppliers were also addressed at the G7 level.

Based on the findings from the literature review, starting from the principles presented in the document G7 Fundamentals for third-party cyber risk management in the financial sector, based on the principles presented in the G7 Fundamentals for third-party cyber risk management in the financial sector, the paper proposes a qualitative assessment framework for the cyber risk generated by third-party providers. The purpose of this assessment exercise is to help entities assess their own cyber security and resilience in the context of reliance on third-party providers and identify potential vulnerabilities and risks associated with these relationships. The review should be based on a set of questions designed to guide the assessment process and enable entities to make informed decisions about their third-party cyber risk management strategies. This analysis model was designed to capture key aspects of potential vulnerability and obtain detailed answers that enable a comprehensive risk assessment.

Risk management at the entity level must have the required elements to ensure a comprehensive approach to the risks generated by third-party providers. This approach must also include a series of metrics that highlight the impact at the entity level if the non-critical supplier is unable to provide the services to the entity. The analysis must also

highlight the potential contagion effect at the level of the entity in the event of a cyber attack regarding a service provider.

To ensure this risk assessment, the management of any entity must answer a series of questions:

What are the mechanisms for periodic assessment of risks induced by critical suppliers?

Are critical suppliers included in business continuity plans?

Are the capabilities of critical crisis response providers regularly tested?

What are the communication mechanisms in crisis situations?

Are there regular tests of service quality levels set by service providers?

How are critical suppliers evaluated in the contracting process?

What types of risk management information is regularly collected from suppliers?

Do contracts with suppliers include provisions for the orderly termination of contractual relationships and the transfer of data and assets within a reasonable period of time so that activities and services at the entity level are not affected?

Does periodic cyber resilience testing cover services provided by third parties?

The answers to these questions can give risk managers a clear picture of how to manage the cyber risk posed by third-party vendors. If it is found that there are no definite and clear answers to the questions mentioned above, it is essential that the entity adopts additional measures aimed at mitigating the vulnerabilities identified by analyzing the answers to the questions above.

## **Conclusion**

Starting from the "National Strategy for the Sustainable Development of Romania 2030" approved by the Government of Romania, I believe that the objectives set for the financial-banking sector are achievable if there

will be a close collaboration between the authorities and actors in the financial market.

Digital transformation will trigger a revolution in all sectors, including the financial one, which will bring innovation, speed, but will also lead to increased risks, operational risks in general and cyber risks in particular.

In order to respond to the challenges of managing cyber risk and ensuring cyber resilience at the level of an entity, I propose to make a qualitative assessment of risks, especially those of a cyber nature that are induced by third-party providers. Applying a qualitative assessment based on the questions described in this material can provide a series of useful information to support management in strengthening the degree of maturity of the entity from the perspective of cyber resilience.

Taking into account the potential of Romania in terms of the specialization of several companies in the field of ICT, especially in the development of IT applications and solutions, a country project must be implemented at the level of the decision-makers, with the aim of at least achieving the objectives set out in " The National Strategy for the Sustainable Development of Romania 2030" and ensuring an optimal level of cyber resilience at the national level.

The development of new financial services based on technology, at the level of Romania, will lead to an increase in the speed of circulation of capital at the national level, a considerable decrease in the resources needed to manage cash, a better supervision of the circulation of capital, increasing the confidence of consumers in the national currency and will ensure the maintenance of financial stability and sustainable development.

My aspirations as a financial-banking services consumer are that in the future, which I hope will be as close as possible to the present moment, to be able to have access to financial services at any time from anywhere in the world: efficiently (easily and at a reduced cost), fast (instant) and secure using only a mobile phone, with the possibility of accessing all the services offered by government structures through the simple use of an application.

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