

INTERNAL AUDITING & RISK MANAGEMENT



YEAR XVI, Supplement No. 62, June 2021



**ATHENÆUM
UNIVERSITY**

INTERNAL AUDITING & RISK MANAGEMENT

**Quarterly journal published by the „Athenaeum” University & Centre of
Excellence in Financial Management and Internal Audit**

YEAR XVI, Supplement No. 62, June 2021

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BREN Publishing House
12 Lucăcești Street, District 6, Bucharest, Romania
Tel/Fax: 0318179384
www.editurabren.ro
e-mail: brenprod@gmail.com
ISSN 2065 – 8168 (print) ISSN 2068 - 2077 (online)

Indexed by:
RePEc , CEEOL, SSRN, EBSCO, CiteFactor, Google Scholar

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DOI: 10.5281/zenodo.6396274

MANAGEMENT OF OPEN SOURCE INFORMATION IN THE MANAGEMENT OF CURRENT CYBER THREATS AND WAYS TO FIGHT FRAUD AT FINANCIAL COMPANIES

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Abstract: *The multiple ways of accessing the virtual environment are changing, those who access the Internet are changing and the role that the Internet plays in our lives. In 1995, only 1% of the world's population had access to the Internet. There are now over 4 billion Internet users worldwide and this number is growing. Over time, cyberspace has generated a series of controversies, starting from the difficulty of being given a unanimously accepted definition. At both state and institutional levels, an attempt was made to define this new concept, the results being different and adapted to the specifics of each organization. Thus, in the Cyber Security Strategy of Canada, cyberspace is presented as “the electronic world generated by the interconnection of computer networks”, and in the Cyber Security Strategy of the United Kingdom of Great Britain and Northern Ireland, it is defined as “An interactive domain of digital networks that store, modify and transport data”.*

Keywords: *cyberspace, artificial intelligence (AI), Big Data, COVID-19 pandemic, corporate governance, Open Source Intelligence OSINT, economic perspectives, OSINT type analysis*

JEL Classification: *F3, O3*

1. Introduction

Cyber threats have recently become a phenomenon that can be seen in societies previously known as “developing countries”, which are entering the cyber bubble due to the extremely rapid development of wireless telephony networks. *But the movement is even more evident in developed societies, where cyber coverage is much more significant and much faster.*

Digital systems have become very complex so that a cyber attack cannot be detected and prevented in time, which is why all states are currently preparing and studying such illicit activities through the permanent development of methods to prevent possible attacks.

Within the Romanian Cyber Security Strategy (2013), the cyberspace is characterized by “lack of borders, dynamism and anonymity, generating opportunities for the development of the information society based on knowledge, but also risks to its functioning”, with implications both individually, as well as the state.

At the level of the **International Organization for Standardization** (ISO), cyberspace is dealt with extensively in the ISO 27032 standard, relating to cybersecurity. In the document, cyberspace is defined as “a complex environment, resulting from the interaction between people, software products and services through the Internet and computer networks.”

Artificial intelligence (AI) is the ability of a machine to mimic human functions, such as reasoning, learning, planning, and creativity. Thus, artificial intelligence allows technical systems to perceive the environment in which they operate, to process this perception and to solve problems / equations, acting only in order to achieve a specific goal. The computer / machine receives the relatively prepared data (collected, processed, analyzed, integrated, evaluated) through its own sensors (eg video camera), which it reprocesses, reacting in accordance with the predefined purposes.

AI systems (software or hardware) are able to adapt, to a certain extent, their behavior, analyzing the effects of previous actions and operating autonomously. They also act in physical or digital environments, thus perceiving them according to the data received, the interpretation of the structured or unstructured data received, in full resonance with the knowledge or as a result of processing the information obtained from this data to decide which is best course to be followed according to predefined goals (Stegaroiu et al., 2014).

AI systems can use symbolic algorithms or learn certain numerical models on their own, and can adapt their behavior by analyzing the effects that their previous actions have on the environment in which they operate. Thus, Machine Learning (ML) is a subdomain of AI, in which specific algorithms

learn how to continuously develop certain patterns from a data set to determine the actions to be taken to fulfill a certain purpose.

In this context, recently, criminal entities and organized crime groups have integrated new AI technologies into their modes of operation, which has led to constant changes in the global crime landscape, thus creating significant threats to law enforcement authorities in and cyber security in the alternative.

We must also reiterate that this new space cannot be reduced to computers alone. Cyberspace can be described according to a triple layered model: a hardware layer (because, despite the emergence of “virtuality”, cyberspace is based on an extremely dense and often unnoticed physical infrastructure); a logical layer (the computer itself); and a semantic layer, often overlooked, but extremely important (Kempf, 2012).

On the one hand, big data is the key to innovation and the creation of solutions to complex social and economic problems. On the other hand, the exploitation of personal data on an increasingly large scale raises previously unsuspected risks, from diminishing the personal autonomy of citizens and consumers to undermining the organization of democracies and competitive markets. In this context, the importance of cultivating the thematic sensitivity of the public and developing the skills of future experts who will create and implement strategies for the use and security of data increases (ACS Advanced Cyber Security, n.d.).

2. Concrete threats of Artificial Intelligence in the context of their use by criminal entities

Cybersecurity specialists have identified 3 main areas in which various attacks can be initiated that can make the processes related to artificial intelligence vulnerable, namely:

1. **Contradictory examples** - attempts by the attacker to confuse the AI system by incorrectly classifying the data received, thus being able to cause the victim to make decisions based on erroneous data.

2. **Trojan malware** - modifies the system during the learning stage, also producing an erroneous classification of data. Model reversal is a process by which the attacker breaks down (by reverse engineering) the AI system in an attempt to identify the information used to create the model / algorithm.

3. **IoT (Internet of Things) industry** - is booming, offering unlimited opportunities for criminal entities to:

- Network attacks - involve compromising IoT devices through the network to which they are connected;
- Distributed Denial of Service (DDoS) attacks - the attacker uses bot networks to send a lot of messages to a network that has IoT devices.

Thus, it is overloaded, making all connected systems unavailable. DDoS attacks on IoT devices work similarly to those carried out against any other type of device;

- Radio frequency blocking attacks - these affect wirelessly connected IoT devices, causing them to lose connection or reduce their ability to communicate on the network. Such attacks are most common on IoT alarm systems.

On the other hand, IT&C infrastructures in smart cities are attractive to hostile cyber actors, who can exploit cybersecurity vulnerabilities to affect or make unavailable public services provided. Thus, the theft of personal data and the one aimed at the identity of a person are constant operations of criminal entities, which take over financial data related to the payment system implemented in electric vehicle charging stations, in order to subsequently carry out fraudulent transactions. In the same context, data theft is also associated with the activities of taking control of electronic / electrical devices, the attacker compromising smart meters, including for the purpose of energy theft.

Also, other types of attacks by using AI can follow the interception, redirection or interruption of communications between two systems (man-in-the-middle), when the criminal entity aims to make unavailable the water filtration system by intercepting the communication channel used by this in order to manipulate the transmitted data and subsequently to generate erroneous orders.

Other current and future scenarios related to the use of artificial intelligence for illicit purposes may result from the widespread presence of fraud schemes in the field of social engineering, those related to the generation of false content in the online environment (eg high quality phishing and spam emails written in lesser known languages), activities to filter out a certain type of content / data from documents belonging to individuals / legal entities, those related to the use of robocalling operations v2.0 , corruption of facial recognition systems present in the high technologies of autonomous cars, drones, as well as other land and air electric vehicles, manipulation of stock prices on stock exchanges, as well as transactions carried out at the level of financial-banking institutions and IFN as well as intentions to avoid detection and recognition systems (installed at level i public institutions, in various security areas, banks, etc.).

3. Perspectives of the use of Artificial Intelligence in Romania

The National Defense Strategy stipulates that 5G networks will support multiple communications applications and information technology implemented, including at the level of critical infrastructures, so that the integrity, confidentiality and availability of telecommunications will be important issues of national security.

Some technological vulnerabilities of 5G networks could be exploited through artificial intelligence to compromise, by state or non-state entities, interdependent infrastructures, with the risk of causing severe damage to the national security architecture.

Ensuring the protection of communications infrastructures and information technology with critical values for national security, as well as the knowledge, prevention and countering of cyber threats carried out on them by strategically motivated actors, extremist-terrorist ideology or financial interests, are important objectives to be taken into account by national law enforcement authorities.

Under the impetus of technological developments, in the medium term, the Romanian space will become an area of intense manifestation of interconnected risks and threats, which will increase the complexity and volatility of the national security environment. These trends are now accentuated by the increasing relevance of non-state actors and the proliferation / resizing of cross-border threats, such as terrorism, hacktivism and organized crime in the European space.

The increasing use of artificial intelligence in current technologies, online payments, cryptocurrency transactions, while the growing interest in BigData, IoT, quantum technology and the hidden Internet (DarkWeb), outlines the prospects for their use in organized crime, cybercrime, hacktivist, terrorist or extremist activities, which are not excluded even in offensive operations coordinated by state entities related to the interests of non-state actors.

In practice, the low level of cyber security of national IT&C infrastructures, including as a result of the procedural technological vulnerabilities of the infrastructures owned by internet / communications operators, will continue to maintain the aforementioned risks.

4. The economic perspective

The increase in economic power and the influence of the big technology giants is easy to notice in synthetic indicators, such as turnover, number of users or the share they occupy in a given market. All the more remarkable is the consolidation of their economic power during the global crisis triggered by the COVID-19 pandemic.

Technology platforms create markets that significant proportions of the world's population play as bidders or consumers - from information markets created by search engines like Google, Bing or Yahoo, to digital application markets like Google Play or App Store, to markets retail markets such as Amazon Marketplace, real estate markets such as Airbnb or Booking.

com, transportation markets such as Uber or Lyft, as well as crowdsourcing or microjobs labor markets such as Amazon Mechanical Turk or Yandex.Toloka.

5. OSINT Data Management (Open Source Intelligence) in current risk management

The resources at the level of each organization are limited, it is necessary to achieve an efficient and effective management of the activities carried out, based on the results and conclusions provided by the types of information analysis (OSINT), in order to meet the organization's objectives. (This activity it is very important taking into account budgetary restrictions, being necessary planning and correct allocation of available resources.) Thus, by adapting and integrating existing analytical techniques, it will be possible to correctly anticipate political, economic, social, technological and security developments, which will allow managers to have correct and efficient, scientifically based measures that allow them to maximize results. , simultaneously with the efficiency of the resources used (Ivan, 2018).

OSINT (Open Source Intelligence) is a component of the “intelligence” process and represents, in essence, the information carefully filtered, selected, analyzed and presented to the beneficiaries in a timely manner, obtained exclusively from open sources. With the information age and the development of global communication, open sources have also received increased attention from experts in the field of national security.

OSINT-type analysis is an important strategic capability by providing an overview of the context and threats to various critical / important issues, so that decision-makers can establish and implement long-term policies.

Equally important, open source analysis has the advantage of presenting, together with possible immediate effects, a perspective view of the phenomena that are the subject of the decision-makers' activity, which will allow them to amplify their capacity to prevent and respond to possible crises. appeared.

On the other hand, OSINT products contribute to the analysis of multi-source intelligence (internal sources, open sources), by identifying elements necessary to understand the general context, by providing information that can not always be obtained from classified sources and by facilitating access to certain types of expertise from different areas of interest.

At the same time, from an analytical point of view, it is considered that at the level of each organization, managers are obliged to make decisions regarding the organization of the activity, with or without analytical support. However, in order to make scientifically sound decisions, the manager needs the information analyst and an analytical product that contains correct

information, presented in a coherent, clear and explicit manner and, perhaps most importantly, in a timely manner (Ivan, 2018).

6. Recommendations for the prevention and limitation of the effects of cyber attacks at the level of public institutions in Romania

The online environment, through its resources and hardware / software components, is used for the transfer of information between all entities, from companies, organizations and agencies to end users. Cyber attacks are not just physical environment - mobile equipment, computer systems, smartphones, etc. - but also the logical one - operating systems, applications, e-mail, information transfers between companies or cloud operations.

Most incidents (hardware and software) in public institutions in Romania refer to fixed equipment (38%), followed by e-mail (25%) and Web applications (17%) (Mihai and Ciuchi, 2017).

Cyber attacks have an increasing trend in terms of both volume and complexity, leading to increased risk, additional costs and potential losses for public / private companies. Institutions operating in the financial and capital markets are the most targeted targets being attractive due to the volume of financial transactions and the sensitivity of the data circulated, such as information about customers / suppliers, databases, business plans and confidential strategies / investments, intellectual property (trading algorithms), customer portfolio or list of users and passwords.

Good cyber security practices for public institutions in Romania that aim to establish and maintain a robust and well-implemented awareness of cyber security and ensure that end-users are aware of the importance of protecting sensitive information and the risks of mismanagement of information.

1. Monitoring applications that have access to data

Available applications provide an organization with the tools it needs to function and be productive, with the risk of jeopardizing sensitive data. Protecting information involves installing firewalls and building the infrastructure around the data to be protected. The configuration of firewalls must be done carefully, access rights being granted only to applications entitled to read or write confidential data.

2. Creating specific access controls

By creating specific access controls for users, they can limit access only to the systems they need for service tasks, thus limiting the exposure of sensitive data.

3. Collection of detailed logs

Full logging of what is happening in the company's network systems - both for security and troubleshooting purposes - detailed logs and complete reports must be collected. This is especially true for applications that do not have registrations so that any security breaches created by these applications can be identified and remedied.

4. Education and training of users

Users are usually the weakest link in terms of security information, and this risk can be limited by educating them on cyber security best practices. The training should include how to recognize a phishing email, create strong passwords and avoid dangerous applications, keep information inside the company and any other risks related to cyber security.

5. Clearly define usage policies for new employees

In order to strengthen and clarify the education provided to users, employment should be highlighted clearly the requirements and expectations that the company has in terms of IT security (employment contracts must provide for sections which clearly define these requirements security).

6. Monitoring user activity

While well-trained users are the first line of security, it is needed technology as the last line of defense. By monitoring the activity of users it is checked whether their actions comply with good security practices.

7. Conclusions

Against the background of the exponential evolution of artificial intelligence with direct applicability in the field of IT&C technologies, it is essential to increase the level of concern that national authorities should give to cyber security, and thorough training is needed to ensure a high level of awareness regarding the cyber security risks and threats to which the various entities are exposed, both at individual level and at organizational / institutional level.

The resources at the level of each organization are limited, it is necessary to achieve an efficient and effective management of the activities carried out, based on the results and conclusions provided by the types of information analysis (OSINT), in order to meet the organization's objectives.

Thus, by adapting and integrating existing analytical techniques, it will be possible to correctly anticipate political, economic, social, technological and security developments, which will allow managers to have correct and efficient, scientifically based measures that allow them to maximize results, simultaneously with the efficiency of the resources used (Ivan, 2018).

Cyber security is considered as the constant need to see the continuous evolution of the relevant regulations encountered in the virtual environment.

8. Proposals

In this context, at the level of national authorities it is appropriate that:

- AI should be exploited by law enforcement institutions to their full potential in terms of the beneficial effects that this technology can have in preventing and combating crime, while ensuring robust, legal, ethical and technical operating principles;
- AI innovation is constantly promoted including by supporting good practices in the field (ENISA, EUROPOL, INTERPOL, UNICRI);
- enhancing cyber resilience in a timely manner to prevent possible use of AI for illicit purposes, including by mapping threats in this area;
- the use of risk management to be a constant activity at the level of public institutions to classify the various threats resulting from current and future uses and the misuse of AI;
- the development of the legal and technological framework aimed at the protection of AI systems to be carried out only in carefully controlled security environments (on the principle of the sandbag);
- encourage the adoption, at national level, of an individual-centered IA approach (including through prevention campaigns), as well as sets of cybersecurity standards for this type of technology;
- to encourage and develop the interest of law enforcement authorities in their ongoing preparation to limit the developments that cybercrime constantly generates;
- to initiate public-private partnerships, including by co-opting international experts, in order to know the current and future developments of the field of AI.

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DOI: 10.5281/zenodo.6396290

SHARED MANAGEMENT IN THE EUROPEAN CONTEXT OF SIMPLIFICATION

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Abstract: *With each new period of financial programming, the European Commission has imposed more and more conditions on national management and control systems, although at European level there is a wish of simplifying procedures for accessing European money. Simplification is one of the highest expectations of national authorities regarding the new cohesion policy, and the European Commission aims to meet this expectation. The positive impact of simplification on policy outcomes can be ensured by efficiently distributing the necessary administrative efforts at national, regional and Community level, reducing the time and costs required to achieve objectives and allowing focus on results. By establishing simpler rules, which are easier to understand by the actors involved, thus strengthening legal certainty, simplification can also help to reduce errors and increase the assurance provided by national enforcement systems. The European Commission has proposed simplification through various methods, harmonization of legal rules for the application of more funds, increased flexibility, increased proportionality, clarification of rules to improve legal certainty and digitization of documents and processes. Simplification will not have a full impact only on the basis of proposals from the European Commission, all national authorities involved in the MCS play a key role in ensuring that simplification is achieved for beneficiaries. The full effects of simplification may also depend on the administrative organization at national level. A reduction in the administrative burden to which beneficiaries are subject is the main goal in the simplification process.*

Keywords: *management, simplification, flexibility, proportionality*

JEL Classification: *H0*

1. Introduction

Considering the reference starting point that the principles governing the European financial allocations granted to Romania are of a healthy financial management, our approach aimed mainly at outlining a set of management measures focused on improving the implementation of European funds. The article begins with a first section that summarizes the defining elements of shared management in the European context of simplification, in order to outline a very flexible fund management and control system capable of preventing, detecting and correcting possible malfunctions. The second part of the article outlines the measures needed to create a management and control system aimed at simplifying bureaucratic procedures for accessing funds, which can lead to an acceleration of the implementation of European funds in compliance with national and Community rules.

2.1. Shared management in the European context of simplification

The shared management of European funds implies a clear delimitation between the responsibilities of the European Commission and the national authorities that form the management and control system of a program, but whose main purpose is the implementation of funds based on the principles of sound financial management. Practically, the shared management must be ensured throughout the implementation of the funds starting from the fund's programming documents, as well as on all the stages of implementation of the European funds.

The European Commission has imposed more and more requirements over national MCS with every new period of financial programming, although at European level there is talk of simplifying the procedures for accessing European money.

Although the 2014-2020 mainstream investment programs were approved in 2014 and 2015, after more than 6 years, of the approximately 31 billion euros (including the part of PNDR) allocated from the European Union, only 15.46 billion euros (European contribution) were paid to the beneficiaries of funds. In percentages that represents about 50.03% of the total Community financial allocation. From the information available on public platforms, the absorption rate in Romania is at a level of 52%, which is below the level of 58% of the EU average.

Although a European legislative package was adopted in March 2020 in the context of the Covid-19 epidemic, allowing national authorities more flexibility in implementing the funds, the results are not at all satisfactory,

given that Romania will have to declare within 3 years the expenditure related to almost half of the Community contribution.

For the 2021-2027 programming period, the European regulations were approved in July, but there are already long delays in the drafting and approval of the operational programs.

Simplification is one of the highest expectations of national authorities regarding the new cohesion policy, with the European Commission aiming to meet this expectation.

Given the diversity of experiences and differences in national administrative organization, it has become clear that what can be seen as simplification in some Member States can be seen as a complication of things in other states. It has become an ongoing challenge in the management of European funds, to try finding enough similarities and to combine them flexibly in order to simplify the management of cohesion policy.

The Commission sees the value of simplification in terms of several aspects, which is necessary to ensure the smooth implementation of cohesion policy and to further interest the beneficiaries. This can have a positive impact on policy outcomes by ensuring an efficient distribution of the necessary administrative efforts at national, regional and Community level, reducing the time and costs required to achieve objectives and to allow results-oriented focus. By establishing simpler rules, which are easier to understand by the actors involved, thus strengthening legal certainty, simplification can also help to reduce errors and increase the assurance provided by national implementation systems. Thus, simplification comes in several forms, some explicit and direct, while others are optional or may require transposition into the national law.

The European Commission has proposed simplification through various methods, harmonization of legal rules for the application of more funds, increased flexibility, increased proportionality, clarification of rules in order to improve the legal certainty and the digitization of documents and processes.

Simplification will not have a full impact only on the basis of proposals from the European Commission, all national authorities involved in the MCS play a key role in ensuring that simplification is achieved on behalf of the beneficiaries. National authorities are encouraged to make the most of all the options and flexibility offered by the European legislative framework and to make the most appropriate choice. The full effects of simplification may also depend on the administrative organization at national level. A reduction in the administrative burden to which beneficiaries are subjected to is the main goal in the simplification process.

In the context of simplification, the European Commission has proposed the following for the 2021– 2027 programming period:

- Legal framework - a shorter, unified legal framework that provides certainty from the beginning;
- Policy framework - a streamlined framework for simpler programming;
- Conditions - fewer strategic requirements to increase the effectiveness of cohesion policy;
- Faster and more strategic programming - for a faster and easier start of implementation;
- Territorial instruments - simpler design adapted to local situations;
- Simpler implementation - faster and simpler application of results;
- Management, control and audit - a simpler and more proportionate system that is largely based on national systems;
- Financial instruments (FI) - simpler and less detailed provisions;
- Monitoring and evaluation - more frequent but easier reporting, streamlined provisions.

Simplification is needed in the context of the new programming period, given that we do not currently have operational programs approved and the institutional building at Member State's level is not finalized as yet.

2.2. Measures needed to create a national management and control system aimed at simplifying bureaucratic procedures for accessing funds

Starting from the European Commission's guidelines on simplification, we will further present the directions in which the Romanian authorities should undertake a series of measures to make the fund implementation mechanism more flexible. These proposals are based on the results of the analyzes from the previous chapters and the case study detailed in Chapter 5. The proposed simplification measures concerning the procedures for accessing funds are grouped into four levels.

The national legal framework should be shorter, unified and provide certainty from the beginning as follows:

- Taking over Community provisions as presented in the documents issued by the EC without its own reinterpretation, which can lead to confusion in implementation;
- Harmonization of all normative acts applicable to a domain, considering that there are still contradictory provisions;
- Elimination of all national legal provisions from normative acts that are in addition to the Community provisions, and which lead to an excess of conditions and documents;

- Elimination of gold plating in certain areas, which do not require definition or detail in a normative act, being sufficient the instructions of the managing authorities or the clauses in the financing contract;
- Modification of legislative acts, norms and working procedures regarding the part of elaboration of feasibility studies and technical projects, starting from the problems encountered during the implementation of works contracts;
- Modification of the normative acts regarding the ascertainment of irregularities and recovery of budgetary receivables, in the sense of shortening the stages of ascertaining irregularities and establishing budgetary receivables, non-interruption of payments to beneficiaries for suspected fraud until all judicial steps are completed and a final court decision is reached, clearly establishing what type of irregularities cannot be sanctioned by financial corrections.
- Establishing precise deadlines for the investigation of suspected fraud by DLAF, given that the amounts cannot be declared to the European Commission without a conclusion from this investigating authority;
- Adoption in normative acts of certain types of simplified costs, for certain types of expenses dedicated to the domains regarding education, health, project management, etc.
- Adoption of much more flexible legal procedures in the area of expropriations;
- Modification of the legal framework in the area of public procurement regarding the latest events caused by the COVID-19 pandemic, as an example on the part of adjusting the price clauses.

The national policy framework in certain domains should be established from the beginning in line with the objectives of cohesion policy, so that the objectives are achieved regardless of the source of funding (state budget, local budgets, European funds, external loans, etc.).

Approved national programs, such as the PNDL, should ensure complementarity to the European operational programs, in order to be able to ensure the transfer of projects from a national program to a European program at some point, when the macroeconomic indicators are not favorable to Romania.

Emphasis should also be placed on the financial stimulation of the human resource participating in the achievement of the objectives, in correlation with a series of easily quantifiable performance indicators.

Very important in order to have a successful absorption, is preserving the possibility to over contract, through allocation financial resources from the national budget when the European financial resources are exhausted.

Faster and more strategic programming after the approval of European regulations, in order to have a faster and easier start of program implementation, as it follows:

- The text of the programs should be clearly understood by all actors involved in the implementation of the funds, focusing on the achievement of objectives and allocations for each fund;
- Establish easily quantifiable technical and financial indicators at program's level, mirrored by project level indicators, for easy cumulation of results;
- Flexible national procedures for amending the program;
- Inclusion in the program of national strategic projects established by national economic policies from its very beginning;
- Inclusion in the programs of the so-called phased projects from its very beginning, namely projects started in the 2014-2020 programming period and which present a high risk of non-completion until 31.12.2023;
- Establishing criteria for evaluating and selecting projects that are much more flexible, easy to understand and quantify. The details can be established later through the guides of the beneficiaries;
- Usage, whenever and in whichever domain allowing this, of the simplified cost methods;
- Usage, whenever and in whichever domain allowing this, of financial instruments.

The management and control system at the level of an institutional program should be much more flexible in order to eliminate the excess of verifications at the level of the beneficiary.

Every MCS coordinate requires undertaking a series of measures for the 2021-2027 programming period, as it follows:

- Creating a coherent and well-structured institutional MCS, both at horizontal and vertical levels, by:
 - Developing an MCS with as few as possible verification filters, by merging tasks within the same authority, where the European regulations allow it;
 - Maintaining the institutional expertise of the national authorities involved in previous programming periods. There is a re-occurrence of the same mistake of the past namely giving up certain structures such as MA ROP, IB Research, IB PSI that had the necessary expertise and experience in implementing European funds;

- ANAP must have a very well-defined role, as the support function of the MCS authorities is not sufficient in the efficient functioning of the management and control system of ESI funds. We must not forget that Romania has had many financial corrections from the European Commission due to irregularities related to public procurement procedures, and ANAP is very important especially for its preventive (ex-ante) role before signing the procurement contracts;
- Active and continuous involvement of national support authorities (ANAP, ANAF, ISC, DLAF, DNA, NATIONAL PROSECUTOR'S OFFICES, DIICOT) in order to understand the principles of operation of the fund's implementation mechanism, in particular the methodology of drafting and transmitting the annual accounts to EC and the risks associated with delays in judicial and administrative proceedings;
- Closing protocols between all the institutions directly involved or having a supportive role in the mechanism set for implementing European funds, clarifying all deadlines and obligations in those areas where Community and national legislation does not provide any information;
- Involvement of internal audit and other internal control structures in certain risk areas before the expenditure is declared to the EC;
- Establishment of working groups with participants from all institutions directly involved in the MCS or of supporting role, in order to outline a series of proposals, administrative measures or legislative changes unanimously accepted by all;
- The decentralization of the ROP for the 2021-2027 programming period requires a cumulation of legislative changes, in order to ensure the financial flow regarding the commitment of funds and payments to beneficiaries. RDAs are bodies with special status, as they are not assimilated to public authorities, the latter being subject to certain rules deriving from the legislation on public finances, respectively on the area regarding the status of civil servants;
- Digitization of the information flow between beneficiary, IB/MA, CA, AA and EC;
- Regularly updating the guide on case scenarios regarding possible irregularities to be avoided and its publication communicated to all beneficiaries of funds;

- Establish clear and concise standard formats for tender documentation, leading to the elimination of confusion and requests for clarification, and even potential appeals in court.
- Ensuring qualitative human resources, by:
 - The allocation of human resources should be balanced in terms of workload, especially where there is a risk of irregularities and fraud in the area of evaluation - selection of projects and management checks on public procurement, authorization of payments, monitoring of projects and physical checks on beneficiaries;
 - Hiring the necessary human resources, even from an external source, in order to be able to quickly process the requests coming from the beneficiaries;
 - Professionalization of human resources in certain fields;
 - Stopping the staff turnover at top management, during the last 5 years, about 5 of the MA's general managers were changed;
 - Establish easily quantifiable performance indicators at job description level, correlated with program level indicators, to allow the easiest possible aggregation of information to be reported to the EC;
 - Ensuring continuous training of staff, especially in areas of potential risk of irregularities: public procurement, state aid, etc.
- Appropriate and risk-oriented procedural framework:
 - Clarification with the European Commission on the proportionality of controls and simplification of requirements, in areas where it is possible to demonstrate that the risk of irregularities is very low;
 - Clear procedures for project's evaluation and selection, focused on risks with timely provision of specialized human resources;
 - Shortening the stages of evaluation and selection and settlement of expenditure, and the application of sanctions where lack of compliance exists;
 - Clear and concise procedures for risk-focused management audits;
 - Use of specialized software for sampling management checks;
 - Continuous monitoring of projects of regional and national importance;
 - The annual implementation reports must contain an action plan approved by the European Commission on measures to increase absorption, and its implementation must be reported regularly;

- From the point of view of program's management, the managing authority should focus on monitoring the functions delegated to the intermediate bodies, the on-the-spot checks should be carried out on a sample basis and the certifying authority should comply with the requirements of the regulation and any other additional checks should be removed;
- The development of clear and concise funding guidelines, which will lead to the elimination of confusion, and in this case, I believe that the experience gained so far is of real use.

At the level of the beneficiary, it is also necessary an active involvement in all phases starting from the drafting of an operational program, a financing guide or even some normative acts, subject to public debates, respectively the establishment at its level of the following actions:

- Creating an appropriate institutional framework by:
 - Creating, where possible, especially at the level of large beneficiaries or a dedicated project team, specialized departments consisting of specialists from all structures of the organization;
 - Establishing through the Organization and Functioning Regulation and other internal regulations the functions and attributions of each structure within the organization, regarding the implementation of projects;
 - Establishing through the Organization and Functioning Regulation and other internal regulations, the job descriptions, the role and responsibilities of each member of the project's team;
 - Nomination of a team manager with experience in the field;
 - Continuous coordination with the other departments within the institution and with other institutions that have a small role in the implementation of projects.
- Ensuring the necessary human resources, by:
 - Establishing specialized project teams in different fields, necessary for project's implementation;
 - Financial stimulation of the human resource participating in the fulfillment of the objectives, in correlation with a series of performance indicators;
 - Continuous training of the staff involved;
 - Stopping staff turnover at the level of the project team.

- Adequate project management, through:
 - Continuous information of the organization's management about the possibilities of financing new projects;
 - Providing the necessary financial resources in time, in the event of unforeseeable situations;
 - Early preparation of project proposals, considering all risks that may affect the smooth running of projects;
 - Thorough preparation of tender documentation, to eliminate potential problems that may arise in the implementation of projects;
 - Ensuring specialized evaluation commissions during the tendering procedures which have the necessary experience in evaluating the submitted tenders;
 - Procurement procedures should be transparent and allow the participation of as many tenderers as possible;
 - Continuous monitoring of ongoing projects;
 - Informing and proposing measures regarding the smooth running of procurement contracts.

3. Conclusions

The European Commission has imposed more and more requirements on the national MCS with each new financial programming period, although a European legislative package was adopted in March 2020 in the context of the Covid-19 epidemic, allowing national authorities more flexibility. In the implementation of the funds, the results are not at all satisfactory.

Simplification is one of the highest expectations of national authorities regarding the new cohesion policy.

Outlining a set of management measures focused on improving the implementation of European funds is grouped around the following factors:

- Improving the legislative framework;
- Coherent target-oriented national economic policies, regardless of the funding source;
- Active participation of all decision makers;
- Keeping the positive elements of the past;
- Professionalization of human resources;
- Debureaucratization of national authorities involved in the management and control system of a program;
- Actions aimed at prevention and less at sanctioning;
- Digitization of information flow.

In order to create a friendly climate for the beneficiary, given the favorable synergistic effect that the interdependence of the listed factors creates, the aim will be to achieve a series of objectives, as it follows:

a) The development of a flexible and professional management and control system, oriented on results and achievement of performance indicators, by creating and developing a coherent and well-structured institutional framework both at horizontal and vertical levels, ensuring qualitative human resources, development of an appropriate and risk-oriented procedural framework;

b) The development of a system accessible to potential beneficiaries of funds by digitizing the exchange of information (friendly IT system) and documents with MCS institutions, clear and easy-to-understand instructions and guides for obtaining European funding, and focusing the actions of MCS' authorities more on the part of prevention and awareness of beneficiaries to avoid the main problems that may arise in the implementation of projects, and less on the application of financial sanctions;

c) The development of a coherent legislative framework that takes over the Community legislation without other reinterpretations, thus eliminating from the national legislation of the excess of regulation related to the community norms;

d) Development of national economic policies complementary to Community policies for the implementation of European funds on a medium or long term.

Simplification is needed in the context of the new programming period, as currently the operational programs are not approved and institutional building at the Member State's level is not finalized.

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DOI: 10.5281/zenodo.6396292

APPLICATION OF MODERN METHODS IN THE ECONOMIC-FINANCIAL ANALYSIS OF ECONOMIC ENTITIES

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Abstract: *Modern methodologies, methods and tools for increasing the performance and competitiveness of economic entities play an increasingly important role in optimizing the economic and financial analysis of economic entities. Among the most used by such modern methodologies are the ABC method (Activity Based Costing) and the linear regression method.*

Keywords: *economic-financial analysis, ABC method, linear regression method, economic entity*

JEL Classification: *M 41*

1. Introduction

The purpose of the economic-financial analysis consists in obtaining a maximum profit and achieving an efficient activity, thus ensuring the survival of the entity for a long period of time. Achieving these goals required the emergence of modern methodologies and tools for economic and financial analysis. The presentation of modern methodologies joins the ABC method to support the specific analysis from the perspective of allocating costs and the elements that generated them. The linear regression method is used to develop the regression equation by which the turnover dependent variable is explained by the independent variable the average number of employees identifying a significant correlation. The linear regression model is validated by the Sig F Change value that falls within the reference level.

2. Literature review

The use of methodologies and methods that would lead to the optimization of the economic-financial analysis of the entity represented one of the most

important scientific achievements. The origin of modern methods usable in economic or financial analysis is found in the U.S.A. with the elaboration of “The Hidden Factory” by Jeffrey G. Miller and Thomas E. Vollman. The two authors subjected to a critical analysis the sectors and places of common costs(indirect), reaching the decision that the next step for controlling these costs is to develop a model that presents in detail and structures the causes of these costs. Those who made the first attempt for such a model, in 1987, are Robert S. Kaplan, Robin Cooper and Thomas H. Johnson. It’s the time when in the U.S.A., the Activity Based Costing system appeared and in Germany, after the publication of the book “Calculation of costs by processes” (1989, P. Horvath and R. Mayer) began the development of the method of calculating process costs. While it followed, in different countries, the changes regarding the strategic positions of the enterprises but especially the increasing requests for information from their management, led to the development and application of modern methods to optimize the economic-financial analysis of the entity.

3. Research methodology

The methodology practically gives validity to the research process. In the case of this study, the methodology includes both general and specific approaches to the way of generating information through the economic-financial analysis of the entities in the field of constructions. Thus, the methodology aims to address ways to optimize the economic and financial analysis and thus increase the relevance of information resulting from the application of modern methods. The aim was to analyse and present solutions applicable at a practical level and not just theoretically.

This research study, related to the objectives, was based on: documentation in international and domestic literature, identification and collection of information that may be useful in research, analysis and processing of information collected, interpretation of results. The data at the level of the selected entities were processed applying modern methods in optimizing the economic-financial analysis of the economic entities and the obtained results presented as relevant in measuring their performance.

4. Application of modern methods in the economic-financial analysis of an economic entity

4.1. ABC method

The set of raw materials, people, methods that are used in obtaining a product or a work/service is the concept of activity related to the ABC method (Cucui, 2008, page 231).

According to this method, any economic entity with directly productive activities involves in addition to these secondary activities. Directly productive activities are activities whose production is delivered and visible outside the economic entity, while secondary activities are those aimed at supporting the main activities. In the literature in the economic field are presented the following advantages of the ABC method (Cucui, 2008, page 233) synthesized by Figure 1:

Figure no.1. Advantages of the ABC method

Facilitates the understanding of working methods and the causes that influence the occurrence of costs in economic entities until the delivery of the product
Allows a better determination of the causes of the variation of the costs and the performances of the enterprise
Better understanding of the value creation mechanism and more rigorous substantiation of decisions in the dynamism of the economic entity's activity
A significant part of the indirect costs related to products are direct in relation to the activities. Thus, the management of activities ensures a more efficient piloting of the economic entity in the field of constructions
The “activity” approach results in the connection between costing and strategic analysis

Source: Processing by: Cucui (2008, page 233)

The ABC method implies the observance of the following principles captured in Figure no.2.

Figure no. 2. Principles of the ABC method

In order to determine the activities with homogeneous costs, the processes in the enterprise must be taken into account and not the simple hierarchical structure
Anticipating the links between activities leads to a true map of processes and causality, which is, beyond any calculation, a factor of progress
Starting from the hypothesis that any entity produces main and secondary activities
The criterion of homogeneity of costs determines the largest possible perimeter of an activity, it is accompanied by the question on the opportunity to analyze the activity in detail, respectively the identification of information needs
ABC invites critical observation of the current state of operation of the company

Source: Processing by: Cucui (2008, page 233)

The data collected from the entity, regarding the costs related to quality are presented in Table no.1.

Table no.1. Analysis of costs related to quality in the field of construction

<i>Category</i>	<i>Measurement units</i>	<i>Unit costs</i>	<i>Total costs</i>	<i>% of turnover (14000000 lei)</i>
<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Preventive expenses:				
Elaboration of the documentation necessary to obtain the construction permit	500 h	230	115,000	0.82
Supplier evaluation	200 h	90	18,000	0.13
Training of employees in the field of quality	500 h	175	87,500	0.63
Design and improvement of quality equipment	800 h	300	240,000	1.71
Total preventive expenses			460,500	3.29
Evaluation expenses:				
Raw materials and materials destroyed during the tests			818,854	5.85
- timber	230 m3	850	195,500	
- brick	12,980 pcs	6.41	83,201.80	
- concrete	680 m3	250	170,000	
- iron concrete	68.800 kg	5.14	353,632	
- nails, wire, other materials	2.360 kg	7	16,520	
Salaries of test and inspection staff	260 h	200	52,000	0.37
Test equipment adjustments	50 h	250	12,500	0.09
Total evaluation expenses			883,354	6.31
Internal expenses				
Recoverable scrap	89.800 pcs	1	89,800	0.64
Unrecoverable products	21.000 pcs	1	21,000	0.15
Expenditure on inventory control and rescheduling	100 h	100	10,000	0.07
Total internal expenses			120,800	0.86
External expenses				
Loss of future orders	3 pcs	500,000	1,500,000	10.71
Total external expenses			1,500,000	10.71
Total expenses			2,964,654	21.17

Source: Processing after Gheorghe(Damian) and Damian, D. (2016, page 6)

The estimation of the consequences following the application of quality costs is presented as follows (Table no.2):

Table no. 2. Estimation of the consequences following the application of quality costs

0	Before applying the quality costs		After applying the quality costs		Cost savings
	1	2	3	4	
Supplier evaluation - brick purchase	(45,000 pcsx 6,82 lei) x 12 months	3,682,800 lei	(45.0000 kg x 6,4 lei) x 12 months	3,456,000 lei	226,800 lei
Employee training - productivity/year	1 pcs x 100,000 lei x 250 days	25,000,000 lei	1 pcs x 95.800 x 250 days	23,950,000 lei	1,050,000 lei
Quality equipment - maintenance/year				38,000 lei	-38,000 lei
Staff salaries/year	200 pers. x 3.000 lei x 12 months	7,200,000 lei	170 pers. x 3.000 lei x 12 months	6,120,000 lei	1,080,
Loss of raw mate- rials and materials (timber standard)	(5 % x 50 m3 x 850 lei) x 250	2,125x250= 531,250 lei	(3% x 50 m3 x 850 lei) x 250	1,275 x 250= 318,750 lei	212,500 lei
Total cost saved					2.531.300 lei
Total differences					2531300+ 2964654 = 5495954

Source: Processing after Gheorghe (Damian) and Damian, D. (2016, page 67)

Examining the implementation of the ABC method within an economic entity in the field of construction by inserting specific costs related to quality, there is a significant improvement in production costs, including: raw material procurement costs, staff salary costs, related technological losses with raw materials and consumables and at the same time an improvement in labour productivity and increasing the quality of finished products.

Regarding the costs of purchasing raw materials, the costs of supplying the brick were tracked, due to the fact that this type of material has the highest frequency. The purchase of high quality brick at low prices was made by making profitable contracts with suppliers, after estimates and assessments were made on the suppliers' market. The mentioned price of 6.41 lei/piece is an average price. Regarding the same amount of brick for a period of one year, the value of 226,800 lei was saved.

The new production equipment introduced and the improvement of the personnel in the field of quality in order to use these equipment, directly determined a significant increase of the labour productivity at each house built, which led to an increase of the annual turnover by 1,050,000 lei. On the other hand, the number of employees decreased from 200 people to 170 people in the conditions in which the labour productivity increased, thus obtaining a reduction of the salary expenses of 1,080,000 lei. At the same time, technological losses and scrap were significantly reduced from 5% to 3% for raw materials and consumables, which led to a decrease in costs by 212,500 lei.

Following the entire process of implementing the ABC method in economic entities in the field of construction, by going through all stages and the results obtained it is observed that this method led to the optimization of economic and financial analysis with significant influences in terms of performance and competitiveness.

4.2. Linear regression method

In order to optimize the economic-financial analysis within an economic entity in the field of construction through the linear regression method, the correlation between turnover and average number of employees (Anghel and Calotă 2016, pag. 25) was studied, by going through the following stages:

Stage 1: Construction of a series of data on the evolution of turnover and average number of employees (Table no.3):

Table no. 3. Evolution of turnover and average number of employees

	Year	Turnover - lei	Average number of employees
1	2018	14,468,025	188
2	2019	15,112,321	190
3	2020	15,848,814	199

Source: own processing

Stage 2: Studying the evolution of indicators. Analysing the period 2018-2020 showed an average turnover of 15,143,053.33 lei with a peak value in 2020 of 15,848,814 lei and a minimum value in 2018 of 14,468,025 lei, which corresponds to a deviation standard of 690,907.32 lei (Table no. 4):

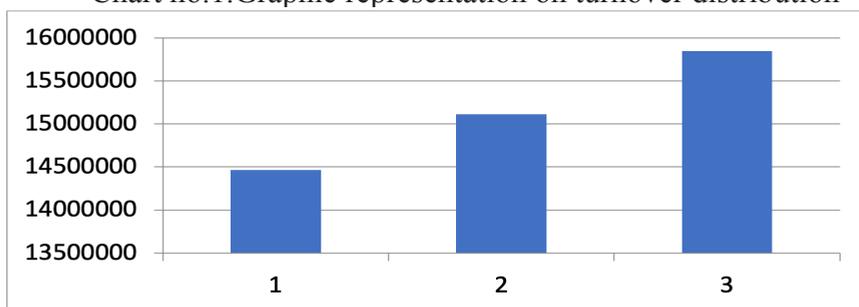
Table no. 4. The standard deviation of turnover

Descriptive Statistics			
	N	Mean	Standard Deviation
Turnover	3	15,143.053.3333	690,907.31858
Average number of employees	3	192.3333	5.85947

Source: own processing according to the SPSS application

Sub stage 2.1. - Evolution of turnover. During the period under analysis, the economic entity in the field of constructions knows an insignificant evolution of the turnover. As can be seen from Chartno. 1, the distribution of turnover follows a normal distribution.

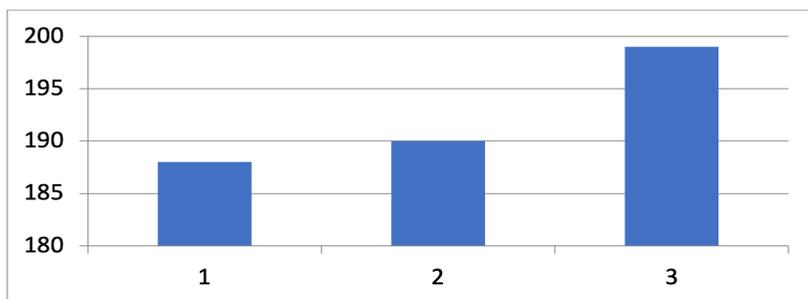
Chart no.1.Graphic representation on turnover distribution



Source: own processing according to the EXCEL application

Sub stage 2.2. - The evolution of the explanatory variable average number of employees. The number of employees increased during the 3 years from 188 to 199, registering a favourable evolution with a standard deviation of 5.85. (Chart no. 2)

Chart no. 2. Graphical representation regarding the evolution of the variable of the average number of employees



Source: own processing according to the EXCEL application

The distribution of the number of employees does not follow a normal distribution, the values between 190 and 198 being missing from the series. An analysis similar to the turnover distribution is also performed for the explanatory variable average number of employees, respectively the data series regarding the evolution of the number of employees (Table no. 5.):

Table no. 5. Case summaries on the average number of employees

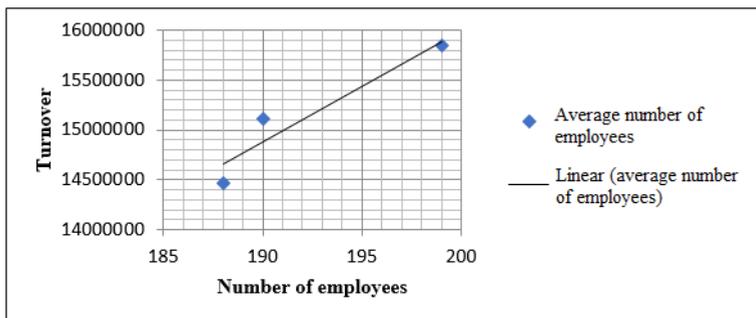
Case summaries		Average number of employees
Total	N	3
	Mean	192.3333
	Standard Error of Mean	3.38296
	Grouped Median	190.0000
	Sum	577.00
	Minimum	188.00
	Maximum	199.00
	Range	11.00
	First	188.00
	Last	199.00
	Standard Deviation	5.85947
	Variance	34.333
	Kurtosis	-
	Skewness	1.508

Source: own processing according to the SPSS application

Stage 3 - Application of the linear regression method

The linear regression method involves a correlation between two or more variables, in this case between the two variables turnover and the average number of employees. The correlation chart between the two variables shows us a direct connection, of linear type between them (Chart no.3)

Chart no. 3. Correlogram Turnover - Average number of employees



Source: own processing according to the EXCEL application

The two variables are positioned as follows: the turnover variable is the dependent variable, and the average number of employees' variable is the independent variable.

The equation used in the simple linear regression is as follows:

$$y = \alpha + \beta \cdot x$$

Where:

y = dependent variable, respectively the resultant characteristic

x = independent variable, respectively explanatory characteristic

α , β = parameters of the linear regression model

Specifically, the equation used in the linear regression applied in the economic entity in the field of constructions is: $T = \alpha + \beta \cdot No.empl.$

Where:

T = Turnover

No.empl. = Average number of employees

α , β = parameters of the linear regression model

The determination of the parameters of the linear regression model is usually done by the least squares method.

Table no.6. Determining the parameters of the regression model

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Beta	Lower Bound
1	(Constant)	-6429751.709	6997396.310		-.919	.527	-95340101.838	82480598.421
	Dependent variable	112163.631	36370.360	.951	3.084	.200	-349965.604	574292.866

a. Dependent Variable: Turnover

Source: own processing according to the SPSS application

Table no. 7. Summary Turnover model

Summary Model ^b						
Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.905 ^a	9.511	1	1	.200	2.762

a. Predictors: (Constant), Average number of employees

b. Dependent Variable: Turnover

Source: own processing according to the SPSS application

Following the interpretations of the results from the tables obtained with the help of the SPSS application, it was obtained:

$$\alpha = -6,429,751.709$$

$$\beta = 112,163.631$$

$$T = -6,429,751.709 + 112,163.631 \times \text{No. empl.}$$

The determination coefficient R Square shows the share in which the dependent variable - turnover - is explained by the independent variable - average number of employees - the value of 0.905 and the proportion of 90.5% of turnover can be explained by increasing the average number of employees.

The linear regression model is validated by the Sig F Change value that falls within the reference level, being 0.20.

5. Conclusions

The economic entity must be approached as a unit providing specialized information necessary for both its internal and external environment. The conditions of the current economic and political environment, at national and international level, determine the continuous development of the information system as the main source of economic and financial information. The derivation of the accounting model is not accidental, it depends on the difficulties faced by the economic entity and on the advantages developed by the modern methods, techniques and analysis tools used additionally. Their adoption will allow to cover the interests of the categories of information users and together with the existing traditional accounting systems will allow the application of a quality accounting model. In an uncertain and complex environment, information needs never decrease but diversify and the accounting model becomes a privileged source of information conditioned by the permanent adaptation of tools and practices used to optimize economic and financial analysis within the limits imposed by legal regulations. The economic-financial analysis must be focused not only on the reporting of the information required by regulations but also on the key aspects related to the full satisfaction from the informational point of view and chosen by the need to highlight the degree of performance of the entity and the measures challenge for its growth.

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DOI: 10.5281/zenodo.6396298

CHOOSING THE MOST SUITABLE PROJECT MANAGEMENT METHODOLOGY

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Abstract: *During last decades, project management growth rapidly. It developed from a couple fields of application including civil construction, engineering, and heavy defense activity to a large area of fields. In every industry developments or improvements can be implemented using project management tools and methodologies. Nowadays, there are various approaches and methods that can be used in different types of project management. The purpose of this paper is to analyze the project management methodologies, to identify the criteria for choosing the most suitable approach and to understand how applying the best methodology can help companies add value and gain competitive advantage.*

Keywords: *agile, Kanban, lean, PMI, PMBOK, project management, project management methodologies, scrum, six sigma, waterfall*

JEL Classification: *L3, M10, M21*

1. Introduction

During time, for projects were established different definitions, each of them trying to be much specific and complete. Therefore, Project Management Institute (PMI) defined project as a temporary endeavor undertaken to create a unique product, service, or result (PMBOK, 2017), European Union states that a project is a series of activities aimed at bringing about clearly specified objectives within a defined time-period and with a defined budget (EU – PCM, 2004), and also, the project was defined as a temporary process comprising a series of activities which must fall within a well-defined period of time, an amount of allocated resources and which must achieve a clearly defined objective (Victor, 2008).

Starting with 1960s, “project management methodology” started to be defined by various organizations that have begun to identify effective tools that simplify achieving business benefits and organizing work in a structured and unique entity. The key criteria for establishing productive working relationships between teams and departments within one and the same organization were communication and collaboration.

Since then, the term has been changed and amended several times, Project Management Methodology is a strictly defined combination of logically related practices, methods and processes that determine how best to plan, develop, control and deliver a project throughout the continuous implementation process until successful completion and termination. It is a scientifically-proven, systematic and disciplined approach to project design, execution and completion (McConnell, 2010). Also, according to the Project Management Institute (PMI), a project management methodology is defined as ‘a system of practices, techniques, procedures, and rules used by those who work in a discipline’ (PMBOK, 2017).

2. Project management methodologies

A methodology is a method, a description of a process, a set of documented procedures, a list of steps that must be followed to run a project. The project management methodology contains procedures for project management that describe each step in detail, so that everyone knows what needs to be done to carry out the project activities.

A methodology for project management describes through procedures:

- roles in the project
- the activities and processes necessary for the development of the projects
- the forms (models) of documents that are used
- instructions for using project management tools

Using a project management methodology for all the projects reduces the time of projects, eliminates ambiguities and reduces the effort required for project management. Considering the fact that are various approaches and methods that can be used in managing different types of projects, project management methodologies can be divided into traditional and modern approaches.

3. Traditional project management methodology

One of the traditional project management methodologies, Waterfall is a linear, sequential design approach where progress flows downwards in one

direction—like a waterfall (Muslihat, 2019). Originating in the manufacturing and construction industries, its lack of flexibility in design changes in the earlier stages of the development process is due to it becoming exuberantly more expensive because of its structured physical environments. It is a process that takes place step by step to design, develop and deliver a product or service. This requires the achievement of the succession in the implementation process and provides the planning benefits based on Milestone.

The methodology was first introduced in an article written in 1970 by Royce (although the term ‘Waterfall’ wasn’t used), and emphasizes that you’re only able to move onto the next phase once the current phase has been completed. The main stages in the waterfall methodology are: feasibility, planning and design, implementation, validation (testing and debugging) and closing project (launch into production and post implementation support).

3.1. Feasibility

During this stage it is performed a study in order to identify if the project purpose solve the problem/provide the service requested into certain criteria of time and budget. Also, are identified resources and technology available to implement the project and it is analyzed the business value obtained.

3.2. Planning and design

This stage represent an important component of project management. After the scope of the project is established, it is decomposed into more granular tasks. In this phase is identified the duration to complete each piece of work identified, the resources needed to proceed this tasks and also the order in which activities have to be completed. Also, are identified the constraints, the milestones of the project and the features releases. Related to design activities, during this stage business requirements are centralized into a specific document, are validated by stakeholders and confirmed with developers from technical feasibility perspective.

3.3. Implementation

In this phase, developers implement the requirements considering the components and deliverables established into planning phase. After all the tasks identified during planning are developed, a proof of concept is presented to project team and stakeholders in order to avoid risks, clarify requirements and adapt them if necessary.

3.4. Validation

During this stage, Quality Assurance team validate developments based on business requirements and test cases. After all test cases are successfully validated, end users perform the UAT (User Acceptance Testing). In order to close this step, UAT must be successfully performed.

3.5. Closing project

After the Validation stage is successfully performed, the functionalities are ready to be released to production, to make them available to the intended and users. In order to make sure that all components are released in the appropriate order, a release plan is prepared and agreed by all team members and stakeholders. Also, a roll back plan must be in place, to make sure that the previous version of the functionality can be restored easily. As soon as project is released, the development team will support users during the first four weeks in order to obtain the stabilization of the functionality in production.

Best suited for: Larger projects that require maintaining stringent stages and deadlines, or projects that have been done various times over where chances of surprises during the development process are relatively low.

4. Modern project management methodology

Comparing with the traditional approach, the modern ones do not focus on linear processes but they provide an alternative look at project management. Some of them are most suitable for IT and software development, while others can be implemented in production, product engineering, process improvement and so on. Modern approaches are using different models of the management process. Some of the modern project management methodologies are presented below.

4.1. Agile

The Agile methodology is an alternative to traditional waterfall methodology and it is mainly used for software development, where requirements and solutions evolve through the collaborative effort of self-organizing and cross-functional teams and their customers. In this approach, the development happens in increments and each increment is a mini-waterfall by itself (Huo, Verner, Zhu and Babar, 2004). Emerging from the values and principles of the Manifesto for Agile Software Development (Agile Manifesto, 2001), this approach was created as a response to the shortfalls of the Waterfall method.

Developers realized they needed something different to the linear, sequential approach of the traditional Waterfall methodology in order to keep up with the improving and innovative culture of the constantly-developing software industry. Agile is a methodology that has methodologies within itself, such as Scrum and Kanban.

Best suited for: Projects that require flexibility and have a level of complexity or uncertainty. For instance, a product or service that hasn't been built by the team.

4.2. Scrum

Scrum is the most widely used Agile framework. It is an iterative incremental approach towards product development by the development team. In this approach, unlike waterfall, planning for the entire project is not a done upfront (Murali and Venkataiah, 2017).

What distinguishes Scrum from Kanban is how it operates by using certain roles, events, and artifacts, having as reference the scrum concept – the iterative box in which goal is accomplished. Time frame does not exceed one calendar month and are consistent throughout the development process.

Scrum team roles

- **Product owner:** Product expert who represents the stakeholders, and is the voice of the customer.
- **Development team:** Group of professionals who deliver the product (developers, programmers, designers).
- **Scrum master:** Organized servant-leader who ensures the understanding and execution of Scrum is followed.

Scrum events

- **Sprint planning:** Where the entire Scrum team get together—at the beginning of every Sprint—to plan the upcoming sprint.
- **Daily Scrum:** 15 minute time boxed meeting held at the same time, every day of the Sprint, where the previous day's achievements are discussed, as well as the expectations for the following one.
- **Sprint review:** An informal meeting held at the end of every Sprint where the Scrum team present their Increment to the stakeholders, and discuss feedback.

- **Sprint retrospective:** A meeting where the Scrum team reflect on the proceedings of the previous Sprint and establish improvements for the next Sprint.

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Scrum Artifacts

- **Product backlog:** Managed by the Product Owner, it's where all the requirements needed for a viable product are listed in order of priority. Includes features, functions, requirements, enhancements, and fixes that authorize any changes to be made to the product in future releases.
- **Sprint backlog:** A list of the tasks and requirements that need to be accomplished during the next Sprint. Sometimes accompanied by a Scrum task board, which is used to visualize the progress of the tasks in the current Sprint, and any changes that are made in a 'To Do, In progress, and Done' format.

Best suited for: Projects that consists of teams of less than seven people who need a flexible approach to delivering a product or service.

4.3. Kanban

Kanban is another popular Agile framework that, similar to Scrum, focuses on early releases with collaborative and self-managing teams. It is a very visual method that aims to deliver high quality results by painting a picture of the workflow process so that bottlenecks can be identified early on in the development process.

Kanban achieves efficiency by using visual cues that signal various stages of the development process. The cues involved in the process are a Kanban board, Kanban cards, and Kanban swim lanes, as they are detailed below (Muslihat, 2018):

- **Kanban board:** What's used to visualize the development process, a Kanban board can be either physical (a whiteboard, sticky notes, and markers) or digital. The board's basic structure is three columns labelled as 'To-Do, Doing, and Done'—which is rather self-explanatory.
- **Kanban cards:** Each Kanban card depicts a work item/task in the work process. Used to communicate progress with your team, it represents information such as status, cycle time, and impending deadlines.
- **Kanban swim lanes:** Flowing horizontally, Kanban swim lanes are a visual element on the board that allows you to further distinguish tasks/

items by categorizing them. Their purpose is to offer a better overview of the workflow.

Comparing with Scrum approach, in Kanban there are no predefined ceremonies, the team decide when to meet and the work is captured in user stories and arranged in the order of priority for the team member to work on, whenever team members are available.

Best suited for: Like Scrum, Kanban framework is fitting smaller teams, who need a flexible approach to deliver a product or service. Kanban is also great for personal productivity purposes.

4.4. Lean

Lean methodology promotes maximizing customer value, while minimizing waste. It aims to create more value for the customer by using fewer resources. Stemmed from the Japanese manufacturing industry, its values suppose that ‘as waste is eliminated, quality improves while the production time and cost are reduced.’ Lean is a way of thinking about creating needed value with fewer resources and less waste. And lean is a practice consisting of continuous experimentation to achieve perfect value with zero waste. Lean thinking and practice occur together (Lean Enterprise Institute, 2021). It identifies three types of waste; muda, mura, and muri, also known as the 3Ms (Muslihat, 2018).

Muda

Muda is about getting rid of waste, and refers to an activity or process that does not add value. It can either be something that is a physical waste of your time or something that is a waste of your resources.

Mura

Mura is about eliminating variances in the workflow process at a scheduling and operation level so that everything flows evenly. For example, when publishing a magazine, if an editor spends too much time editing an article, it means that the design team will have less time to create the spread before the publishing deadline comes. Therefore, you would reduce the editing time and ensure every department’s timeframe spent on the article is the same.

Muri

Muri is about removing overload so that the nothing slows down. It refers to managers and business owners imposing unnecessary stress on their employees

and processes due to things such as poor organization, unclear ways of working, and using incorrect tools.

Best suited for: This methodology is ideal for businesses or organizations that are not looking for a process as such, but are interested in transforming how they conduct doing business.

4.5. Six Sigma

Six Sigma was first introduced by engineers at Motorola in 1986. Six Sigma strategies seek to improve manufacturing quality by identifying and removing the causes of defects and minimizing variability in manufacturing and business processes. It does this by using empirical and statistical quality management methods and by hiring people who serve as Six Sigma experts. Each Six Sigma project follows a defined methodology and has specific value targets, such as reducing pollution or increasing customer satisfaction (Wikipedia, 2021).

There are two major methodologies of Six Sigma carried out by Six Sigma Green Belts and Six Sigma Black Belts, and are supervised by Six Sigma Master Black Belts (De Feo and Barnard, 2005).

DMAIC: The DMAIC method is used primarily for improving existing business processes. The letters stand for:

- **D**efine the problem and the project goals
- **M**easure in detail the various aspects of the current process
- **A**nalyze data to, among other things, find the root defects in a process
- **I**mprove the process
- **C**ontrol how the process is done in the future

DMADV: The DMADV method is typically used to create new processes and new products or services. The letters stand for:

- **D**efine the project goals
- **M**easure critical components of the process and the product capabilities
- **A**nalyze the data and develop various designs for the process, eventually picking the best one
- **D**esign and test details of the process
- **V**erify the design by running simulations and a pilot program, and then handing over the process to the client

Best suited for: Larger companies and organizations that want to improve quality and efficiency through a data-driven methodology.

4.6. PMI/PMBOK

PMI stands for the Project Management Institute which is a not-for-profit membership association, project management certification, and standards organization. Through the PMI, comes the PMBOK which is not quite a methodology but a guide detailing a set of standards that characterize project management.

PMBOK stands for the Project Management Body of Knowledge and is a set of standard terminology and guidelines for project management. It states that there are five process groups that are prevalent in almost every project. They are:

- a. Initiating:** Defining the start of a new project or new phase of an existing project.
- b. Planning:** Where the scope of the project, objectives, and how the objectives will be achieved.
- c. Executing:** Actually doing the work defined in the project management plan.
- d. Monitoring and Controlling:** When you need to track, review, and regulate the progress and performance.
- e. Closing:** Concluding all activities across all Process Groups to formally close the project or phrase.

Along with this, it includes best practices, conventions, and techniques that are considered the industry standard.

Best suited for: Because it's more of a reference guide than an actual project management methodology, you can't implement PMI/PMBOK to a project. However, it can be used for when you want to weigh in on the best practices for your project.

5. Choosing the project management methodology

Most of the times the selection and implementation of a project management methodology is a task that falls under the responsibility of an employee or a group of people within the Project Management Office (office, department or service for project management).

Step 1. The selection of a methodology for project management begins with the definition of objectives and requirements. It must be clarified why we want

to implement a project management methodology, what content it must have and how we intend to use it.

The requirements that a project methodology must meet can be:

- Its methodology contains the complete description of the phases of a project (Project Life Cycle);
- Each stage must be described in detail;
- Each activity that generates a deliverable must have a document template and examples to help the project manager and the team to carry out each project activity quickly and easily;
- The methodology must be based on an internationally recognized project management standard;
- The project methodology must be suitable (usable) for all types and dimensions of the project;
- Easy to modify and adapt for each organization;
- Easily accessible in document format (word, pdf etc) but also web (html);

Step 2. Identify and make the list of existing project management processes and procedures, already used in your organization. It is not necessary to reinvent things if we already have procedures that are used successfully in carrying out projects in our company. This effort involves comparing the existing procedures in the organization with the procedures available in the best known project methodologies, to estimate how well this methodology fits, what we can take and adapt from this methodology in order to be able to easily use in our organization. If from this analysis we estimate that the available project methodology fits in a large proportion, then we obtain this methodology and modify the procedures that cannot be used directly.

6. The advantages of using a methodology for project management

By selecting, implementing and using a project management methodology, project teams can complete project activities more easily, predictably and consistently. Implementing projects using project management methodologies can streamline project execution and enhance overall organizational performance. According to Project Management Methodologies 101: The What, Why, How, & Types Explained article (Proprofs, 2021), with the right project management methodology, organization can:

- Adapt to new project challenges easily and quickly;
- Enhance the skills of managers;

- Build a project management culture;
- Reduce project risks considerably;
- Increase team productivity;
- Understand how to invest all your resources efficiently;
- Meet project deadlines effortlessly in the time and budget.

7. Advantages and disadvantages of traditional and modern methodologies

The most frequently used methodologies are waterfall and agile methodologies. Therefore, choosing one of them must be based on information presented below.

7.1. Advantages of waterfall methodology

- The requirements are clearly and accurately stated, they remain unchanged throughout the entire project development;
- Detailed documentation of each development stage provides resistance to changes in human resources – a new developer can quickly get all the necessary information;
- Careful planning of the project development structure reduces the number of problematic issues;
- The start and end points for each phase are set, which makes it easy to measure progress;
- The tasks remain as stable as possible throughout the development process;
- It provides easy control and transparency for the customer due to a strict reporting system;
- Release date for the finished product, as well as its final cost can be calculated prior to development (Lvivity, 2018)

7.2. Disadvantages of waterfall methodology

- All requirements must be known prior to development, which greatly delays the project kickoff;
- Low flexibility level makes it difficult to make changes while developing, or even makes it completely impossible;
- There is a need for strict management and regular monitoring, so that the project will meet the deadline;
- The client does not have the opportunity to get acquainted with the system in advance, so he does not see the product until the moment of its completion;

- In case it becomes clear in the process of development that the product does not meet market requirements, there will be no room for changes.

7.3. Advantages of agile methodology

- Changes in scope by the end users can be incorporated even though it is not captured as part of the initial requirements;
- New features can be added if the team can accommodate changes;
- Customer involvement in the project is comparatively high and would provide continuous feedback through sprint reviews;
- Bugs are identified early and can be fixed early on the project;
- Project functionality can be released at the end of each sprint;
- Creates Transparency.

7.4. Disadvantages of agile methodology

- If the product owner is not committed, the project would not be successful;
- A project plan for the whole project is not defined up front, the exactly time of delivery is unknown;
- 20%-30% of the time of the project team is committed to ceremonies
- It is not appropriate for large and complex projects
- Requires transformation at organization level

8. Conclusion

Choosing the project management methodology can be a difficult task, but considering the characteristics of each methodology, it can be easily identified the most appropriate approach for a project. Depending on the dynamics, the imposed deadline, the characteristics of the project, the size of the teams, the dispersion of the team members and other criteria, can be choose between the traditional project management methodology or the modern ones, with a focus on the agile ones. There are many methodologies to choose from, each with their own set of rules, principles, processes, and practices. The point of selecting a project management methodology is to maximize the use of resources and time. Implementing a project with the most suitable methodology increase the project success, the involvement of team members, the quality of deliverables, customer satisfaction, reduce risks, and also the competitive advantage.

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DOI: 10.5281/zenodo.6396310

SOCIO-ECONOMIC INEQUALITIES AND THE DIVERSITY OF SOCIAL FEARS CAPITALISM UNDER QUESTIONS?

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Abstract: *Many results of the Edelman Trust Barometer recalled into question the hypothesis launched by Immanuel Wallerstein in the early twentieth century, that we are already entered in a “period of chaotic transformation of the world system of we are part”, the result being unpredictable (Wallerstein, 2005, 78). According to the Barometer, beyond the presence of a strong global economy and a very low level of unemployment, the people who work in highly developed countries no longer trust institutions. According to the data, even in such favorable living circumstances, they see the future more uncertain than ever, about 56% appreciating that “the current form of capitalism does more harm than good” and that is time has come to make a very serious analysis. The new discoveries in the field of technology, the impact of digital transformations, the climatic changes, the globalization, the migration and the aging process of the population there are factors that contribute to the support of a growing range of social fears. Given the fact that only 18% of respondents believe that the capitalist system works in the public benefit, 34% appreciate that it no longer inspires security, and 48% consider it already failed, we are witnessing of the birth of a new paradigm, who will put pressure on the delegitimization of the current world system? If so, how prepared are we? Who will be the main actors of this change? What will be the consequences? This article will not attempt to answer to such complex questions. It will present only a description of the main trends, an exposition of an arithmetic that is already working in the antechamber of these possible huge changes.*

Keywords: *automation, capitalism, competence, ethics, fake news, immigration, inequality, informed public, mass-population, public benefit, recession, trust*

JEL Classification: *A14, I32, P19, Z10*

1. General context

Although the issue of unequal distribution of wealth in society is not new, the thematic field of social inequality has begun of becoming over the past few years an increasingly frequented arena by the most field's representative specialists. A fundamental premise for social stratification, the inequality has been in the epicenter of the debates or on the agenda of the most important international conferences or forums.

How normal is it for the wealth to be unequal distributed? How normal is it for some people of being much richer than others? What are the limits of inequality? But the individual and social borders of tolerance? How is this viewed from within companies? What is today the destructive potential of inequalities? And if so, is there an effective solution to the problem of unequal distribution of wealth?

In *"The Great Leveler: Violence and the History of Inequality from the Stone Age to the Twenty-First Century,"* Walter Scheidel, professor at Stanford University, has identified four ways of reducing the inequality: the mass mobilization warfare, the transformative revolutions, the state collapse and the pandemics. They are the "four horsemen of the apocalypse," as Scheidel calls them in his book. According to him, in most of the cases solutions can come on their own, without being analyzed for a long time. As meaning that history provides enough examples to show us that the "four horsemen of the apocalypse" have proved much more effective in reducing inequality than any other more peaceful endeavor (improving education, overcoming economic or financial crises, etc.).

Scheidel asserts that he current levels of inequality are not unprecedented. But their current texture has the potential of becoming much more extreme in the coming years fueled by the emergence of new technologies, the spread of automation, globalization, migration and population aging.

Although all of them are factors that work hard of fueling a potential amplitude, providing it the necessary fuel, not the very high values of inequality should worry us, but rather the fact that the maximum of the tolerance's limit of the society is not yet known when this grows.

It is the lack of scientific knowledge of this limit that represents a great vulnerability for humanity, which may have been at one step away from a hypothetical disaster a long time ago without of knowing it. From this perspective in the Stanford's professor vision, the future seems uncertain and unpredictable, with shades describing both, hope and threats.

Scheidel goes even further and launches gloomy predictions about historical perspective of the human condition: if genetics will allow to the rich people the liberty of ordering that the own newborn babies to be endowed

with some characteristics, we will be witness of emerging a new class: “The Supermen.”

Scheidel’s perspective does not deviate too much from the position of many researchers who do not see anything wrong for now. They assert that within functional system of the capitalism there are not visible signs of a possible paradigm shift: the analyzes which warn about ending of capitalism are wrong, the current modern world system is not in crisis, the crisis is rather caused by the expansion of its borders within perimeters of social life that were not traditionally intended for trade. According to them, the current capitalist system is constantly expanding, covering geographical regions or some aspects of social life where it has built new markets, something unthinkable years ago.

Moreover, thanks to technological developments but also of globalizing, new markets have been created, the private sector “desecrating” some parts of an ensemble considered until recently to belong only to the functional structures of extended families: childcare, eldercare, food preparation, home delivering food, shopping, dog-walking etc. All of that was related to the precise functions of family members.

This continuous expansion of capitalism rather calls into question the survival of the family and its roles, say supporters of the current world system.

And this is thanks to the gradual disappearance of non-commercial activities (division of tasks in raising children) which were essentials until recently for the functioning of a family. Situation already reflected in the large number of single-member households or people who never lived in a partnership or who simply have never been married (in the northern European countries about 30% -40% of households have only one person, in the Copenhagen in 2020 almost 45%, according to Eurostat)

Beyond all, they argue, we can’t debate about the collapse of capitalism as long as geographically the capitalism is the dominant mode of globally production. (According to data in 2019 the share of the private sector in Gross Domestic Product in Romania was about 80%).

2. “Capitalism under questions?”

Beyond the debate around the transformations of the current world system, the results of the Edelman 2020 Trust Barometer come of drawing attention to issues that will certainly be the raw material for many analyzes in the future:

- It is first time in the last twenty years of measurements when economic growth has not led of increasing trust;
- Although significant increases in trust have been observed in the Middle East or Asia, whitin the developed countries of the world, national income inequality was one much more important factor at the beginning

of 2020: for most populations, rising inequality is a factor that currently influences social life to a greater extent than economic growth.

The root of this gnoseological reset seems of extracting its fuel from the ever-increasing pressure that presses on the shoulders of a world whose fears can no longer be mitigate by the implementation of the current system of social and economic policies.

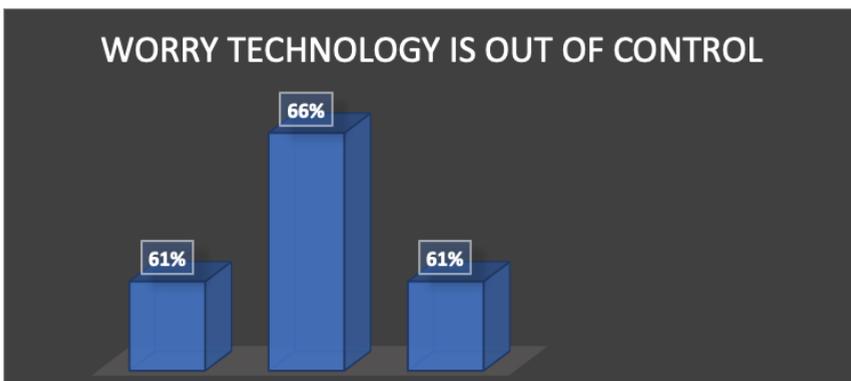
83% of the employees have fears they will lose their jobs, the causes being multiple:

- High dynamics of automation,
- A possible entry of the global world into recession,
- Inadequate professional training,
- Cheap foreign competition,
- Immigration,
- Economy based rather on temporary employment contracts.

There is a genuine concern that erodes social balance while perception that the dynamics of technological change is already out of control further amplifies the fear and uncertainty:

- 61% of respondents consider much too fast the pace of technological change,
- 66% of them expressed concern that it will be increasingly difficult of distinguishing if what they see or hear is real (technology will make it impossible to know if what people are seeing or hearing is real),
- 61% appreciate that in current form governments do not understand emerging technologies enough to regulate them effectively.

Figure 1: Worry technology is out of control



Source: Edelman trust barometer 2020

This explains why in 26 countries trust in the role and importance of technological developments in the social life decreased by an annual average of 4% (the most significant decreases were observed in France - 10%, Canada, Italy, Russia, Singapore - 8%, USA - 7%, Australia - 6%).

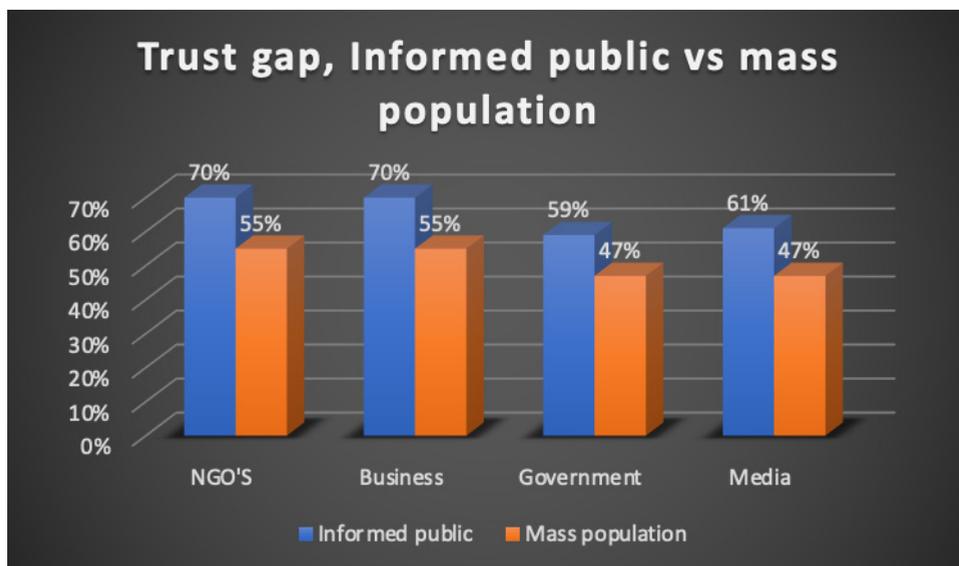
The spirit of this state is further vitaminized by the belief that:

- The global world is helplessly witnessing the demolition of some myths created just by the current world system (“sustained work leads to social ascension”);
- Because of excessive social polarization and growing inequalities, people will lose the respect and the dignity they enjoyed in their countries.

The results of the Barometer also warn of some issues that are really putting pressure on the current global system:

- There is an unprecedented fragmentation of trust, the global gap between the informed public (65%) and the large mass of the population (51%) is huge - 14% (see Figure no.2);
 - Huge discrepancies are founding in 23 of the 28 countries investigated (Australia - 23%, France - 21%, Saudi Arabia - 21%, Germany - 20%, Great Britain - 18%, Spain - 17%);

Figure 2: Trust gap, informed public vs. mass population



Source: Edelman trust barometer 2020

- b) Only 34% of those surveyed are still confident that the leadership in their countries will be able to successfully address the changes of the modern world;

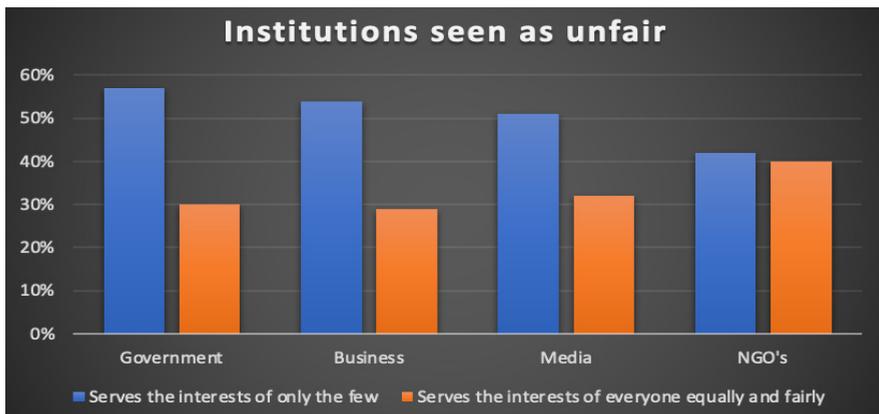
Figure 3: Societal leaders not trusted to address challenges



Source: Edelman trust barometer 2020

- c) At the beginning of 2020, none of the four institutions was confidently invested of generating a vision for the future (government 35%, media 35%, business 41%, NGOs 45%);
 - All four institutions are currently perceived as unfair by society; according the public opinion they generally serve the interests of the few (government - 57%, business - 54%, media - 51%, NGOs - 42% / see Figure 3);

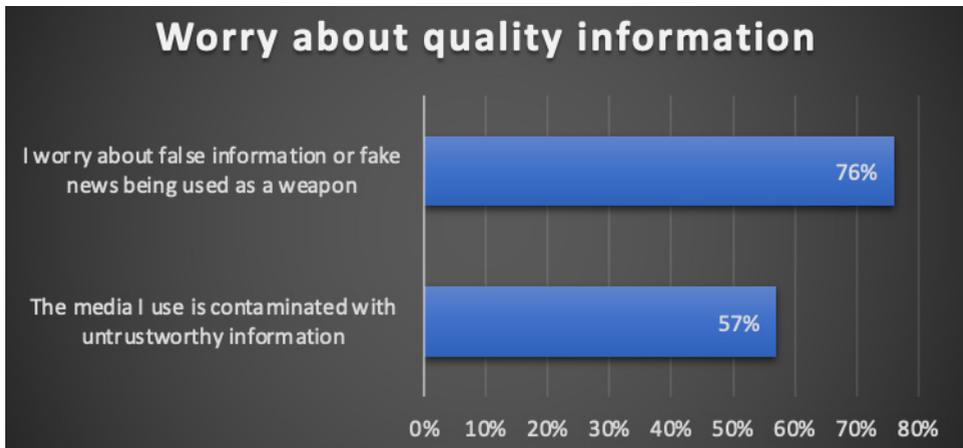
Figure 4: Institutions seen as unfair



Source: Edelman trust barometer 2020

- d) This distrust swims in the murky waters of a perception about media, viewed as incompetent and unethical: 57% of respondents appreciate that media does not use the criterion of objectivity (does not distinguish between opinions and facts), while 76% of them fear that “the fake news phenomenon will be used as a weapon in the future.”

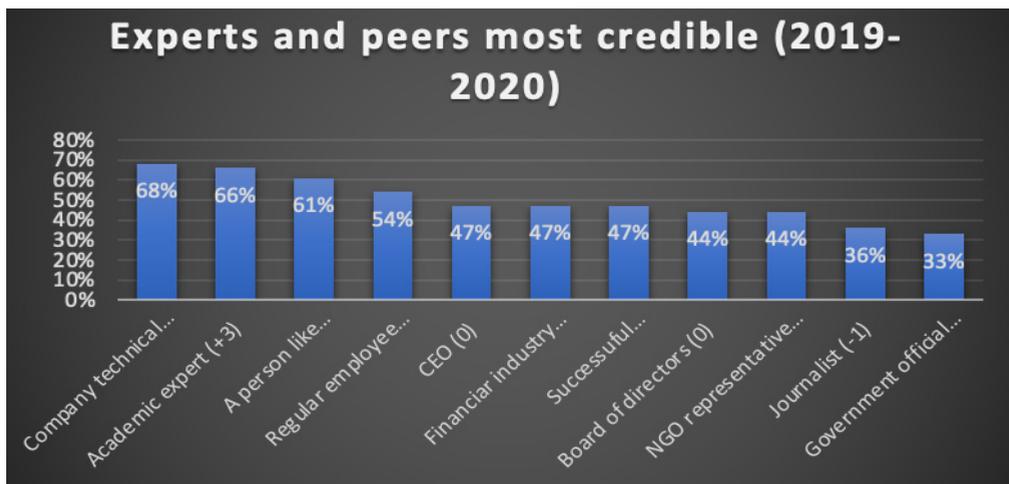
Figure 5: Worry about quality information



Source: Edelman trust barometer 2020

- e) At the beginning of 2020 trust was granted rather to scientists or to ordinary people of the community where they living and work;

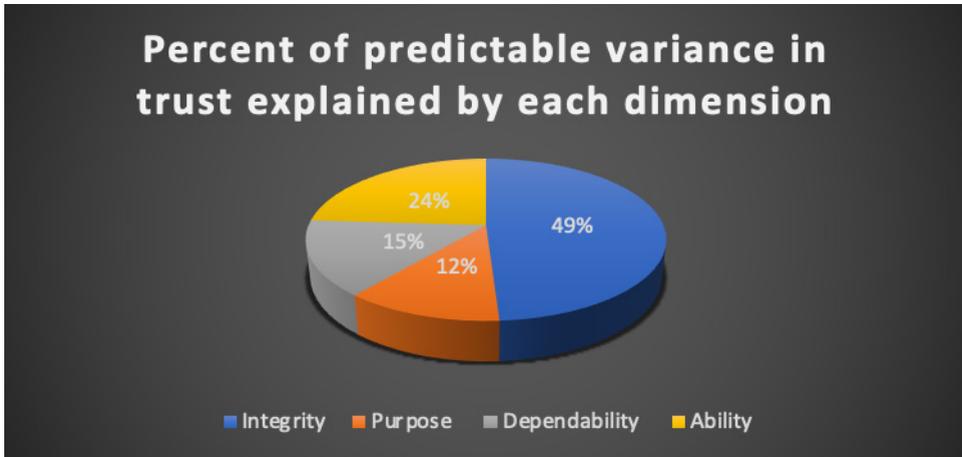
Figure 6: Experts and peers most credible (2019-2020)



Source: Edelman trust barometer 2020

- f) All of these, like many other deep concerns, has led over the time to structure an expectation whose composition contains a large dose of elements of an ethical nature: for properly functioning of any company the ethical factors (76%) are currently three times more important than competence (see Figure 6)

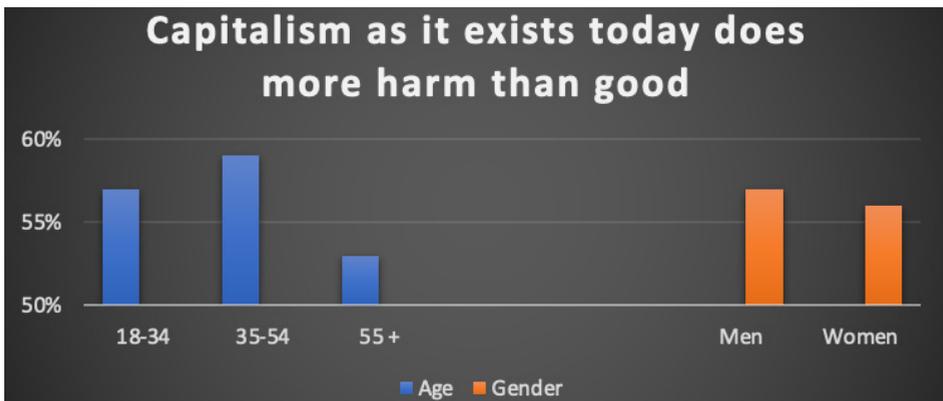
Figure 7: Percent of predictable variance in trust



Source: Edelman trust barometer 2020

- g) Practily, the wide range of concerns doubled by the decreased in institutional trust and by increased of inequalities, have led that about 56% of the surveyed population to appreciate that in currently form, the capitalism does more harm than good (see Figure 7);

Figure 8: Capitalism as it exists today does more harm than good



Source: Edelman trust barometer 2020

But what’s interesting is that in highly developed European countries (some of which the cradle of the current capitalist system), pressure of changing the functional mechanisms of the capitalism is huge (France - 69%, Italy - 61%, Spain - 60%, the Netherlands - 59 %, Ireland - 57%, Germany - 55%, Great Britain - 53%). The figure below is relevant of describing the mood of population, but also the key of interpreting the moral texture of the global world: 74% experience a strong feeling of injustice, 73% want a profound change in the way of the world goes, 66% do not trust at all, 26% do not have any hope.

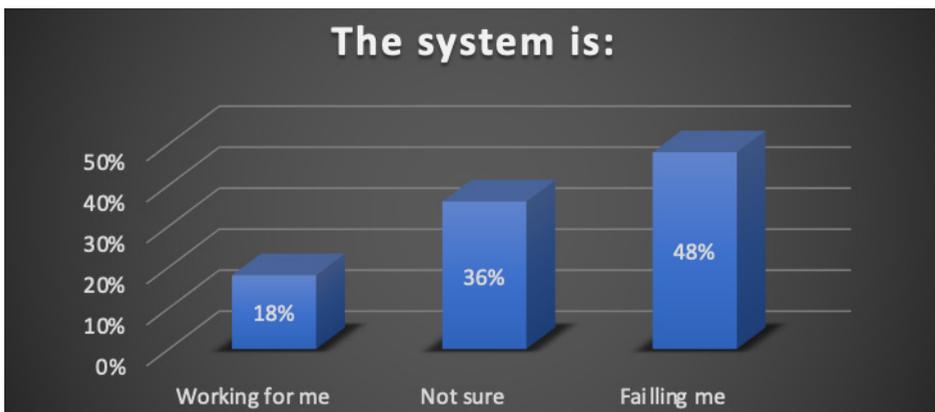
Figure 9: How true is this for you?



Source: Edelman trust barometer 2020

Only 18% still believe that the current system serves their interests, while 48% appreciate that it rather forces them to fail (36% believe that the current capitalist system is no longer safe).

Figure 10: The system is:

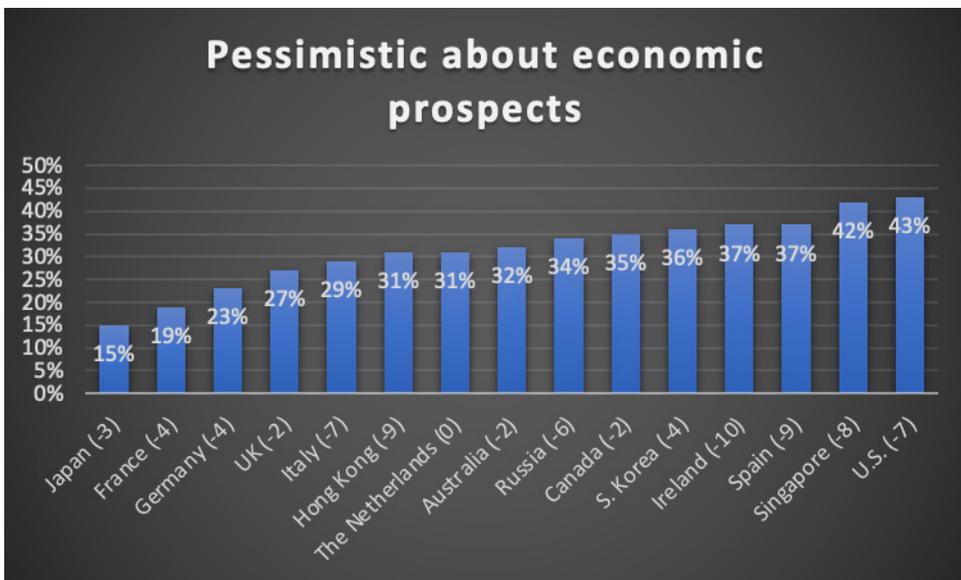


Source: Edelman trust barometer 2020

The pessimism that in the next five years their life or of their families will be better is already installed inside of the thinking paradigm of the majority of the populations questioned (15 of the 28 states studied):

- Only 19% of the French, 23% of the Germans, 27% of the British, 29% of the Italians, 31% of the Dutch, 37% of the Irish and the Spanish are expecting of having a better situation in next five years (see Figure 10).

Figure 11: Pessimistic about economic prospect



Source: Edelman trust barometer 2020

3. Conclusions

- The majority of questioned people appreciate that time given to the current world system for systemic remodeling, which could generate new mechanisms of working for the public benefit has expired.
- Disappointed by their own governments (considered populist and partisan), the most employees appreciate that is necessary of some changing even within business paradigm.
- Business can no longer works in the traditional key, of having only purpose: the profit for shareholders.
- It is proposed to maintain a balance between profit and contribution of supporting the sustainable development, this involving at least three actors: companies, NGOs and authorities.

- According to data the business environment has become the institution with the highest level of trust (58%), being currently able of taking the role of “leadership in global governance”.
- The leaders are expected of emerging from the CEO pool area (92% of employees believe that the current world issues should be handled openly by CEOs, and 75% of the population believe that they should take over the changing process without of waiting some changing from governments).
- The new paradigm emphasizes that expectations of the people have changed, people started of giving trust basing not only on competence (“what do you”) but also based on ethical behavior (“how do you do”).
- The two variables (ethics and competence) are not present simultaneously in any of the four institutions questioned (government, media, business environment, NGOs):
 - Only the business environment is seen as competent (business doing best at: generating value for owners 56%, being the engine for innovation - 51%, driving economic prosperity - 50%);
 - Only NGOs are seen as ethical (NGOs doing best at: protecting environment - 48%, civil and human rights - 47%, poverty, illiteracy, disease - 45%).
- Beyond the low score of trust in governments, for a sustainable development it is also necessary the presence of the public authorities and their involving in relationship with business companies and NGOs.

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DOI: 10.5281/zenodo.6396316

COVID-19 PANDEMIC AND THE IMPACT ON PUBLIC MANAGEMENT

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Abstract: *Today's reality, affected by the adaptation to the new conditions imposed by the COVID-19 pandemic, has suffered a series of shocks due to the crisis generated by the infection with the novel coronavirus, with a strong impact on public management. The deciding factors of public administration were surprised by the magnitude of the crisis, very few states being able to optimally manage the risks and the negative effects of the pandemic, which hit the entire world economy. This article aims to analyze the impact of the COVID-19 pandemic on public management, the reactions of states and their economic effects, as well as the role of external public audit in crisis management.*

Keywords: *public management, COVID-19, external public audit*

JEL Classification: *H12, H57, M4*

1. Introduction

The COVID-19 pandemic is the fifth pandemic in the last 20 years and the ninth pandemic in the last century (World Economic Forum, 2020). This has effects that are still unknown at this time, due to the fact that it has not yet ended, but the negative impact of the new coronavirus infection can easily be seen. The shocks of the crisis generated by the COVID-19 pandemic have manifested

in absolutely the entire world economy, both in the public and private sectors, affecting the lives of all citizens of the planet (Ullah et al., 2021).

This paper aims to analyze the impact of the COVID-19 pandemic on the public sector, especially on public management, given that management decisions at this level have influenced the lives of citizens around the world. It also analyzes the impact of decisions taken by public managers in the context of the COVID-19 pandemic on the economy, as well as the role of supreme audit institutions in this context.

2. The reaction of the world's states to the COVID-19 pandemic

Economic experts have launched a series of studies aimed at analyzing the consequences of the lockdown on national economies, in order to identify the causes of differences between countries in the world, in terms of economic recovery and the period time required for the world economy to return to normal (Buera et al., 2021). They also considered that studying how public organizations react to crises can shed light on their response and resilience to the current crisis and possible future crises (Robinson & Wehde, 2020).

In the same context, the COVID-19 pandemic was a good opportunity for the world's states to demonstrate their legitimacy in the current conditions, given that imposing restrictive conditions on the population is not an easy task (Khemman, 2020).

Faced with an unprecedented situation in the last 100 years, states have made an unprecedented decision: closing the economy or the so-called *lockdown*, with negative effects difficult to combat. On the other hand, the maintaining jobs in the sectors considered to be essential for the functioning of the state and the national economy has been another challenge for the world's states (Sanchez et al, 2020). This decision affected the entire world economy, but had a positive effect on the environment, by reducing pollutant emissions due to reduced activity in the industrial sector (Khan et al., 2021). Analyzing the current situation, however, we find that the negative effects of the COVID-19 pandemic prevail.

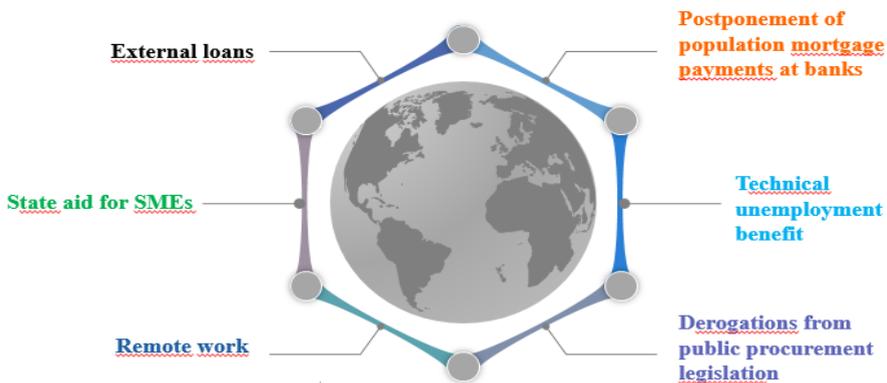
Unprepared for a crisis of this magnitude, states have taken a series of economic measures, after the lockdown, to revive national economies and for economic recover. The degree of damage to national economies depended largely on the state of the health system at the time of the COVID-19 pandemic, but also on the state of the economy as a whole, some states being more affected than others in this regard. From this perspective, the measures taken by some states to recover the national economy have been a source of inspiration for others, these measures being often similar. Given that the socio-economic

effects of the COVID-19 pandemic are multiple and diverse, an appropriate approach from public management is needed for their efficient management (Nicola et al., 2020).

The COVID-19 pandemic affected both the public and private sectors. However, there are areas that are more affected than others, such as those in which human interaction prevails: tourism, the hospitality industry, transport, etc. From this perspective, the world's states being put in a position to make quick decisions in an environment dominated by uncertainty, focused on those areas that could limit economic losses (Radu et al., 2021).

The main measures taken by the world's states to recover national economies in the context of the crisis caused by the COVID-19 pandemic are presented in Figure 1.

Figure 1. The main measures taken by states in the context of the COVID-19 pandemic



Source: made by the author

Romania has taken a series of measures for the recovery of the national economy, taking inspiration from other states, especially from the member states of the European Union, given the fact that the approach at the level of the community bloc was a unitary one. These measures aimed to limit the negative effects of the lockdown, but also those that occurred as a result of limiting the activity that involves the physical presence of man.

The measures taken by Romania, in addition to closing the economy by decreeing the state of emergency and establishing the lockdown (Decree 195/2020) involved granting state aid to SMEs (Order 1.060 / 2.857 / 2020),

the granting of unemployment benefits to persons affected by lockdown / job loss (Emergency Ordinance 32/2020), remote work/telework (Law 81/2018), as well as the postponement of population mortgage payments at banks (Emergency Ordinance 37/2020).

In addition to the measures described above, both Romania and other countries have accessed external loans (Ministry of Public Finance, 2020, Report on government public debt), which led to an increase in public debt, with an impact on economic activity and inflation. Also, in order to provide medical equipment and sanitary materials to combat the pandemic with the SarsCOV-2 virus, in Romania derogations from public procurement legislation were granted, in order to expand the possibility of making direct procurement in the field of health (Decree 195/2020).

In addition to these measures, each state has taken other measures to prevent the spread of the SarsCov2 virus, some on the conduct of citizens in terms of physical interaction or compliance with health measures.

Although the lockdown measure was initially considered effective by countries around the world in terms of limiting the spread of the virus and releasing pressure from health systems, studies have shown that less restrictive policies are proving to be more effective in limiting outbreaks of infection, while limiting economic losses (Brzezinski et al., 2020).

3. Impact of COVID-19 on public management and the role of supreme audit institutions

The public sector, in the context of the COVID-19 pandemic, had the greatest responsibility, given that the lives of citizens are influenced by the quality of public services, especially public health services, in this context.

Decision-makers, in this case the government, as an executive body, tended to make quick decisions, which would have an immediate health effect, without taking into account the possible economic consequences (Tabircă & Radu, 2020). Therefore, the impact of COVID-19 on public management has been quite serious (Figure 2), mainly due to the fact that most states have not developed emergency plans for such situations and, in some cases, the necessary budgets (Romanian Court of Accounts, 2020), requiring budgetary corrections and allocation of additional funds to combat the COVID-19 pandemic.

Also, the fact that human resources have been put at risk of illness, with even deaths among civil servants, has been a serious problem for the public sector. At the same time, the public system faced another problem: while for some officials the workload was reduced due to the lockdown, others had to make additional efforts to cope with the new tasks generated by the new epidemiological context, such as health workers (SIGMA, 2020).

Thus, decision-makers in the public sector were initially faced with a rather serious situation from an epidemiological point of view, being practically forced to face challenges by using the funds approved and available at that time, financial resources becoming an important issue in this context.

Figure 2. Main challenges for the public sector in the context of the COVID-19 pandemic



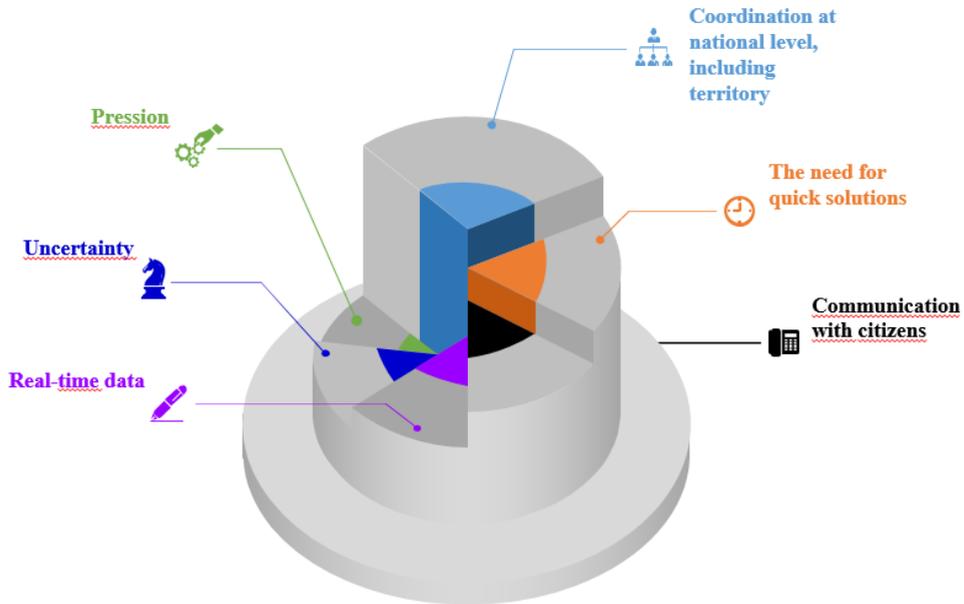
Source: made by the author

At the same time, the lack of digitization in public administration, as well as the lack of IT and other equipment necessary for the proper functioning of public services through teleworking, was another problem for the public sector. All these problems were real challenges for all managers of public institutions, but also for the executive, which, in addition to the extent of infections with the new coronavirus, were put in the situation of taking anti-people measures, with the risk of generating an economic crisis at the same time, against the background of the reduction of all activities.

Some authors believe that even a reform of the public system is needed, affected by turbulence in the context of the crisis caused by the COVID-19 pandemic, the implications at the social level being very high. It is also clear that in the current context, when both the private and public sectors are affected, close collaboration between them would be more than beneficial. At the same time, the relationship with the citizens, the most affected by the pandemic, should be developed at the same time as the concern for increasing their trust in the administration, so that the public administration can make decisions that are accepted by the citizens. (Ansell, Sørensen, Torfing, 2021). The same authors mention that public management should rather look for quick solutions, rely

on instinct and learn to act in conditions of uncertainty and pressure, with an analysis of available data in real time.

Figure 3. Impact of COVID-19 on public management



Source: made by the author

Figure 3 illustrates the main problems faced by public sector managers in the context of the COVID-19 pandemic. Thus, as can be seen, the problems that arise in the context of the crisis caused by the COVID-19 are those characteristic of an emergency, with a high degree of uncertainty, the existence of real-time data (whose main feature becomes unpredictability), the need to coordinate all activities to combat adverse effects throughout the country (quite difficult, which requires a very careful thinking of the organization), the need to identify rapid solutions that can be implemented uniformly throughout the country, as well as the need for good communication with citizens, so that the measures that will be taken can be supported by them.

The COVID-19 pandemic has exacerbated a number of phenomena already existing in the public sector (Figure 4), which will most likely lead to a number of changes in the approach to this sector in general.

Figure 4. Public sector trends in the context of the COVID-19 pandemic



Source: made by the author

Among the phenomena that have intensified with the emergence of the COVID-19 pandemic is digitalization (OECD, 2020a). Originally seen as a method of modernizing and simplifying public sector procedures, digitization has become a necessity in the new reality imposed by the COVID-19 pandemic, namely the need to work from home and maintain social distance, in order to prevent the spread of SarsCov2 virus.

Although the governments of the world wanted to come to the aid of the citizens and take the necessary measures to spread the SarsCov2 virus (OPSI, 2020), the poor communication capacity and the lack of an effective campaign to promote the vaccination among the population have become real problems for them. Thus, the failure to manage the crisis caused by the COVID-19 pandemic has been attributed to world governments, which in some cases, in addition to the health crisis, have also faced a crisis at the political level, thus affecting the capacity of to end the pandemic and return to the pre-crisis situation due to the infection with the new coronavirus. At the same time, the crisis generated by the new coronavirus infection has led to the need to accelerate public sector reforms, acting as a catalyst (OECD, 2020b), with the concept of *new public management* becoming even more prominent.

The allocation of public funds and resources by the state to the health area and to the areas responsible for preventing and combating the spread of the new coronavirus infection has led to an increase in the need for transparency on the part of citizens, as payers of taxes, regarding the management of these amounts by the competent authorities. In this context, the supreme audit institutions played a decisive role, through their mission as “guardians of public finances.”

The role of the supreme audit institutions was emphasized on the occasion of the XXV UN-INTOSAI Symposium, held on June 28-30, 2021 (INTOSAI, 2021), where the participating Supreme Audit Institutions had the opportunity to present their main results from the audit missions conducted in the context of the COVID-19 pandemic. On this occasion, the Supreme Audit Institutions mentioned that, through their audit mission, they have contributed not only to increasing the transparency of public resources used to prevent and combat the pandemic, but also to increasing citizens’ trust in state authorities. The symposium also mentioned that supreme audit institutions can successfully contribute to rebuilding society and returning to normality through their actions (INTOSAI, 2021a).

The main conclusions of the UN-INTOSAI Symposium ((INTOSAI, 2021a) referred to the United Nations General Assembly and recognition the importance of supreme audit institutions in the context of the COVID-19 pandemic, as well as the fact that their proper functioning and independence contribute to strengthening transparency and accountability in the public sector and will therefore provide the key foundations for a rapid and appropriate response to future similar crises.

Regarding the involvement of supreme audit institutions in the management of the COVID-19 pandemic crisis, the internationally practice is somewhat similar, with different approaches. Thus, some supreme audit institutions analyzed the response of national governments to the crisis generated by the pandemic (OAG, 2020), others sought a development of strategic thinking and systemic approach ((NAOF, 2020), while some of them have focused on auditing areas affected by the pandemic, especially the public health area (National Audit Office, 2020a).

The practice of supreme audit institutions has revealed that some of them have even implemented a system of real-time tracking of the costs of the COVID-19 pandemic, data that are published on the Internet and accessible to citizens (National Audit Office, 2020b). Other supreme audit institutions also considered public procurement during the pandemic (Accounts Chamber of the Russian Federation, 2020), as well as integrity issues in public institutions (Controller and Auditor-General, 2020).

The role of supreme audit institutions in the context of the pandemic is particularly important, given their mission in the public sector. Also, through their measures and recommendations, they can generate the necessary framework for effective decision-making by public management, not only in the context of the COVID-19 pandemic, but also in general.

The current approach of supreme audit institutions, based on the performance of the 3 main types of audits (financial audit, compliance audit and performance audit), may require a new approach: *the systemic audit*, which can be a very useful tool for obtaining overviews of a system. Regarding the COVID-19 pandemic, a systemic audit of the public procurement system would generate a complete picture of it today, which would identify all existing deficiencies, but also create added value by extracting the best practices identified and offering recommendations. In this way, it would certainly create the opportunity to save on the state budget and prevent toxic practices, such as fraud and corruption.

Given the fact that some of the supreme audit institutions have among their attributions to provide guidance for public sector institutions (Plesa & Stegaroiu, 2019), their role is once again emphasized, and for public management this can be a real support in terms of decisions involving not only public resources, but also in terms of strategic decisions.

4. Conclusions

The COVID-19 pandemic is far from being over. Further analysis is needed on how public management can act in such situations. The main problem in the context generated by the COVID-19 pandemic is the identification of the best solutions, which would provide fast and efficient results in combating the pandemic, with a minimum financial effort.

In the same context, given the scale of the crisis and the fact that decision-making is currently based on data dynamics, a new model of public manager will most likely emerge: one that is able to make quick decisions based on constantly evolving data and instinctively. Also, in this context, the concept of new public management will be further emphasized, given that, to combat the pandemic, best practices will be taken into account, including from the private system.

The huge number of public resources and funds allocated by world governments to combat the COVID-19 pandemic and their use through public procurement has attracted the attention of citizens, who want to know how to spend public money as taxpayers. In this context, the role of supreme audit institutions becomes vital, through their role as “guardians of public finances”.

These institutions can also add value to the public system, not only through their external public audit missions, but also through the guidance that some of them can provide, which can be a real support for public management in this context.

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DOI: 10.5281/zenodo.6396325

CORPORATE SOCIAL RESPONSIBILITY - NATIONAL PUBLIC POLICIES IN THE EUROPEAN UNION

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Abstract: *Corporate social responsibility has become a well-established concept that designates the voluntary integration by companies of social and environmental concerns in their activities and their relationships with stakeholders. This approach aims to encourage smart, sustainable and inclusive growth, as defined by the Europe 2020 strategy. Indeed, in the first decade of the 21st century, the concept of corporate social responsibility has been increasingly adopted. more and more companies, investors, while civil society, academia and the media have become increasingly familiar with this issue. It is associated with a wide range of meanings. This variety stems from the dynamic, contextual and holistic nature of CSR. Dynamic, primarily because this concept is constantly evolving to meet the changing needs of complex environments. Contextual, therefore, because it is inspired by different historical and cultural traditions and needs to be integrated into them. This feature is particularly evident in Europe, where institutions associated with CSR (so-called „default” CSR) have traditionally existed long before this concept was the subject of explicit debate. Holistically, ultimately, because CSR covers and links together several economic, social and environmental issues. To be achieved, CSR must be an active goal pursued by companies, society and governments. Given the extremely complex nature and adaptability of CSR, governments across Europe are striving to harness their potential to achieve their public policy objectives, as evidenced by the diversity of policy frameworks that promote CSR. Along with the United States, European countries have been among the first in the world to adopt public policies aimed at promoting CSR at the level of their companies. These types of government policies can now be found in all four corners of the world, including Brazil, China and India. Some of the most innovative and well-known CSR policies in the world have come from European countries, such as the United Kingdom, France, and Scandinavian countries.*

Keywords: *corporate social responsibility, corporate ethics, company, performance*

JEL Classification: B55, F69, L29

1. Introduction

The term corporate social responsibility is frequently used. It refers to the obligations of business people to follow policies, to make decisions or to follow directions that are desirable in terms of goals and values for our society. This definition does not imply that business people, as members of society, do not have the right to criticize the values accepted within it and to contribute to their improvement [...] However, we hypothesize that, as subordinates to society, they should not despise socially accepted values or place their own values above those of society. Synonyms for social responsibility are public responsibility, social obligations or corporate ethics. The term Doctrine of Social Responsibility refers to the idea, now widely expressed, that the voluntary consideration of the social responsibility of the businessman is, or could be, an operational means of solving economic problems and more generally. achieving the economic objectives we are pursuing” (Bowen, 1953). Given the growing importance of CSR, it must be acknowledged that Bowen was able to announce in a visionary way that „discussions about corporate social responsibilities have not only become acceptable in managerial circles, but are even fashionable” (Bowen, 1953). Bowen directly situates the problem of social responsibility at the macro-social level: its stake refers to the management of the American economy and the articulation between the public good and the private interest. He introduced the synonyms of CSR, which are used today, and suggested that all stakeholders get involved on a voluntary basis. Even after fifty years of development, after a long „stop and go” road, the concept of CSR has retained its voluntary character. Bowen’s followers have made tremendous progress and contributed to the creation of a new academic field - „Business in Society”. Bowen was a Keynesian economist who implemented his master’s famous words „ideas govern the world”.

Howard Bowen published a book in 1953 entitled „The Social Responsibility of the Businessman” in which he explains why companies have an interest in being more responsible and offers the first „recognized” definition of Corporate Social Responsibility (Bowen, 2013). With the development of environmental concerns, but also of social and economic concerns in the second half of the twentieth century and with globalization, corporate responsibility is becoming an increasingly important issue. More and more consumers are becoming critical of business and want to better respect the law and the environment and be more responsible in general. Today, CSR is really beginning to impose itself in the way companies operate. In its 2011 CSR Communication, the European Commission states that “in order to take on [social responsibility], companies must first comply with the legislation in

force and the collective agreements concluded between the social partners. In order to fully fulfill their social responsibility, companies should have initiated, in close collaboration with stakeholders, a process aimed at integrating social, environmental and ethical human rights concerns into their business activities” (France Stratégie 2021). The sustainable development approach is therefore taking on a new dimension and is gradually becoming part of a real strategy to open up the company to stakeholders. This move also led to real reflections on the company’s social role.

Today, we are talking about a company with a mission, a contributing company. This paradigm shift has led to reflection on redefining the company’s role and the possibility of including environmental concerns and objectives in the company’s status. In order to pursue these objectives, numerous tools have been developed during this period to enable companies to better quantify their performance and actions in terms of sustainable development. For example, companies now use LCA (Life Cycle Analysis) to quantify their greenhouse gas emissions and their impact on the environment. Other tools are being developed to better take into account the expectations of stakeholders, to communicate better, in a more responsible way. The non-financial performance statement is, for example, the ad-hoc tool for reporting non-financial indicators and communicating them to stakeholders.

2. The genesis of Corporate Social Responsibility

Despite the fact that the terms that were used in the past to designate social responsibility were different from those of today, it is possible to trace the forms of manifestation of social responsibility over the centuries, from the time of classical Athens (500 BC). Thus, in ancient Greece, the notion of heroism included certain elements of social responsibility. The belief was that those who were in an advantageous position, in terms of money or power, should behave in a socially responsible way. Today, the Greek term *hêrês* (hero) has many different meanings. Although in ancient Greece this word referred only to warriors, later this title was given to people who served the local community. There was no exact rule to follow to get heroic status (Avlonas, 2004).

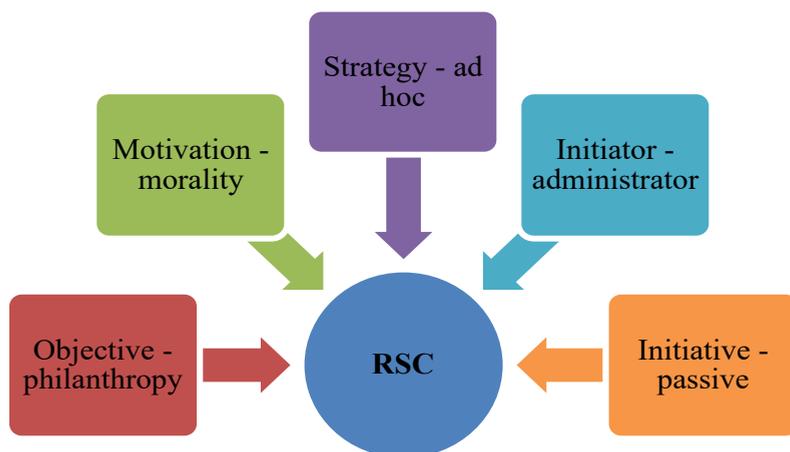
Concern for the social is not the prerogative of contemporary capitalism: in England, Germany or France in the nineteenth century, some industrialists had already distinguished themselves by their social concerns: housing, social insurance, charity for workers and their workers, their families. After the Second World War, the emergence of multinational companies and their growing role in the world economy will raise the issue of business-to-society relations (Segal et al., 2003).

3. The development phases of corporate social responsibility

The search for a method of economic development that respects the environmental and social balance is now a trend in post-industrial economies. It refers to all actors in society, whether they are public or private, or whether they come from large or small structures. However, this was not the case in all phases of the development of this concept, especially not at the very beginning. Since the 1950s, every decade has seen a wave of definitions of CSR. These reflections evolved through the four main stages (ORSE, 2003).

I) The 1950s / 1960s The first research on CSR focused on evaluating the contours of this phenomenon. During this period, the term CSR appeared for the first time. The studies then aimed to determine the company's responsibilities to society: objective - philanthropy; motivation - morality; strategy - ad hoc; initiator - administrator; initiative - passive (figure 1).

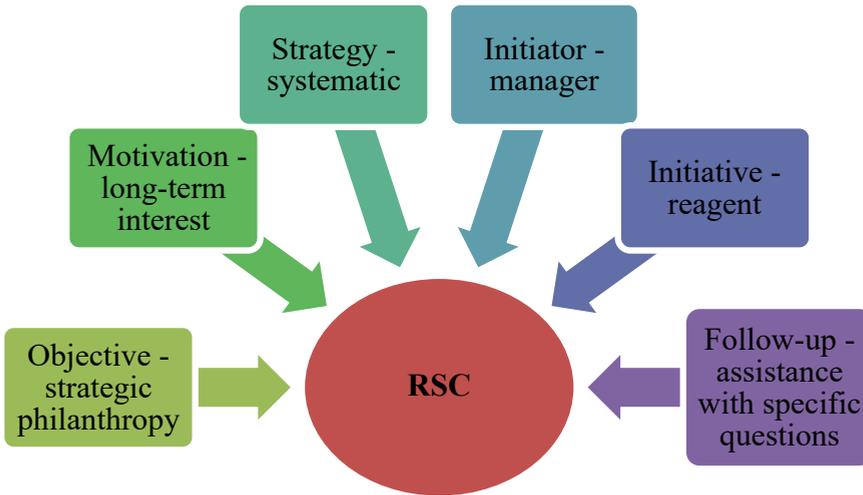
Figure 1. Representation of CSR in the period 1950-1960



This figure and the following describe the CSR approach in each mentioned period. Here, the objectives approached a philanthropic work whose primary motivation was respect for morality. There was no clear strategy, but rather an ad hoc approach. The initiator was mainly the administrator and the concept worked on a principle of passivity. In addition, no third party monitoring or control was performed.

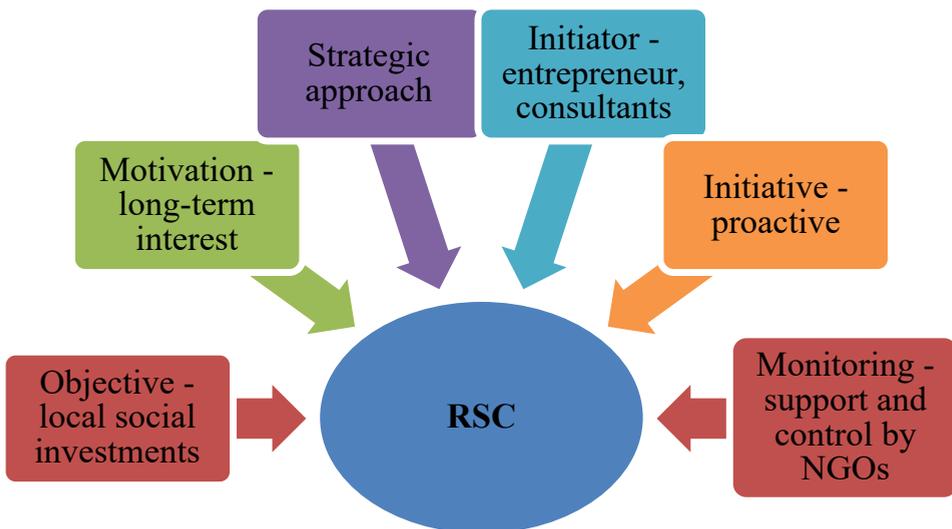
II) 1970s A current of research has focused on how the company can actually detect and manage CSR issues that are relevant to it. This approach led to the promotion of a more procedural vision and to work on the concept of societal sensitivity of the company: objective - strategic philanthropy; motivation - long-term interest; strategy - systematic; initiator - manager; initiative - reagent; follow-up - assistance with specific questions (figure 2).

Figure 2. Representation of CSR during 1970



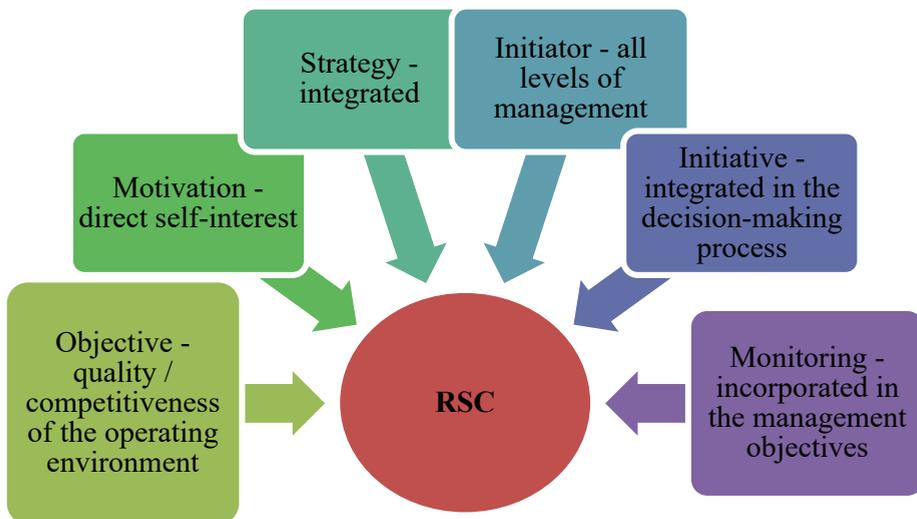
III) The 1980s / 1990s It was necessary to reach the definition of the company’s societal performance. In addition, many questions had to be answered. What are the „ethical” principles of the company? How does the company concretely apply its principles? Hence a more careful and active approach: objective - local social investments; motivation - long-term interest; strategic approach; initiator - entrepreneur, consultants; initiative - proactive; monitoring - support and control by NGOs (figure 3).

Figure 3. Representation of CSR in the period 1980-1990



IV) The 2000s The 2000s are characterized by the fact that the organization seeks to identify the extra-financial factors that allow it to contribute to sustainable development without sacrificing its economic performance. objective - quality / competitiveness of the operating environment; motivation - self-interest; strategy - integrated; initiator - all levels of management; initiative - integrated in the decision-making process; monitoring - incorporated in the management objectives (Figure 4).

Figure 4. Representation of CSR in the period 2000



The differences between the concepts of societal performance, sustainable development and corporate citizenship are now far from being clearly and sufficiently explained. There is, however, a general acceptance that, on the one hand, companies must carry out their tasks in relation to a large number of social groups and that, on the other hand, they must be able to meet the social expectations that arise.

The differences between institutional systems, economic and social history, value systems, mentalities, help to explain the different definitions of CSR. In the United States, for example, CSR has traditionally been defined as a philanthropic model. There, companies donate some of their profits to charities.

By comparison, the European model is much more focused on applying the criteria of social interaction to all stages of business activity. Although a wide range of potential definitions are available, the one presented by the European Commission in its Green Paper „Promoting a European framework for corporate social responsibility” is most commonly used. This document aimed to initiate the debate on the concept of corporate social responsibility and to

define the ways to build a partnership that would allow the development of a European framework to promote this concept. The Green Paper defined CSR as „the voluntary integration by companies of social and environmental concerns into their business activities and their relations with stakeholders” (European Commission, 2001. *Le Livre vert*) as they become increasingly aware that this responsible behavior translates into success in sustainable business.

The European Commission has compiled a list of concerns that fall within the scope of CSR. It is part of the internal dimension of CSR: human resources management, occupational health and safety, adaptation to change and environmental and natural resource impact management. Human resource management includes education and lifelong learning, staff empowerment, improved information in the company, a better balance between work, family and leisure, greater diversity of human resources, application of the principle of equal pay and career prospects. for women, profit-sharing and shareholding schemes, as well as consideration of professional integration capacity and job security. Voluntary initiatives to promote health and safety are considered to be complementary to the legislation and controls of public authorities. Adapting to change requires the commitment of companies to mitigate the social repercussions, at the local level, of major restructuring. With good management of the impact on the environment and natural resources, normally everyone wins: business as well as the environment. As CSR extends beyond the company’s perimeter, its external dimension is also being examined by the European Commission. It covers the following topics: local communities; business partners, suppliers and consumers; human rights as well as global environmental concerns. It is particularly noteworthy that the European Union has an obligation, as part of its cooperation policy, to ensure compliance with labor standards, environmental protection and human rights in developing countries. The Green Paper provides a review of CSR tools, such as codes of conduct, social and eco-labels, socially responsible investments, the consultation process, reports and audits.

CSR also leans towards responsible change management at the company level. This result is achieved when the latter strives to find balanced compromises acceptable to all. The ultimate goal would be to optimally meet the requirements and needs of all stakeholders. CSR covers the social and environmental concerns that need to be integrated into business strategy and operations.

The European Commission has evolved towards the voluntary concept of CSR. The importance of how companies interact with internal and external stakeholders is also emphasized. The European Commission’s definition has been and remains an incentive for many actors concerned with the CSR process, to propose their own definitions or to contribute to its interpretation. Promoting a European framework for corporate social responsibility, the Organization

for Economic Co-operation and Development (OECD) provides a descriptive definition, considering that CSR can mean different things to different groups, sectors and stakeholders and is constantly evolving. The OECD considers that „there is general agreement that companies in a global economy are often called upon to play a greater role, beyond creating jobs and wealth, and that CSR is the contribution of companies to the development of sustainability; that this corporate behavior must not only provide dividends for shareholders, salaries for employees and products and services for consumers, but must also respond to the concerns and values of society and the environment” (www.oecd.org/home).

Today, CSR is a business practice that strengthens accountability and upholds ethical values for the benefit of all stakeholders, responsible business practices that respect and preserve the natural environment and help improve the quality of life and business opportunities, responsible business practices empower people and make possible the investment in the community in which the company operates. If CSR is approached holistically, it can provide the greatest benefits to business and stakeholders when integrated into business strategy and operations. CSR is the ongoing commitment of companies to act ethically and contribute to economic development, while improving the quality of life of their employees and their families, the local community and society as a whole. Even in this formulation, CSR is seen as one of the three key business responsibilities, including economic responsibility and environmental responsibility. CSR is the commitment of a company to operate in an environment of economic and environmental sustainability, while recognizing the interests of stakeholders. Stakeholders include investors, customers, employees, business partners, local communities, the environment and society as a whole.

According to Archie (1979), „business social responsibility encompasses economic, legal and ethical expectations, as well as other discretionary expectations of society in relation to a company at a given time”. According to McWilliams and Siegel, CSR includes actions that appear to promote the collective good, beyond the interests of the company and the law (Abigail & Siegel, 2001). Finally, it can be concluded that this concept is the transposition of the concept of sustainable development in a company by evaluating the company’s performance from three angles: social: the social consequences of the company’s activity for all its stakeholders (People); environmental: compatibility between the company’s activity and the maintenance of ecosystems (Planet) and economic (Profit). The triple baseline therefore corresponds to the triple - People, Planet, Profit.

4. National public policies in the European Union

Human rights, how to declare and disclose, climate change, small and medium-sized enterprises (SMEs), socially responsible investment, education, public procurement: all these are part of **national public policies in the European Union**. The globalization of the market in the nineties led to the emergence of multinational companies. This decade was also marked by a radical change of perspective on the role of the state. As governments privatize more and more, companies are becoming more involved in providing essential services such as water, electricity, telecommunications and energy. In addition, as a result of privatization and deregulation, companies are seen as increasingly powerful by public opinion. They have become the cornerstones of a new world economic order. The new power of companies escapes the traditional, purely national regulations. Today, the international community faces an additional challenge, the emergence of a hybrid regulatory system, supported by various actors and linking both the national and the global, public and private, voluntary and mandatory. This is the case, for example, with the voluntary certification system, while the labeling system is mandatory. This is a good illustration of the existence of different trends in this system. In order to address the global CSR problem, it has been necessary to develop global standards that apply in a special way. Many supranational organizations have made recommendations on social responsibility: the United Nations, the International Labor Organization, the Organization for Economic Co-operation and Development and, of course, the European Union, which bases its policy on sustainable development and its corollary, CSR.

5. CSR in Europe

Corporate social responsibility has become a well-established concept that designates the voluntary integration by companies of social and environmental concerns in their activities and their relationships with stakeholders. This approach aims to stimulate smart, sustainable and inclusive growth, as defined by the Europe 2020 strategy. Indeed, in the first decade of the 21st century, the concept of CSR has been adopted by a growing number of companies, investors and investors. and business schools, while civil society, academia and the media have become increasingly familiar with the issue. Following the economic and financial crisis that erupted in 2008, CSR is now more relevant than ever, with calls for more responsible business now being heard and confidence-building becoming one of the top priorities for companies in the Western world. Despite its popularity, CSR remains an inherently complex concept. It is associated with a wide range of meanings. This variety comes

from the dynamic, contextual and holistic nature of CSR. Dynamic, first of all, because this concept is constantly evolving to meet the changing needs of complex environments.

Contextually, therefore, it is inspired by different historical and cultural traditions and needs to be integrated into them. This feature is particularly evident in Europe, where CSR-associated institutions (so-called „default” CSR) have traditionally existed long before this concept was the subject of explicit debate. Holistic, finally, because CSR covers and links several economic, societal and environmental issues. To be achieved, CSR must be an active goal pursued by companies, society and governments. Given the highly complex nature and adaptability of CSR, governments across Europe are striving to harness their potential to achieve their public policy objectives, as evidenced by the diversity of policy frameworks that promote CSR. Along with the United States, European countries were among the first in the world to adopt public policies aimed at promoting CSR at the level of their companies. These types of government policies can now be found active worldwide, including in Brazil, China and India. Some of the most innovative and well-known public CSR policies in the world have their origins in European countries such as the United Kingdom, France and the Scandinavian countries.

6. CSR themes

The topics identified in the field of corporate social responsibility and therefore reflect recent priorities and trends in public CSR policies.

These topics are:

- general CSR policy frameworks, including national CSR strategies and action plans;
- socially responsible supply chain management, with a special focus on human rights;
- CSR information and disclosure procedures;
- the potential of CSR in the fight against climate change;
- CSR in small and medium enterprises;
- socially responsible investments (SRI);
- CSR and education;
- ecological, social and sustainable public procurement.

CSR can be an opportunity for civil society and governments to create a stimulus structure that pushes companies to participate in achieving the public good and social goals of sustainable development. Governments and multilateral international organizations have begun to intervene in the field of CSR. In this context, public authorities, through appropriate policies, seem to want to help

address certain issues that undermine CSR in order to make it a more effective and credible tool. The following types of tools have been identified:

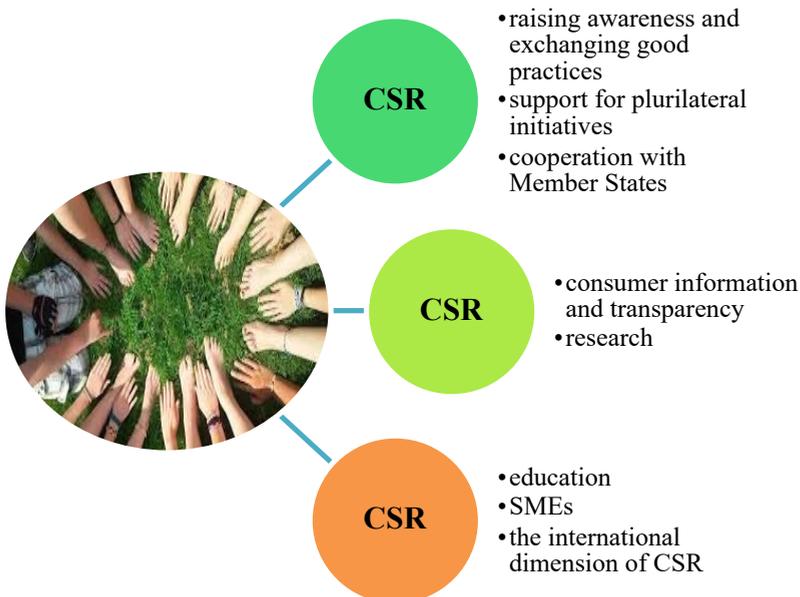
- legal instruments confer legislative, executive and judicial powers to impose CSR practices;
- mandatory laws, directives and regulations are examples;
- economic and financial instruments use financial incentives and market forces;
- taxes, tax exemptions, subsidies or prices. (Steurer, 2010).

7. National public policies in the European Union

CSR policy frameworks in the EU

These policy frameworks provide an overview of their general approaches to CSR adopted by the Member States of the European Union. CSR action plans and strategies are the most explicit form of governmental approach to CSR. Many Member States do not have an action plan or strategy, despite their good reputation in CSR. Since the beginning of the millennium, the European Commission has been an active player in promoting CSR in all Member States. The EC laid the foundations for a common understanding of CSR in Europe, which should help the continent achieve the goals of the (revised) Lisbon Strategy. Since 2006, the Commission has been involved in numerous CSR support initiatives. Each addresses one of the eight priority areas defined in the CSR Communication (Figure 5).

Figure 5. Representation of priority areas related to CSR



- raising awareness and exchanging good practices;
- support for plurilateral initiatives;
- cooperation with Member States;
- consumer information and transparency;
- research;
- education;
- SMEs;

8. The international dimension of CSR

The Europe 2020 strategy has developed a vision of how the EU can become a smart, sustainable and inclusive economy, ensuring high levels of employment, productivity and social cohesion. She identified CSR as a key component of long-term employee and consumer confidence. Of the many European initiatives, some have been instrumental in reviewing and expanding CSR policies, as well as in identifying new priorities. Partnership tools have played an important role in this.

There are several reasons for EU Member States' commitment to CSR and their desire to create an encouraging policy framework. CSR provides a voluntary approach complementary to strict traditional regulations, by convincing private companies to address national and international issues and therefore to indirectly pursue public objectives. In this way, CSR can help close the governance gap and reduce the potential negative impact of business activities on society and the environment. As a result, more and more EU Member States are actively involved in CSR.

One way to establish a favorable CSR policy framework is to adopt CSR action plans and strategies. These are key public documents that define the government's overall approach to CSR, set priorities for action, and coordinate a set of existing and new policy instruments. When properly implemented, they can be a first step towards a public CSR policy, especially for countries that cannot rely on a long tradition in this field or on strong institutions. CSR action plans and strategies were adopted by Germany in 2010, Belgium in October 2006, Bulgaria in 2009, Denmark in 2008 and Hungary and the Netherlands in 2007.

Public policy arguments in favor of CSR allow governments to justify their commitment in this area. These arguments depend on the specific socio-economic context of each country and its political challenges. Although some general arguments can be identified, such as inclusive and sustainable growth, social and environmental issues, or questions about the importance and export of foreign direct investment in a globalized economy, each country must

determine its own arguments. When it comes to CSR action plans and strategies, these reasons are often highlighted by the priorities set by each Member State. The nature of a Member State's economy as well as its degree of integration into the global economy have a significant impact on the relevance of public policy arguments presented in the field of CSR. Quite modest economies, with a large number of SMEs, do not pursue the same objectives as highly export-oriented economies.

According to the European Commission, social enterprises are positioned at the intersection of the traditional public and private sectors. Despite the lack of a universally accepted definition of social enterprise, the main distinguishing features of these entities are their social purpose coupled with an entrepreneurial spirit worthy of the private sector. The social economy includes cooperatives, mutual societies, non-profit associations, foundations and social enterprises that offer a wide range of products and services in Europe. Most of the social economy is made up of SMEs. Such support for the social economy can be found in other Member States whose economies also have a high proportion of SMEs.

In contrast, Member States with traditionally export-oriented businesses and heavily regulated national economies tend to focus on CSR outside their borders. Usually, several ministries are responsible for CSR, one of them leading public policies in this area. Often these are the ministries of labor and social affairs or the economy or foreign affairs. To this end, governments may set up inter-ministerial working groups.

A successful policy framework to support CSR uses a variety of tools. The choice of a particular policy instrument depends on the subject to be addressed and the Member State in which it will be implemented. We can distinguish between an implicit CSR policy framework and an explicit one. The default framework refers to instruments that are not called CSR or clearly associated with this term, but which nevertheless support this approach. Examples include legal instruments such as the Constitution and labor law and government policies, such as environmental regulations or higher education. In general, these tools apply to companies and require or encourage the application of CSR issues (fair industrial relations or CO₂ awareness). All EU Member States have, to varying degrees, such an implicit CSR policy framework. Instead, an explicit framework is made up of all the tools originally designed to promote CSR in a given field. It includes, for example, organizations created to address the issue, as well as strategies in this area. In principle, an explicit CSR policy framework should allow for a more strategic and coherent approach in this area. This tool is not used by all Member States; there is indeed a great diversity between existing approaches.

9. Research methodology

Social responsibility research has sought to address various aspects of corporate behavior through information that is widely disseminated in the literature. Since ancient Greece, social reporting has become one of the most important means of manifesting social responsibility. Although it does not benefit from a universally harmonized practice, it is practiced in most large companies. There are different forms of social reporting: in annual reports, in independent company reports, through advertising, packaging, conferences, websites, etc.

The information collected in this article is the result of significant research efforts - in-depth analysis of the literature, internet resources, and contributions of Member States' representatives, consulted in public documents. These include EU (eg CSR Europe) and international organizations (such as the United Nations (UN)), as well as several stakeholder associations. This approach integrates a wide range of stakeholder perspectives and therefore reflects the dynamic, contextual and holistic nature of CSR in general and CSR in Europe in particular.

10. Conclusions

Companies should implement their social responsibility not only in Europe but also globally, including throughout their production chain. Integrating CSR efforts must involve helping companies to integrate social and environmental considerations into their business operations, especially in the supply chain. At EU level, the subject of business and human rights has become a central theme of its leadership in CSR. The European Union is concerned about corporate social responsibility, as it can make a positive contribution to the strategic goal set in Lisbon: to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth accompanied by a quantitative economy and qualitative improvement. employment and greater social cohesion. The establishment of a global European framework is expected to allow for better coherence of different CSR procedures, due to the development of principles, generic approaches and tools and the promotion of good practices and innovative ideas. Social responsibility can have direct economic value and should be seen as an investment and not a cost, although it is difficult to determine its financial profitability.

The economic impact of CSR can be divided into direct and indirect effects. For all these reasons, CSR must be integrated into business management, as it highlights three key criteria: the voluntary nature of the company's commitments and the fact that these commitments go beyond the

scope of applicable legal obligations [...] because going beyond compliance, companies could increase their competitiveness; the sustainability of these commitments implies the permanent integration of the views of stakeholders concerned by the company's activities; commitment to some transparency, enabling stakeholders to be informed and discussed.

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DOI: 10.5281/zenodo.6396333

DEVELOPMENT OF SOCIO-EMOTIONAL SKILLS

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Abstract: *In social and emotional development is the foundation of realities and interactions that give meaning to the experiences of children at home, from kindergarten, in the community. It also significantly influences children's success in life, but also at school. That is why the educational process must be oriented towards human knowledge and understanding, towards the development of civic, aesthetic and moral sense and behavior. Interpersonal relationships are a difficult and complex process, not only in kindergarten and school, but also in the family and in society. A correct human relationship presupposes a partnership in which those involved respect each other, offer and receive alternatives.*

Keywords: *socio-emotional skills, relationships, children, community*

JEL Classification: *A31, I20*

1. Introduction

The foundation of relationships and interactions, when we talk about emotional and social development, significantly influences children's experiences of success in the community.

The studies of contemporary pedagogy promote originality, creativity, promote the initiative and involvement of the teacher. That is why educational actors must organize their activities according to the methodology, apply new methods and solutions, consider the importance of good communication, unnatural formalism and excessive discipline that leads to behavioral disorders and school failure. "A modern educator must know very well the group of children, beyond belonging, to be interested in the feelings, attitudes and feelings of children in relation to the problems of school and extracurricular life" (MECTS, 2016).

Thus, according to the Guide to Social and Emotional Development in Students, published in 2020, "the development of social and emotional skills occurs through specific activities of self-knowledge, based on correct identification and management of emotions, empathy development, constructive conflict resolution (conflict management and of the conflict). problem solving), cooperation with others (teamwork) etc" (Opre, 2020).

Emotions are those that do not influence the way we interrelate with the environment, with society, the way we make decisions, the way we communicate. Therefore, if, as human beings, we manage not to control our emotions, we can control any situation that arises. In this context, social and emotional development becomes at least as important in adolescence and emerging adulthood as in the early years of schooling. Numerous scientific studies and recent reports "have shown long-term effects of social and emotional development, not only in terms of academic achievement, but also in terms of biological and mental health, financial stability and even the rate of delinquency in adulthood" (Opre, 2020).

2. Development of children's socio-emotional skills

According to Vaida (2021), Development Social and Emotional Learning (SEL) is the process of developing socio-emotional skills, by providing an appropriate environment and learning experiences." The term education was first used by Michel de Montaigne (1533-1592): "I condemn any violence in the education of a young soul" (Bârsănescu, 1969).

Cristea (1998), in Dictionary of pedagogical terms, considers that "education as a psycho-social activity designed at the level of pedagogical aims aimed at achieving the function of formation-permanent development of human personality through a pedagogical actions structured at the level of the subject / educator-object / educated correlation, carried out in an open pedagogical field."

In a general sense, education is "the process (action) through which the formation and development of the human personality is realized. It is a necessity for the individual and for society ". As a result, it is a specifically human activity, realized in the context of human social existence and, at the same time, it is "a specific social phenomenon, an attribute of society, a condition of its perpetuation and progress" (MECTS, 2016).

Emotion (in French *émotion*, Italian *émione*, English *emotion*) is defined as "an affective reaction of medium intensity and relatively short duration, often accompanied by changes in the body's activities, mirroring the individual's attitude towards reality. Emotion can be classified as a defense

system, because psychologically, emotion affects the attention, ability and speed of reaction of the individual, but also the general behavior. Physiologically speaking, emotions control responses to certain situations, including facial expression, vocal tone, but also the endocrine system, to prepare the body for certain consequences” (Vaida, 2021).

The Oxford Dictionary defines emotion as “any mental, sentimental, or passionate agitation or disorder; any acute or tense mental state.”

Daniel Goleman, in his book, "Emotional Intelligence", the third edition, from 2008, is “of the opinion that emotion represents a feeling and the thoughts that it entails, in psychological and biological states and to the extent that we are inclined to act” (Goleman, 2018).

Due to research in 2004 by researcher Haggerty on resilience and prevention, but also due to the interest of established authors in the field, on the development of multiple intelligence or emotional intelligence, such as Gardner, Goleman, the concept of socio-emotional development was developed.

Thus, the development of socio-emotional skills has its origins in theories in the field of emotional intelligence and represents “improving emotional knowledge and optimizing the social behaviors necessary to obtain desirable and sustainable results. At the same time, it represents a personal capacity to face the challenges of the environment”(Vaida, 2021). That is why the educational process must be oriented towards human knowledge and understanding, towards the development of civic, aesthetic and moral sense and behavior.

Preschool age is characterized by accelerated development on all levels: physical, cognitive and socio-emotional. These plans are in close interaction and it must be taken into account that each child has his own pace of development, is unique, and learning must be done holistically, so that each area influences the others and none has how to operate independently. That is why there has been a lot of research by some authors who investigate various cognitive aspects, and follow this in close relation with socio-emotional functioning, talking about social cognition, respectively cognitive functions in the service of social adaptation. Each teacher can make his class of students a real laboratory for testing and discovering the efficiency of teaching-learning-assessment methods and procedures.

Preschool is the most appropriate period for the development and optimization of emotional and social skills, during which the child develops fundamental skills in cognitive, emotional and social essential for adapting to adult life. There is an indestructible link between social and emotional education, between the social and emotional development of the child most often at the base of a social behavior is an emotion, at the base of a desirable behavior is a positive emotion, and an emotion Negative behavior can lead to unwanted behaviors, such as aggression or even violence.

“Emotion involves an assessment by the subject of the significance of an event or situation. In other words, emotion depends on how a person evaluates and analyzes. Through emotions we judge the world as pleasant or unpleasant, good or bad, so according to a system of values” (MECTS, 2016).

According to Daniel Goleman, “optimism is an essential skill for emotional intelligence; he talks about manipulating negative thinking through optimism. A good mood that will impel the person in a moderate style and will make him successfully perform the proposed tasks” (Goleman, 2018)

Emotional development refers to the ability of children to perceive and express their emotions, to understand and respond to the emotions of others, and the development of self-concept, very important for this area. Children learn and are socialized with the emotional aspects from the beginning of life. New research in this area shows that gender differences in emotional life (experiencing, expressing, recognizing emotions) depend most on education, socialization or context. Emotions are important for children because they ensure survival, decision making, setting boundaries, communication and unity, so it is very important for them to experience them in their social environment.

Emotional and social skills developed until the age of 6, in preschool education, are the main element for performance and school adaptation. In this sense, great attention must be paid to gender differences in personal development. The issue of gender differences often arises when the proper development of children is brought to the fore, because it has the main role in how their emotional and social skills are formed. The ages of 3 and 5 are the strongest evolution in the development of the ability to recognize emotional expressions.

Emotion, as defined by many researchers in the field, is "a person's experience of an important event." There are many emotions of all kinds, with various variations, changes and nuances or there are much more subtle emotions than the words that could define them. According to some hierarchies, emotions can be positive (joy, contentment) and negative (anger, sadness, dissatisfaction). Thus, the following are proposed as primary emotions: anger, anger, sadness, joy, love, shame. And emotions such as jealousy, hope, courage, forgiveness, certainty, self-control, according to some other researchers are also feelings, emotions of the individual.

According to these specifications, emotion involves an assessment by the subject about the significance of an event or situation. Until childhood, children were taught not to express their emotions, especially in public, because this is a form of immaturity or on the contrary, we show how vulnerable we are. Following new research in this area, it has been found that emotions can be educated and that the benefits of this process are huge. Thus, the child, from an early age, will learn to be honest with his emotional feelings, not to hide, not

to avoid them, because this only makes him frustrated and hence the anxiety, depressive and neurotic states.

Over time, scientists have observed that “the main predictor that ensures adaptation to adulthood is not school grades or high cognitive potential, but the ability of children to establish relationships with others. Researchers show that the period of time in which a person laughs, smiles, talks to others is much longer between friends, than when individuals do not know each other. Studies show that the exchange of information and skills becomes much more efficient when children make friends, intertwine with each other and feel less vulnerable when expressing difficulties.

The development of children's emotional skills is important for the following reasons:

- Because it helps to form and maintain relationships with others;
- Because it helps children to adapt to kindergarten and school;
- Because it prevents the occurrence of emotional and behavioral problems.

Awareness of the purpose of teachers is to identify the emotional problems that children face, the causes that generated these problems and the way of intervention, depending on the age of each of them. Thus, awareness is the motive for designing in the education system some activities that, through complementarity, aimed and achieved the objectives by relating to the fundamental landmarks of social and emotional development, provided in the curriculum for preschool education.

Thus, people with well-developed emotional skills are more likely to be satisfied in life, to be effective in more professional or personal areas, to manage their thinking style to be productive, to communicate effectively with others in order to maintain appropriate relationships. For people who cannot control their emotional life and often have feelings of frustration, anxiety and worry will not be able to communicate effectively, will not be able to recognize and interpret emotions correctly, which can lead to problems of maladaptation.

Ştefan and Kallay, in 2007 defined social competences as “the ability of children to form functional social relationships with other children and adults in their lives” (Vaida, 2021). In other words, social skills facilitate positive interactions, corresponding to cultural norms, in such a way as to allow the achievement of one's own goals and at the same time the observance of the needs of others. According to the above definition, any social behavior is the result of a process of learning what is valued by society; for example, greeting or introducing ourselves to strangers are considered polite ways to initiate an interaction. These behaviors help us achieve certain goals, while allowing us to initiate and establish a relationship with someone else. The basic social competencies described in the literature are:

- interpersonal skills: initiating and maintaining a relationship;
- intrapersonal skills: integration into a group.

“The cultivation of personality traits, although present as an objective in the consciousness of each teacher, gradually passed into the background. Moreover, unlike cognitive skills assessed on the basis of test results and specific examinations, socio-emotional skills are often considered difficult to measure as a result of their development in educational contexts. Despite these educational priorities that favor the cognitive profile and methodological limitations in terms of the accuracy of the objective assessment of socio-emotional skills, the importance of the latter for personal development and for the academic and professional development of children and young people can no longer be underestimated. question mark. In the context of the dynamics of contemporary change, they have (re) acquired their due significance” (Opre, 2020).

3. Conclusions

Emotional skills have a special role in everyone's life, because both parents and teachers who take part in educating their children must be informed about the issue of gender differences, but also about the need to compensate or capitalize on these differences in preschool, because this period represents the starting point of socio-emotional acquisitions. All educational actors involved in the educational process, together with parents, can support and offer children opportunities to help them develop their emotional skills correctly by carrying out educational projects and partnerships created with the child and for the child. Social and emotional skills play a central role in achieving school success and well-being, and social and emotional disabilities are associated with negative outcomes both at school and on a personal level.

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DOI: 10.5281/zenodo.6396339

AN OVERVIEW OF FISCAL PRESSURE IN THE EUROPEAN UNION

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Abstract: *An important part of the Gross Domestic Product is available to the state through taxes, fees and contributions. In the literature, there are many meanings of the fiscal pressure, also known as the rate of fiscality. Most of the meanings define this indicator as a ratio between revenue received from taxes (including social contributions) over a given period and Gross Domestic Product realized over the same period. This research paper focuses on analyzing the fiscal pressure in European Union, starting from the structure of mandatory levies, direct and indirect taxes, and social contributions. Theoretical research provides input on the current state of knowledge on the subject. The data are provided by Eurostat based on the European system of national and regional accounts (ESA 2010). Taxes and social contributions, according to European System Accounting (ESA 2010), are recorded on an accrual basis.*

Keywords: *fiscal pressure, direct taxes, indirect taxes, Gross Domestic Product*

JEL Classification: *H24, H25, H29*

1. Introduction

This paper shows a research which has as its main objective to highlight an analysis of the evolution of the fiscal pressure in the European Union area. The data are provided by Eurostat based on the European system of national and regional accounts (ESA 2010). Taxes and social contributions, according to European System Accounting (ESA 2010), are recorded on an accrual basis.

Theoretical research provides contributions as regards the current state of knowledge on the subject and clarifies certain aspects necessary for the subsequent application. The following research hypothesis is attached to the proposed research objective: between the fiscal revenues, Gross Domestic Product (GDP), economic development there is a direct relationship. Starting from this assertion, taxes represent a critical measure both of a good governance and economic development. Thus, as incomes rise, economies become more developed. In this sense, according to the World Bank, fiscal revenues above 15% of a country's Gross Domestic Product represent a key ingredient for poverty reduction and economic growth. For example, in 2019, the average tax-to-GDP ratio, among the state members of the European Union was 41.4% and in the member states of Organisation for Economic Co-operation and Development was 33.8%. (Kagan & Uradu, 2021)

Creating a performing fiscal system through designing taxes that satisfy the requirements of the principle of fiscal equity and the objective of obtaining sufficient revenues is very important for the state. (Bird & Wilkie, 2012). The criteria of efficiency and fairness are at the top of the list in the design and selection of sources of income. Taxes are used as a competitive tool by states, having different competitive effects (Ulbrich, 2011).

Each type of tax has both negative and positive characteristics. Some taxes create fewer distortions in business decisions, are more stable than others, and are easily perceived to taxpayers (in the case of direct taxes). Other taxes are hidden (in the case of indirect taxes). Some taxes are sensitive to economic growth and/or inflation, other taxes are not. The different revenue sources have different impact on taxpayers' economic decisions and on the distribution of income and wealth.

2. A short review of the literature about fiscal pressure

The study of fiscal pressure is of particular interest to many theorists of economics, existing a lot of opinions in the literature regarding the term fiscal pressure. The link between the rate of fiscal pressure and the flow of fiscal revenues was first noticed in 1776 by Adam Smith. Fiscal pressure on its optimal

level was the concern of the economist Laffer in the '80s, which through the curve that bears his name, known as the "Laffer Curve", expressed the idea that too high fiscal rates could destroy the basis of taxation (Trandafir & Brezeanu, 2011). In this sense, the fiscal pressure is seen as "*a relative expression of the tax burden borne by the taxpayer*" (Brezeanu, 2009). In case of the corporates, tax burden can be appreciated by utilizing the effective tax rate. The effective tax rate is considered more relevant than the legal tax rate because it considers the fiscal incentives, providing a true reflection of the tax burden borne by companies (Teodorescu & Istudor, 2017). The increase or decrease of the fiscal pressure over a certain period "*is closely linked to the economic and social role of the state, its intervention in order to ensure the coverage of public expenditures*" (Trandafir & Brezeanu, 2011).

Another opinion reveals that "*the fiscal pressure is generally given by the fiscal rate, which is calculated as the ratio between fiscal revenues including the contribution to state social insurance in a certain period, usually one year, and the value of Gross Domestic Product, achieved at the same time, of a national economy*" (Văcărel and others, 2008).

To achieve the goal of fiscal policy, fiscal pressure must consider the conciliation of two diametrically opposed tendencies: the trend of the state that wants it to be increasing to cover public expenditure and the trend of the taxpayer who seeking a fiscal pressure as low as possible (Dobrotă & Chirculescu, 2010). In close relation with the concept of fiscal pressure, the concept of fiscal levy is necessary to use. In contemporary times, the fiscal levy is carried out by means of tax, the reference element in fiscal theory and practice, and the most important means of financing public needs.

In the analysis of fiscal pressure there are two approaches, one approach in terms of flow and another in terms of indices (Corduneanu, 1998). The information provided by the analysis in terms of flow is necessary to perform the analysis in terms of indices. The fiscal pressure in flow terms, is the monetary amount of the fiscal obligation, borne by the income at individual, sectoral and overall level. Fiscal pressure should not only be seen as a state pressure on the economy, but also as a redistribution of collected revenues, as they return to the economic circuit through public expenditures.

"The fiscal pressure rate measures the part of fiscal proceeds that undergoes a compulsory and public distribution process instead of being left to the discretion of private initiative" (Petric, 2019 p. 189).

3. Methodology and methods for determining the fiscal pressure

As a research method, the analysis is performed based on quantitative empirical research. To highlight the fiscal pressure at the level of the European Union

member states, we considered that it is opportune to structure the data by regrouping them according to the size of the fiscal pressure. In this sense, we classified the countries by intervals of analysis of the fiscal pressure according to the Table 1.

Table 1. Intervals of analysis of the Fiscal Pressure

Analysis interval	The size of the Fiscal Pressure (deviations +/- from the EU 28/ EU 27 average) - percentage points	
	Minimum	Maximum
I	≥ 5	
II	≥ 0	< 5
III	$\geq - 5$	< 0
IV		$< - 5$

Methods for determining the fiscal pressure at the macroeconomic level:

- **The overall tax-to-GDP ratio** (*Fiscal pressure in the broad sense – The Overall fiscal pressure or the Rate of taxation*) is calculated according to the relationship 1.

$$Rot = \frac{CL}{GDP} \times 100 \quad (1)$$

in wich:

Rot = The rate of taxation, which shows the percent of the Gross Domestic Product available for the state by means the taxes and social contributions

CL = Compulsory Levies, respectively the total of the receipts realized in a year from compulsory taxes and social contributions

GDP = Gross Domestic Product

Also, partial rates of taxation can be calculated, by reporting the taxes (fiscal revenues in the strict sense) and social contributions to the Gross Domestic Product.

- **Fiscal pressure** (*Fiscal pressure in a narrow sense - the Rate of Fiscality*) is calculated as a ratio between the total of the Fiscal Revenues and the Gross Domestic Product, according to the relationship 2.

$$FP = \frac{FR}{GDP} \times 100 \quad (2)$$

in which: FP = Fiscal pressure or the Rate of Fiscality, which shows the percent of the Gross Domestic Product available for the state by means the taxes;

FR = Fiscal Revenues

GDP = Gross Domestic Product

- **Rate of social contributions** is calculated according to the relationship 3.

$$Rsc = \frac{SC}{GDP} \times 100 \quad (3)$$

in which:

Rsc = Rate of social contributions

SC = Social Contributions

GDP = Gross Domestic Product

4. Analysis of the fiscal pressure in the member states of the European Union

4.1. The overall tax-to-GDP ratio

The tax-to-GDP ratio is usually used to determine how well directs its economic resources the government of a country.

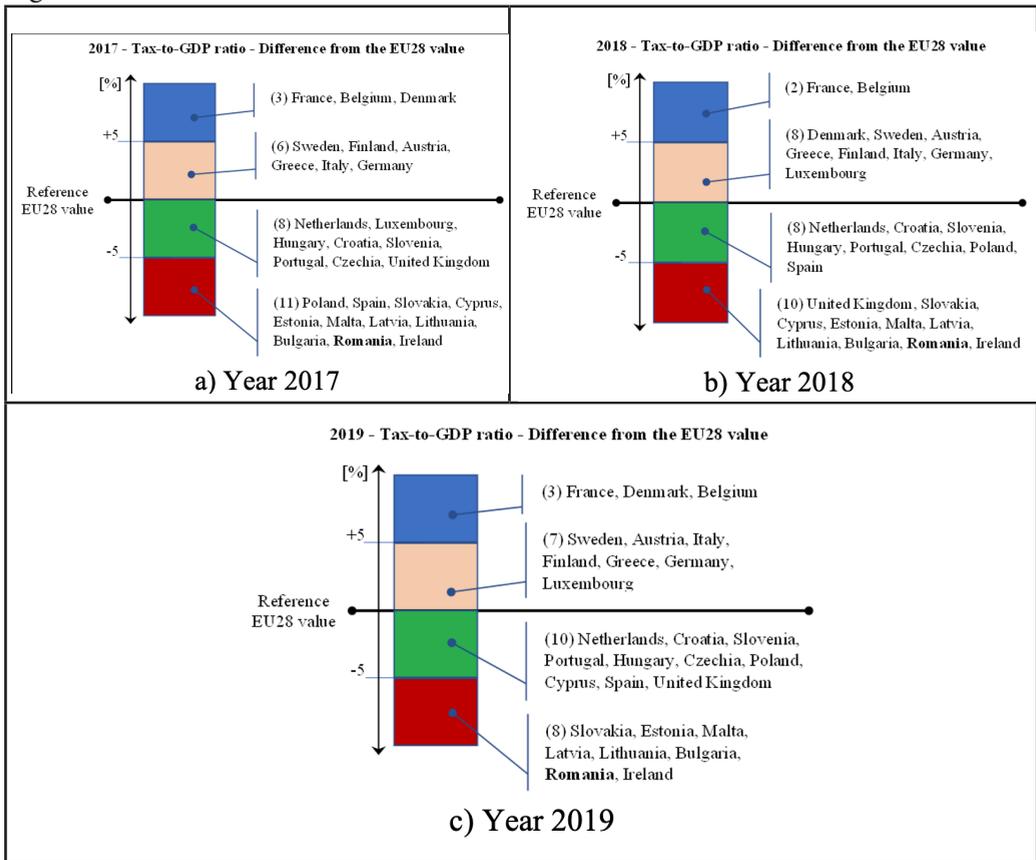
The overall tax-to-GDP ratio presented corresponds to the total amount of taxes and social contributions, including voluntary contributions, expressed as a percentage of Gross Domestic Product. This is one measure of the tax burden.

The processing of the data provided by the EU reports from 2017 to 2019 (Annex 1) allowed Member States to be grouped according to the deviation from the EU average of the value of the overall fiscal pressure (Annex 2 and Figure 1).

The number of countries in which the overall fiscal pressure exceeds by at least 5 p.p. (percentage points) the European Union average of the overall fiscal pressure, is very low. Thus, in 2017 (Figure 1a) in this situation were France (48.3%), Belgium (47.1%), Denmark (46.5%); in 2018 (Figure 1b) France (48.2%) and Belgium (47.1%), and in 2019 (Figure 1c) France (47.4%), Denmark (46.9%) and Belgium (45.9%).

Countries where the overall fiscal pressure was greater than or equal to the European Union average but not more than 5 p.p. there were six in 2017 (Figure 1a): Sweden (44.7%), Finland (43.1%), Austria (42.5%), Greece (42.2%), Italy (42, 1%), Germany (40.8%). In 2018 (Figure 1b), the number of countries that had this indicator in the mentioned range was eight: Denmark (45,1 %), Sweden (44.4%), Austria (42.9%), Greece (42.7%), Finland (42.5%), Italy (41.9%), Germany (41.3%), Luxembourg (41,0 %), and in 2019 (Figure 1c), there were a number of seven countries: Sweden (43.6%), Austria (43.1%), Italy (42.6%), Finland (42.3%), Greece (41.9%), Germany (41.7%), Luxembourg (40.5%).

Figure 1. Tax-to-GDP ratio - Difference from the EU28 value 2017-2019

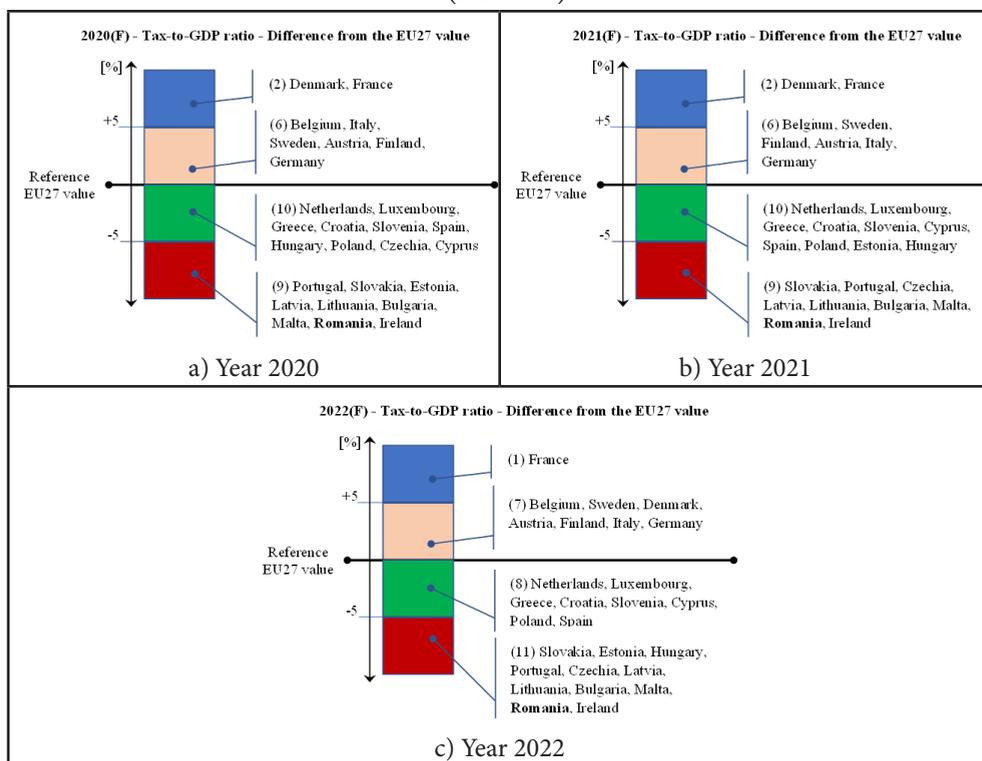


The number of countries that have registered an overall fiscal pressure below the EU28 average up to 5 p.p. was constant in the period 2017 - 2018, respectively eight countries. In 2017 (Figure 1a): Netherlands (39.2%), Luxembourg (38.9%), Hungary (38.0%), Croatia (37.7%), Slovenia (37.6%), Portugal (36.5%), Czechia (35.4%), United Kingdom (35.2%). In 2018 (Figure 1b): Netherlands (39.3%), Croatia (38.3%), Slovenia (37.8%), Hungary (37.0%), Portugal (37.0%), Czechia (36.0%), Poland (36.0%), Spain (35.4%). The situation was different in 2019 (Figure 1c) when ten countries were in the mentioned range: Netherlands (39.8%), Croatia (38.7%), Slovenia (37.7%), Portugal (36.8%), Hungary (36.5%), Czechia (36.1%), Poland (36.0%), Cyprus (35.6%), Spain (35.4%), United Kingdom (35.3%) %.

Countries that have registered an overall fiscal pressure below the EU28 average by more than 5 p.p. there were eleven in 2017, ten in 2018, and eight in 2019. In 2017 (Figure 1a): Poland (35.0%), Spain (34.7%), Slovakia (34.2%), Cyprus (33.2%), Estonia (32.8%), Malta (31.9%), Latvia (31.4%),

Lithuania (29.8%), Bulgaria (29.4%), Romania (25.8%), Ireland (23.3%). In 2018 (Figure 1b): United Kingdom (35,2 %), Slovakia (34.3%), Cyprus (33.5%), Estonia (33.1%), Malta (32.3%), Latvia (31.4%), Lithuania (30.3%), Bulgaria (30.0%), Romania (26.8%), Ireland (23.2%). In 2019 (Figure 1c): Slovakia (34.6%), Estonia (33.3%), Malta (32.1%), Latvia (31.3%), Lithuania (30.4%), Bulgaria (30.3%), Romania (26.8%), Ireland (22.7%).

Figure 2. Tax-to-GDP ratio - Difference from the EU27 value 2020-2022 (forecast)



The analysis of the forecasted data regarding the evolution of the overall fiscal pressure (Annex 1) for the period 2020-2022 reveals that the number of countries exceeding by 5 p.p. the European Union average remains low (France and Denmark). It can be seen that the forecasted data reveals a decreasing trend in the overall fiscal pressure in both countries.

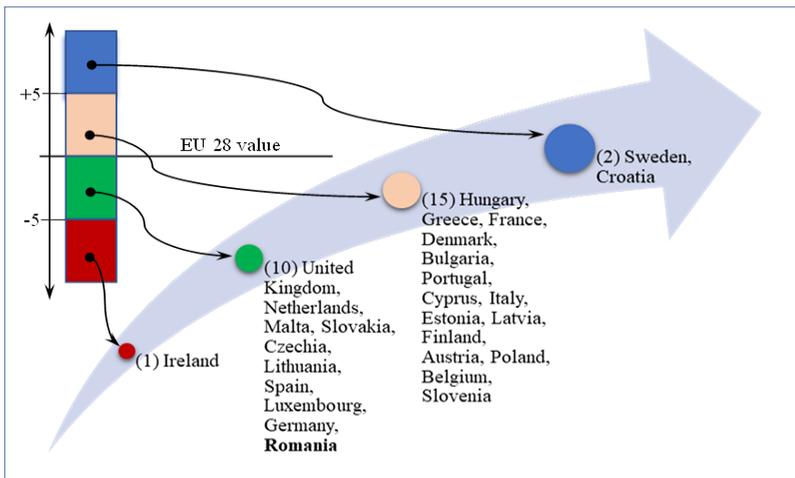
The number of countries in which the overall fiscal pressure has been forecast to be greater than or equal to the European Union average but not more than 5 p.p. was relatively constant in the period 2020-2022 (Figure 2a, 2b, 2c). The same trend was also observed for the other two analyzed intervals.

In the case of Romania, the forecasts regarding the evolution of the overall fiscal pressure in the period 2020–2022 place it in the group of countries that have registered an overall fiscal pressure below the EU27 average by more than 5 p.p. (25,9% in 2020; 25,8% in 2021; 25,7% in 2022 – see Annex 1).

4.2. Fiscal pressure at the level of indirect taxes

In accordance with the European System of National and Regional Accounts, indirect taxes are those related to imports and production. The fiscal pressure at the level of indirect taxes is determined as the ratio between the total fiscal revenues resulting from these types of taxes and the Gross Domestic Product in a well-defined period.

Figure 3. Indirect taxes in EU state members (as % of GDP)
Difference from EU28 value – Year 2019



Significant differences are observed between the member states of the European Union. The new Member States are showing an upward trend in consumption taxes. As an example, Croatia stands out through high consumption taxation. Lower shares of the fiscal pressure related to indirect taxes were registered by the Netherlands, Spain, Germany, economically developed countries. Significant values of the fiscal pressure related to indirect taxes were registered in the analysis period in countries such as Estonia, Lithuania, and Latvia, with values close to the EU27 average (Figure 3).

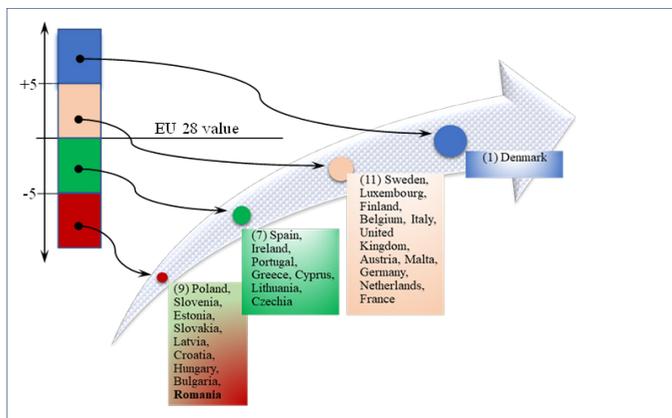
Romania is in the group of countries that have registered a fiscal pressure at the indirect taxes below the EU28 average up to 5 p.p. (Figure 3).

4.3. Fiscal pressure at the level of direct taxes

In the case of direct taxes (Figure 4) the level of fiscal pressure was higher in countries such as Denmark, Sweden, Italy, Belgium.

The explanation is that in these countries, revenue redistribution is one of the main objectives of government authorities.

Figure 4. Direct tax in EU state members (as % of GDP)
Difference from EU28 value – Year 2019

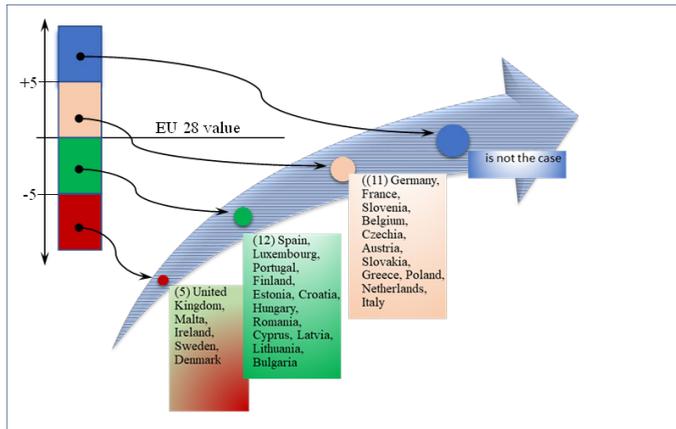


Regarding the fiscal pressure related to direct taxes, Romania (4.8 %) is in the group of countries that have registered values below the EU28 average with more than 5 pp, along with Poland, Slovenia, Hungary, Bulgaria, Croatia, and others. The reduced fiscal pressure at the level of direct taxes in the case of Romania is explained by the modification of the fiscal legislation (started in 2018) at the level of taxation of the income of natural persons (reduction of the tax rate from 16% to 10%).

4.4. Fiscal pressure at the level of social contributions

As shown in Figure 5, in conjunction with the data in Annexes 8 and 9, there was a much higher level of fiscal pressure related to social contributions in developed countries. From the group of developed countries, the highest levels of fiscal pressure at the level of social contributions are found in countries such as Germany (17.3%), France (16.8%), Belgium (15,7 %). Some emerging countries have exceeded the EU 28 average but no more than 5 p.p., such as Czechia (15.6%) and Slovenia (16%). However, in 2019, there was no country that exceeded the EU 28 average by 5%.

Figure 5. Social contributions in EU state members (as % of GDP)
Difference from EU28 value – Year 2019



Romania was in the group of countries whose fiscal pressure related to social contributions was below the EU 28 average but not more than 5 p.p. (11,3 %).

5. Conclusions

Following the analysis performed on the level of overall fiscal pressure, we noticed that the lowest levels (less than or equal to 30%) are registered in developing countries, such as Bulgaria and Romania. From the group of developed countries, we find the highest shares of the overall fiscal pressure (over 45%) in France, Denmark, and Belgium.

From the structural analysis of the fiscal pressure, we found the following:

- At the level of direct taxes, the fiscal pressure tends to be high in those countries where government authorities attach greater importance to income redistribution. The highest value of the fiscal pressure exerted by direct taxes was recorded in Denmark (29,7 % in 2017; 28,9 % in 2018; 30,7% in 2019) and Sweden (18,9 % in 2017; 18,6 % in 2018; 18,0% in 2019). In these countries, direct taxes have an important contribution to the formation of budget revenues.
- At the level of indirect taxes, there is no significant difference between developed and emerging countries. As an example, Croatia (19.6% in 2017; 20.1% in 2018; 20.3% in 2019) versus Sweden (22.7% in 2017; 22.4% in 2018; 22.2% in 2019).

- At the level of social contributions, the fiscal pressure registered the highest values in France (18.8% in 2017; 18.0% in 2018; 16.8% in 2019) and Germany (16.7% in 2017; 17.1% in 2018; 17.3% in 2019), developed countries, founders of the European Union.

Currently, fiscal pressure is a concept that arouses the interest of both researchers and private practitioners. Numerous researches are carried out on the relationship between economic growth and fiscal policy of a state. Establishing a maximum ceiling of fiscal pressure is difficult to achieve because this indicator differs depending on the country, period, economic, social, and political context.

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Annexes

Annex 1. Tax-to-GDP ratio in EU state members

Country/ Region	Tax-to-GDP ratio [%]					
	2017	2018	2019	2020 (F)	2021 (F)	2022 (F)
EU27	41.0	41.2	41.1	40.4	39.5	39.2
EU28	40.1	40.3	40.2	-	-	-
Euro area	41.4	41.6	41.6	40.8	39.9	39.6
Belgium	47.1	47.1	45.9	44.0	43.4	43.4
Bulgaria	29.4	30.0	30.3	31.0	30.1	29.8
Czechia	35.4	36.0	36.1	35.7	33.6	33.2
Denmark	46.5	45.1	46.9	46.5	44.6	42.8
Germany	40.8	41.3	41.7	40.5	39.7	39.8
Estonia	32.8	33.1	33.3	34.2	35.2	33.5
Ireland	23.3	23.2	22.7	20.8	20.1	19.8
Greece	42.2	42.7	41.9	38.2	37.8	37.7
Spain	34.7	35.4	35.4	36.7	35.9	35.0
France	48.3	48.2	47.4	45.8	44.6	44.5
Croatia	37.7	38.3	38.7	37.9	37.7	36.8
Italy	42.1	41.9	42.6	42.9	41.8	41.4
Cyprus	33.2	33.5	35.6	35.7	36.7	36.2
Latvia	31.4	31.4	31.3	31.7	31.6	31.3
Lithuania	29.8	30.3	30.4	31.2	30.6	30.9

Country/ Region	Tax-to-GDP ratio [%]					
	2017	2018	2019	2020 (F)	2021 (F)	2022 (F)
Luxembourg	38.9	41.0	40.5	38.3	38.3	37.9
Hungary	38.0	37.0	36.5	36.4	34.7	33.4
Malta	31.9	32.3	32.1	30.0	29.5	29.8
Netherlands	39.2	39.3	39.8	39.7	39.4	38.0
Austria	42.5	42.9	43.1	42.5	41.9	42.1
Poland	35.0	36.0	36.0	35.9	35.9	35.3
Portugal	36.5	37.0	36.8	34.7	33.8	33.3
Romania	25.8	26.8	26.8	25.9	25.8	25.7
Slovenia	37.6	37.8	37.7	37.5	36.8	36.6
Slovakia	34.2	34.3	34.6	34.6	34.2	33.7
Finland	43.1	42.5	42.3	41.8	42.0	41.7
Sweden	44.7	44.4	43.6	42.9	42.7	43.2
United Kingdom	35.2	35.2	35.3	No forecast data available		

Sources: 1. Years 2017-2019 (Eurostat, 2020 p. 4);

2. Forecast for years 2020-2022 (Publications Office of the European Union, 2021 p. 19)

Annex 2. Tax-to-GDP ratio - Difference from EU28 value

No.	2017		2018		2019	
	Country / Region	DIFF [%]	Country / Region	DIFF [%]	Country / Region	DIFF [%]
1	France	↑ 8.2	France	↑ 7.9	France	↑ 7.2
2	Belgium	↑ 7.0	Belgium	↑ 6.8	Denmark	↑ 6.7
3	Denmark	↑ 6.4	Denmark	↑ 4.8	Belgium	↑ 5.7
4	Sweden	↑ 4.6	Sweden	↑ 4.1	Sweden	↑ 3.4
5	Finland	↑ 3.0	Austria	↑ 2.6	Austria	↑ 2.9
6	Austria	↑ 2.4	Greece	↑ 2.4	Italy	↑ 2.4
7	Greece	↑ 2.1	Finland	↑ 2.2	Finland	↑ 2.1
8	Italy	↑ 2.0	Italy	↑ 1.6	Greece	↑ 1.7
9	Euro area	↑ 1.3	Euro area	↑ 1.3	Germany	↑ 1.5
10	Germany	↑ 0.7	Germany	↑ 1.0	Euro area	↑ 1.4
11	Netherlands	↓ -0.9	Luxembourg	↑ 0.7	Luxembourg	↑ 0.3
12	Luxembourg	↓ -1.2	Netherlands	↓ -1.0	Netherlands	↓ -0.4
13	Hungary	↓ -2.1	Croatia	↓ -2.0	Croatia	↓ -1.5
14	Croatia	↓ -2.4	Slovenia	↓ -2.5	Slovenia	↓ -2.5
15	Slovenia	↓ -2.5	Hungary	↓ -3.3	Portugal	↓ -3.4
16	Portugal	↓ -3.6	Portugal	↓ -3.3	Hungary	↓ -3.7
17	Czechia	↓ -4.7	Czechia	↓ -4.3	Czechia	↓ -4.1
18	United Kingdom	↓ -4.9	Poland	↓ -4.3	Poland	↓ -4.2
19	Poland	↓ -5.1	Spain	↓ -4.9	Cyprus	↓ -4.6

No.	2017		2018		2019	
	Country / Region	DIFF [%]	Country / Region	DIFF [%]	Country / Region	DIFF [%]
20	Spain	↓ -5.4	United Kingdom	↓ -5.1	Spain	↓ -4.8
21	Slovakia	↓ -5.9	Slovakia	↓ -6.0	United Kingdom	↓ -4.9
22	Cyprus	↓ -6.9	Cyprus	↓ -6.8	Slovakia	↓ -5.6
23	Estonia	↓ -7.3	Estonia	↓ -7.2	Estonia	↓ -6.9
24	Malta	↓ -8.2	Malta	↓ -8.0	Malta	↓ -8.1
25	Latvia	↓ -8.7	Latvia	↓ -8.9	Latvia	↓ -8.9
26	Lithuania	↓ -10.3	Lithuania	↓ -10.0	Lithuania	↓ -9.8
27	Bulgaria	↓ -10.7	Bulgaria	↓ -10.3	Bulgaria	↓ -9.9
28	Romania	↓ -14.3	Romania	↓ -13.5	Romania	↓ -13.4
29	Ireland	↓ -16.8	Ireland	↓ -17.1	Ireland	↓ -17.5

DIFF [%] - Difference from the EU28 value

Annex 3. Tax-to-GDP ratio - Difference from EU27 value

No.	2020 (Forecast)		2021 (Forecast)		2022 (Forecast)	
	Country / Region	DIFF [%]	Country / Region	DIFF [%]	Country / Region	DIFF [%]
1	Denmark	↑ 6.1	Denmark	↑ 5.1	France	↑ 5.3
2	France	↑ 5.4	France	↑ 5.0	Belgium	↑ 4.2
3	Belgium	↑ 3.6	Belgium	↑ 3.9	Sweden	↑ 4.0
4	Italy	↑ 2.5	Sweden	↑ 3.2	Denmark	↑ 3.6
5	Sweden	↑ 2.5	Finland	↑ 2.5	Austria	↑ 2.9
6	Austria	↑ 2.1	Austria	↑ 2.4	Finland	↑ 2.5
7	Finland	↑ 1.4	Italy	↑ 2.3	Italy	↑ 2.2
8	Euro area	↑ 0.4	Euro area	↑ 0.4	Germany	↑ 0.6
9	Germany	↑ 0.1	Germany	↑ 0.1	Euro area	↑ 0.4
10	Netherlands	↓ -0.7	Netherlands	↓ -0.2	Netherlands	↓ -1.2
11	Luxembourg	↓ -2.1	Luxembourg	↓ -1.3	Luxembourg	↓ -1.3
12	Greece	↓ -2.2	Greece	↓ -1.8	Greece	↓ -1.5
13	Croatia	↓ -2.5	Croatia	↓ -1.9	Croatia	↓ -2.4
14	Slovenia	↓ -2.9	Slovenia	↓ -2.7	Slovenia	↓ -2.6
15	Spain	↓ -3.7	Cyprus	↓ -2.8	Cyprus	↓ -3.0
16	Hungary	↓ -4.0	Spain	↓ -3.6	Poland	↓ -3.9
17	Poland	↓ -4.5	Poland	↓ -3.6	Spain	↓ -4.2
18	Czechia	↓ -4.7	Estonia	↓ -4.4	Slovakia	↓ -5.5
19	Cyprus	↓ -4.7	Hungary	↓ -4.8	Estonia	↓ -5.8
20	Portugal	↓ -5.7	Slovakia	↓ -5.3	Hungary	↓ -5.8
21	Slovakia	↓ -5.8	Portugal	↓ -5.7	Portugal	↓ -5.9
22	Estonia	↓ -6.2	Czechia	↓ -5.9	Czechia	↓ -6.0
23	Latvia	↓ -8.7	Latvia	↓ -8.0	Latvia	↓ -7.9
24	Lithuania	↓ -9.2	Lithuania	↓ -8.9	Lithuania	↓ -8.3
25	Bulgaria	↓ -9.4	Bulgaria	↓ -9.5	Bulgaria	↓ -9.4
26	Malta	↓ -10.4	Malta	↓ -10.0	Malta	↓ -9.4
27	Romania	↓ -14.5	Romania	↓ -13.8	Romania	↓ -13.5
28	Ireland	↓ -19.6	Ireland	↓ -19.5	Ireland	↓ -19.4
29	United Kingdom	No data	United Kingdom	No data	United Kingdom	No data

DIFF [%] - Difference from the EU27 value

Annex 4. Indirect tax in EU state members, structured by main tax category (as % of GDP)

Country	Structure of indirect tax, by main tax category (as % of GDP)					
	2017		2018		2019	
	Taxes on production and imports	Of which: VAT	Taxes on production and imports	Of which: VAT	Taxes on production and imports	Of which: VAT
EU28	13.6	7.1	13.6	7.1	13.6	7.2
Euro area	13.2	6.9	13.3	6.9	13.3	6.9
Belgium	13.5	6.8	13.9	6.9	13.9	6.8
Bulgaria	15.1	9.0	15.2	9.1	15.6	9.2
Czechia	12.6	7.7	12.5	7.7	12.1	7.6
Denmark	16.1	9.5	16.4	9.8	15.7	9.5
Germany	10.7	6.9	10.8	7.0	10.9	7.1
Estonia	14.4	9.1	13.9	9.0	14.2	8.8
Ireland	8.5	4.5	8.0	4.4	7.8	4.3
Greece	17.3	8.1	17.1	8.3	17.5	8.4
Spain	11.8	6.5	11.9	6.6	11.7	6.5
France	16.4	7.1	16.7	7.2	17.0	7.2
Croatia	19.6	13.2	20.1	13.5	20.3	13.7
Italy	14.6	6.3	14.5	6.2	14.6	6.2
Cyprus	15.9	9.5	16.0	9.9	15.1	9.3
Latvia	14.1	8.0	14.5	8.4	14.2	8.6
Lithuania	11.9	7.8	11.8	7.8	11.8	7.9
Luxembourg	12.1	6.3	12.0	6.2	11.6	6.0
Hungary	18.2	9.5	18.6	9.7	18.1	9.5
Malta	12.8	7.3	12.9	7.5	12.2	7.0
Netherlands	12.0	6.8	12.1	6.8	12.5	7.2
Austria	14.3	7.7	14.0	7.6	14.1	7.6
Poland	14.0	7.8	14.3	8.1	14.0	8.0
Portugal	15.1	8.6	15.4	8.8	15.2	8.8
Romania	10.3	6.2	10.7	6.4	10.7	6.2
Slovenia	14.4	8.1	14.3	8.2	13.8	8.0
Slovakia	11.1	7.0	12.1	7.0	12.2	7.3
Finland	14.2	9.1	14.2	9.1	14.2	9.1
Sweden	22.7	9.3	22.4	9.2	22.2	9.2
United Kingdom	13.1	6.8	13.1	7.0	13.0	7.0

Sources: 1. (Eurostat, 2018 p. 5) for year 2017; 2. (Eurostat, 2019 p. 5) for year 2018;
3. (Eurostat, 2020 p. 5) for year 2019

**Annex 5. Indirect tax in EU state members (as % of GDP)
Difference from EU28 value**

No.	2017		2018		2019	
	Country	DIFF (%)	Country	DIFF (%)	Country	DIFF (%)
1	Sweden	↑ 9.1	Sweden	↑ 8.8	Sweden	↑ 8.6
2	Croatia	↑ 6.0	Croatia	↑ 6.5	Croatia	↑ 6.7
3	Hungary	↔ 4.6	Hungary	↑ 5.0	Hungary	↔ 4.5
4	Greece	↔ 3.7	Greece	↔ 3.5	Greece	↔ 3.9
5	France	↔ 2.8	France	↔ 3.1	France	↔ 3.4
6	Denmark	↔ 2.5	Denmark	↔ 2.8	Denmark	↔ 2.1
7	Cyprus	↔ 2.3	Cyprus	↔ 2.4	Bulgaria	↔ 2.0
8	Bulgaria	↔ 1.5	Portugal	↔ 1.8	Portugal	↔ 1.6
9	Portugal	↔ 1.5	Bulgaria	↔ 1.6	Cyprus	↔ 1.5
10	Italy	↔ 1.0	Italy	↔ 0.9	Italy	↔ 1.0
11	Estonia	↔ 0.8	Latvia	↔ 0.9	Estonia	↔ 0.6
12	Slovenia	↔ 0.8	Poland	↔ 0.7	Latvia	↔ 0.6
13	Austria	↔ 0.7	Slovenia	↔ 0.7	Finland	↔ 0.6
14	Finland	↔ 0.6	Finland	↔ 0.6	Austria	↔ 0.5
15	Latvia	↔ 0.5	Austria	↔ 0.4	Poland	↔ 0.4
16	Poland	↔ 0.4	Belgium	↔ 0.3	Belgium	↔ 0.3
17	Belgium	↔ -0.1	Estonia	↔ 0.3	Slovenia	↔ 0.2
18	Euro area	↔ -0.4	Euro area	↔ -0.3	Euro area	↔ -0.3
19	United Kingdom	↔ -0.5	United Kingdom	↔ -0.5	United Kingdom	↔ -0.6
20	Malta	↔ -0.8	Malta	↔ -0.7	Netherlands	↔ -1.1
21	Czechia	↔ -1.0	Czechia	↔ -1.1	Malta	↔ -1.4
22	Luxembourg	↔ -1.5	Netherlands	↔ -1.5	Slovakia	↔ -1.4
23	Netherlands	↔ -1.6	Slovakia	↔ -1.5	Czechia	↔ -1.5
24	Lithuania	↔ -1.7	Luxembourg	↔ -1.6	Lithuania	↔ -1.8
25	Spain	↔ -1.8	Spain	↔ -1.7	Spain	↔ -1.9
26	Slovakia	↔ -2.5	Lithuania	↔ -1.8	Luxembourg	↔ -2.0
27	Germany	↔ -2.9	Germany	↔ -2.8	Germany	↔ -2.7
28	Romania	↔ -3.3	Romania	↔ -2.9	Romania	↔ -2.9
29	Ireland	↓ -5.1	Ireland	↓ -5.6	Ireland	↓ -5.8

DIFF [%] - Difference from the EU28 value

Annex 6. Direct tax in EU state members, structured by main tax category (as % of GDP)

Country	Structure of direct tax, by main tax category (as % of GDP)								
	2017			2018			2019		
	Taxes on income, wealth, etc	Of which:		Taxes on income, wealth, etc	Of which:		Taxes on income, wealth, etc	Of which:	
		Taxes on individual or household income	Taxes on the income or profits of corporations		Taxes on individual or household income	Taxes on the income or profits of corporations		Taxes on individual or household income	Taxes on the income or profits of corporations
EU28	13.1	9.4	2.7	13.2	9.5	2.7	13.1	9.6	2.6
Euro area	12.8	9.2	2.7	13.0	9.5	2.7	13.0	9.5	2.7
Belgium	16.9	12.1	4.1	16.8	11.8	4.3	15.8	11.4	3.7
Bulgaria	5.7	3.3	2.3	5.8	3.3	2.2	5.5	3.3	2.0
Czechia	7.7	4.0	3.5	8.0	4.3	3.5	8.4	4.9	3.3
Denmark	29.7	25.4	3.0	28.9	24.7	2.9	30.7	26.5	3.1
Germany	12.9	9.4	2.7	13.3	9.7	2.9	13.3	9.8	2.7
Estonia	7.2	5.7	1.5	7.4	5.4	2.0	7.3	5.4	1.8
Ireland	10.5	7.3	2.8	10.7	7.1	3.2	10.3	6.9	3.1
Greece	10.0	6.2	1.9	10.1	6.2	2.2	9.7	5.9	2.2
Spain	10.2	7.5	2.3	10.6	7.8	2.5	10.4	8.0	2.1
France	12.8	8.7	2.9	13.3	9.6	2.7	13.1	9.5	2.8
Croatia	6.3	3.3	2.3	6.5	3.6	2.3	6.6	3.6	2.4
Italy	14.5	11.8	2.1	14.1	11.6	1.9	14.4	11.8	1.9
Cyprus	9.4	3.1	5.7	9.1	3.2	5.5	9.7	3.3	5.9
Latvia	8.5	6.6	1.6	7.4	6.0	1.1	7.0	6.5	0.2
Lithuania	5.4	3.9	1.5	5.7	4.1	1.5	8.7	7.1	1.6
Luxembourg	15.4	9.1	5.2	16.4	9.3	5.8	16.5	9.3	5.9
Hungary	7.4	5.1	1.9	6.7	5.2	1.2	6.6	5.1	1.2
Malta	14.1	7.0	6.6	13.4	7.3	5.6	13.6	7.4	5.7
Netherlands	12.7	8.3	3.3	12.5	8.0	3.5	13.2	8.5	3.7
Austria	13.0	9.3	2.5	13.5	9.6	2.8	13.7	9.8	2.8
Poland	7.3	5.0	1.9	7.8	5.3	2.1	7.9	5.3	2.2
Portugal	10.1	6.5	3.2	10.1	6.5	3.3	9.8	6.4	3.1
Romania	6.1	3.5	2.0	4.9	2.4	2.1	4.8	2.3	2.1
Slovenia	7.5	5.1	1.8	7.8	5.3	1.9	7.9	5.3	2.0
Slovakia	7.4	3.4	3.5	7.3	3.6	3.3	7.2	3.8	3.0
Finland	16.6	12.6	2.7	15.9	12.2	2.5	15.9	12.2	2.5
Sweden	18.9	15.8	2.9	18.6	15.1	3.1	18.0	14.7	3.0
United Kingdom	14.2	9.2	2.9	14.0	9.1	2.7	13.9	9.2	2.4

Sources: 1. (Eurostat, 2018 p. 5) for year 2017; 2. (Eurostat, 2019 p. 5) for year 2018; 3. (Eurostat, 2020 p. 5) for year 2019

**Annex 7. Direct tax in EU state members (as % of GDP)
Difference from EU28 value**

No.	2017		2018		2019	
	Country	DIFF (%)	Country	DIFF (%)	Country	DIFF (%)
1	Denmark	↑ 16.6	Denmark	↑ 15.7	Denmark	↑ 17.6
2	Sweden	↑ 5.8	Sweden	↑ 5.4	Sweden	↔ 4.9
3	Belgium	↔ 3.8	Belgium	↔ 3.6	Luxembourg	↔ 3.4
4	Finland	↔ 3.5	Luxembourg	↔ 3.2	Finland	↔ 2.8
5	Luxembourg	↔ 2.3	Finland	↔ 2.7	Belgium	↔ 2.7
6	Italy	↔ 1.4	Italy	↔ 0.9	Italy	↔ 1.3
7	United Kingdom	↔ 1.1	United Kingdom	↔ 0.8	United Kingdom	↔ 0.8
8	Malta	↔ 1.0	Austria	↔ 0.3	Austria	↔ 0.6
9	Austria	↔ -0.1	Malta	↔ 0.2	Malta	↔ 0.5
10	Germany	↔ -0.2	Germany	↔ 0.1	Germany	↔ 0.2
11	Euro area	↔ -0.3	France	↔ 0.1	Netherlands	↔ 0.1
12	France	↔ -0.3	Euro area	↔ -0.2	France	↔ 0.0
13	Netherlands	↔ -0.4	Netherlands	↔ -0.7	Euro area	↔ -0.1
14	Ireland	↔ -2.6	Ireland	↔ -2.5	Spain	↔ -2.7
15	Spain	↔ -2.9	Spain	↔ -2.6	Ireland	↔ -2.8
16	Portugal	↔ -3.0	Greece	↔ -3.1	Portugal	↔ -3.3
17	Greece	↔ -3.1	Portugal	↔ -3.1	Greece	↔ -3.4
18	Cyprus	↔ -3.7	Cyprus	↔ -4.1	Cyprus	↔ -3.4
19	Latvia	↔ -4.6	Czechia	↔ -5.2	Lithuania	↔ -4.4
20	Czechia	↔ -5.4	Poland	↔ -5.4	Czechia	↔ -4.7
21	Slovenia	↔ -5.6	Slovenia	↔ -5.4	Poland	↔ -5.2
22	Hungary	↔ -5.7	Estonia	↔ -5.8	Slovenia	↔ -5.2
23	Slovakia	↔ -5.7	Latvia	↔ -5.8	Estonia	↔ -5.8
24	Poland	↔ -5.8	Slovakia	↔ -5.9	Slovakia	↔ -5.9
25	Estonia	↔ -5.9	Hungary	↔ -6.5	Latvia	↔ -6.1
26	Croatia	↔ -6.8	Croatia	↔ -6.7	Croatia	↔ -6.5
27	Romania	↔ -7.0	Bulgaria	↔ -7.4	Hungary	↔ -6.5
28	Bulgaria	↔ -7.4	Lithuania	↔ -7.5	Bulgaria	↔ -7.6
29	Lithuania	↔ -7.7	Romania	↔ -8.3	Romania	↔ -8.3

DIFF [%] - Difference from the EU28 value

Annex 8. Social contributions (as % of GDP)

Country	Net social contributions (as % of GDP)		
	2017	2018	2019
EU28	13.3	13.3	13.3
Euro area	15.2	15.2	15.1
Belgium	16.1	15.7	15.7
Bulgaria	8.4	8.7	8.9
Czechia	15.1	15.6	15.6
Denmark	0.9	0.9	0.8
Germany	16.7	17.1	17.3
Estonia	11.4	11.7	11.8
Ireland	4.3	4.2	4.5
Greece	14.4	14.2	14.6
Spain	12.3	12.4	12.9
France	18.8	18.0	16.8
Croatia	11.9	12.0	11.8
Italy	13.1	13.3	13.5
Cyprus	8.7	8.7	10.7
Latvia	8.7	9.5	10.0
Lithuania	12.6	13.0	10.0
Luxembourg	12.5	12.2	12.1
Hungary	12.8	12.3	11.8
Malta	6.3	6.2	6.0
Netherlands	14.3	14.4	14.0
Austria	15.1	15.2	15.4
Poland	13.9	14.1	14.2
Portugal	11.7	11.7	11.9
Romania	9.3	11.5	11.3
Slovenia	14.8	15.8	16.0
Slovakia	14.8	15.0	15.3
Finland	12.2	11.9	11.9
Sweden	3.3	3.4	3.4
United Kingdom	7.9	7.8	8.1

Sources: 1. (Eurostat, 2018 p. 5) for year 2017; 2. (Eurostat, 2019 p. 5) for year 2018;
3. (Eurostat, 2020 p. 5) for year 2019

Annex 9. Social contributions in EU state members (as % of GDP) Difference from EU28 value

No.	2017		2018		2019	
	Country	DIFF (%)	Country	DIFF (%)	Country	DIFF (%)
1	France	↑ 5.5	France	↔ 4.7	Germany	↔ 4.0
2	Germany	↔ 3.4	Germany	↔ 3.8	France	↔ 3.5
3	Belgium	↔ 2.8	Slovenia	↔ 2.5	Slovenia	↔ 2.7
4	Euro area	↔ 1.9	Belgium	↔ 2.4	Belgium	↔ 2.4
5	Czechia	↔ 1.8	Czechia	↔ 2.3	Czechia	↔ 2.3
6	Austria	↔ 1.8	Euro area	↔ 1.9	Austria	↔ 2.1
7	Slovenia	↔ 1.5	Austria	↔ 1.9	Slovakia	↔ 2.0
8	Slovakia	↔ 1.5	Slovakia	↔ 1.7	Euro area	↔ 1.8
9	Greece	↔ 1.1	Netherlands	↔ 1.1	Greece	↔ 1.3
10	Netherlands	↔ 1.0	Greece	↔ 0.9	Poland	↔ 0.9
11	Poland	↔ 0.6	Poland	↔ 0.8	Netherlands	↔ 0.7
12	Italy	↘ -0.2	Italy	↔ 0.0	Italy	↔ 0.2
13	Hungary	↘ -0.5	Lithuania	↘ -0.3	Spain	↘ -0.4
14	Lithuania	↘ -0.7	Spain	↘ -0.9	Luxembourg	↘ -1.2
15	Luxembourg	↘ -0.8	Hungary	↘ -1.0	Portugal	↘ -1.4
16	Spain	↘ -1.0	Luxembourg	↘ -1.1	Finland	↘ -1.4
17	Finland	↘ -1.1	Croatia	↘ -1.3	Estonia	↘ -1.5
18	Croatia	↘ -1.4	Finland	↘ -1.4	Croatia	↘ -1.5
19	Portugal	↘ -1.6	Estonia	↘ -1.6	Hungary	↘ -1.5
20	Estonia	↘ -1.9	Portugal	↘ -1.6	Romania	↘ -2.0
21	Romania	↘ -4.0	Romania	↘ -1.8	Cyprus	↘ -2.6
22	Cyprus	↘ -4.6	Latvia	↘ -3.8	Latvia	↘ -3.3
23	Latvia	↘ -4.6	Bulgaria	↘ -4.6	Lithuania	↘ -3.3
24	Bulgaria	↘ -4.9	Cyprus	↘ -4.6	Bulgaria	↘ -4.4
25	United Kingdom	↘ -5.4	United Kingdom	↘ -5.5	United Kingdom	↘ -5.2
26	Malta	↘ -7.0	Malta	↘ -7.1	Malta	↘ -7.3
27	Ireland	↘ -9.0	Ireland	↘ -9.1	Ireland	↘ -8.8
28	Sweden	↘ -10.0	Sweden	↘ -9.9	Sweden	↘ -9.9
29	Denmark	↘ -12.4	Denmark	↘ -12.4	Denmark	↘ -12.5

DIFF [%] - Difference from the EU28 value

Remarks:

1. at the time of writing this paper there were no data published by Eurostat for all Member States for 2020 (regarding fiscal pressure). To complete the approach, we used forecast data.
2. in order to frame the size of this paper within a limit of 20 pages, in chapters 4.2, 4.3 and 4.4 the results obtained and their interpretation were presented only for 2019.

DOI: 10.5281/zenodo.6396350

LEARNING OPPORTUNITIES THROUGH OUTDOOR EDUCATION

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Abstract: *In order to increase the effects of the learning process, outdoor education can be successfully integrated into formal education, the educational process thus becoming much more valuable in terms of quality and thus producing long-term advantages and thus allowing it to cover a wide range of school subjects. The concept of the outdoor being a complicated one must be deepened, experienced, and learned step by step until it becomes a habit for the school. The impact on the learning process is stimulating, motivating. Outdoor minimizes the constraint but does not eliminate the rules, clear codes to be strictly observed. The learning framework is generous, but the content is light, preferential. Children's experience is integrated into the context, methods must be chosen carefully to stimulate active but flexible involvement and participation, and long-term benefits are guaranteed.*

Keywords: *education outdoor, learning process, children, extracurricular education*

JEL Classification: *A31, I20*

1. Introduction

From ancient times man has had the right to know everything that is happening around him, to know these transformations. “Along with society, education also appeared as a process of development with distinct particularities from one historical moment to another, as the socio-human existence as a whole is constantly evolving. Education is absolutely necessary for man, there being in him the desire, the inclination, but also the capacity to spread the dowry of his wisdom and teaching, to perpetuate himself from a spiritual point of view, beyond the time and space that have been given to him” (Neagu, 2016).

Education, as defined by Cristea (2017), represents that “psycho-social activity with the function of training-development of the personality of the

educated, performed permanently based on the correlation between educator and educated.”

The ways of expressing education in the education system are organized through specific activities, at the level of formal education and non-formal education and unorganized, through specific influences, at the level of informal education.

“The school, the main provider of formal education, is often found in a split of the society’s education, of the current life of the students. For the most part, formal education has been considered an indoor activity, the outdoor educational space, seen as a support space of the indoor school, is the place where sometimes environmental or environmental activities take place. However, the outdoor educational environment is seen as a holistic space where all development needs can be promoted, this can be successfully achieved through outdoor education activities.” (Neagu, 2016)

Thus, outdoor education, in the broad sense, represents “the educational process, regardless of the subject taught / learned that takes place in a natural setting” (Cristea, 2016), and in the narrow sense refers to the sum of actions taken by teachers in a natural environment , using experiential methods, to produce changes in physical, intra and interpersonal skills and environmental behavior among children.

2. Learning opportunities through outdoor education

The It has been shown over time that extracurricular education, ie that type of education conducted in the non-formal environment, beyond the classroom, “approaches problem-based learning applies scientifically, helps students to discover new knowledge, skills and behaviors alone and together , necessary to solve problems encountered outside the classroom, sometimes simple, sometimes of great complexity” (MTCS, 2016).

Thus, outdoor education, a concept still new in Romanian education, but which is beginning to take shape, is an alternative method of traditional education through activities such as experiments, by asking for learning situations by using all the senses, by exposure to the natural environment and social environment, through outdoor activities.

“Outdoor education has its origins in many initiatives that have emerged in the last 150 years: tent camps, scouts (founded in 1907 by the Englishman Robert Baden Powell) - which pursues a kind of informal education, based on practical activities in the air free; forest schools in Denmark; schools and the Outward Bound movement, founded by Hahn (1941). In his opinion, modern society suffered from several diseases, which appeared as the reverse of the

evolution of technology: the decline of fitness, entrepreneurship, imagination, creativity and practical skills, self-discipline and interpersonal compassion. The educational model of Hahn's School could be summarized in the following quote: I believe that the main task of education is to ensure the survival of the following qualities: an innovative curiosity, an invincible will, tenacity to achieve the goal, self-denial and above all: compassion!

Outdoor education is "achieved through scheduled experiences, which take place in one place (residential) or during some adventures. Students take part in various events (actually more or less adventurous events prepared by educators), which generally pose problems whose solution stimulates the creativity of the participants and forces them to collaborate with each other. For such educational experiences are used: tent hiking, mountaineering, boat trips, activities in adventure parks, group games" (Ratien, Sarivaara, Kuukkanen, 2021).

In order to add to the educational system, outdoor education can be successfully integrated into formal education, which will make the educational system much more valuable in terms of its quality. Outdoor activities have many long-term benefits and allow the teacher to cover a much wider range of school subjects.

"Outdoor education is achieved through programs that can take place in one place or during trips, trips" (MTCS, 2016). According to these specifications, those involved in such an activity must differentiate between a regular activity and an activity that has a well-established program, with clear objectives to be achieved. In schools there are many programs and activities that can be done outdoors, these being useful in different contexts, depending on the objectives and topics chosen by the teacher.

In the Romanian education system, the education that children receive in the formal environment, within the institutionalized framework of the school, is one of a theoretical, cognitive nature, as the teachers follow the school curricula, according to the curriculum. In outdoor education, children (students) assimilate information in a practical way, with the help of experiments.

When the teacher wants to carry out such an activity, he must know that the outdoor activities meet a number of conditions, pursue certain objectives, respect the proposed themes, have a well-defined educational purpose and must provide the child with safety, trust.

One of the most important aspects of outdoor education is the fact that this type of education meets both the basic needs of the child, regardless of age, but also those that characterize him in the group of which they are part. Therefore, the following needs must be considered:

- "The need to be respected - carrying out various outdoor activities encourages the child to feel at ease, so he will be more open, will communicate, will express his own opinions, will feel cared for and will feel that his decisions

matter for the others; Students can be consulted about various games or activities;

- The need to be responsible - outdoor activities allow the child the opportunity to receive different tasks, responsibilities for achieving the proposed scope (for example if opting for a greening activity, one child may be given the task of clearing trees, another the task of watering flowers , it is important, however, that by communicating with the child, the teacher conveys to him the feeling that the prince who undertakes the environment will be cleaner, so he will realize that he has a responsibility to protect the environment)” (Neagu, 2016).

- “The need to be active - involvement in various sports activities, games, themed walks, brings many benefits to the child’s physical and mental development. The game being the fundamental activity of the child, it is important for all children to be constantly stimulated to play, to run, to participate in different activities actively.

- The need to be socially included - perhaps the most important feature of outdoor education is that it is a successful way to overcome some difficulties of the child (mental, physical, social, emotional or economic), so that he is socially included, to feels that he belongs to a community; it is considered that the environment inside the group is rather a competitive one, while the one outside the classroom is a supportive one, which allows children to express themselves, to relate to others, to collaborate” (MTCS, 2016).

- The need to feel safe – “the inside of the classroom is much safer for children, while the outside environment involves various risks and unforeseen situations that can have a negative effect.

The educator must identify the possible risks that may arise and design a risk management plan, as it is a particularly important aspect that has led some specialists in the field to deny the usefulness of using outdoor education” (Szczytko1, Carrier, Stevenson, 2018).

When education is done outside the classroom, the activity attracts children much more, motivates and excites them, but at the same time, it challenges them to new discoveries, teaches them to identify problems, to adapt to certain situations. strategists, a team, discover their limits. Also, due to the fact that outdoor activities offer a different learning climate, children are motivated, are empathetic, begin to become aware that they need certain physical skills, of course, in certain concrete situations, living environments, develop their abilities. understanding not only themselves and others, but also the world around them, the society they belong to, to which they belong.

The planning of outdoor activities by the teacher is done following a documentation, also, it must take into account the fact that learning is done holistically, through connections with all areas, and not separately. “The approach to outdoor school subjects is based primarily on a well-established

planning process, which supports the teacher's understanding of the essential steps for conducting an outdoor activity" (Reed & Smith, 2021).

According to the Outdoor Education Manual, the most important aspect in carrying out such activities is to consult children, because their opinion is very important, the teacher must know what children know about the topic, they must also know what motivates them, which arouses their interest.

Thus, the planning process involves the following steps:

- identification of the activity that the teacher carries out, depending on the age of the children, of the studied field;

- Creating a plan that clearly presents the objectives, purpose, activities proposed, but also the desired results;

- Technical details, namely: climatic conditions, place where the activity will take place, number of participating children, time / duration of the activity, material or human resources required, rules to be observed by all participants, but also risks;

- Evaluation of the outdoor activity: the methods and tools necessary for the activity carried out, SOWT analysis, because it is very important that each participant knows the opinion of all those involved.

For the teacher who initiated and carried out such an activity, it is very important to know the side effect, the impact that the respective activity had among the children, because depending on the results he will be able to plan a new activity correctly, he will be able to improve future activities.

Among the advantages of carrying out such activities by teachers, I will note the following:

- There are activities that are carried out in different contexts, which have a lighter learning framework;

- Use different methods that stimulate the involvement and participation of all children;

- Eliminates constraints specific to the formal environment of schools;

- It offers children multiple challenges, thus stimulating their creativity and developing their team spirit, but also the way they have to solve a problem, a given situation;

- Represents an alternative to the teaching-learning-assessment process;

- Helps the teacher to discover those children with behavioral or integration problems

"Outdoor education offers the possibility of direct contact with nature - environmental protection is a topic of global interest, mass urbanization has produced a harmful effect on the environment and the fact that people are not aware of the impact that their non-ecological actions have on the environment - outdoor education it emerges as an extremely beneficial way to change attitudes and behaviors towards the environment" (Reed & Smith, 2021).

Outdoor education is a powerful source of learning experiences - a relaxing, free environment can offer students countless challenges, so the education process becomes strong, inspirational and able to change antisocial behaviors, create a strong relationship between people based on support reciprocal. Outdoor education facilitates the learning process of students who encounter difficulties in this regard - outdoor education offers a different learning climate that allows students who usually have learning difficulties and have a low level of school performance, to become more motivated, much more capable” (Szczytko, Carrier, Stevenson, 2018).

3. Conclusions

Outdoor education is that form of education in which children’s education takes place through their direct involvement, in which it prepares children for the future, helps them develop relationships and teaches them to discover ways to overcome certain problem situations.

In a society that is constantly changing, it is necessary to carry out as many activities as possible in school institutions, such as outdoor activities. “Getting rid of the daily routine of the activities carried out in the group room, the activities carried out in nature acquire an attractive and more applied character. Outdoor learning is not just a new place for learning, it involves a change of approach, vision on activities, a new philosophy of action, a new perspective on learning, a high permissiveness for experiential acquisition and situationalization” (Szczytko1, Carrier, Stevenson, 2018).

Between the outdoor activities and the formal activities, carried out by the teachers, there must be a continuity, because without carrying out such activities, the Romanian education and the children will suffer.

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DOI: 10.5281/zenodo.6396356

INITIATIVES FOR THE DEVELOPMENT OF EQUESTRIAN TOURISM IN ROMANIA

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Abstract: *Equestrian tourism is a fast growing sector in Romania, considered as a form of active recreation, adventure tourism, ecotourism or nature-based tourism. Equestrian activities are diverse, such as horseback riding, donkey rides, traveling through the countryside with a horse-drawn carriage discovering fauna and flora, a few days or just a few hours, but also visits to the farm or equestrian centers, sporting events, shows, thematic fairs, etc. This analysis aims to highlight the potential of equestrian tourism in Romania, and how this type of tourism can develop.*

Keywords: *equestrian tourism, adventure tourism, current issues, economic-financial developement*

JEL Classification: *Z32, L83*

Introduction

Equestrian tourism offers social and recreational opportunities, which depend on the country's natural resources and cultural and historical heritage. This form of tourism is addressed to all people, regardless of age, social status and physical condition, and its main advantage is that it is practiced in all seasons, outdoors, in nature and is based on contact with a living being – the horse, with whom man is in constant communication (Gyôrrfy-Villám, 2001). This form of tourism can be combined with: hunting, ecotourism, adventure, fishing and much more.

Therefore, equestrian tourism contributes to human development, maintains the physique, spirit, removes stress and provides the opportunity to revive the traditional or rural lifestyle.

National experience in the field of equestrian tourism

The development of equestrian tourism involves the creation of “funding mechanisms and biodiversity conservation programs, the revision of legislative instruments that have as their theme this area of awareness among the stakeholders, education at local level with the aim of focusing on the principles of sustainable thinking, strengthening institutional capacity in order to implement environmental legislation” (Legislative Portal, National Strategy of May 30, 2019). In other words, the development of equestrian tourism needs several elements: a real equestrian sector, plus a structured tourism sector, plus an environmental policy and the involvement of all those who work in the tourism sector. Please note that Romania has all the assets to develop equestrian tourism. Thus, Romania has: attractiveness, accessibility, minimum level of touristic services, minimum level of public services; has a sustainable management focused on destination management, legal compliance, staff training, customer satisfaction, responsible marketing, design and construction of buildings and infrastructure; conditions that provide for maximizing the social and economic benefits of local communities and minimizing negative effects.

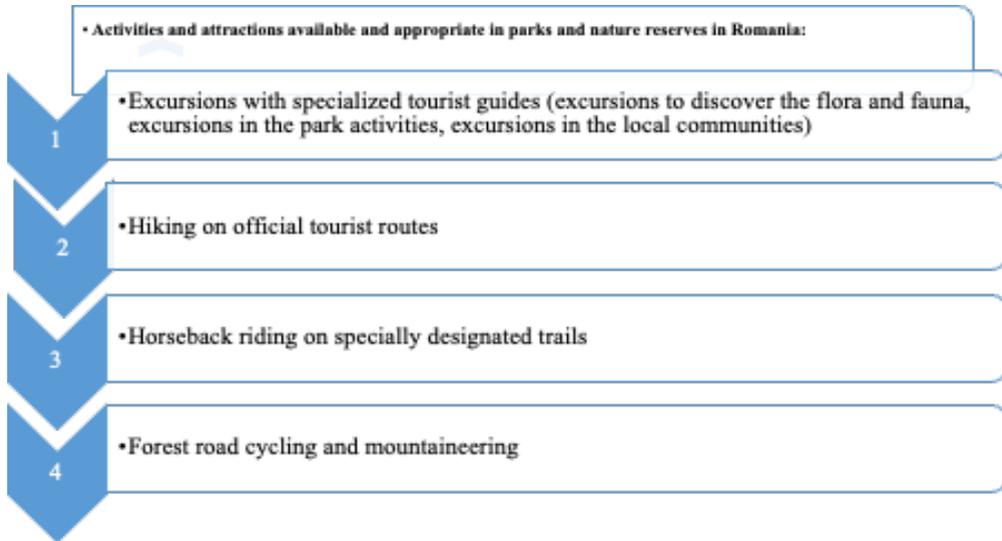
In this regard, the National Committee for Equestrian Tourism in Romania must have the support of the government and not only to implement a project of equestrian tourism routes, in connection with protected areas, as an ecotourism solution.

We mention that the International Federation of Equestrian Tourism (FITE) has made an analysis of the indicators: the framework of the equestrian routes, the marking of the equestrian routes, the specific brand, the list of accommodations, the projects implemented etc., and the results show that in Romania there is no framework of equestrian routes and there are no listed accommodation places. The maintenance and management of equestrian routes are also not ensured. An important aspect of this analysis is the fact that there are specific marked and marked equestrian routes in the national/natural parks and in the national reserves, thanks to the collaboration with the National Forest Agency (ROMSILVA).

At the same time, the project implemented in Romania, “On the horse in the Carpathians” aims “to transform equestrian tourism into an ecotourism alternative, while contributing to the development of communities living in protected areas”. In this regard, we remind that equestrian tourism activities in our country are available in 7 of the 29 major protected natural areas (Danube Delta biosphere reserve, 13 national parks and 15 natural parks), most of them (57.14%) being in national parks (National Strategy for Ecotourism Development in Romania. Context, vision and objectives 2017-2026).

Among the available and adequate activities and attractions in the parks and nature reserves in Romania (adapted from ROMSILVA, quoted by the National Strategy for the Development of Ecotourism in Romania, 2009) we mention: (figure no.1)

Figure no. 1 - Available and appropriate activities and attractions in the parks and nature reserves in Romania



Source: Own development

Taking into account all these aspects, we specify that there are and must be drawn up tourism programs based on nature (called ecotourism programs). There are some examples of ecotourism programs developed and implemented in several areas of Romania: the Danube Delta Biosphere Reserve and Dobrogea; Piatra Craiului National Park; Apuseni Mountains Natural Park; Retezat National Park; Țara Hațegului Dinosaurs Geopark; Măcin Mountains National Park; Rodnei Mountains National Park; Călimani National Park; Lunca Mureșului Natural Park; The Vânători Neamț Natural Park, with programs focused on: equestrian tourism, cycling, thematic hike; the Târnava Mare area; Maramures; Bucovina (nature observation programs, thematic hikes combined with cultural tourism and monastic tourism) (Legislative Portal, National Strategy of May 30, 2019). We mention that both ecotourism (Cntours.ro, 2021) programs certified¹ by the Romanian Ecotourism Association and

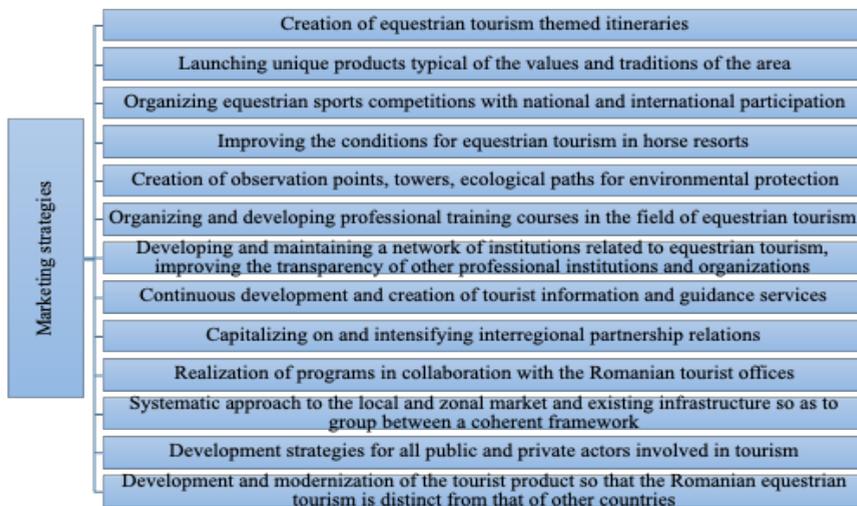
1 Anderlust Tour; Tymes Tours; Outdoor Experience; Kentauro; Absolute Carpathian; Active Travel; Carpat Bike; Apuseni Experience; Discoveromania; Explore Romania;

uncertified (www.eco-romania.ro) ecotourism programs are offered for sale by tour operators.

The existence of ecotourism programs and the development of related services and infrastructure have led to the appreciation by the World Tourism Organization (WHO) of these ecotourism destinations.

At the same time, the development of equestrian tourism is also related to the implementation of marketing strategies, presented in Figure no.2, which would require the development and advancement of this sector.

Figure no.2 - Marketing strategies



Source: Own development

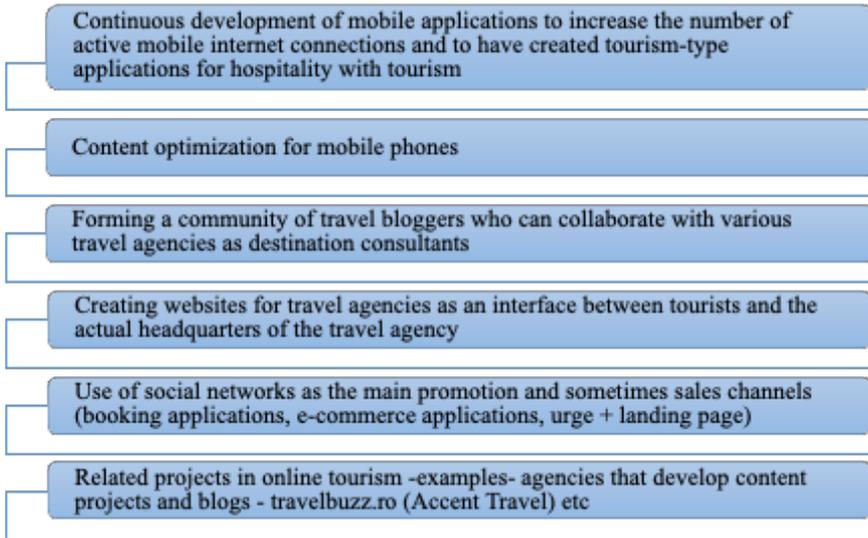
The equestrian tourism sector must respond to the new requirements, make available to modern tourists applications that offer the possibility to book stays (tourist packages) directly from their Smartphone, tablet, laptop etc., price reductions for loyalty and intense presence on social networks.

Investments in the online environment are necessary because soon the Artificial Intelligence System will connect online to websites such as “try before buying” offered by the largest travel agencies and will present the user with examples from virtual reality, which will allow him to see the objectives, hear and even feel the landscape. The system of anticipation and excitement will be started from a 3D, which will provide a multi-sensory walk. That does not mean that the user will abandon the actual vacation, but rather will awaken a stronger desire for him to live the real experience.

We believe that in the digital age, Romania must orient online tourism in the following directions: (figure no.3)

Romania needs to direct online tourism in the following directions:

Figure no. 3 - Directions for guiding online tourism in Romania



Source: Own development

Also, the big tourist brands will have the opportunity to rent to consumers those electronic agents customized as an integral part of the touristic package. In this way, customers are permanently interconnected with the travel agency and have the opportunity to make changes in real time and find solutions to any problem.

Conclusions

In conclusion, we mention that equestrian tourism is a “new” form of tourism practiced in Romania, has great chances of development (National strategy for ecotourism development in Romania - context, vision and objectives 2018-2027) and it is considered by many Western tourists as an ideal place of refuge/rest, which can be used by almost all age categories, with therapeutic and relaxing effect.

The tertiaryization of the world economy, as well as “robotization, led to the unprecedented increase in labor productivity, which allowed the gradual reduction of the working day and an increase in the time frame in which the individual can carry out other activities, including tourism” (Creeaza.com, n.d.). The appearance of free time within each day (after working hours –

tourism is practiced at a short distance or in the immediate vicinity), at the end of the week (weekend tourism or recreation tourism), public holidays, and during the holiday period (recreation tourism and health care are carried out over a longer period of time and at any distance) leads to “a consumption of more or less motivated amusement, such as: television, concerts, film, reading, various cultural and sports performances, etc.; short trips to the hotel, camping and a simple tourist escape; short holidays from one to two weeks and long holidays from three to four weeks (Croitoru and Becuț Marinescu, 2019).”

In this context, we note that the (paid) holiday market has turned tourism into a mass phenomenon, and the majority of the population uses their free time for recreation.

We mention that an essential factor of the emergence and development of equestrian tourism is also *the degree of culture and education of individuals*. In other words, equestrian tourism is carried out when free time, income and means of locomotion are intertwined with the receptivity of individuals for the beauties of nature and human creations, for the values of the material and spiritual culture of mankind. At the same time, the above aspects are completed with elements such as: the numerical growth of the population (possible practitioners of hiking and traveling), “increasing longevity and increasing the share of youth and old age groups within the population. So, the higher the number of people, of the current population, the higher the probability of the existence of a greater number of practitioners of equestrian tourism/tourism increases” (Factors that influence tourism activity in Romania, n.d).

According to the previously presented information, equestrian tourism “must promote the principles of sustainable development, allowing local people and tourism service providers to maintain high standards of living”.

In other words, equestrian tourism must ensure the preservation of the countryside and not support its urbanization. The touristic infrastructure must reflect a rural and traditional note specific to Romania both from an architectural and dimensional point of view.

Romania, by tradition, is a breeder of animals, having a very rich diversity of breeds – over 100 breeds of cattle, sheep, goats, horses, pigs, birds, bees and silkworms. Many of these breeds, at present, have declined in economic importance, and without intervention programs for their protection, many of them are threatened with extinction. The presence of animals in a rich diversity of breeds, varieties and lines is a characteristic with positive influence for those who live and work in the countryside and even for tourism. Animal husbandry forms the basis of economic activity in many of the disadvantaged rural areas. For all these reasons, Romania undertakes to initiate and implement plans of measures to save from extinction the endangered breeds, through the Convention on Biological Diversity (1992), attention is paid to the protection

of animal genetic resources. The interest of breeders in a non-economically competitive breed decreases with the negative effect of gradually reducing the number of animals of that breed until the extinction of the breed. Consequently, Romania intends to align its strategic approach with FAO's priorities and with regard to the conservation of biological diversity, as provided for in the EC regulations on rural development.

Equestrian tourism is a type of active recreational and sports tourism, which is done with the help of one or more horses or other animals and can be a combination of passion for riding, the desire to ride in nature and the interest to visit places from other provinces. We specify that equestrian tourism has routes in the mountains, routes established through Romanian villages, routes that include visiting various tourist attractions, but also huge social and recreational opportunities, which allows you to travel outdoors in nature.

Equestrian tourism in Romania is also developing through the implementation of ecotourism programs by national or natural parks in Retezat, Piatra Craiului, Vânători Neamț and Apuseni. In this regard, online marketing strategies and offers for equestrian tourism have been implemented to meet current requirements. The desire of individuals to know and see the tourist objectives in the virtual reality force travel agencies to invest in the online environment to meet the demands of the market. Of course, the development of equestrian tourism depends on a multitude of direct factors (economic, social, technical, cultural, demographic, psychological, educational, natural factors etc.), but also indirect ones such as social stress, increasing children's education and raising current living standards. Therefore, the need for a trip depends in many cases on the biological need to restore and maintain health or to escape from the daily routine.

Acknowledgements

This paper was carried out with the support of the POCU 125040 project, entitled: „Development of university tertiary education in support of economic growth - PROGRESSIO”, a project co-financed by the European Social Fund through the Human Capital Operational Program 2014 – 2020.

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DOI: 10.5281/zenodo.6396348

COMPARATIVE ANALYSIS ON THE IMPLEMENTATION OF EUROPEAN PROJECTS AT THE LEVEL OF THE EUROPEAN UNION AND ROMANIA IN THE PERIOD 2007-2013 AND 2014-2020

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Abstract: *The EU's Structural and Investment Funds are the EU's largest regional investment program, supporting the social and economic development of Europe's various regions by bridging the gap between them. The main purpose of the article is to analyze European funding instruments. For this, the analysis and description of some main terms regarding the European projects, the analysis of the financial instruments, the implementation of the European projects in the period 2007-2020, both at the EU level and at the Romanian level, were performed.*

Keywords: *project management, financing, structural funds, European Union*

JEL Classification: *E22, F3, F5, F6, H5*

Introduction

Regional equalization policy is by nature the most complex expression of EU solidarity. This is primarily due to the funding of regional structural funds in the EU budget, the variety and content of projects, as well as those implemented with the financial support of these funds.

One of the key elements of the functioning of the Euroregions, which is of fundamental importance, is the economic component. The economic component covers the issues of economic equalization of the adjacent territories, the financing of projects, offers a common search for ways to overcome barriers to economic activity.

A significant role in equalizing the socio-economic development of the Euroregions belongs to the budgetary policy, because it determines the amount of funds allocated for the implementation of the supranational regulation. Fiscal policy is a key instrument of macroeconomic policy, designed to support stable growth, combat crises and inflation, and ensure a high level of human resource employment. The EU's general budget is a unique joint project of a large number of countries that have pooled their resources to solve common problems (Dornean, 2012).

Initially, the Structural Funds, even during their formation, were mainly aimed at leveling regional and social disparities in the EU. The theoretical rationale for allocating funds raises issues such as the inability of some states (regions) to correct their internal economic imbalances and the fact that EU funding will be much more coordinated and organized (Russu, 2019).

The Structural Funds allow regions to obtain additional resources to stimulate development, reduce unemployment and intensify investment activities. At the same time, the dependence of EU Member States on the financial resources of national governments is low, which gives reason to speak of the EU as a „Europe of the regions”. Coordinating the regional development of the Single European Center allows for the implementation and maintenance of advanced regional policy directions in the backward territories (Lock, 2014).

Comparative analysis on the implementation of European projects at EU level

In the 2007-2013 programming period, 25 of the 28 Member States used financial instruments created under the umbrella of the European Regional Development Fund (ERDF) and the European Social Fund (ESF): A total of 972 instruments were created under EU funding through ERDF instruments and 53 ESF financial instruments. By the end of 2014, around € 16 billion of ERDF and ESF operational programs had been paid in the form of contributions to these instruments (Paul, 2014).

This represents a significant increase from € 1.3 billion in the 2000-2006 programming period and from € 0.6 billion allocated for the 1994-1999 programming period for this type of instrument. Over the same period, 2007-

2013, the total contribution from the EU budget to the 21 financial instruments managed directly or indirectly by the European Commission amounted to around € 5.5 billion. These centrally managed financial instruments operate in all EU Member States (Ivascu, 2021).

In the period 2014-2020, the Structural and Investment Funds amounted to 654,508,262,340 euros, of which 471 090 666 468 euros were EU funding and 183 417 595 872 euros were funded by Member States.

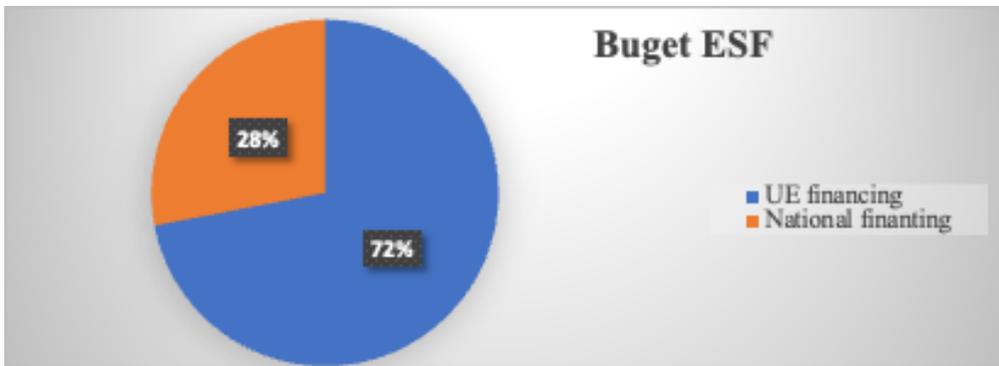


Figure 1. Sources of funding for the 2014-2020 ESI budget

Source: own processing, according: <https://cohesiondata.ec.europa.eu/overview>

In turn, this budget consisted of several funds:

- Cohesion Fund: 72.761 billion euros and constitutes 11.1% of the total budget;
- European Social Fund: 122.329 billion euros and constitutes 18.7% of the total budget;
- European Regional Development Fund: 282.244 billion euros and constitutes 43.1% of the total budget;
- European Agricultural Fund for Rural Development: 158.947 billion euros and constitutes 24.3% of the total budget;
- Youth Employment Initiative: € 10.453 billion and represents 1.6% of the total budget;
- European Fisheries and Maritime Fund: € 7.861 billion and represents 1.2% of the total budget.

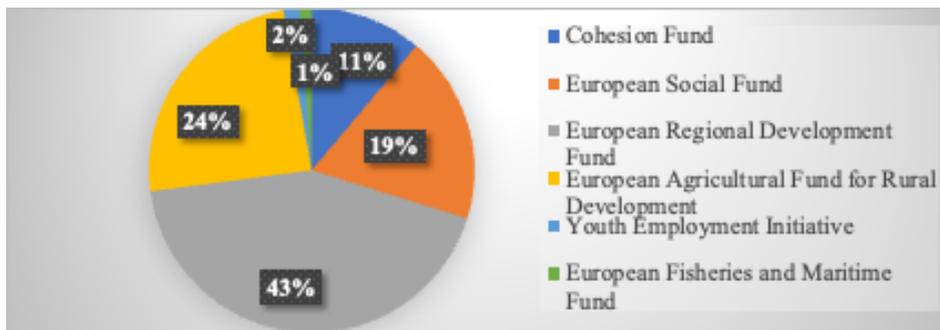


Figure 2. Total ESI budget structured on funds in the period 2014-2020

Source: own processing, according to: <https://cohesiondata.ec.europa.eu/overview>

The main purpose of these funds was to support 15 main objectives. Therefore, Chart 1 shows the allocation of funding for these 15 objectives.

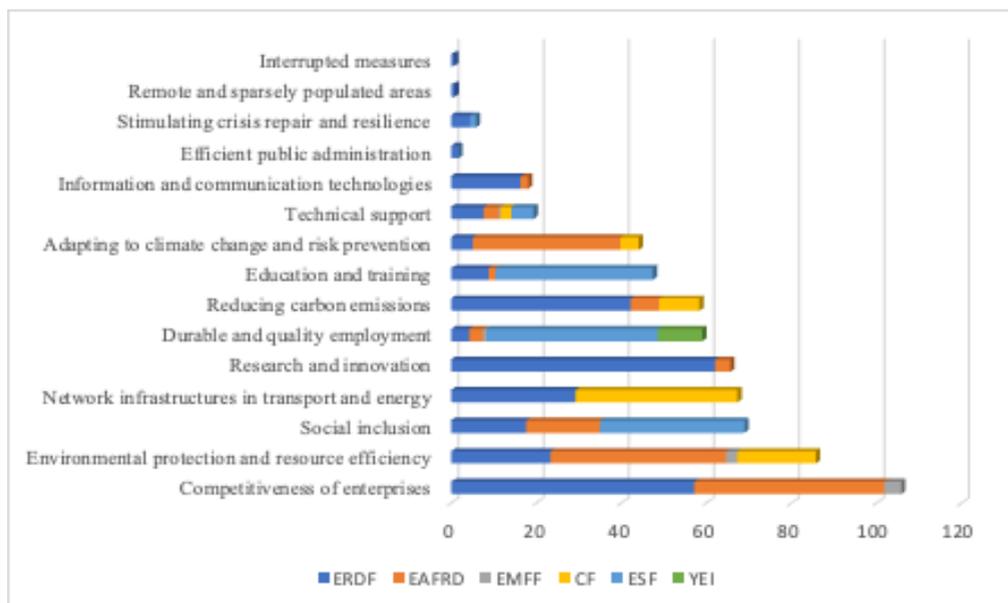


Chart 1. Allocation of funds to specific objectives

Source: own processing according to: <https://cohesiondata.ec.europa.eu/overview>

As can be seen from Table 1, and in particular from Chart 2, the largest share of funding was allocated to the competitiveness of enterprises of € 105 billion, of which € 57 billion from the ERDF and € 44 billion from the EAFRD. The lowest funding was allocated to targets for remote and sparsely populated areas, and for disrupted measures.

Table 1 Allocation of European funds by country.

Country	ERDF	ESF	CF	EAFRD	EMFF	YEI
Poland	47,969	15,148	27,223	13,612	0,71	0,586
Italy	31,198	16,969	-	20,912	0,979	2,362
Spain	29,551	10,288	-	12,29	1,438	3,03
France	18,985	9,808	-	18,236	0,765	1,141
Germany	18,085	12,660	-	15,793	0,29	-
Romania	13,444	5,483	7,688	9,644	0,223	0,329
Portugal	15,203	8,686	3,271	5,054	0,503	0,49
Czech Republic	17,548	4,5	7,22	3,771	0,041	0,029
Hungary	12,615	5,723	7,088	4,166	0,05	0,108
Greece	11,663	5,038	3,265	5,195	0,514	0,587
UK	10,256	8,533	-	6,539	0,31	0,531
Slovakia	9,057	3,308	4,787	2,099	0,015	0,187
Croatia	5,547	1,664	2,506	2,374	0,345	0,224
Interreg	12,631	-	-	-	-	-
Bulgaria	4,315	1,965	2,596	2,895	0,104	0,120
Austria	2,463	0,875	-	7,697	0,013	-
Finland	1,748	1,107	-	7,532	0,014	-
Lithuania	4,243	1,449	2,399	2,023	0,82	0,69
Sweden	1,95	1,436	-	4,675	0,159	0,132
Ireland	0,941	0,832	-	5,378	0,239	0,204
Latvia	2,901	0,761	1,466	1,531	0,183	0,063
Belgium	2,327	2,167	-	1,517	0,68	0,193
Estonia	2,654	0,694	1,528	0,994	0,127	-
Slovenia	1,822	0,898	1,075	1,107	0,029	0,02
Netherlands	1,736	1,334	-	1,593	0,131	-
Denmark	0,524	0,466	-	1,483	0,307	-
Cyprus	0,352	0,176	0,304	0,330	0,052	0,039
Malta	0,453	0,279	0,241	0,129	0,028	-
Luxembourg	0,048	0,109	-	0,366	-	-

Source: own processing according to:
[https://cohesiondata.ec.europa.eu/overview \(mld.euro\)](https://cohesiondata.ec.europa.eu/overview (mld.euro))

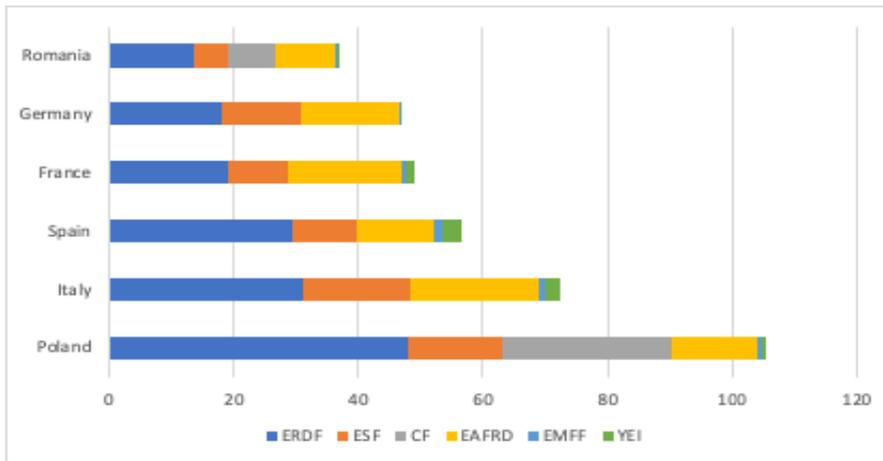


Chart 2. Top 6 countries that received more than half of the total budget

Source: own processing, according to: <https://cohesiondata.ec.europa.eu/overview>

From this graph it can be seen that these 6 countries have obtained funding from various funds amounting to 366,813 billion euros, which represents 56% of the total budget. From Table 1 we can see that Luxembourg received the lowest funding in the period 2014-2020 of 524 million euros from three European funds.

Analysis of the programs financed from the European structural and investment funds in the period 2014-2020 for Romania

From the outset, the European Union (EU) has set itself the goal of promoting greater convergence of economic growth between Member States. Therefore, over time, several investment policy instruments have been developed. ESIF funds are very important for less developed regions, as these funds should help reduce disparities between regions. These interventions are usually motivated by the widespread concern that economic development generates unequal living conditions between regions (Blouri, Ehrlich, 2020).

The European Structural and Investment Funds (ESIF) are real EU support for the structured development of national economies in line with performance targets. It should also not be overlooked that policy elements have consequences for a country's competitiveness.

However, the Union's structural and investment policy cannot be seen in black and white. Several political, economic, social and regional aspects need to be considered. Grants can lead to a loss of well-being for the EU as a whole, and they certainly lead to a loss of well-being in the rest of the world, with investment coming from EU-backed regions (Europa Media, 2019).

The political situation and the relations between the different layers of governance influence the allocation and implementation process (Bouvet, 2010). The accessibility of EU funds is also conditioned by administrative bureaucracy. The role of human capital potential has thus been confirmed in achieving the core objectives of EU cohesion policy.

Romania has benefited from funding from the Structural Funds and investments worth 30.8 billion euros, through 8 national programs, representing an average of 1,548 euros per person for the period 2014-2020.

The total budget was € 36.77 billion, of which € 30.88 billion was EU funding and € 5.88 million was national co-financing.

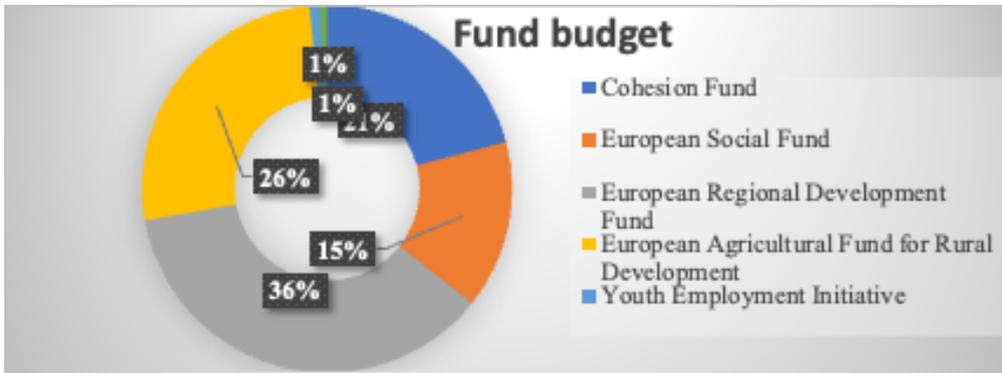


Figure 3. ESIF total budget structured on funds in the period 2014-2020 for Romania

Source: own processing, according to: <https://cohesiondata.ec.europa.eu/overview>

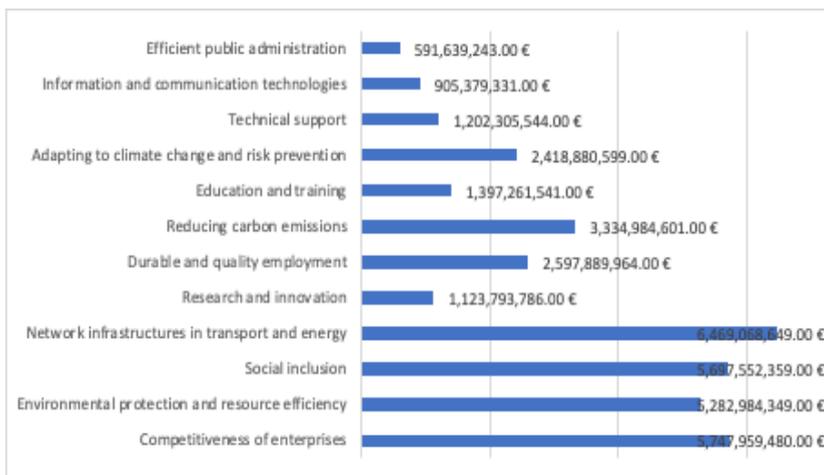


Chart 3. Allocation of financial sources by main objectives

Source: own processing, according to: <https://cohesiondata.ec.europa.eu/overview>

Graph 3 shows that most of the European Structural and Investment Funds were allocated to transport and energy infrastructure, in second and third place after the allocation of funding or positioning investment in business competitiveness and investment in social inclusion, respectively. Significant amounts have also been allocated to environmental protection and resource efficiency, with the lowest share allocated to public administration of EUR 591 million.

But not all of these amounts have been realized in practice. Table 2 shows the budgets of the planned programs, the budget decided and the budget realized in the period 2015-2020.

Table 2. ESIF analysis in the period 2015-2020 for Romania

The year	Planned budget	Budget decided	Budget achieved
2015	36 566 182 862 euro	1 009 077 412 euro	166 100 euro
2016	36 447 518 905 euro	4 478 042 402 euro	1 131 326 705 euro
2017	37 370 222 767 euro	14 502 253 173 euro	4 370 886 093 euro
2018	36 542 899 831 euro	26 641 477 208 euro	8 722 636 175 euro
2019	36 540 922 726 euro	36 748 651 515 euro	12 510 321 721 euro
2020	36 569 092 928 euro	46 314 209 265 euro	17 845 789 758 euro

Source: own processing, according to: <https://cohesiondata.ec.europa.eu/overview>

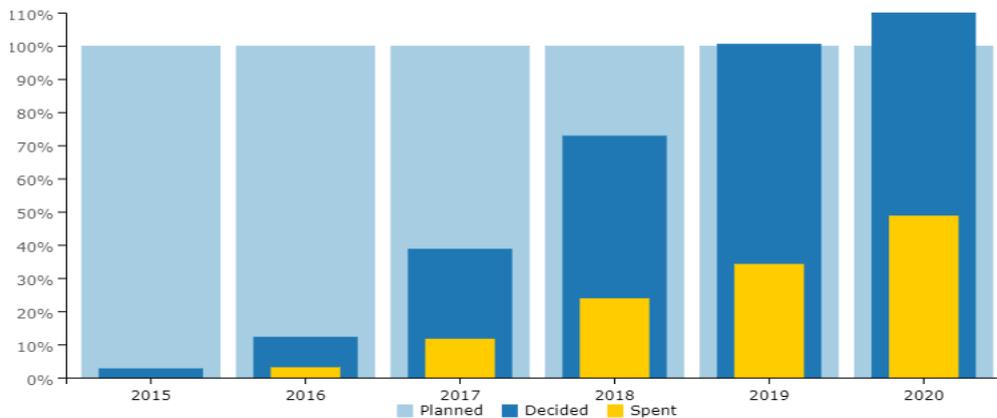


Figure 4. Progress in the implementation of ESIF for Romania in the period 2015-2020

Source: <https://cohesiondata.ec.europa.eu/overview>

From figure 4 we can see that not all the planned funding has been achieved, at the end of 2020 an allocation of 46.3 billion euros was decided, but the planned budget was 36.5 billion euros of which only 17, 8 billion euros.

Table 3 presents data on the ratio between the investments planned for different programs and the investments made from the structural and investment funds.

Table 3. Progress of program implementation in the period 2014-2020.

<i>Name of the fund</i>	<i>Planned financing</i>	<i>Financing achieved</i>	<i>The difference</i>
<i>ERDF</i>	13 444 996 696 euro	4 939 596 642 euro	37%
<i>EAFRD</i>	9 443 453 969 euro	6 797 073 522 euro	72%
<i>ESF</i>	5 438 610 146 euro	2 538 786 992 euro	47%
<i>CF</i>	7 688 231 740 euro	3 474 318 264 euro	45%
<i>EMFF</i>	223 826 463 euro	90 054 206 euro	40%
<i>YEI</i>	329 973 914 euro	5 960 132 euro	2%
<i>Total</i>	36 569 092 928 euro	17 845 789 758 euro	49%

Source: own processing according to: <https://cohesiondata.ec.europa.eu/countries/RO>

From Table 3 we can see that the highest percentage of investment was made from EAFRD funds of 72%, so we can say that the field of agriculture has a greater power to attract and make investment and has a good future in terms of investment future.

Analyzing the data on the use of ESI funds in the period 2014-2020 by Romania, it turned out that this financing was a very important support for regional development, in different sectors of the economy.

<i>Nr. Crt.</i>	<i>Agriculture and rural development</i>
<i>1</i>	More than 29,000 new jobs have been created in rural areas
<i>2</i>	30,000 small farms have been set up thanks to the support of young farmers
<i>3</i>	Investments in 4,000 existing farms to improve product competitiveness
<i>4</i>	Training provided to over 180,000 farmers and small and medium-sized enterprises in rural areas
<i>5</i>	Investments in rural infrastructure and basic services that have led to improved living standards for more than 250,000 people
<i>6</i>	9367 young farmers were supported

Own processing according to: europa.eu

Due to the financing from European funds in the agricultural sector, especially by supporting farmers and small and medium enterprises, the volume of domestic products on the Romanian market has increased, which shows that domestic producers are able to compete with foreign producers.

Nr. Crt.	<i>Social inclusion, research and innovation</i>
1	500 people received improved health services
2	400,000 households were equipped with internet access of at least 30 Mbps
3	270 businesses were supported to create new products on the market
4	437 new full-time researches were employed

Own processing according to: europa.eu

In terms of social inclusion, health services have been the most supported, this support can be considered particularly important in the current conditions. Demand and innovation are particularly important in the current context of maintaining competitiveness in both the internal and external markets.

Nr. Crt.	<i>Energy and environment</i>
1	Increased the amount of recyclable waste by about 940 000 per year
2	170 000 people can benefit from flood protection measures
3	3 300 00 people received access to high-quality drinking water
4	Annual reduction of greenhouse gas emissions

Own processing according to: europa.eu

The energy and environment sector has been based on improving people's quality of life and protecting the environment.

In addition to these positive points, we can add the reconstruction and renovation of 390 km of railways and the construction of 389 km of new roads, the renovation and construction of 74,000 m² of public and commercial buildings. The number of international tourists has increased (45,000 per year), € 3.2 billion has been invested in the competitiveness of SMEs and the support of 1,300 companies through various financial instruments.

Conclusion

The institutional effects of EU funding could, in the long run, prove to be more valuable than their impact on national and regional GDP. Romania has gone through a steep learning curve in adopting and implementing institutions, principles and procedures related to the implementation of EU funds. The latter have contributed to the development of new visions and frameworks for internal development, taking into account long-term priorities, through enhanced cooperation and the creation of new areas of interaction between different social actors.

Moreover, the institutions that manage EU aid, although often isolated from the rest of the administration, could provide a plan for developing administrative capacity and a model for the professionalisation of the public sector in the future. The latter objective is also targeted at specific investments and the adoption of various EU-approved project management principles and procedures, as well as a growing understanding of the importance of data and evidence for public policy development, enhanced by the new principles of public policy reporting and evaluation.

A potentially significant effect refers to a growing awareness of the need for greater accountability and transparency of spending with national public funds. Unifying or harmonizing procedures for EU and national funding, in order to limit arbitrary political interference, could have a major spill-over effect in the future.

Acknowledgement

This work is supported by project POCU 125040, entitled “Development of the tertiary university education to support the economic growth – PROGRESSIO”, co-financed by the European Social Fund under the Human Capital Operational Program 2014-2020.

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DOI: 10.5281/zenodo.6396296

COST-BENEFIT ANALYSIS: BASIC TOOL IN MAKING DECISIONS RELATED TO INVESTMENT PROJECTS

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Abstract: *The scientific approach aims to address the value of cost-benefit analysis of an investment project, namely environmental equipment and machinery to reduce the “environmental footprint” of the company. The approach was made in view of the opportunity for SMEs to access non-reimbursable external financing provided by the EU, under the conditions of ensuring their own co-financing/ contribution from borrowed sources. Through this analysis, the hypothesis was validated according to which the need for financing of SMEs and especially of grants, demonstrates the reactivity of the public administration to their needs.*

Keywords: *cost-benefit analysis, tangible fixed assets, SMEs, non-reimbursable financing, investments*

JEL Classification: *M41, G32*

1. Introduction

Cost-benefit analysis is a key tool in the investment decision-making, especially when there is the availability of non-reimbursable external financing for EU countries. In Romania, SMEs still need investments in the field of environmental protection, which will reduce the ecological footprint of the activity they carry out and create added value both for them and for the community in which they operate.

The cost-benefit analysis helps both to identify the investment projects needed by SMEs in the current global context, respectively in ecological equipment and machinery, in equipment and apparatus in the field of digitization, and to identify the social benefits they will generate as a result of their achieving/implementation.

All these investments to reduce the environmental footprint are specific investments for sustainable development for which a cost-benefit analysis is needed, which considers both the direct effects for SMEs and the indirect effects on all activities in a given area, region and in particular on job creation.

To perform the cost-benefit analysis, it is necessary to go through a series of steps, namely defining objectives, project identification, options and feasibility analysis, financial analysis, economic analysis, multi-criteria analysis, risk analysis and sensitivity analysis.

Based on professional experience, the feasibility of an ecological investment project is not limited only to aspects of environmental protection and information technology, engineering, but also includes aspects of marketing, management, and implementation analysis.

2. Literature review

In the case of SMEs, the proposal to improve the provision of financial information, including those related to the cost-benefit ratio, consists in applying the European Commission's (2019) recommendations on the use of common methods of measuring environmental performance, "adapted" to the culture of Romanian enterprises, so that the environmental impact of a product/good/service/work during the life cycle, as well as the environmental impact of an enterprise is achieved through environmental footprint methods. (The product environmental footprint method is known as the PEF method, and the enterprise environmental footprint method is known as the OEF method.)

With the help of financial information quantified in SME accounting and communicated externally through financial statements to end-users/stakeholders, the measurement of the environmental footprint of a product/good/service/work must necessarily consider all activities in the supply chain, respectively from the procurement/ purchase of raw materials, materials, fuels to the stages related to their production/consumption process, to the stage of management/recycling of waste resulting from the production process. (The supply chain is found in the economic literature under the name of value chain, but for the topic of scientific research this name was used.)

Speaking of the "environmental performance" of an SME, we are actually talking about sustainable development and social responsibility because they are in a relationship of interdependence.

With the help of financial information reflected in SME accounting, the effort to achieve "environmental performance" is found in the activity of SMEs by using energy/fuels from renewable sources instead of energy/fuels

from non-renewable sources, secondary materials, biodegradable, disposal of hazardous waste, use of fresh water resources, ecological equipment and machinery, recycling of materials resulting from production/services/works.

3. Research methodology

The applied research methodology used the longitudinal study of deductive nature based on the qualitative analysis of the reported information, available in both financial and non-financial reporting, components of the financial statements of SMEs.

The non-participatory observation, which involves the researcher's position outside the observed system, was made from the perspective of the evolution of scientific knowledge in the specific theoretical area and national, European, and international regulations applicable to SMEs (Chelcea, 2014).

The case study was used as an “*empirical investigation that investigates a contemporary phenomenon in its real-life context, especially when the boundaries between the phenomenon and the context are not very well defined*” (Yin R.K., 2005, page 30 quoted in Ristea & Franc 2009).

4. Financial analysis of an investment project, in the case of SMEs

The financial analysis of a green investment project aims to use the project's cash flow forecasts to calculate the appropriate rates of return, in particular the internal financial rate of return of investment (IFRR/C) or capital (IFRR/K) and the net financial present value (NFPV/C).

The internal financial rate of return of investment (IFRR/C) is defined as the interest rate, leading to zero the net present value of the investment and is calculated on the basis of the following ratio:

$$\text{VAN} = 0 \Leftrightarrow \sum_{i=1}^n \frac{CF_i}{(1 + RIR)^i} + \frac{VR}{(1 + RIR)^n} - I$$

(1)

Where: CF - annual cash flows, VR - Residual value, I - initial investment and n - project life.

The economic analysis evaluates the contribution of the green investment project to the economic well-being of the area and starts from the data of the financial analysis, which shows the performance of the investment,

regardless of financing sources: reimbursable financing for the SME's own contribution, respectively the part of the co-financing and non-reimbursable financing granted by the EU under the programs related to the financial framework 2014-2020 and the financial framework 2021-2027.

The economic analysis of an ecological investment of an SME from non-reimbursable external funds, by defining the appropriate conversion factors, for each of the items of inflow or outflow, defines the social costs and benefits, which were not taken into account in the financial analysis.

In conclusion, the economic analysis considers externalities, namely environmental impact or redistributive effects.

In the analysed case, the SME wants to implement the project with its own sources insured from the bank loan with market interest and non-reimbursable financial assistance. The ecological equipment and machinery to be purchased through the project will be used to carry out the activity in order to reduce the ecological footprint.

The starting point is that any investor / entrepreneur who manages the activity of an SME wants an increase / development of production capacity at European standards, as it is the premise of increasing competitiveness and a positive evolution in the medium and long term.

In this context, in the case of the analysed SME, it started from an investment value of 13,156,518.62 lei without VAT, of which the SME contribution represents 68.55% of the total investment value (the amount of 9,018,619.36 lei) and the non-reimbursable financial aid represents 31.50% of the total investment (the amount of 4,137,899.26 lei).

The sources of financing of the project, including the non-reimbursable financial aid (FEN) are presented in table no.1, as follows:

Table no.1. Sources of investment project financing

Sources of funding	Value
Ecological equipment and machinery	-lei-
Total value of the green investment project	13,156,518.62
Ineligible value of the green investment project	4,864,135.34
Eligible value of the green investment project	8,292,383.28
Non-reimbursable financial aid from FEN	4,137,899.26
FEN applicant's contribution	9,018,619.36
Contribution from own funds to SMEs	-
SME contribution from repayable sources, respectively bank loan on the banking market	9,018,619.36

Source: own processing

The analysis horizon of such an investment project in ecological equipment and machinery to reduce the ecological footprint is 10 years, at a discount rate of 5%, in which year 0 is considered the reference year of the project and year 1 is the year in which the project will generate financial and economic results. The main indicators of the financial analysis, as previously mentioned, for the investment project proposed above, are: Internal Financial Rate of Return (IFRR/C), Net Financial Present Value (NFPV) related to the investment and Benefit/Cost ratio (B/C).

The sustainability of the project was exemplified in terms of the specificity and nature of this investment in ecological equipment and machinery, by quantifying the net cumulative cash flow generated by the investment, related to the time horizon of 10 years.

In terms of financial costs and revenues, the indicators related to the financial analysis were determined in the tables below.

The financial analysis first involves determining the revenues and operating and maintenance costs related to the implementation of such a project that would lead to the development of the SME business. In this sense, in table no.2 is presented on a horizon of 10 years, the revenues and operating and maintenance costs through the implementation of the investment project, representing investments in ecological equipment and machinery:

Table no.2. Operating and maintenance costs of investment & Operating revenues

Name of articles of revenues and expenses expressed in lei	Year 1	Year 2	Year 3	Year 4	Year 5
Raw materials and consumables	773,470	788,939	804,718	820,813	837,229
Electricity, natural gas	442,597	451,449	460,478	469,687	479,081
Water, sewerage, sanitation	128,912	131,490	134,120	136,802	139,538
Workforce	8,230,738	8,477,660	8,731,990	8,993,950	9,263,768
Other operating expenses	322,279	328,725	335,299	342,005	348,845
Equipment maintenance	537,133	601,589	673,780	754,633	845,189
Total operating and maintenance costs	10,435,129	10,779,852	11,140,385	11,517,890	11,913,651
Sales revenue - production sold	11,357,643	11,925,525	12,521,801	13,147,891	13,805,286
Other operating revenues	176,740	178,507	180,292	182,095	183,916
Total operating revenue	11,534,383	12,104,033	12,702,094	13,329,987	13,989,202

Source: own processing

Table no.2. Operating and maintenance costs of investment & operating revenues - continued

Name of articles of revenues and expenses expressed in lei	Year 6	Year 7	Year 8	Year 9	Year 10
Raw materials and consumables	845,601	854,057	862,598	871,224	879,936
Electricity, natural gas	483,872	488,711	493,598	498,534	503,519
Water, sewerage, sanitation	140,934	142,343	143,767	145,204	146,656
Workforce	9,449,043	9,638,024	9,830,785	10,027,401	10,227,949
Other operating expenses	352,334	355,857	359,416	363,010	366,640
Equipment maintenance	946,612	1,060,205	1,187,430	1,329,922	1,489,512
Total operating and maintenance costs	12,218,396	12,539,198	12,877,592	13,235,294	13,614,212
Sales revenue - production sold	14,495,550	14,785,461	15,081,171	15,382,794	15,690,450
Other operating revenues	185,756	187,613	189,489	191,384	193,298
Total operating revenue	14,681,306	14,973,074	15,270,660	15,574,178	15,883,748

Source: own processing

To perform the financial analysis of the investment project by determining the specific indicators, table no. 3 presents their calculated values, respectively the internal rate of financial profitability and the updated net financial revenue, as follows:

Table no. 3. Internal financial rate of return and net financial present value of the investment

INDICATORS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Sales revenue	0.00	11,357,643.00	11,925,525.15	12,521,801.41	13,147,891.48	13,805,286.05
Other operating revenues	0.00	176,740.00	178,507.40	180,292.47	182,095.40	183,916.35
Other revenue related to the activity	0.00	0.00	0.00	0.00	0.00	0.00
Residual value	0.00	0.00	0.00	0.00	0.00	0.00
Total revenue	0.00	11,534,383.00	12,104,032.55	12,702,093.88	13,329,986.88	13,989,202.40
Total operating and maintenance costs	0.00	10,435,129.00	10,779,852.26	11,140,384.80	11,517,890.36	11,913,650.98
Total costs with bank loan repayment	0.00	665,151.00	448,019.00	395,568.00	343,117.00	245,864.00
Other loan costs	0.00	91,785.00	70,397.00	62,074.00	53,751.00	45,055.00
Total investment costs	13,156,518.62					

Total expenses	13,156,518.62	11,192,065.00	11,298,268.26	11,598,026.80	11,914,758.36	12,204,569.98
Operating net cash flow	-13,156,518.62	342,318.00	805,764.29	1,104,067.08	1,415,228.52	1,784,632.42
5% discount rate	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835
Updated net cash flow	-13,156,518.62	326,023.66	730,828.21	953,693.14	1,164,308.50	1,398,259.50
IFRR/C = 3.96471%						
NFPV/C = - 806,232.24						

Source: own processing

Table no. 3. Internal financial rate of return and net financial present value of the investment – continued

INDICATORS	Year 6	Year 7	Year 8	Year 9	Year 10
Sales revenue	14,495,550.35	14,785,461.36	15,081,170.59	15,382,794.00	15,690,449.88
Other operating revenues	185,755.52	187,613.07	189,489.20	191,384.09	193,297.94
Other revenue related to the activity	0.00	0.00	0.00	0.00	0.00
Residual value	0.00	0.00	0.00	0.00	436,602.00
Total revenue	14,681,305.87	14,973,074.43	15,270,659.79	15,574,178.09	16,320,349.82
Total operating and maintenance costs	12,218,395.98	12,539,197.69	12,877,592.49	13,235,293.56	13,614,211.87
Total costs with bank loan repayment	246,957.00	194,506.00	142,055.00	89,604.00	38,243.00
Other loan costs	38,493.00	30,170.00	21,847.00	13,525.00	8,819.00
Total investment costs					
Total expenses	12,503,845.98	12,763,873.69	13,041,494.49	13,338,422.56	13,661,273.87
Operating net cash flow	2,177,459.89	2,209,200.75	2,229,165.30	2,235,755.54	2,659,075.95
5% discount rate	0.7462	0.7107	0.6768	0.6446	0.6139
Updated net cash flow	1,624,820.57	1,570,078.97	1,508,699.08	1,441,168.02	1,632,406.73
IFRR/C = 3.96471%					
NFPV/C = - 806,232.24					

Source: own processing

The analysis of the information on the return on investment with non-reimbursable financing resulted in the following conclusions:

- Internal Financial Rate of Return of Investment = IFRR/C = 3.96471% <5%, which means that, at a discount rate of 5%, the internal financial rate of return on investment cost is below the discount rate; this also reveals and justifies the need and economic opportunity for non-reimbursable funding from EU sources;

- Net Financial Present Value = NFPV/C = - 806,232.24 lei and justifies the non-reimbursable financial intervention attracted as financing for the implementation of the project.

Next, in table no. 4, the financial indicators related to the profitability of the own contribution insured from the bank loan were determined, as follows:

Table no. 4. Internal financial rate of return and net financial present value of own contribution

INDICATORS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Income	0.00	11,534,383.00	12,104,032.55	12,702,093.88	13,329,986.88	13,989,202.40
Residual value	0.00	0.00	0.00	0.00	0.00	0.00
Total revenue	0.00	11,534,383.00	12,104,032.55	12,702,093.88	13,329,986.88	13,989,202.40
Total operating and maintenance costs	0.00	10,435,129.00	10,779,852.26	11,140,384.80	11,517,890.36	11,913,650.98
Interest rate	0.00	665,151.00	448,019.00	395,568.00	343,117.00	245,864.00
Fees, loan fees	0.00	91,785.00	70,397.00	62,074.00	53,751.00	45,055.00
National contribution	0.00	0.00	0.00	0.00	0.00	0.00
Own contribution	9,018,619.36	0.00	0.00	0.00	0.00	0.00
Total expenses	9,018,619.36	11,192,065.00	11,298,268.26	11,598,026.80	11,914,758.36	12,204,569.98
Net cash flow	-9,018,619.36	342,318.00	805,764.29	1,104,067.08	1,415,228.52	1,784,632.42
5% discount rate	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835
Updated net cash flow	-9,018,619.36	326,023.66	730,828.21	953,693.14	1,164,308.50	1,398,259.50
IFRR/K = 8,6005%						
NFPV/K = 2.007.881,54						

Source: own processing

Table no.4. Internal financial rate of return and net financial present value of own contribution – continued

INDICATORS	Year 6	Year 7	Year 8	Year 9	Year 10
Income	14,681,305.87	14,973,074.43	15,270,659.79	15,574,178.09	15,883,747.82
Residual value	0.00	0.00	0.00	0.00	436,602.00
Total revenue	14,681,305.87	14,973,074.43	15,270,659.79	15,574,178.09	16,320,349.82
Total operating and maintenance costs	12,336,389.34	12,786,662.32	13,267,574.35	13,782,665.27	14,335,974.74
Interest rate	246,957.00	194,506.00	142,055.00	89,604.00	38,243.00
Fees, loan fees	38,493.00	30,170.00	21,847.00	13,525.00	8,819.00
National contribution	0.00	0.00	0.00	0.00	0.00
Own contribution	0.00	0.00	0.00	0.00	0.00
Total expenses	12,621,839.34	13,011,338.32	13,431,476.35	13,885,794.27	14,383,036.74

Net cash flow	2,059,466.53	1,961,736.12	1,839,183.44	1,688,383.82	1,937,313.08
5% discount rate	0.7462	0.7107	0.6768	0.6446	0.6139
Updated net cash flow	1,536,773.92	1,394,205.86	1,244,759.36	1,088,332.21	1,189,316.50
IFRR/K = 8.6005%					
NFPV/K = 2,007,881.54					

Source: own processing

The data in table no. 4 show that the investment in such a project, even with reimbursable co-financing, is justified by the determined profitability indicators, respectively:

- Internal Financial Rate of Return of the own contribution = IFRR/K = 8.60% represents an internal financial rate of return of the own contribution which is below the threshold of 10%, which reveals and justifies, at the same time, the necessity and economic opportunity of financing such an investment project;
- Net Financial Present Value NFPV/K = 2,007,881.54 lei generated by the project.

The determination of the investment benefits/costs ratio is presented in table no. 5 based on the previously mentioned data, as follows:

Table no. 5. Benefits/costs ratio

INDICATORS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Total costs	13,156,518.62	11,192,065.00	11,298,268.26	11,598,026.80	11,914,758.36	12,204,569.98
Update rate 5%	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835
Total updated costs = 107,659,040.05	13,156,518.62	10,659,322.71	10,247,529.31	10,018,375.55	9,802,271.70	9,562,280.58
Total revenue	0.00	11,534,383.00	12,104,032.55	12,702,093.88	13,329,986.88	13,989,202.40
Update rate 5%	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835
Total updated revenue = 106,852,807.81	0.00	10,985,346.37	10,978,357.52	10,972,068.69	10,966,580.20	10,960,540.08
BENEFIT/ COST RATIO = 0.9925						
Net updated value = -806,232.24						

Source: own processing

Table no.5. Benefits/costs ratio - continued

INDICATORS	Year 6	Year 7	Year 8	Year 9	Year 10
Total costs	12,503,845.98	12,763,873.69	13,041,494.49	13,338,422.56	13,661,273.87
Update rate 5%	0.7462	0.7107	0.6768	0.6446	0.6139
Total updated costs = 107,659,040.05	9,330,369.87	9,071,285.03	8,826,483.47	8,597,947.18	8,386,656.03
Total revenue	14,681,305.87	14,973,074.43	15,270,659.79	15,574,178.09	16,320,349.82
Update rate 5%	0.7462	0.7107	0.6768	0.6446	0.6139
Total updated revenue = 106,852,807.81	10,955,190.44	10,641,364.00	10,335,182.55	10,039,115.20	10,019,062.75
BENEFIT / COST RATIO = 0.9925					
Net updated value = -806,232.24					

Source: own processing

The results obtained because of determining the benefit/cost ratio related to the investment project demonstrate the need for the non-reimbursable financial intervention that an SME must capitalize during the financial framework 2021-2027 by making available to Romania by the EU programs with non-reimbursable financing development of the SME sector.

The sustainability of such an investment project that corresponds to sustainable development because it contributes to reducing the ecological footprint of SME activity, is demonstrated by determining the cumulative net cash flow generated by the project, as shown in Table no. 6:

Table no. 6. Financial sustainability of the project

INDICATORS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Total financial resources	13,156,518.62	0.00	0.00	0.00	0.00	0.00
Total revenue	0.00	11,534,383.00	12,104,032.55	12,702,093.88	13,329,986.88	13,989,202.40
Total cash inflows	13,156,518.62	11,534,383.00	12,104,032.55	12,702,093.88	13,329,986.88	13,989,202.40
Total operating and maintenance costs	0.00	10,435,129.00	10,779,852.26	11,140,384.80	11,517,890.36	11,913,650.98
Total investment costs	13,156,518.62	0.00	0.00	0.00	0.00	0.00
Interest	0.00	665,151.00	448,019.00	395,568.00	343,117.00	245,864.00
Loan repayment	0.00	201,861.94	401,861.94	901,861.94	901,861.94	901,861.94
Fees, loan fees	0.00	91,785.00	70,397.00	62,074.00	53,751.00	45,055.00
Total cash outflows	13,156,518.62	11,393,926.94	11,700,130.20	12,499,888.74	12,816,620.30	13,106,431.92
Total cash flow	0.00	140,456.06	403,902.35	202,205.14	513,366.58	882,770.48
Cumulative cash flow	0.00	140,456.06	544,358.41	746,563.55	1,259,930.12	2,142,700.60

Source: own processing

Table no. 6. Financial sustainability of the project – continued

INDICATORS	Year 6	Year 7	Year 8	Year 9	Year 10
Total financial resources	0.00	0.00	0.00	0.00	0.00
Total revenue	14,681,305.87	14,973,074.43	15,270,659.79	15,574,178.09	16,320,349.82
Total cash inflows	14,681,305.87	14,973,074.43	15,270,659.79	15,574,178.09	16,320,349.82
Total operating and maintenance costs	12,218,395.98	12,539,197.69	12,877,592.49	13,235,293.56	13,614,211.87
Total investment costs	0.00	0.00	0.00	0.00	0.00
Interest	246,957.00	194,506.00	142,055.00	89,604.00	38,243.00
Loan repayment	901,861.94	901,861.94	1,201,861.94	1,301,861.94	1,401,861.90
Fees, loan fees	38,493.00	30,170.00	21,847.00	13,525.00	8,819.00
Total cash outflows	13,405,707.92	13,665,735.63	14,243,356.43	14,640,284.50	15,063,135.77
Total cash flow	1,275,597.95	1,307,338.81	1,027,303.36	933,893.60	1,257,214.05
Cumulative cash flow	3,418,298.55	4,725,637.36	5,752,940.72	6,686,834.32	7,944,048.37

Source: own processing

In conclusion, the financial sustainability of the project is verified by obtaining a positive cumulative net cash flow from year to year. Investment costs were included as output flow, while non-reimbursable financing and own contribution from reimbursable sources were included as input flow, accounted for as a financial resource.

This case demonstrated the profitability of such an investment project that aligns with the requirements of sustainable development and social responsibility, by using the opportunities offered by non-reimbursable financial resources provided by Romania by the EU for the development of the SME sector in the financial framework 2014-2020 and the financial framework 2021-2027.

5. Sensitivity analysis of the investment project

For the investment project in ecological equipment and machinery, we started from the premise that, out of the total elements related to the project, two are the most sensitive elements and with higher probability of manifestation, as forms of risk of the project, namely:

- increase of operating and maintenance costs by 3% at the same level of revenues, scenario presented in detail in the data in table no. 7 below;
- Reduction of revenues by 3% compared to the projected situation at the same level of costs, scenario presented in detail in the data in table no. 8 below.

These scenarios demonstrate the sensitivity of the project both in the case of the variable “costs higher by 3% at the same level of revenue” and in the case of the variable “lower revenue by 3% at the same level of costs”, the values of the calculated indicators show these aspects, the nature of tangible assets that diminish the ecological footprint as an opportunity for SMEs.

In the scenario “costs higher by 3% at the same level of revenue”, the financial indicators recorded the following values, as shown in table no. 7:

Table no. 7. Scenario “costs higher by 3% at the same level of revenue” - IFRR/C & NFPV/C

INDICATORS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Sales income	0.00	11,357,643.00	11,925,525.15	12,521,801.41	13,147,891.48	13,805,286.05
Other operating revenues	0.00	176,740.00	178,507.40	180,292.47	182,095.40	183,916.35
Other revenues related to the activity	0.00	0.00	0.00	0.00	0.00	0.00
Residual value	0.00	0.00	0.00	0.00	0.00	0.00
Total revenue	0.00	11,534,383.00	12,104,032.55	12,702,093.88	13,329,986.88	13,989,202.40
INDICATORS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Total operating and maintenance costs	0.00	10,748,182.87	11,103,247.83	11,474,596.35	11,863,427.07	12,271,060.51
Total costs with bank loan repayment	0.00	665,151.00	448,019.00	395,568.00	343,117.00	245,864.00
Other loan costs	0.00	91,785.00	70,397.00	62,074.00	53,751.00	45,055.00
Total investment costs	13,156,518.62					
Total expenses	13,156,518.62	11,505,118.87	11,621,663.83	11,932,238.35	12,260,295.07	12,561,979.51
Operating net cash flow	-13,156,518.62	29,264.13	482,368.72	769,855.53	1,069,691.80	1,427,222.89
Update rate 5%	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835
Updated net cash flow	-13,156,518.62	27,871.16	437,508.43	665,001.21	880,035.45	1,118,229.13
IFRR/C = 0,12534%						
NFPV/C = - 3,611,341,11						

Source: own processing

Table no. 7. Scenario “costs higher by 3% at the same level of revenue” - IF-RR/C & NFPV/C - continued

INDICATORS	Year 6	Year 7	Year 8	Year 9	Year 10
Sales income	14,495,550.35	14,785,461.36	15,081,170.59	15,382,794.00	15,690,449.88
Other operating revenues	185,755.52	187,613.07	189,489.20	191,384.09	193,297.94
Other revenues related to the activity	0.00	0.00	0.00	0.00	0.00
Residual value	0.00	0.00	0.00	0.00	352,503.12
Total revenue	14,681,305.87	14,973,074.43	15,270,659.79	15,574,178.09	16,236,250.94
INDICATORS	Year 6	Year 7	Year 8	Year 9	Year 10
Total operating and maintenance costs	12,584,947.86	12,915,373.62	13,263,920.26	13,632,352.36	14,022,638.22
Total costs with bank loan repayment	246,957.00	194,506.00	142,055.00	89,604.00	38,243.00
Other loan costs	38,493.00	30,170.00	21,847.00	13,525.00	8,819.00
Total investment costs					
Total expenses	12,870,397.86	13,140,049.62	13,427,822.26	13,735,481.36	14,069,700.22
Operating net cash flow	1,810,908.01	1,833,024.82	1,842,837.53	1,838,696.73	2,166,550.71
Update rate 5%	0.7462	0.7107	0.6768	0.6446	0.6139
Updated net cash flow	1,351,299.55	1,302,730.74	1,247,232.44	1,185,223.91	1,330,045.48
IFRR/C = 0.12534%					
NFPV/C = - 3,611,341.11					

Source: own processing

The above data also demonstrates in this scenario, once again, the need to finance such a project from non-reimbursable funds available from the EU for the SME sector that would lead to the development of their activity by making investments “friendly” to the nature and community in which they operate.

In the second scenario, respectively the scenario “revenues lower by 3% at the same level of costs”, the financial indicators recorded the following values, as shown in table no. 8:

Table no. 8. Scenario “revenues lower by 3% at the same level of costs” - IFRR/C & NFPV/C

INDICATORS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Sales revenue	0.00	11,016,913.71	11,567,759.40	12,146,147.37	12,753,454.73	13,391,127.47
Other operating revenues	0.00	176,740.00	178,507.40	180,292.47	182,095.40	183,916.35
Other income related to the activity	0.00	0.00	0.00	0.00	0.00	0.00
Residual value	0.00	0.00	0.00	0.00	0.00	0.00

Total revenue	0.00	11,193,653.71	11,746,266.80	12,326,439.84	12,935,550.13	13,575,043.82
Total operating and maintenance costs	0.00	10,435,129.00	10,779,852.26	11,140,384.80	11,517,890.36	11,913,650.98
Total costs with bank loan repayment	0.00	665,151.00	448,019.00	395,568.00	343,117.00	245,864.00
Other loan costs	0.00	91,785.00	70,397.00	62,074.00	53,751.00	45,055.00
Total investment costs	13,156,518.62					
Total expenses	13,156,518.62	11,192,065.00	11,298,268.26	11,598,026.80	11,914,758.36	12,204,569.98
Operating net cash flow	-13,156,518.62	1,588.71	447,998.54	728,413.04	1,020,791.77	1,370,473.84
Update rate 5%	1,0000	0.9524	0.9070	0.8638	0.8227	0.7835
Updated net cash flow	-13,156,518.62	1,513.09	406,334.67	629,203.18	839,805.39	1,073,766.25
IFRR/C = - 0.48640%						
NFPV/C = -4,020,781.66						

Source: own processing

Table no. 8. Scenario “revenues lower by 3% at the same level of costs” - IFRR/C & NFPV/C - continued

INDICATORS	Year 6	Year 7	Year 8	Year 9	Year 10
Sales revenue	14,060,683.84	14,341,897.52	14,628,735.47	14,921,310.18	15,219,736.38
Other operating revenues	185,755.52	187,613.07	189,489.20	191,384.09	193,297.94
Other income related to the activity	0.00	0.00	0.00	0.00	0.00
Residual value	0.00	0.00	0.00	0.00	339,405.06
Total revenue	14,246,439.36	14,529,510.59	14,818,224.67	15,112,694.27	15,752,439.38
Total operating and maintenance costs	12,218,395.98	12,539,197.69	12,877,592.49	13,235,293.56	13,614,211.87
Total costs with bank loan repayment	246,957.00	194,506.00	142,055.00	89,604.00	38,243.00
Other loan costs	38,493.00	30,170.00	21,847.00	13,525.00	8,819.00
Total investment costs					
Total expenses	12,503,845.98	12,763,873.69	13,041,494.49	13,338,422.56	13,661,273.87
Operating net cash flow	1,742,593.38	1,765,636.91	1,776,730.18	1,774,271.72	2,091,165.51
Update rate 5%	0.7462	0.7107	0.6768	0.6446	0.6139
Updated net cash flow	1,300,323.18	1,254,838.15	1,202,490.99	1,143,695.55	1,283,766.51
IFRR/C = - 0.48640%					
NFPV/C = -4,020,781.66					

Source: own processing

In the scenario “revenues lower by 3% at the same level of costs”, the values of the calculated indicators, respectively IFRR/C and NFPV/C show the need and opportunity of such a project that generates medium and long term added value, in the sense of sustainable activities with a social impact.

Considering the risks stated above, as well as their influence on the indicators related to the investment, on a scale of +/- 10% variation, from the basic case, for each parameter, the result of the calculations is the one presented in Tables no. 9 and 10:

Table no. 9. Impact on the critical parameter “costs”

No.	Financial indicators related to green investment	Basic hypothesis	Increase costs by 3%	Deviation
1.	Internal Financial Rate of Return - IFRR/C	3.96471%	0.12534%	3.839337%
2.	Net Financial Present Value - NFPV/C	-806,232.24	-3,611,341.11	-2,805,108.87

Source: own processing

Table no.10. Impact on the critical parameter “revenues”

No.	Financial indicators related to green investment	Decrease in revenue by 3%	Basic hypothesis	Deviation
1.	Internal Financial Rate of Return - IFRR/C	-0,48640%	3,96471%	4,45111%
2.	Net Financial Present Value - NFPV/C	-4,020,781,06	-806,232,24	-3,214,548,82

Source: own processing

The sensitivity indicators reflect the values recorded both in the variant of reducing revenues by 3% compared to the projected situation at the same level of costs, and in the hypothesis of increasing costs by 3% at the same level of revenues, the fact that the investment project is stable from in terms of economic and social benefits, proving its usefulness and importance through the added value of SME activity in the medium and long term. The cost-benefit analysis of investment projects that meet the requirements of sustainable development and social responsibility with reimbursable financing & non-reimbursable financing on the hypothetical example demonstrated the importance of these projects for the economy, especially in the context of the global health crisis.

6. Conclusions

Cost-benefit analysis related to SME projects for investments in tangible fixed assets with non-reimbursable financing carried out by addressing both the financial analysis of an investment in environmentally friendly equipment and machinery, and the sensitivity analysis of such an investment project, demonstrated the importance of non-reimbursable financial intervention by public authorities for such an investment project.

The approach of the valences of the cost-benefit analysis of an investment project, respectively ecological equipment and machinery that would reduce the “environmental footprint” of the enterprise, highlighted that the need to finance SMEs and especially grants, demonstrates the reactivity of the public administration to their needs.

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ISSN 2065 - 8168 (print)
ISSN 2068 - 2077 (online)