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THE COOPERATIVE AND THE CIRCULAR ECONOMY: EMBRACING COLLABORATION TOWARDS SUSTAINABILITY

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Abstract

The article investigates how cooperatives and the circular economy complement each other, highlighting their relevance in building a sustainable future. By integrating circular economy principles into cooperatives, sustainable resource management and opportunities for development are fostered. Cooperatives, with their collaborative nature and focus on member interests, provide an ideal framework for implementing circular economy practices. They promote efficient resource collection, reuse, and recycling, reducing environmental impact and dependence on finite resources. Collaboration among cooperative members, local communities, and other stakeholders facilitates knowledge exchange and resource sharing, vital for circular economy implementation. The article also highlights key aspects of this collaborative approach. The collaboration between the members of the cooperative, the local community and other interested entities contributes to the exchange of knowledge, experiences and resources necessary for the implementation of the circular economy. By joining forces, these key participants can develop innovative initiatives and projects that deliver economic, social and environmental benefits. Finally, the authors emphasize the importance of promoting and supporting cooperatives within the circular economy model. By promotion of collaboration and creation of an enabling environment for the development of circular economy-oriented cooperatives, a sustainable future can be constructed, where resources are managed efficiently, waste is minimized, and communities develop in a sustainable way.

Keywords*: cooperative, circular economy, sustainability, Sustainable Development Goals, recycling, environmental challenges*

1. Introduction

Cooperatives, as organizations that are based on strong values and principles, represent a sustainable and participatory type of business. They take responsibility for their members and the communities in which they operate, embracing a holistic approach for an economic and social development.

One of the key principles of cooperatives is concern for community and sustainable development. These organizations aim to provide solutions and address social, economic and environmental challenges through their activities. Also, they encourage the responsible use of resources, promote ethical business practices and focus their efforts on sustainable growth and long-term prosperity. The development strategies of cooperatives globally reflect their commitment to sustainability and participation. These strategies aim to promote and strengthen cooperative models in different sectors and fields of activity.

Thus, *A People-Centered Path for a Second Cooperative Decade. The 2020-2030 Strategic Plan* (adopted in 2020) [12, p. 6] is a continuation of *The first Blueprint for a Co-operative Decade initiative. 2020 Vision*, which was adopted in 2013 [13]. This strategic plan expands the development vision of cooperatives and sets clear goals for the next decade.

One of the main objectives of this strategic plan refers to the cooperative business model in order to become a recognized leader in promoting economic, social and environmental sustainability and address environmental and social responsibility challenges.

At the same time, cooperatives have a significant impact in multiple fields and are found in almost all areas proposed by the *Sustainable Development Goals* (SDGs) established by the United Nations [18]. They help reduce poverty, stimulate economic growth, promote gender equality, ensure access to health and education, promote sustainable energy, lead responsible consumption and production, among others. Therefore, the actions of the Strategic Plan for the period 2020-2030 are strongly linked to the Sustainable Development Goals, with a special focus on the 12th goal - Responsible consumption and production.

This connection between cooperatives and the SDGs underlines the importance of cooperatives in the process of addressing global challenges and promoting a responsible consumption and production model. Cooperatives assume the role for promoting sustainable practices in terms of resource use, waste management, environmental protection and responsible consumption. They encourage innovation and the development of sustainable business models that ensure a balance between economic, social and environmental aspects.

Thus, the *Strategic Plan 2020-2030 - A people-centered path for the second cooperative decade* [8; 9], represents a distinct trajectory for cooperatives for the upcoming period, focused on fostering sustainable and responsible growth. Through the implementation of this strategic plan and proactive collaboration with various organizations and institutions, cooperatives aim to become leaders in the field of economic, social and environmental sustainability, contributing to building a more sustainable and fairer future for all [8; 9].

2. The degree of investigation of the problem currently, and purpose of research

The role of cooperatives in building a sustainable future is paramount. The achievements of cooperatives in sustainability are intrinsically linked to existing theoretical frameworks and practical applications. Scholars and practitioners have provided valuable insights into cooperative models, governance structures, and cooperative principles that contribute to sustainable results. Based on this work, our research endeavors to enhance knowledge and comprehension of cooperative practices that drive sustainable development, but also, a sense of purpose and belonging.

Furthermore, the relationship between existing results in theory and practice will be explored, by determining how our research aligns with these advancements.

In our research, we have examined the impact of cooperatives in building a sustainable future. Thus, cooperatives play a vital role in promoting sustainability across different sectors. Through their collaborative and inclusive nature, cooperatives have demonstrated their ability to implement sustainable practices effectively. They actively engage members, stakeholders, and communities in decision-making processes, fostering a sense of ownership and responsibility towards sustainable development. In the majority of countries, there exists national legislation regulating the activities of cooperatives, and sometime, legislation for particular types of cooperatives, for example, agricultural, consumer, health, insurance, banking. Furthermore, each cooperative organization, regardless of their location, is obliged to adopt its own internal statutes or other such document such as the articles of association which establish all aspects of the cooperative's functioning, including the abiding by and implementation of the cooperative principles, values, ethics, with a particular focus on member benefits and social responsibility. This regulatory framework is one of the distinctions between a cooperative organization and other legal entities.

The article aims to emphasize the significant contribution of cooperatives in promoting the circular economy and building a more sustainable society. It accomplishes this goal by showcasing examples of sustainable practices and demonstrating the positive impact of cooperatives in this field. Case studies and empirical analysis have shown that cooperatives excel in resource management. By adopting principles of the circular economy, cooperatives optimize resource utilization, minimize waste generation, and promote efficient recycling and reuse principles, all the while engaging consumers, members and citizens at large towards a shift to more responsible and sustainable consumption patterns and healthy lifestyles.

3. Applied methods and materials

Within the process of research, a comprehensive review of the existing literature on cooperatives, circular economy, and sustainable practices was conducted. Extensive research was undertaken to gather a wide range of information and insights. Furthermore, the success stories of numerous cooperatives that have implemented sustainable practices to promote the circular economy were carefully analyzed.

To ensure a robust analysis, data and information from diverse sources were collected and analyzed by means of: examining case studies, relevant statistics, and other representative resources.

The synthesis of the gathered information allowed to highlight the crucial role of cooperatives in promoting the circular economy. By integrating diverse sources and examples, the article aims to provide readers with a strong understanding of the topic and emphasize the positive impact that cooperatives have in building a more sustainable perspective.

4. Results obtained and discussions

Cooperatives represent a specific type of organization where human principles are prioritized over profit. They are defined, according to the International Cooperative Alliance (ICA), as autonomous associations of persons voluntarily united to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise [14]. Thus, cooperatives possess a dual nature, which combines the economic and social components, thus ensuring a balance between economic activities and social concerns.
Synthesizing various information regarding the role of cooperatives in society and the economy, we can conclude that *these forms of business exercise a complex function and have an important role:*

- Promoting participation and involvement of members: cooperatives encourage the active and responsible participation of individuals in economic processes, developing the spirit of initiative and responsibility. Due to the principle of economic democracy, members are given the opportunity to make decisions and actively participate in management processes [15].
- Stimulating local economic development: Cooperatives support local entrepreneurship, small and medium-sized businesses, contribute to economic growth and job creation, as well as promote local production and consumption [6].
- Improving the living conditions and well-being of members: Cooperatives have the capacity to engage in various sectors such as food, housing, healthcare, renewable energy, education and more. By ensuring the satisfaction of fundamental necessities, cooperatives actively contribute the growth of the overall well-being and quality of life for individuals within the community.
- Promotion of ethical values and social responsibility: Cooperatives' activity is based on ethical principles and social responsibility, thus proving sustainable benefits to members and the community as a whole by acting in an ethical and responsible manner in relation to employees, customers, the environment and society at large.
- Creating and strengthening communities: Cooperatives promote solidarity, collaboration and building strong social relationships, contributing to social cohesion and the development of sustainable communities.

Overall, based on the above, we can conclude that cooperatives bring significant value to society and the economy, promoting fundamental principles such as solidarity, equality, democratic participation and sustainability.

The system of cooperatives is considered one of the most numerous and organized economic-social systems in the world. According to the data provided by the International Cooperative Alliance (ICA), approximately 3 million cooperatives are registered globally [16]. This substantial number shows the extensive impact these organizations exercise on the global economy and the communities in which they activate.

Also, it is important to mention that about 12% of the world's population is a member of a cooperative [16]. This serves as the basis to state that cooperatives attract a significant number of members and that people are actively involved in these organizations.

Cooperatives also provide employment opportunities for approximately 10% of the employed population [16]. This makes us state that cooperatives play a key role in creating and maintaining jobs, thereby helping to boost local economies and increase the well-being of community members.

These statistics show us the significant contribution of cooperatives to the economy and society, highlighting their importance in terms of sustainable development, economic growth and improving the living conditions of community members.

The size of cooperatives at the European level is also impressive. According to data provided by Cooperatives Europe, the organization representing cooperative interests in Europe, 141 million members, 4.7 million employees and 180,000 businesses are members of this organization. These figures once more demonstrate the scale and importance of these organizations in the European economic and social landscape.

Cooperatives in Europe have a significant impact on economic activities, sustainable development, innovation and social cohesion in territories. They help generate economic activities and stimulate economic growth in various sectors such as agriculture, industry, services and others. Through cooperatives, principles such as sustainability, social responsibility and democratic decision-making are promoted, which contribute to sustainable development and strengthening community cohesion.

The cooperative is not only an efficient economic model, but also a catalyst for development and progress in Europe, an engine of innovation, opening up new business avenues, promoting advanced technologies, and addressing social and environmental challenges. Through their active involvement and commitment to cooperative values, these organizations contribute to building a more equitable, sustainable and inclusive society [1].

Recognizing the importance and role of cooperatives on a global level, *the United Nations Organization (UN) declared 2012 - the International Year of Cooperatives.* This initiative aimed to promote and support cooperatives around the world and highlight their significant contribution in multiple fields.

The actions promoted globally, regionally, nationally and locally during the International Year of Cooperatives emphasized the role of cooperatives in economic development, in ensuring financial stability and in enhancing the well-being of members.

Thus, by promoting the universal values of solidarity, equality and cooperation, the cooperative has become an economic and social model that emphasizes the needs of members and sustainable development. The International Year of Co-operatives highlighted that the co-operative can play a key role in addressing global challenges such as climate change, poverty, inequality and sustainable development as a result of the cooperatives' contribution in creating jobs, promoting social inclusion, providing essential services and developing local communities.

At the same time, the cooperative was recognized as an essential partner in the implementation of the 2030 Agenda for Sustainable Development of the UN, contributing to the achievement of the Sustainable Development Goals.

Thus, the International Year of Cooperatives reinforced the belief that the cooperative can constitute a powerful tool for building a more sustainable and equitable future through local actions and the active involvement of community members.

In sustainability, the change of the traditional paradigm of linear production and consumption through a more efficient, regenerative and sustainable system will occur by adopting the principles of the circular economy.

The circular economy represents a fundamental economic concept in sustainable development, with the objective of using resources efficiently and minimizing the impact on the environment through a continuous cycle of production, consumption and reuse. In this context, cooperatives can play a key role in promoting the circular economy and building sustainable communities.

For the first time, the definition of the circular economy was formulated by the *Ellen MacArthur Foundation*, which is a non-profit organization that actively promotes the transition to a circular economic model. Thus, the Ellen MacArthur Foundation defines the circular economy as a regenerative system in which resources are used and reused efficiently, in this way replacing the traditional model of linear production and consumption [7].

The circular economy is based on principles such as reducing, reusing, recycling and regenerating resources, which is in contrast to the traditional linear economy model where resources are extracted, used once, and disposed of.

By adopting the principles of the circular economy, cooperatives can contribute to the efficient use of resources and as a result to the minimization of the impact on the environment. For example, cooperatives can develop waste collection and recycling projects, promote the exchange of goods and services between members, or implement business models based on rental, repair and reuse activities [19]. For the cooperative to become a catalyst for sustainable development, it is essential that each member of the cooperative system changes their attitude and consumption behavior. Thus, members should be aware of the impact of their own choices and adopt responsible consumption practices.

By involving the community in the cooperative's activities, members and consumers can become more educated in terms of the circular economy principles and sustainable practices. In this regard, the cooperative can constitute a place where members and the community learn and adopt responsible consumption habits, such as reducing waste, purchasing sustainable products, or participating in resource exchange and redistribution schemes [5]. Thus, through training programs and awareness campaigns, the cooperative can promote behavioral changes and encourage active involvement in sustainable practices.

As a result of partnerships and collaborations with other organizations and enterprises engaged in circular economy activities, cooperatives can benefit from the expertise as well as necessary resources needed to develop a cooperative ecosystem that promotes sustainable practices and models [22].

As the principal entities within social economy, occupational policies, and inclusion initiatives, cooperatives hold a crucial position in actively participating and making significant contributions to the advancement of the circular economy, thanks to the following:

- the harmonious combination of economic and social activities for the benefit of its members and communities;
- the activity is based on principles, values and ethics that prioritize generally human values; omnipresence on the geographical dimension (local, regional, international);

- the diversity of economic activities, covering the most varied fields of activity (production, agriculture, trade, financial sector activities, pharmaceutical, renewable energy, etc.), as well as social ones (education, employment, concern for the community);
- diversity of types of cooperatives (producer cooperatives; consumer cooperatives; labor cooperatives; cooperatives with multiple stakeholders) etc. [17].

We believe that the implementation of circular economy principles within cooperatives would bring enormous potential for sustainable development. By adopting a continuous cycle of production, consumption and reuse, cooperatives have the capacity to diminish reliance on finite resources, mitigate environmental impact, and advocate for the efficient utilization of available resources. This can lead to cost savings, increased efficiency and generate competitive advantages for cooperatives.

The role of cooperatives in promoting circularity and sustainable development is recognized at international and European level, and there are global policies that support their development. The following documents can be considered as relevant examples of policies in this regard:

1. *The UN Resolution "Cooperatives in Social Development"* of 2021 emphasizes the great role of cooperatives in promoting a fair transition to the circular economy and recommends that governments support cooperatives as sustainable and successful enterprises that directly contribute to the creation of decent jobs, the eradication of poverty and hunger, education, social protection and the enhancement of the capacity of all types of cooperatives [24].
2. Through the *Resolution "Promoting the social and solidarity economy for sustainable development"* of 2023, the UN encourages member states to promote and implement national, local and regional strategies, policies and programs to support and strengthen the social and solidarity economy (SSE), in which cooperatives are a key actor [25].
3. *A new Circular Economy Action Plan for a cleaner and more competitive Europe* (2020) is an important initiative announced by the European Commission, which aims to promote sustainable consumption, optimize the value chains of key products and prevent waste throughout the life cycle product life. The plan aims to preserve the resources used in the EU economy for as long as possible [8].
4. The European Commission, through "*Building an economy that works for people: an action plan for the social economy*" (2021), provides a framework until 2030 to support the development of the social economy by means of cooperatives. Through this support framework, cooperatives can benefit from assistance and resources to develop and implement circular practices and strengthen their role in promoting a more sustainable and social economy [9].
5. The communiqué entitled "*Making the most of the social economy's contribution to the circular economy*", published by the EU and the OECD in 2022, recognizes that the social economy has played a pioneering role in the adoption of circular practices and sustainable business models of over the decades. Thus, decision-makers are recommended to support cooperatives and other social economy entities that are active in adopting the circular economy principles, by encouraging innovation, facilitating access to finance, conducting public procurement from social economy entities,

promoting collaboration between social economy organizations, public actors and businesses traditional, as well as supporting the increase in the professional qualification of employees [20].

Thus, analyzing the policy documents, we observe that the role of cooperatives in promoting the circular economy is recognized and appreciated at the European level.

We strongly believe that by adopting business models based on circular principles, cooperatives can contribute to maintaining the value of products and materials for as long as possible, thus reducing the amount of waste generated. This transition to the circular economy will bring many benefits for citizens and will improve the quality of life.

For example, through the waste collection and recycling initiatives, cooperatives could contribute to waste prevention and efficient resource management. The development of business models based on rental, repair and reuse will result in life extension of products and overconsumption reduction.

Also, by promoting the purchase of sustainable products and participating in resource exchange and redistribution schemes, cooperatives can encourage responsible consumption habits. This can be achieved through educational and awareness campaigns of the impact that consumer choices have on the environment and society.

Thus, cooperatives can promote the purchase of sustainable products, which are manufactured with recycled or renewable materials and have a low impact on the environment during their life cycle. Through these practices, cooperatives can encourage members and the community to adopt responsible consumption oriented towards more durable and sustainable products.

Cooperatives can also facilitate participation in resource exchange and redistribution schemes. Arguing the above, we believe that by implementing the principles of the circular economy, cooperatives will contribute to the creation of a more sustainable and efficient economy through *various strategies and actions*, such as:

– Cooperatives can encourage members to promote durable products that have a long-life cycle and which require fewer resources for their manufacturing.
– Resource sharing among members such as vehicles, equipment, workspaces. This will result in the reduction of individual consumption and will optimize the use of the existing resources.
– Cooperatives can develop programs to collect and recycle products and materials so that they can be reused or transformed into new products. Also, in order to facilitate the exchange of goods between members, repair centers could be organized.
– Cooperatives can offer rental or leasing services for members instead of purchasing their own goods.

Therefore, through the implementation of these principles and strategies, cooperatives have the potential to generate additional benefits for their members, the community, and the environment. And the development of a cooperative business model based on the principles of the circular economy will not only contribute to the resilience of the cooperatives' sector, but will also foster the advancement of a more inclusive and environmentally friendly economy across society.

In arguing of the above mentioned, relevant are the results of a study from Quebec in the *TIESS Économie sociale et économie circulaire research project,* which investigated the interconnections of the circular economy and the social economy. This study examined various organizations within the social economy in form of associations, cooperatives, mutual societies, social enterprises, etc. These results presented important findings in supporting the arguments presented above. [27].

This study investigates the relation between cooperatives and the circular economy, analyzing preferred strategies and business models, as well as cooperative needs in relation to the circular economy. By gaining insights into these aspects, it enables the development of an action plan framework to support cooperatives in their engagement to promote circular economy principles. By examining 26 social enterprises in Quebec, the project successfully identified eight distinct business models employed by social enterprises in the circular economy [27].

These models include developing, manufacturing and selling products made from reclaimed materials, coordinating the sharing of tools and products within a community, sorting and packaging clothes, furniture and other goods for resale, providing waste management services to put them back together available through sale or donation, repairing products to extend their life, recovering materials considered "waste" to transform them into new products, providing industrial services by creating new products from waste, and providing citizens with access to tools and training to repair and manufacture products in a workshop.

Although the TIESS project did not specifically explore business models in relation to cooperatives and the circular economy, a survey conducted by CQCM of cooperative federations in Quebec revealed a latent interest among them in integrating the circular economy into their future action plans. It was found that cooperatives can pursue multiple strategies and business models, and the level of adoption of these strategies and models varies among preliminary, pilot, and well-established cooperatives.

There is significant potential for cooperatives to play an important role in promoting the circular economy. By leveraging existing resources, cooperatives can help reduce waste and increase sustainability, while generating positive social and economic impact in their communities. However, cooperatives face obstacles such as lack of financial and human resources, and the involvement of members is essential to move towards the circular economy.

The model proposed by the authors within the TIESS project is presented in figure 1.

In fact, there is mutual integration between circular business models and cooperative business models [11]. Cooperative models are intrinsically linked to the principles of the social and sustainable economy, which align perfectly with the principles of the circular economy.

Cooperatives already have a social and community orientation, and adopting circular business models allows them to become even more economically and environmentally sustainable. Through practices such as recycling, reusing, sharing and repairing, cooperatives can actively contribute to reducing waste and conserving resources, while promoting the development of local communities.

At the same time, circular business models can benefit from the involvement of cooperatives, as they bring with them expertise in democratic governance, active member participation and accountability to the community. Cooperatives can help build a more democratic and inclusive circular economy, where decisions are made collectively and benefits are shared fairly.

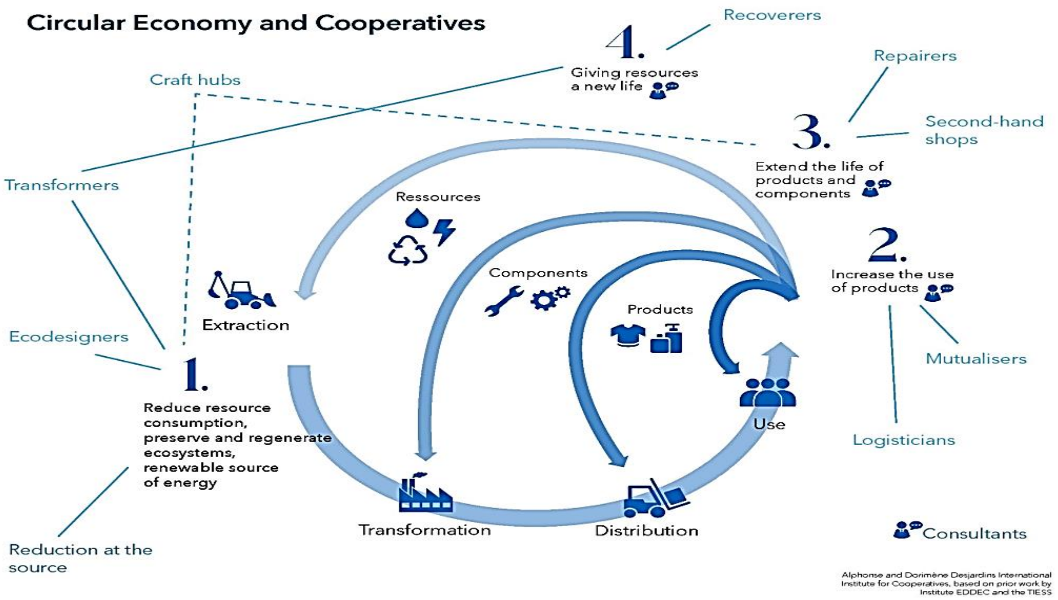

Figure 1. Circular Economy and business models of cooperatives

Source: [27]

By integrating circular business models and cooperative business models, a strong synergy can be achieved where economic, social and ecological benefits complement each other. Cooperatives can add value to the circular economy through active member involvement, local connections and commitment to sustainability. At the same time, circular business models can support the growth and development of cooperatives by generating sustainable business opportunities and creating partnerships with other entities in the circular sector.

Thus, the integration of circular business models and cooperative business models can lead to a powerful combination where the principles of the social and sustainable economy merge with the objectives of the circular economy, contributing to building a more sustainable, inclusive and prosperous society.

The implementation of circular economy principles in cooperatives has been carried out in various countries around the world and has had significant results in promoting sustainable development and sustainable business. Here are some relevant examples:

Coopérative Pointcarré in Belgium has implemented a circular business model in fashion. They collect used clothes, repair and refurbish them, then offer them for sale in their own shop. This model promotes the sustainable use of clothes and reduces waste in the textile industry [2].

Cooperativa Integral Catalana in Spain has as its main objective the construction of an alternative and sustainable economy. They implement recycling, composting and resource reuse practices to create a more sustainable and resilient community. Some examples of activities carried out by CIC are [3]:

- ♣ Recycling: CIC facilitates the collection and recycling of various types of waste, including paper, glass, plastic and metal. These materials are processed responsibly and reintroduced into the value chain, thus reducing the need to extract new resources and minimizing the impact on the environment.

- ♣ Composting: The cooperative promotes composting practices among the community. This involves collecting organic waste, such as vegetable and fruit scraps, and then turning it into high-quality compost. The compost obtained is later used to fertilize gardens and agricultural land, thus replacing chemical fertilizers and contributing to the creation of a sustainable cycle of resources.
- ♣ Reuse: CIC promotes the reuse and repair of products to extend their life. They encourage the community to donate used items and furniture, which they refurbish and put back into circulation. This reduces the amount of waste generated and promotes the principle of circularity, where resources are used efficiently and sustainably.

Les Amis de la Terre - a French cooperative focused on promoting the circular economy in the construction sector. They develop energy renovation projects for buildings, using recycled and sustainable materials to reduce energy consumption and minimize environmental impact [4].

The Food Assembly - a cooperative platform present in several European countries, including Belgium, the Netherlands and the United Kingdom, which facilitates direct sales between local producers and consumers. This promotes local consumption and the reduction of packaging and transport associated with conventional supply chains [23].

These examples demonstrate that different case studies of cooperatives were able to successfully implement circular economy principles in different sectors and industries.

Figure 2 presents a model (elaborated by us) that outlines the integration of sustainable practices within cooperatives. Thus, *the implementation of sustainable activities within the cooperative is possible to be achieved through the following measures*:

a) To mitigate the environmental impact, cooperatives should conduct a comprehensive estimation of their activities in terms of waste management, efficient resource consumption, greenhouse gas emissions.
b) One of the most important measures for a cooperative is the transition to renewable energy sources. For example, the installation of solar panels or wind turbines on buildings can reduce dependence on polluting energy sources and reduce the carbon footprint.
c) The cooperative should encourage members to use efficiently energy. This may involve installing more energy-efficient equipment and energy-saving practices.
d) The cooperative should implement an effective waste management system that would promote recycling and composting. This should involve the creation of the separate waste collection infrastructure - separate containers for different types of waste. Also, an important aspect is educating members to recycle and separately collect waste.
e) It is recommended for the cooperative to encourage its members to use sustainable means of transport, such as bicycles or public transport through carpooling or ride-sharing programs.
f) The cooperative can support local producers and farmers who practice sustainable agriculture. For this, the organization of local producer fairs is encouraged, as well as selling local products in cooperative stores.

g) Cooperatives should collaborate with various organizations and institutions to develop and implement sustainable initiatives. This may result in partnerships with non-governmental organizations, local authorities, universities or other cooperatives that share the same sustainability goals.

h) Cooperatives have a unique opportunity to contribute to the collection of secondary raw materials from the population due to their close ties and engagement with local communities. By expanding their cooperative networks, outreach efforts, and member participation, cooperatives can establish effective systems for collecting, recycling, and repurposing secondary raw materials, thus promoting sustainability and resource conservation.

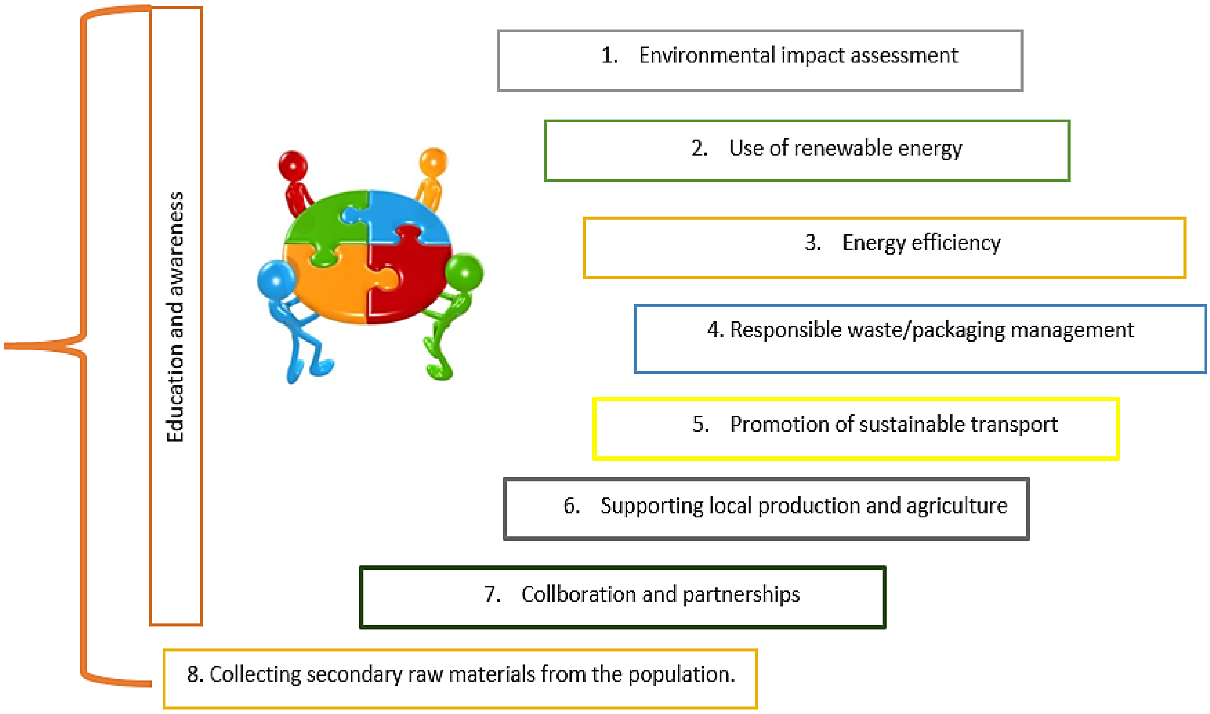

Figure 2. Framework for Implementing Sustainable Practices in Cooperatives

Source: elaborated by authors

A special role is given to education and awareness measures, because through education and awareness, cooperative members can better understand the impact of their actions on the environment. Cooperative members should be aware of the benefits that sustainable activities bring, not only to the environment, but also to the community and the local economy. These benefits may include reducing energy costs, improving public image and attracting new customers interested in sustainability.

Cooperatives can organize training sessions and workshops to teach members sustainable techniques and practices. These may include training in energy efficiency, waste management practices, organic farming techniques, or other relevant skills. The awareness campaigns among members of community may include the distribution of informative materials, the organization of themed events or interactive activities that draw attention to environmental and sustainability issues. These measures can help create a more sustainable cooperative that reduces environmental impact and promotes a more sustainable way of life.

Their implementation requires commitment and involvement from cooperative members, but can bring long-term benefits, both for the environment and the local community.

5. Conclusions

Cooperatives play a vital role in promoting the circular economy by implementing sustainable practices, fostering innovation and design for longer product life cycles, engaging members and communities in circular practices, and creating sustainable jobs. These contributions are crucial in transitioning towards a more sustainable economic model that prioritizes resource efficiency, waste reduction, and environmental impact minimization.

Cooperatives have the potential to drive systemic change through policy advocacy and collaboration with all major stakeholders – economic operators, non-government associations, academia, consumer groups, policymakers, and consumers themselves. By actively supporting and advocating for favorable regulations and policies that incentivize circular practices, cooperatives can create an enabling environment for the broader adoption of circular economy principles across sectors.

Therefore, cooperatives have the potential to pioneer the adoption and promotion of circular economy principles, particularly in countries that have demonstrated a commitment to advancing sustainability.

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Rezumat

Articolul investighează modul în care cooperativa și economia circulară se completează reciproc, evidențiind relevanța lor în construirea unui viitor sustenabil. Prin integrarea principiilor economiei circulare în cooperative, se promovează gestionarea durabilă a resurselor și oportunități de dezvoltare. Cooperativele, datorită naturii lor colaborative și concentrării pe interesele membrilor, oferă un cadru ideal pentru implementarea practicilor economiei circulare. Ele promovează colectarea eficientă a resurselor, reutilizarea și reciclarea acestora, reducând impactul asupra mediului și dependența de resurse finite. Colaborarea între membrii cooperativelor, comunitățile locale și alte părți interesate facilitează schimbul de cunoștințe și partajarea resurselor, vitale pentru implementarea economiei circulare. Articolul evidențiază, de asemenea, aspectele cheie ale acestui abordări colaborative. Colaborarea dintre membrii cooperativelor, comunitatea locală și alte entități interesate contribuie la schimbul de cunoștințe, experiențe și resurse necesare pentru implementarea economiei circulare. Prin unirea forțelor, acești participanți cheie pot dezvolta inițiative și proiecte inovatoare care aduc beneficii economice, sociale și de mediu. În cele din urmă, autorii subliniază *importanța promovării și sprijinirii cooperativelor în cadrul modelului de economie circulară. Prin promovarea colaborării și crearea unui mediu favorabil dezvoltării cooperativelor orientate spre economia circulară, se poate construi un viitor sustenabil, în care resursele sunt gestionate eficient, deșeurile sunt minimizate și comunitățile se dezvoltă într-un mod sustenabil.*

***Cuvinte-cheie**: cooperativă, economie circulară, sustenabilitate, Obiectivele de Dezvoltare Durabilă, reciclare, provocări de mediu*

Аннотация

В статье исследуется, как кооперативы и экономика замкнутого цикла дополняют друг друга, подчеркивая их значение в построении устойчивого будущего. Интегрируя принципы экономики замкнутого цикла в кооперативы, поощряется устойчивое управление ресурсами и возможности для развития. Кооперативы и их совместный характер и ориентация на интересы участников обеспечивают идеальную основу для внедрения экономики замкнутого цикла в практике. Они способствуют эффективному сбору, повторному использованию и переработке ресурсов, уменьшая воздействие на окружающую среду и зависимость от ограниченных ресурсов. Сотрудничество между членами кооперативов, местными сообществами и другими заинтересованными сторонами способствуют обмену знаниями и совместному использованию ресурсов, что жизненно важно для внедрения экономики замкнутого цикла. В статье также освещаются ключевые аспекты такого совместного подхода. Сотрудничество между членами кооперативов, местным сообществом и других заинтересованных лиц способствуют обмену знаниями, опытом и ресурсами, необходимыми для внедрения экономики замкнутого цикла. Объединив усилия, эти ключевые участники могут разрабатывать инновационные инициативы и проекты, которые приносят экономические, социальные и экологические выгоды. Наконец, авторы подчеркивают важность продвижения и поддержки кооперативов в рамках модели экономики замкнутого цикла. К продвижению сотрудничества и созданию благоприятных условий для развития экономики замкнутого цикла кооперативов, можно построить устойчивое будущее, где ресурсы управляются эффективно, отходы сводятся к минимуму, и сообщества развиваются устойчивым образом.

***Ключевые слова:** кооперативы, экономика замкнутого цикла, устойчивость, Цели устойчивого развития, переработка, экологические проблемы*

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CONCEPTUAL APPROACHES CONCERNING WINE TOURISM

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Abstract

The topic of scientific interest of the authors is the research of conceptual approaches regarding wine tourism.

The purpose of this research is to elucidate the concepts and generalities regarding wine tourism. The concepts of wine tourism have been formed along with its evolution, and the defining aspects have varied according to the professional opinions of tourism specialists. Understanding the concept of wine tourism cannot be separated from the general concepts of tourism, tour, tourist, visitor, traveler, excursionist. At the same time, special attention is paid to revealing the features of wine tourism and its classification according to different aspects. The presented study is based on the official positions of International and National Tourism Organizations, legislative and normative acts, as well as views of foreign and domestic researchers.

The present study was carried out based on the following scientific research methods: analysis, synthesis, comparison, grouping, systematization, etc.

The authors' conclusions relate to the presentation of their own definitions of the examined concepts, as well as the scientific novelty regarding the elucidation of the features of wine tourism.

Keywords*: tourism, tour, visitor, tourist, excursionist, wine tourism*

1. Introduction

Wine tourism is a relatively new form of tourism. Its history varies greatly from one region to another. Globally, wine tourism is a profitable industry, although it only appeared a few decades ago, it can be confirmed that it is on the rise. Wine tourism is the link between customers and producers, and this phenomenon satisfies both parties.

Wine tourism in the Republic of Moldova occupies an important segment in the country's tourism. Investments in wineries and the state's initiative to register the Republic of Moldova on the map of European wine tourism have led to the creation of itineraries that allow visiting numerous areas and wineries. The tourist potential of the Republic of Moldova also derives from the agricultural specifics. In recent years, wine tourism in the Republic of Moldova has registered a massive evolution, and the number of foreign tourists has been increasing. This phenomenon was also appreciated internationally and was confirmed by the organization of the third edition of the World Wine Tourism Conference in the Republic of Moldova in 2018.

The wine companies in the Republic of Moldova produce wines of high quality. This fact is confirmed by the awarding of distinguished international prizes to various wine products. Moldovan wine products are in demand on the EU market, which contributes to the sustainable development of both the wine sector and wine tourism. The Republic of Moldova is among the top 10 wine exporting countries in the world, accounting for 7.5 % of the country's total exports [11].

The scientific approach of the present research will include the study of both the concepts of tourism in general and wine tourism in particular.

At the first stage of the research, the authors will examine the official international and national discussions, the approaches presented in scientific debates by different researchers regarding the notions of tourism, tour, inbound and domestic tourism. In the same way, the notions of visitor, tourist, traveler, excursion, explorer, which are very close in terms of content, but still have essential differences, will be investigated.

At this stage of the research, the own definitions of the researched notions will be presented, which in our opinion will express more complex definitions.

At the second stage of the research, the authors will identify the already existing definitions of wine tourism and the authors' own definition of this type of tourism will be presented. At this stage, the notions of wine tourism will be grouped according to two approaches. At the same time, the specific features of wine tourism will be elucidated, the purpose, motivation or purpose of visiting wine businesses, the offer or services regarding tourist products, tourist attractions, etc., in the view of the authors.

2. The degree of investigation of the problem at the present time, the purpose of the research

At the present time, debates regarding different concepts related to the terminology used in tourism are highlighted by the official positions of the governmental international tourism organizations (the World Tourism Organization - hereafter UNWTO) Travel Agencies, the International Tourism Alliance and the International Automobile Federation (FIA), the International Federation of Thermalism and Climatology (FITEC), the International Federation of Tourism Writers and Journalists (FIJET), the International Academy of Tourism (AIT), the World Federation of Chefs and Confectioners, the International Organization of Cable Carriers (OITAF), the International Bureau of Social Tourism (BITS), etc.) and local (the National Agency for Inbound and Internal Tourism of Moldova (ANTRIM), the National Office of Vine and Wine (ONVV), The National Association of Economic Tourism Agents of Moldova (ANAT), the Association of Tourism Development in Moldova (ADTM), the National Association of Rural, Ecological and Cultural Tourism of Moldova (ANTREC Moldova), the Employers' Association of the Tourism Industry of the Republic of Moldova (APIT), Cheia satului, etc.), international and local legislative and normative acts, extensively studied by various local, Romanian and foreign researchers such as Bacal Petru, Cocoș Iacob [1], Bogan Elena, Simon Tamara [2], Tomescu Veronica [16], Miron Viorel, Guțui Viaceslav and others [10], Platon Nicolae [12], Soare I. [13], Brown G., Getz D. [3], Gîrneț Slavic [5], Hall M., Shaples L. , Cambourne B., Macionis N. [7], Sparks B. A., Roberts L., Deery M., Davies J., Brown L. [15], etc. and the authors of this research.

Until now, the notions of tourism, recreation, travel, tour, tourist, visitor, excursionist, types of tourism, wine tourism have been widely discussed. At the same time, we mention that the analysis of the research carried out so far allows us to find that the studies related to the conceptual approaches regarding wine tourism are not carried out thoroughly.

The authors of the current research examine the notions identified regarding tourism in general and wine tourism in particular, in order to present some own notions related to the previously presented definitions.

The problem identified in the research process concerns the establishment of concepts applied in tourism and specifying the appropriate terms for wine tourism research.

The purpose of this research is to identify the main approaches related to wine tourism, such as: the definition of wine tourism and its classification, the features of wine tourism, the purpose of the wine tourism branch, the services offered by wine tourism.

3. Applied methods and materials

The present study was carried out based on the following scientific research methods: analysis, synthesis, comparison, grouping, systematization, etc.

With the help of the analysis method, the investigation of the definitions addressed by the official positions of the tourism organizations, the legislative and normative acts in force, as well as the debates of different authors who researched the presented field was carried out.

The synthesis method, based on the transition from the particular to the general, from the simple to the compound, in order to reach the generalization, was applied in order to present some of the authors' own definitions regarding tourism.

The comparison method allowed us to examine two or more definitions related to the examined terms in order to establish the similarities and differences between them.

The grouping method allowed us to classify the notions of wine tourism into two large groups of approaches:

– based on the product and purpose of the tourist offer;
– based on the role of wine tourism in promoting the tourist attractions of the Republic of Moldova.

The systematization method was applied in order to arrange according to a certain system the researches already carried out and to present the own results of the research in question.

4. Results obtained and discussions

4.1. Conceptual approaches regarding tourism

The tourism branch, in fact like any activity, has its origin. According to some sources, the notion of "tour" appeared around the 1700s and has its origin in England, being used to denote the action of traveling in Europe. This English term was first used to denote the young British aristocrats who were preparing for political and diplomatic careers. In order to complete their education and culture, they toured the countries of Europe for three years. The first travel guide Le Grand Tour (1778), author Thomas Nuguent, also appeared for them. The word "tour" in the sense of travel, walk or circuit, also appeared early in the French language, being later taken over and spread all over the world [5, p. 4].

The encyclopedia Wikipendia reveals that the researcher Theobald (1994) suggested that etymologically, the word "tour" derives from the Latin language (pouring) and from the Greek language (tornos), with the meaning of circle - movement around a central point or a axis. Taken into English the word "tour" took on the meaning of the action of moving in a circle. The word "tour" represents a round trip and the suffix "ism" is defined as "an action or process." Therefore, we conclude that tourism is actually a travel activity, and the one who undertakes such a trip is called a tourist [17].

The explanatory dictionary Dex-online [18] defines tourism as follows:

- all the relationships and phenomena that result from the movement and stay of people outside their place of residence (such as spending a vacation or rest leave, participating in various events, etc.);
- activity of a recreational or sporting nature, consisting of traveling some distances on foot or with different means of transport, to visit picturesque regions, towns, cultural, economic, historical objectives, etc.;
- service provider activity that deals with the organization and conduct of leisure and recreation trips or for other purposes.

According to the author Bran F., tourism represents "the art of traveling for pleasure". The same author believes that tourism is "the leisure activity that consists of traveling or living far from the place of residence, for fun, rest, enriching the experience and culture due to the knowledge of new human aspects and unknown landscapes" [17].

Considered a phenomenon of modern times, the definition of tourism has been manifested since the year 1600. In 1883, in Switzerland, a first official document refers to hotel activity, and in 1896, E. Guyer Fleuler, in the study "Contributions to a tourism statistic", defines tourism as "a phenomenon of modern times, based on the growing need to restore health and change the environment, to cultivate the feeling of receptivity to the beauty of nature, a result of the development of trade, industry and the improvement of means of transport" [1, p. 7].

In the work of the Belgian scholar Ed. Picard, "Industry of the traveler", tourism is defined as "the ensemble of organisms and their functions viewed from the point of view of the one who travels, of the traveler himself, but also of those who profit from the expenses made by him" [1, p. 7].

According to Marc, tourism represents the exchange of an economic value (money) against cultural, aesthetic and recreational values [1, p. 7]. In 1940, the Swiss professor W. Hunziker developed a definition of tourism, accepted worldwide: "Tourism is the set of relationships and phenomena resulting from the travel and stay of people outside their home, as long as the stay and travel are not motivated by a permanent establishment and some gainful activity" [1, p. 7].

An interesting approach can be found in A. Toffler", who established that "tourism is the link between the most diverse civilizations and economies and between cultures around the globe, it is the way through which humanity can change and develop, through which cultural identities can be shared, economic barriers and prejudices of any kind suppressed, is a "real therapy" [5, p. 4].

In 1981, the International Scientific Association of Tourism Experts defined tourism as private activities voluntarily selected and carried out outside the area of residence [17].

In parallel with the points of view described, the opinion was formed according to which the term "travel" could not replace the term "tourism", or the term "traveler" for the term "tourist". "Travel" is a much broader notion, which can also be understood as emigration, movement from one place to another, which have nothing in common with tourist motivations. In other words, travel has a broader meaning, including travel for any reason. Travelers will therefore be not only tourists, but also nomads, soldiers, emigrants, refugees, etc.

However, we can mention the fact that lately, also in English-speaking countries, the terms "tourism" and "tourist" have been used to a greater extent in the terminology of the field for some time. For example, the British Travel Association is now called the British Tourism Association, or, since 1970, the Canadian Travel Industry Association has become the Canadian Tourism Association, and since 1978 it has been called the Tourism Industry Association of Canada. These name changes of the profile coordinating institutions do not mean giving up the terms "travelers" or "travel", they are only considered less precise.

The lack of a conceptual standardization maintains the presence of some incongruities in the interpretation and quantification of the specific processes of the tourist market from one continent to another. Thus, in North America the term "tourism" is not only frequently substituted for the term "travel", but also often substituted for the term "recreation". Thus we identify that what in Europe is classified as tourism, in North America appears with the description of "outdoor recreation", outside the home (dwelling), or simply "recreation". This explanation is presented in the official report of the Canadian government, in which the words tourism and outdoor recreation are synonymous. For some authors these terms are even interchangeable. Therefore, travel, recreation outside the home in various ways are forms of recreation.

In the view of some researchers in the field, the terms tourism and recreation have some differences, which will be highlighted through the following reasons:

1) Tourism is associated not only with free time (rest), but also with work-related travel (business, meetings, etc.). But recreation is only during free time. Indeed, business, the educational process, the practice of hobbies in free time, pilgrimages, visiting the doctor, spa treatment, visiting friends or relatives and other trips for personal purposes belong to the class of tourism, but they can hardly be associated with recreation.
2) Tourism, as opposed to recreation, involves traveling (traveling) a shorter or longer distance from home and spending the night away from home. At the same time, we note that not all forms of recreation outside the home also involve a trip from home, although they can take place in natural or suburban areas. Participants can be day-trippers or hikers. In other words, tourism is associated with overnight accommodation somewhere other than home. And the recreation takes place in one's own home or that of friends without changing residence.

3) Tourism is a clear commercial activity, a field of the economy. Recreation has, of course, commercial aspects, but insignificant ones.
4) Recreation, compared to tourism, is directed towards activities that involve special occupations (arts, hobbies, sports, practicing some vocations during free hours, etc.).

At the same time, the aforementioned researchers note that there are also common characteristics between tourism and recreation. Thus, recreation can be achieved through tourism, and tourism, in most of its forms, means recreation [20].

The National Bureau of Statistics of the Republic of Moldova establishes that tourism includes the activities carried out by people during their travels and stays outside their usual environment (usual residence), for a consecutive period not exceeding one year, for leisure purposes, for business, visiting friends and relatives, medical treatment, religion, pilgrimage [4].

In the opinion of the World Tourism Organization (abbreviation in Romanian UNWTO, and in English UNWTO), tourist activity is a form of cultural-educational and recreational manifestations of modern society. Thus, the tourist phenomenon involves the movement of people (visitors) from their place of residence to tourist attractions, places of rest and leisure, located outside their place of residence for a certain period (from 24 hours to 6 months or 1 year, depending by the provisions of the legislation in this regard). The movement of people can be for rest and leisure, therapeutic, cognitive, cultural, commercial or for various purposes. So, tourism is a complex phenomenon that includes several elements, such as: tourist resources, space, free time, way of life, accommodation infrastructure, etc.

Although the duration of the tourist stay is at least "24 hours" according to the OMT, in this research we will omit this detail when formulating the notion of tourism.

The research carried out allowed us to formulate the following definition of tourism: tourism is a form of recreation for the tourist with the purpose of spending free time according to his preferences in order to satisfy the personal needs of knowledge and exploration of a geographical space and which at the same time represents a branch of the economy regarding the provision of guiding services, accommodation, transportation, food, etc.

At the same time, the research in question allows us to mention that the authors used the term tourism also in the case of trips made by visitors

In parallel with the definition of tourism, there are discussions about the definition of the tourist, the excursionist, the visitor, the traveler, the explorer.

The terms "traveller", "explorer" and "tourist" are considered to be three closely related terms. In the past, the "traveller" was an adventurer, an individual who visited other peoples, other fairs in order to acquire knowledge about their culture, their social and material situation. He planned and arranged his journey independently and generally without being supported in any particular way by anyone else. The journeys proved to be long, arduous and risky.

The "explorer", however, goes on a journey, based on an action financed by governments or commercial companies (for example, the expeditions between the years 1420-1620 - the period of the great geographical discoveries), being well supplied materially, accompanied by other people and having the aim of to collect precious metals or stones, spices or to explore new fairs and eventually colonize them. These voyages brought new wealth, products, and opportunities to their people and nations, as well as a long-term historical and political effect on the world.

The word "tourist" is of relatively recent origin. Once, even the invader was considered a tourist, hoping to leave one day. This term appeared in the late 17th and early 18th centuries. The English, Germans and others, touring the continent, came to be known as "tourists".

For the first time the term tourist was used in 1800 by Samuel Pegge, in his work entitled "Anecdote of the English Language", in a very interesting wording: "A traveler is now - a - days called Tour-ist", ie: a traveler today is called a tourist. In France, the first to use the word tourist was Stendhal in "Memoirs of a Tourist" from 1838. And yet, despite the fact that the term "tourist" - belongs to the linguistic circuit for almost two centuries, there was still no distinct, unanimously accepted definition [20].

In 1937, on the recommendation of the Committee of Expert Statisticians of the League of the United Nations, the definition was accepted according to which the foreign tourist can be "a person who travels for a period of at least 24 hours, in another country, different from the one in which his habitual residence is located". According to this definition, tourists can be considered those who travel for pleasure (for leisure or for other health reasons, etc.), to participate in conferences, seminars (administrative, diplomatic, religious, sports), those who make business trips or who participate in cruises, even if the duration of the stay is less than 24 hours (these highlighting a separate group).

This definition has also been accepted since 1950 by the International Union of Official Organizations of Tourism (UIOOT – in 1975 when it transformed into the World Tourism Organization, the most important world non-governmental tourism organization with consultative status to the UN), which included students and pupils temporarily living abroad in the category of tourists.

For the domestic tourist, the UIOOT adopted the following definition: "any person who visits a place, other than where he has his domicile or habitual residence, within his country of residence for any reason other than that of exercising a remunerated activity and performing here a stay of at least one night (or 24 hours), can be considered as a national tourist".

Some analysts recommend replacing the term "tourist" with other terms closer to the true meaning of the reality in question, namely "traveler", "visitor" or "guest.

In 1963, the World Tourism Organization defined the term visitor in a general sense as: "any person who moves to a country other than that in which he has his habitual residence, for any purpose other than to exercise a remunerated activity in another given country". The definition of visitor is explained by two terms: tourists and hikers.

Tourists are visitors who have a stay of at least 24 hours or at least one night in the country of visit, whose reasons for traveling can be: rest, pleasure, entertainment, recreation, health, studies, religion, business, family, etc. , and excursionists are temporary visitors, whose stay is less than 24 hours in the country of visit (including cruises).

From the definitions presented at the OMT level, we notice that the emphasis in the definition of the tourist is placed on the domestic and international tourist.

In dex-online [18]:

- visitor is a person who visits a locality, a museum, an exhibition, etc.
- the tourist is the person who travels for pleasure or for the performance of professional tasks
- the hiker is the person who takes a trip, and the trip is a walk or trip made, usually in a group, on foot or with a means of transport, for instructive-educational, recreational, sports or entertainment purposes, etc.

The National Bureau of Statistics of the Republic of Moldova adopted the UNWTO vision regarding the definition of tourists and hikers. Thus, tourists are natural persons who travel to any place, other than their place of residence, for a duration of at least 24 hours and for a purpose other than carrying out a remunerated activity in the visited place, and excursionists are persons who do not spend the at least one night in a collective or private tourist structure [4].

The lack of generally accepted definitions of the terms "tourism" and "tourist" is a continuing source of frustration for tourism planners and analysts.

In our view, tourists are people who move from their place of residence to spend their free time in order to visit picturesque places and attractive leisure spaces, to have recreation and to acquire new experiences.

It is more difficult to collect information on the activities of hikers, especially since they are often not organized by a tour company. Namely, for this reason, the statistical data somehow gives us information only about tourists, although it is not excluded that sometimes hikers are also included in their composition.

It should be mentioned that although in Moldova we have wineries, which also offer accommodation, as a rule visiting the wineries is organized through excursions. At the same time, in our opinion, wine tourism can be characterized by the fact that, for the most part, the visit to the wineries is organized with the return on the same day later to the place of accommodation, both for foreign and domestic tourists.

Therefore, it is welcome to mention that the authors' research on wine tourism will use the well-known terms both globally and nationally of tourism and tourists, even in the situation where the duration regarding the tourist activity carried out by at least 24 hours and the travel from the place of residence that the accommodation entails is completely missing.

4.2. Conceptual approaches regarding wine tourism

The field of increased interest of the research in question refers to the identification of the main concepts related to wine tourism. It should be noted that the definition of wine tourism has been analyzed and formulated in national and international legislative and normative acts, dictionaries, as well as in the works of various researchers. From the very beginning it is welcome to reveal the fact that wine tourism is explained with different terms in the researched bibliographic sources. Thus, this type of tourism can be called: wine-growing, wine-growing, eno, oeno, wine-growing, wine-growing, uval, wines.

Etymologically, the term "viticole" comes from French, and the term "viticolo" comes from Italian and means belonging to viticulture. The term "oeno" comes from the Greek language and translates as - wine, and the science that deals with the study and procedures for creating, caring for and preserving wine, but also other derivatives made from grapes, is called "oenology"[7].

Etymologically, the term "viticole" comes from French, and the term "viticolo" comes from Italian and means belonging to viticulture. The term "oeno" comes from the Greek language and translates as - wine, and the science that deals with the study and procedures for creating, caring for and preserving wine, but also other derivatives made from grapes, is called "oenology"[7] .

Analyzing the definitions regarding the definition of wine tourism, we find that the approaches to its content can be conventionally classified into two large groups of approaches:

- based on the product and purpose of the tourist offer;
- based on the role of wine tourism in promoting the tourist attractions of the Republic of Moldova.

1. The first group of approaches, based on the product offered, in our opinion, is the most widespread concept regarding the definition of wine tourism. This vision, in fact, reveals the totality of the goods and services offered within this type of tourism. The approach based on the product offered by the wine enterprises can be found in the Law on the organization and development of the tourist activity in the Republic of Moldova [9], the encyclopedia Wikicro, on the promotion page of the "Wine of Moldova" brand and in the specialist literature of researchers: Hall C., Sharples L., Cambourne B., and Macionis N. [7], Miron Viorel, Guțui Veaceslav and others [10], Bogan Elena, Simon Tamara [2], Platon Nicolae [12] etc.

Next we will reveal these approaches. Thus, in accordance with art. 3 of the Law on the organization and development of tourist activity in the Republic of Moldova "wine tourism is a form of tourism practiced by tourists to visit wine regions, wine farms and wine businesses in order to combine the taste of tasting wine products with knowledge of the local lifestyle, the environment rural and cultural activities" [9].

We find the same definition on p. 3 of the National Program in the field of tourism "Wine Road in Moldova" [8]. This concludes that wine shops, exhibition centers, tasting rooms with exceptional architecture, cities and underground caverns, the diversity of production, specialized stores - represent a special potential for promoting wine tourism in Moldova, present motivations capable of placing the wine tourism product of republic in the international tourist circuit [8].

Wikicro encyclopedia states that "wine tourism, oenotourism, wine tourism, or wine tourism refers to tourism whose purpose is or includes the tasting, consumption, or purchase of wine, often at or near the source. Where other types of tourism are often passive in nature, wine tourism can consist of visits to wineries, wine tasting, vineyard walks or even actively participating in the harvest" [6].

The European Vintur Program establishes that "wine tourism is a form of homologation tourism based on the discovery of wine regions and their products, it is a form of rural tourism and agritourism, and the wine tourism product consists in the integration under a single thematic concept of resources and services tourism of interest, existing or potential, in a wine-growing area".

The National Office of Vine and Wine (hereafter ONVV) on the promotion page of the "Vinul Moldovei" or "Wine of Moldova" brand noted that "vine tourism, wine tourism, also known as wine tourism, proposes visiting some wine domains and restoring the cultural link between the consumer and the final product, through contact with grapes, wine and the spaces where they are produced. At the same time, this type of tourism allows the purchase of wine products" [21].

The Winemakers' Association of Australia defines wine tourism as "visits to wineries and wine regions to experience the unique qualities of the lifestyle associated with the enjoyment of wine and cultural activities, gastronomy and scenery". It is this definition and approach that gave rise to a series of studies of products and destinations [14, p. 48].

Moldovan researchers Miron Viorel, Guțui Veaceslav, and others defined "wine tourism as tourism, which constantly captures the interest of visitors to different agricultural areas of the world, which produce wines, have the necessary facilities for practicing wine and grape tasting or for treatments" [10, p. 34].

Romanian researchers Bogan Elena, Simon Tamara conclude that "oenological/wine-growing tourism relies on the presence of viticultural products, associated with wine production and storage units, such as wineries. They offer tasting spaces and in some cases even accommodation, which are created in special spaces, such as old and renovated manor houses" [2, p. 25].

The Romanian researcher Soare I. states that "wine tourism or uval tourism appeared on the foundation of the link between the culture of wine, vines and man, with long-standing traditions, it has continuously given generations the pleasure of observing and remarking its significance" [13, p. 52].

Wine tourism is defined by Dutch researchers Michael Hall and Niki Macionis as "visits to vineyards, wineries, wine festivals and wine shows for wine tasting and exploitation of the attributes of a wine-producing region, these being the main motivating factors for visitors". This definition is based on the study of information obtained from tourists and visitors to wine festivals [7, p. 3].

The Australian Center for Sustainable Tourism Research supports the idea that “wine tourism is about tasting the wine and experiencing the destination. At the same time, it is mentioned that tourists are motivated to visit these businesses to explore the surroundings of the destination, to interact socially with the local environment and for personal development" [15]. Personal development assumes that tourists during the visits get to know the information provided by the guides about the wine culture and the place where the vines are planted. Personal development is part of the tourist's internal motivations, while wine tasting and destination experience remain attraction factors.

Steven Van Ausdle found that "wine tourism is a tourism product suitable for the rural area". Wine production can help rural regions restructure their economies by creating jobs for both wine production and hospitality associated with traditional meals. The availability of wine trails plays a central role in attracting visitors to rural areas in many underdeveloped regions [22, p. 10-14].

The Moldavian scholar Platon Nicolae [12, p. 194] in a research on rural tourism identified several visions regarding the essence of wine tourism. We can attribute the first vision to the first approach to the notion of wine tourism and this opinion implies:

1) a motivational form of tourism practiced by tourists to visit wineries and wine regions, in order to combine the pleasure of tasting wine products with the opportunity to get to know the country, the lifestyle of the natives, the culinary and gastronomic traditions".
2) the possibility for tourists to get to know the entire technological process of wine preparation, and in the villages where the winemaking tradition is preserved, tourists can get involved in the wine production process.

2. The second approach to the definition of wine tourism emphasizes its role in promoting the tourist attractions of the Republic of Moldova. This approach assumes that visiting a wine tourism object can be combined with various interesting activities and exploring the surroundings.

In our view, the tourist demand, in the last period, requires an offer as varied as possible of tourist objects visited in a single tour. Combining the visit of wine enterprises with the inclusion of various cultural-artistic objects in the tourist route conditions an even greater attraction for tourists.

The National Program in the field of tourism "Wine Road in Moldova" establishes that the viticulture branch and the tourism industry contribute to attracting the largest number of consumers of viticulture tourism production, additionally promoting all existing tourist facilities in Moldova [8].

In the framework of the research carried out by the Moldovan scholar Platon Nicolae on rural tourism, he was able to find that wine tourism, in addition to offering the offered product, also has an important role in promoting the tourist heritage of the Republic of Moldova. Thus, he concludes that "wine tourism is the calling card of the Republic of Moldova, because the tourist packages proposed for sale to foreign tourists necessarily include an objective or a wine cellar" [12, p. 194]. In our opinion, the scholar Platon Nicolae succeeded in the presented definitions to include both approaches regarding the concept of wine tourism.

Foreign scholars Brown G., Getz D. find that "wine tourism can be included in niche tourism based on the desire to visit wine-producing regions or where tourists are determined to visit wine-producing regions, especially wineries and wineries, while traveling for other reasons" [3, p. 146-158].

Niche tourism refers to destinations, which come to satisfy varied needs of the tourist [20].

An important disclosure of the content of wine tourism is presented by the researcher Veronica Tomescu, who mentions that "wine tourism is found in agrotourism and gastronomic tourism, and can also be included in the category of eco and sustainable tourism"[16].

The approaches mentioned regarding the definition of wine tourism and its role in the Republic of Moldova allowed us to formulate the following definition: "wine tourism represents rural and sustainable economic activities, with a view to the possibility of studying the exceptional architecture of wine cellars and beautifully decorated rooms, wineries, underground cities, cellars and cultural events related to the promotion of wine products (festivals, national wine days, etc.), which involve tasting wine products and traditional gastronomic dishes, personal development regarding the culture of wine production and tasting, purchase of wine products, visiting tourist attractions in the locality, participation in walks and hikes in the area, etc.

As a result of the investigations carried out and the analysis of the concepts of wine tourism, the author delineated the following features of this tourism: sustainable, group, cultural, gastronomic, road and hiking, niche, continuous and seasonal, organized and semi-organized, domestic and international, rural- agritourism, rest and relaxation.

Let's follow in figure 1 the features of wine tourism.

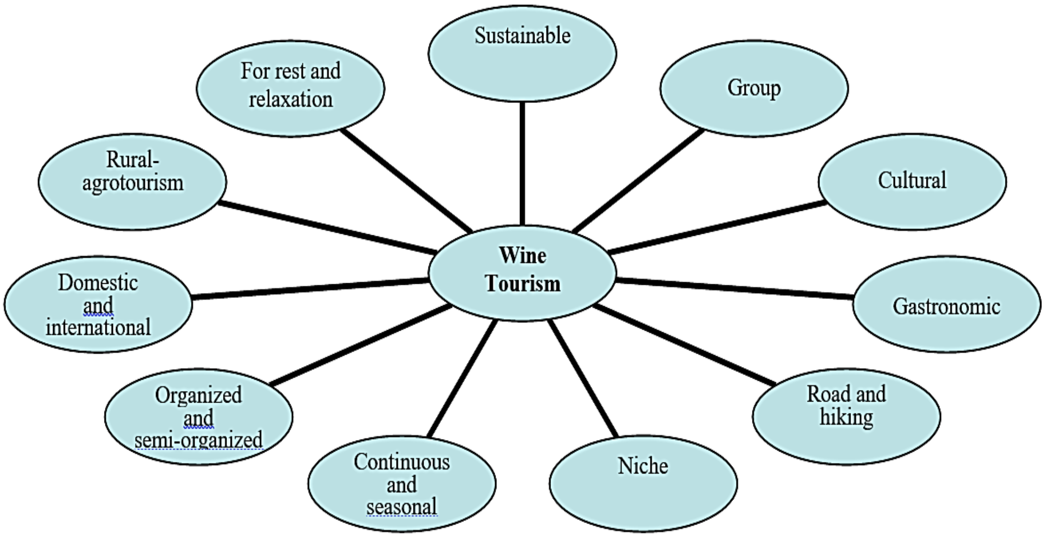

Figure 1. The Features of Wine Tourism

Source: developed by the author

Let's examine the features of wine tourism:

- sustainable – ensures sustainable, long-term economic development, respectful of both environmental and socio-cultural resources, but also respectful of people (visitors, employees of the wine tourism sector, populations in tourist reception areas). The concept of sustainable tourism seeks to reconcile the economic objectives of tourism development with the maintenance of the resource base essential for its existence. Wine tourism is a heterogeneous activity, which contributes to the development of the country's economy and includes in its activity services such as: catering, transport, production and marketing of goods, souvenirs, cultural and leisure activities, etc.;
- group – trips are organized for a group of people, minimum 2 people;
- cultural – the tours are accompanied by a guide on the culture of serving and making wine products. Cultural tourism is based on visiting museums and places of archaeological, historical and religious interest, as well as on learning about local art and folklore: music, dance, folk crafts, folk theatre, national costumes, which are of cognitive and cultural interest. Cultural tourism can also be attributed to various national and international festivals, including Wine Day, which is held annually and gathers visitors from different countries.
- gastronomic – there is a certain compatibility and combination of certain types of wine with certain dishes, and this type of tourism involves travelling to enjoy traditional

prepared food and drink, constituting a unique and memorable gastronomic experience;

- road and hiking – wine tourism involves visiting vineyards, wine cellars and other wine rooms, which are located in different localities and, as a rule, travel to the respective points is carried out by car, while visits to vineyards, wineries and other local attractions may include hiking;
- niche – trips for other reasons than visiting the wine enterprise, but which complement the tourist programme;
- continuous and seasonal – the wineries receive visitors all year round, but visiting the master class on the grape processing can only be seen during the harvest period, i.e. autumn, therefore seasonal;
- organized and semi-organized – the visit to the vineyards can be fully organized by a tour company or the visit can be carried out with your own transport by booking the excursion online or via telephone;
- domestic and international – winery visitors can be both residents and non-residents of a country;
- rural-agrotourism – tourist activities carried out in rural areas, including visits to vineyards and wine-growing estates with the aim of enhancing the natural and human potential of villages. Rural tourism targets tourists who benefit from the following services: accommodation in agro-tourist guesthouses, food with pure ecological products grown and prepared in the area, leisure. A good number of the wineries have accommodation spaces and restaurants where entertainment activities are organized.
- rest and relaxation – tourist activity, which is accompanied by a state of rest and relaxation as a result of tasting traditional Moldovan dishes and tasting selected wines.

In the process of researching approaches to wine tourism, we established the following goals related to the activity of wine tourism:

- visiting the production and storage areas of wine products (wine rooms, cellars, underground cities, etc.);
- consumption of wine products as a treatment;
- interaction with the local lifestyle of the rural environment;
- participation in cultural events: festivals, national wine day;
- purchasing quality products for an attractive price;
- walks in the vineyard, and sometimes even participation in the harvest;
- personal development in terms of knowledge of the entire technological process of wine-making.

Wine tourism includes the following services:

- catering;
- transport;
- production and marketing of goods;
- sale of souvenirs;
- guided tours regarding the culture of serving and manufacturing wine products in wine rooms (cellars, galleries, halls, cellars, underground cities, etc.);
- tastings;
- cultural and entertainment activities;
- accommodation;
- services regarding visiting nearby tourist attractions.

The attraction factors in wine tourism tours are:

- visit some special rooms with special architecture;
- the relaxing atmosphere created by the winemakers;
- personal development;
- shops with wine products at attractive prices;
- level of service;
- tasting of wine products and gastronomic delights;
- local lifestyle;
- attractions in the area.

Wine tourism is considered an essential tool for increasing employment and prosperity of the regional rural economy.

5. Conclusions

National and international approaches to wine tourism are more or less complex. In the last two decades, a certain progress has been registered in the direction of terminological standardization regarding tourism [20]. At the same time, there are discussions among researchers regarding the terms used in tourism. Although, the WTO has clearly defined the definition of tourism and the international and domestic tourist, at the same time there are still countries that have not accepted the generally accepted terminology regarding the terms in tourism.

As for wine tourism, it is less researched, being a relatively new form of tourism. It could be said that wine tourism has its specific peculiarities. At the same time, we believe that in the research presented by the authors it was possible to analyze the identified definitions of tourism, tourist and wine tourism and to present their own definitions.

The presented research allows us to conclude:

1) Tourism represents a form of recreation for the tourist with the purpose of spending free time according to his preferences in order to satisfy the personal needs of knowledge and exploration of a geographical space and which at the same time represents a branch of the economy regarding the provision of guiding services, accommodation , transportation, food, etc.
2) Tourists are people who move from their place of residence to spend their free time in order to visit picturesque places and attractive leisure spaces, to have recreation and to acquire new experiences.
3) Wine tourism represents rural and sustainable economic activities, with a view to the possibility of studying the exceptional architecture of wine cellars and beautifully designed rooms, wineries, underground cities, cellars and cultural events related to the promotion of wine products (festivals, national wine days, etc.), which involve tasting wine products and traditional gastronomic dishes, personal development regarding the culture of wine making and tasting, purchasing wine products, visiting local tourist attractions, participating in walks and hikes in the area, etc.
4) The characteristic features of wine tourism are: sustainable, group, cultural, gastronomic, road and hiking, niche, continuous and seasonal, organized and semi-organized, domestic and international, rural-agritourism, rest and relaxation.

5) Purpose related to the activity of wine tourism: visiting production and storage areas of wine products (cellars, cellars, underground cities, etc.), consumption of wine products as a treatment, interaction with the local lifestyle of the rural environment, participation in events cultural: festivals, national wine day, procurement of quality products at an attractive price, visits to the vineyard, and sometimes participation in the harvest, personal development regarding the knowledge of the entire technological process of wine preparation.
6) Wine tourism includes the following services: catering, transport, production and sale of goods, sale of souvenirs, guided tours regarding the culture of serving and manufacturing wine products in wine rooms (cellars, galleries, halls, cellars, underground cities, etc.), tastings, cultural and entertainment activities, accommodation, services regarding visiting nearby tourist attractions.
7) The attraction factors in wine tourism tours are: the visit of special rooms with a special architecture, the relaxing atmosphere created by the winemakers, personal development, shops with wine products at attractive prices, the level of service, the tasting of wine products and gastronomic delights, the style of local life, attractions in the area.

Wine tourism is becoming more and more popular every year. This activity is practiced by both the foreign and local population. We believe that the discussions and views of the authors addressed in this article will be a theoretical support for the field of professional training in the field of tourism.

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Rezumat

Tema de interes științific a autorilor este cercetarea abordărilor conceptuale privind turismul vitivinicol.

Scopul prezentei cercetări este elucidarea conceptelor și generalităților privind turismul vitivinicol. Conceptele turismului vitivinicol s-au format odată cu evoluția sa, iar aspectele definitorii au variat în funcție de opiniile profesionale ale specialiștilor din turism. Înțelegerea conceptului de turism vitivinicol nu poate fi desprinsă de conceptele generale de turism, tur, turist, vizitator, călător, excursionist. În același timp, o atenție deosebită se acordă dezvăluirii trăsăturilor turismului vitivinicol și a clasificării acestuia în funcție de diferite aspecte. Studiul prezentat este bazat pe pozițiile oficiale ale Organizațiilor Internaționale și Naționale ale Turismului, actele legislative și normative, cât și viziuni ale cercetătorilor străini și autohtoni.

Prezentul studiu a fost efectuat în baza următoarelor metode de cercetare științifică: analiza, sinteza, comparația, gruparea, sistematizarea etc.

Concluziile autorilor țin de prezentarea definițiilor proprii a conceptelor examinate, precum și noutatea științifică privind elucidarea trăsăturilor turismului vitivinicol.

Cuvinte-cheie*: turism, tur, vizitator, turist, excursionist, turism vitivinicol*

Аннотация

Предметом научного интереса авторов является исследование концептуальных подходов относительно винного туризма.

Целью данного исследования является разъяснение концепций и общих черт, касающихся винного туризма. Понятия винного туризма формировались вместе с его эволюцией, и определяющие аспекты менялись в соответствии с профессиональным мнением специалистов по туризму. Понимание понятия винный туризм нельзя отделять от общих понятий туризм, тур, турист, посетитель, путешественник, экскурсант. При этом особое внимание уделяется выявлению особенностей винного туризма и его классификации по разным аспектам. Представленное исследование основано на официальных позициях международных и национальных туристических организаций, законодательных и нормативных актах, а также мнениях зарубежных и отечественных исследователей.

Настоящее исследование выполнено на основе следующих научных методов исследования: анализ, синтез, сравнение, группировка, систематизация и др.

Выводы авторов касаются представления собственных определений рассматриваемых понятий, а также научной новизны в выяснении особенностей винного туризма.

Ключевые слова: *туризм, тур, посетитель, турист, экскурсант, винный туризм*

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SUSTAINABILITY IN TARRAGONA: AN ANALYSIS OF THE MAJOR COMPANIES AND KEY SECTORS

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Abstract

Sustainability and in particular, environmental concerns have become increasingly prevalent in recent years, largely due to the visible effects of climate change. This global awareness has prompted a search for alternatives that allow us to move towards a more sustainable economy, influencing political and economic decision-making in all sectors. The United Nations published the 2030 Agenda in 2015, outlining 17 Sustainable Development Goals (SDGs) to address global sustainability challenges. At a local level, Catalonia has also developed its own strategies focused on sustainable economic transformation aligned with the SDGs and the European Green Deal, including for example, strategies related to the bioeconomy, energy efficiency and circular economy.

The aim of this study is to examine the current sustainability practices of major companies in Tarragona province, identifying the actions they take and certifications they have in the area of sustainability.

This work contributes to a better understanding of the current situation regarding business and economic sustainability in the province of Tarragona, by identifying opportunities for investment and growth in areas related to economic and sustainable development.

Keywords*: sustainability, certifications, Tarragona, sustainable actions*

1. Introduction

In recent years, there has been an increased global focus on sustainability, encouraging the search for alternative approaches that can promote a more sustainable economy.

The major environmental challenges that humanity faces include the scarcity of natural resources, excessive waste generation, and greenhouse gas emissions, among others, which have far-reaching consequences such as global warming and endangering our current and future ways of life (Aguilar et al., 2018 [1]). In response to these challenges, the United Nations published the 2030 Agenda in 2015, which outlines 17 Sustainable Development Goals (SDGs) aimed at eradicating poverty, protecting the planet, and ensuring prosperity for all people (United Nations, 2015 [11]).

Strategic discussions centre around the current economic model, which heavily depends on resource extraction, production, and disposal, resulting in excessive use of natural resources leading to depletion, greenhouse gas emissions, waste generation, and loss of biodiversity. To address these issues, it is crucial to re-evaluate the economic model and integrate environmental problems, with emphasis on resource efficiency and environmental preservation (Ramcilovic-Suominen & Pülzl, 2018 [10]).

The key challenge for countries is to adopt sustainable and efficient alternatives for production and consumption. This concern has been widespread to all areas and is reflected in political and economic decisions, leading to increased research into viable options that can drive a more sustainable economy. As a result, several governments have formulated plans to transition to sustainable economic models, with different trends emerging, such as bioeconomy, circular economy, green economy, energy efficiency, and more (D'Amato et al., 2017 [3]; Lewandowski, 2018 [9]).

The European Union has taken an active role in promoting sustainability by publishing policy strategies. In 2020, the "Just Transition Fund" and the "European Climate Law" were published, aimed at combating climate change and achieving carbon neutrality by 2050 for EU member states (European Commission, 2019 [5]). In response to the COVID-19 crisis, the EU's economic recovery fund, "Next Generation", was designed to revive the economy by incorporating environmental improvements and promoting sustainable economic development.

At the local level, Catalonia has also published strategies focused on transitioning to a sustainable economic model, including initiatives related to the bioeconomy, energy efficiency, and recycling. Additionally, under the "Next Generation Catalonia" fund, a recovery program has been published with a specific focus on i) reinforce the productive capacity and the capacity of the health and social health system, ii) reduce the social inequalities that have been accentuated by COVID-19 and iii) accelerate the transition towards a more sustainable and resilient economic model (Generalitat de Catalunya, 2021 [8]). This implies that the Plan was designed to be align with the United Nations SDGs, as well as the European Green Deal and the European Digital Strategy.

In order to promote sustainability in Catalonia and specifically in Tarragona, it is crucial to assess the impact on the region's major companies. This article seeks to evaluate the current state of sustainability practices among the main companies in Tarragona province. A thorough examination of the leading companies will identify their sustainability actions and relevant certifications.

The findings will shed light on the state of sustainability among Tarragona's companies, highlighting the most widely implemented actions and areas that require more attention. This type of analysis is a valuable resource, particularly for policymakers, as it can inform regional sustainability plans and investment decisions.

The paper is organised as follows: Section 1 is the introduction, which presents an overview about sustainibility policies. Section 2 focus exclusivele on sustainibily certifications in Spain and the identification of sustainibility actions. In Section 3 the methodology and the data is presented, as well as different stages to determine the sample. Section 4 discusses the results in line with the aim of the paper. Section 5 offers the conclusion, limitations, and future lines of study.

2. The degree of investigation of the problem currently, and purpose of research

The main global objective is to prioritize sustainable development, which involves taking into account economic growth alongside social inclusion and environmental care (WCED, 1987 [13]). In 2015, the United Nations published the 2030 Agenda, which sets out 17 SDGs that all member nations should be taken into account. The SDGs seek to tackle major global challenges by addressing the social, economic and environmental challenges that countries have to face in the coming years (United Nations, 2015 [11]).

If the overall goal at the global level is to advance the SDGs, sustainability must represent the new economic paradigm in each country (Dietz et al., 2018 [4]). To this end, post-COVID-19 economic recovery plans must concentrate on constructing an economy that is clean, green, safe and more resilient.

To achieve this goal, it is crucial that businesses incorporate actions that enable them to transition to a more sustainable path. To support this transition, numerous sustainability certifications have been established.

Sustainability certifications are norms and standards, mostly voluntary, that companies can adopt to demonstrate their efforts areas in particular areas such as environmental, social and ethical safety. These certifications can be evaluated by external agencies through a verification process to ensure that the company complies with the established requirements.

Nowadays, it is essential to employ tools that integrate the environment concerns into the overall management of the company through environmental certifications. These certifications confirm that certain products, services, processes or management systems have been carried out in an environmentally conscious manner. Consequently, they are based on the inclusion of environmental criteria such as, for example, energy efficiency, the use of renewable energies, CO_2 reduction or waste minimization, among others.

It should be noted that not all of these tools are called certifications, as some may be referred to as "hashtags." Nevertheless, they are equally valid, as they are tools that help consumers to identify which products are accredited and therefore comply with a set of environmental criteria.

There are different types of certifications available depending on the company's sector. In Spain, the leading organization for environmental certifications is the Spanish Association for Standardisation and Certification (AENOR). Its certifications contribute to the achievement of the SDGs and are classified into six categories:

- Global Environmental Management
- Circular Economy
- Climate Change
- Resource Management
- Forestry Sector
- Other Industries.

The main certifications of each group are listed below, together with a brief description of what they mean for the company:

- **Global Environmental Management**, certify that the company has a business management system that implies that the different stages of the product or service it develops are environmentally friendly. This group includes the following certifications: Environmental Management System (ISO 14001) and EMAS verification (EU).
- **Circular Economy**, the objective of the circular economy model is to handle waste more efficiently by maximising reuse and recycling. This group includes Zero Waste certifications, Environmental Product Declarations (EPD) according to ISO 14025 and Eco-design Management certification (ISO 14006).
- **Climate Change**, accredit that the company adheres to environmental criteria that focused on the recovery and/or mitigation of climate change in its production or service processes. This group includes the Voluntary Verification of Greenhouse Gas Emissions Inventory (ISO 14064), the Carbon Footprint (ISO 14067) and the Regulatory Verification of Greenhouse Gas Emissions under the Kyoto Protocol.
- **Resource Management**, this group includes those certifications that accredit the company's use of different energy sources in a sustainable manner. Included in this group are: the Energy Efficiency Management System (ISO 50001), the verification of the Water Footprint (ISO 14046) and the evaluation of conformity with ISO 37120 on Sustainable Development in cities.
- **Forestry Sector**, certify that the forest enterprise (or the raw material used) has been managed in a sustainable and environmentally friendly way. This group includes the Sustainable Forest Management System and the Chain of Custody certification of forest products.
- **Other Industries**, would refer to all those environmental certifications of more specific products and/or services such as cleaning products (detergents).

Adopting an environmentally certified business model can differentiate a company from its competitors and, enhance brand reputation and, improve the image of the company by its consumers.

In addition, obtaining certification often implies a reduction in costs due to the implementation of specific measures such as the efficient use of raw materials. In certain countries, meeting environmental protection requirements can also result in tax benefits, such as deductions for investing in renewable energy equipment.

Based on certifications related to sustainable actions, the purpose of this research is to understand which of these certifications have been obtained by the main companies in the province of Tarragona. Furthermore, it will be possible to delve into the identification of the main sustainable actions carried out by the companies in each sector.

It is important to enhance the analysis of specific case studies in companies, in order to improve the implementation of these practices at the corporate level and promote sustainable economy (Ferreira et al., 2018 [6]).

3. Applied methods and materials

The following section identifies the most relevant companies in the province of Tarragona that show sensitivity towards sustainability in their actions, whether it be by avoiding dependence on non-renewable resources or by taking steps to mitigate negative environmental impacts through circular economy practices, the bioeconomy, recycling, waste minimization, or pollution reduction.

To achieve this objective, an initial list of the most important companies in the province of Tarragona was compiled using information from the SABI (Iberian Balance Sheet Analysis System) database, following the steps detailed below:

1. The top 50 companies in Tarragona with the highest operating income in each of the last five financial years (2016-2020) were listed.
2. Companies that appeared in at least three of these five financial years were selected.
3. Eliminate the companies that are extinct in 2021.
4. The different companies belonging to the same group were considered together.

The resulting selection consisted of 45 companies classified into eight sectors, as detailed in Table 1.

Table 1. Companies by sectors

Aggregate sector	Number of companies	% companies
Energy	1	2%
Food and beverages	12	27%
Others	5	11%
Automotive	6	13%
Paper	2	4%
Chemical	12	27%
Primary sector	1	2%
Services	6	13%
Total	**45**	**100%**

Source: own elaboration

The aim is to identify whether the selected companies have any environmental certifications and which certifications are the most commonly obtained within the region. In order to achieve this, their websites were searched to determine whether they have obtained one or more environmental certifications. As previously mentioned, AENOR is the leading entity for environmental certifications.

Based on the data available on their respective websites, we have examined the sustainability-related actions/activities carried out by the selected companies. The activities have been classified into the following categories:

- Efficiency in the use of water
- Wastewater treatment
- Consumption and sustainable use of resources

- Increased use of green/renewable energy
- Efficiency in the use of energy
- Requirement of sustainable actions to suppliers
- Control and/or reduction of emissions
- Reduction of the carbon and the water footprint
- Control and monitoring of odors
- Environmentally friendly production
- Animal welfare
- Waste reduction and/or management
- Minimization of environmental impact
- Local actions in the environment
- Recycling of papers and others
- Recycling of plastics/porexpan
- Reuse of biological resources
- Recycling of own packaging
- Reuse of construction debris / pallets
- Use of food waste.

4. Results obtained and discussions

Figure 1 presents a summary of the certifications obtained by the sample of companies analysed in Tarragona, categorized according to the six categories in which AENOR certifications are classified.

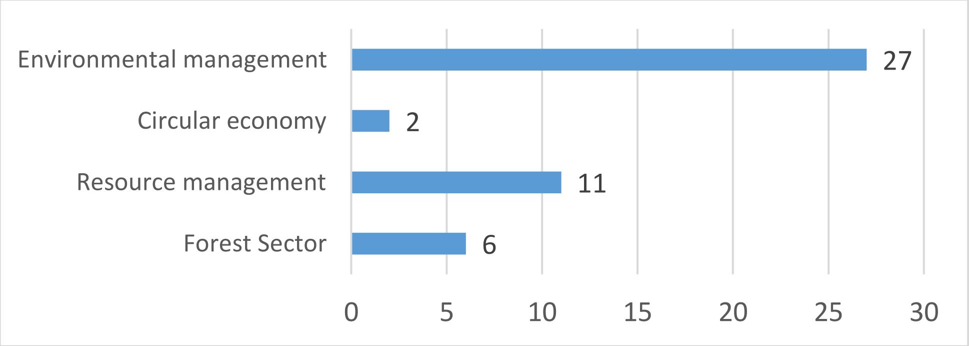

Figure 1. Environmental certifications classification of the selected companies
Source: Own elaboration

There are only four certifications, as none of the companies is certified in the Climate Change or Other Industries categories, as shown in Figure 1. Of the 45 companies analysed, 27 of them have some kind of Global Environmental Management certification, with all of them holding ISO 14001 and two of them obtaining EMAS certification. Only two companies have a certification in the Circular Economy category, while 11 companies received a Resource Management certification and six companies have obtained or demand their suppliers to hold a certification in the Forestry Sector category.

Clearly, ISO 14001 is the predominant environmental certification in Tarragona. The data suggests that companies are making efforts to demonstrate that they are managing their waste adequately. Due to its specificity, the number of companies with certifications related to the forestry sector is lower, and the emerging certification in Circular Economy highlights that companies in this field have a long way to go.

Figure 2 shows the distribution of companies by sector that carry out sustainable actions. The actions focused on reducing the environmental impact are prevalent, representing 35.6% of companies. This is followed by water use efficiency and recycling, as well as environmentally friendly production processes, both of which account for 31.1% of the companies. Actions related to energy efficiency are undertaken by 28.9% of companies.

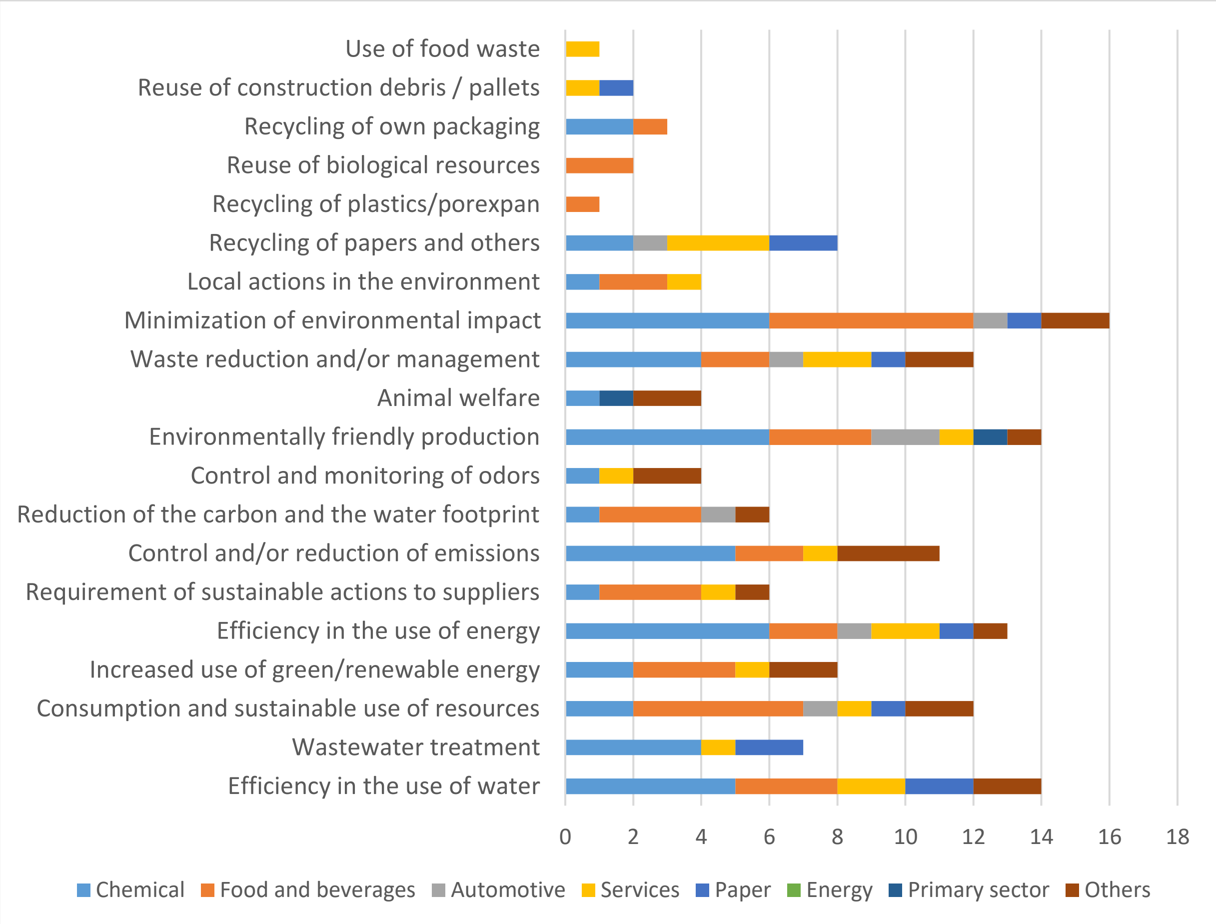

Figure 2. Sustainability actions by sector

Source: Own elaboration

Actions on sustainable consumption and reduction and/or management of waste are both implemented by 26.7% of the companies. To a lesser extent, 24.4% of the companies have actions related to the control and/or reduction of emissions. Finally, 17.8% of companies focus on increasing the use of green/renewable energy, while the same proportion have measures linked to the recycling of paper and others.

It is evident that companies in the chemical sector apply almost all of the sustainable actions listed, with the exception of the recycling of plastics/porexpan, reusing biological resources, reusing building rubble/pallets and using food waste. Companies in the food and beverages sector and the services sector also show a very wide diversity of sustainable actions, emphasizing those related to the consumption and sustainable use of resources and the minimisation of environmental impact, in the case of the food and beverages sector, and those related to the paper recycling in the services sector.

Figure 3 shows, regardless of the total number of companies related to each activity, the weight of the sector's participation in the activity. This analysis makes it possible to identify those actions that are carried out in almost all sectors. The data indicate that the most important companies in the province of Tarragona pay special attention to the consumption and sustainable use of resources, energy efficiency, environmentally friendly production, and the reduction and/or management of waste.

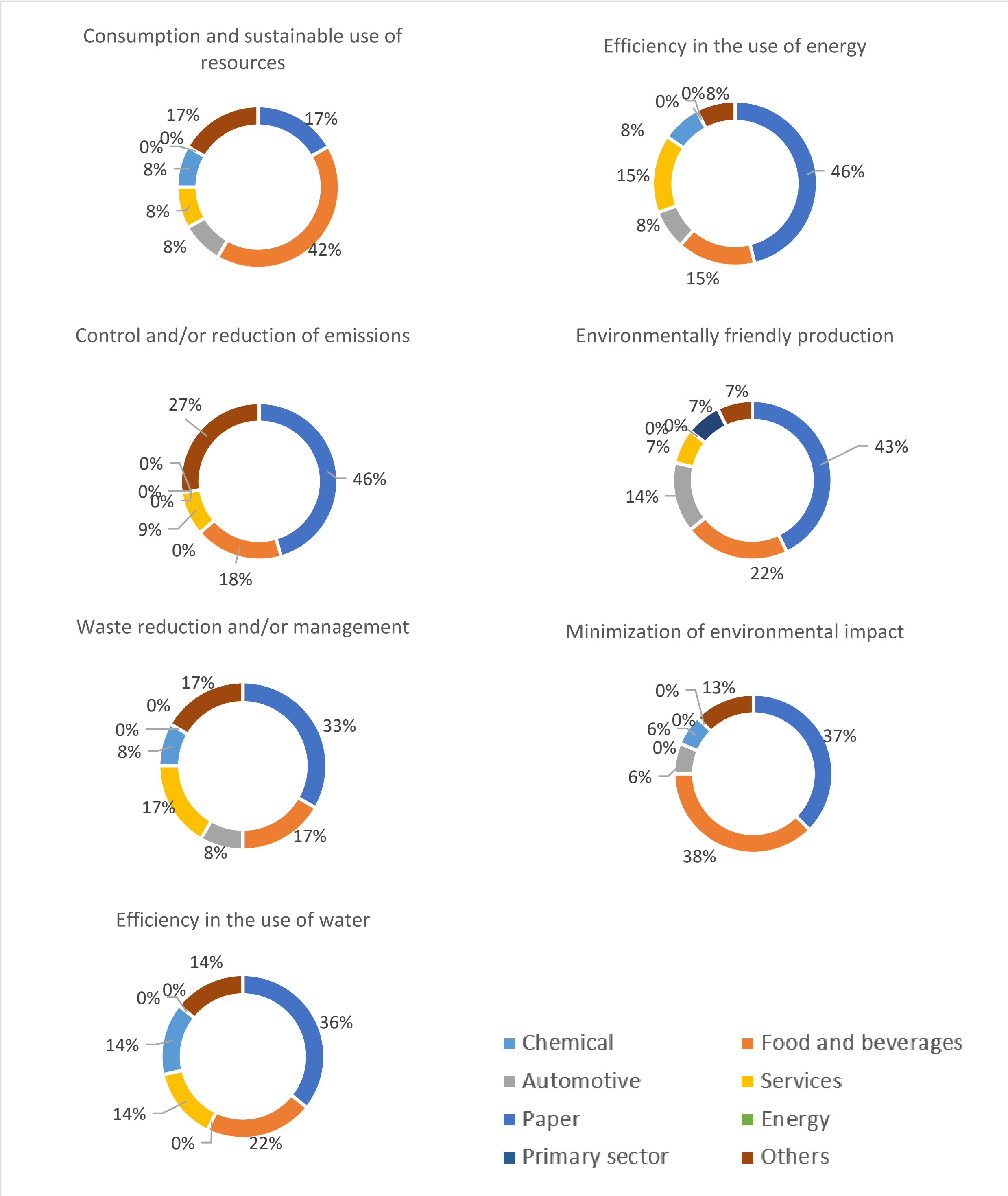

Figure 3. Weight of each sector in each sustainability action

Source: Own elaboration

5. Conclusions

One of the main challenges at the global level is to make progress on the Sustainable Development Goals (SDGs) proposed by the United Nations. For this to happen, sustainability must represent the new economic paradigm in each country (Dietz et al., 2018 [4]). In this framework, in order to achieve the goals proposed by the SDGs, there are several economic models promoted in different countries, which seek a path towards a more sustainable economy (bioeconomy, circular economy, etc.). Therefore, promoting sustainability at the regional level and integrating it into business through certifications is now a vital aspect of environmental focus.

The aim of this article is to identify whether the most significant companies in the province of Tarragona are engaged in sustainability-promoting actions and hold any relevant certifications.

Based on the findings, it can be concluded that over 30% of the 45 companies analysed undertake sustainability actions related to minimizing environmental impact, water use efficiency, and environmentally friendly production processes.

Also noteworthy but to a lesser extent are actions related to the consumption and sustainable use of resources, waste reduction and management, emissions control and/or reduction, the increased use of green/renewable energy and paper recycling and others.

If the sustainability actions for each sector are taken into account, it can be seen that all the chemical, food and beverage, and service companies have implemented various types of sustainable actions.

The main limitations of this research stem from the sample selected. As previously mentioned, the sample of companies analysed focused only on the most important companies in the province. Additionally, the analysis of each company's sustainability actions was based solely on the information available on their website. Therefore, any sustainability initiatives not disclosed on their website would not have been detected.

As future lines of research, it would be interesting to delve deeper into this analysis in order to understand the basis of sustainable practices implemented by companies in the region. The identification of case studies and their dissemination can help other companies decide to take action and focus on a more sustainable path (Fraccascia et al., 2016; Verde, 2015 [7]).

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Rezumat

Sustenabilitatea și, în special, preocupările legate de mediu au devenit din ce în ce mai răspândite în ultimii ani, în mare parte datorită efectelor vizibile ale schimbărilor climatice. Această conștientizare globală a determinat căutarea alternativelor care ne permit să ne îndreptăm către o economie mai durabilă, influențând luarea deciziilor politice și economice în toate sectoarele. Organizația Națiunilor Unite a publicat Agenda 2030 în 2015, subliniind 17 Obiective de Dezvoltare Durabilă (ODD) în abordarea provocărilor globale de sustenabilitate. La nivel local, Catalonia și-a dezvoltat, de asemenea, propriile strategii axate pe transformarea economică durabilă, aliniate la ODD-uri și Pactul verde european, inclusiv, de exemplu, strategii legate de bioeconomie, eficiență energetică și economie circulară.

Scopul acestui studiu este de a examina practicile actuale de sustenabilitate ale marilor companii din provincia Tarragona, identificând acțiunile pe care le întreprind și certificările pe care le au în domeniul sustenabilității.

Această lucrare contribuie la o mai bună înțelegere a situației actuale în ceea ce privește afacerile și sustenabilitatea economică din provincia Tarragona, prin identificarea oportunităților de investiții și creștere în domenii legate de dezvoltarea economică și durabilă.

Cuvinte-cheie*: sustenabilitate, certificări, Tarragona, acțiuni sustenabile*

Аннотация

Вопросы устойчивости и, в частности, экологические проблемы становятся все более распространенными в последние годы, в основном из-за видимых последствий изменения климата. Это глобальное осознание подтолкнуло к поиску альтернатив, которые позволяют нам двигаться к более устойчивой экономике, влияя на принятие политических и экономических решений во всех секторах. В 2015 году Организация Объединенных Наций опубликовала Повестку дня на период до 2030 года, в которой изложены 17 целей в области устойчивого развития (ЦУР) для решения глобальных проблем устойчивого развития. На местном уровне Каталония также разработала собственные стратегии, ориентированные на устойчивую экономическую трансформацию в соответствии с ЦУР и Европейским зеленым курсом, в том числе, например, стратегии, связанные с биоэкономикой, энергоэффективностью и безотходной экономикой.

Целью данного исследования является изучение текущей практики устойчивого развития *крупных компаний в провинции Таррагона, в выявлении предпринимаемых ими действий и анализе имеющейся сертификации в области устойчивого развития.*

Эта работа способствует лучшему пониманию текущей ситуации в области бизнеса и экономической устойчивости в провинции Таррагона, определяя возможности для инвестиций и роста в областях, связанных с экономическим и устойчивым развитием.

Ключевые слова: *устойчивость, сертификаты, Таррагона, устойчивые действия*

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THE IMPACT OF INFORMATION TECHNOLOGIES IN INCREASING THE EFFICIENCY OF THE OPERATIONAL MANAGEMENT OF ELECTRICAL NETWORKS (CASE STUDY BASED ON "RED-NORD" JS COMPANY)

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Abstract

The present paper represents a methodological foray into the elucidation of the human factor contribution in the efficiency of the operative management of electrical networks. The study is pursuing the role of information technologies in the efficiency of the management of electrical networks on the example of the "Red-Nord" JS company. In order to achieve the general objective of the research, we have analyzed the main information technologies that can be applied in the operative management of the energy enterprise. At the same time, the ANRE (the National Agency for Energy Regulation of the Republic of Moldova) regulations regarding the efficiency of the operative management of electrical networks were reviewed, with the elucidation of the role of dispatchers in the operative management of electrical networks. As a result, the main activity indicators of the "Red-Nord" JS company were analyzed, along with the operational management indicators of the electricity networks in the period of 2019-2021. At the same time, conclusions and recommendations were drawn regarding the efficiency of the operative management of electrical networks through the lens of the human factor development and the introduction of information technologies.

The research methods used to elaborate this study are: analysis and synthesis, induction, deduction, empirical research, comparative analysis, which helped us to identify the contribution of the human factor in the operative management of electrical networks.

In conclusion, we can note that in the last 5 years, "Red-Nord" JS company has implemented modern software in order to make the operational management of electric networks more efficient, such as: the information system of planned records, the implementation of the SCADA system, the reorganization of the dispatching system. However, we consider it necessary to make the following optimizations: making the call reception system more efficient, in order to introduce new functions that would allow reducing the response time from of company to the final consumers. Consequently, the improvement of the SCADA/OMS software would allow the efficiency of the company's activity and increase the organizational performance.

Keywords*: information technologies, energy management, operational management of electrical networks, electricity*

1. Introduction

An important impulse in the implementation of information technologies in energy management is constituted by various energy crises, which aggravate the problems and contradictions occurred in the various stages of the economic cycle: in the field of production, distribution, or consumption of energy resources.

One of the most significant factors that led to the transition to the modern stage of development of energy efficiency approaches, was the energy crisis of the 1970s, which caused an increase in energy prices and, indubitably, contributed to the increase in the inflation rate. The resulting macroeconomic effect was a profound energy crisis, which generated a slowdown in the growth of economic activity in developed countries and the mass deployment of energy-saving technologies. The latter represents one of the most important tools for increasing the competitiveness of energy companies.

We are currently feeling the effects of the profound energy crisis that has gripped the whole of Europe. The crisis is transposed by the call of energy companies to implement a SMART energy management system, focused on saving energy resources, as well as on optimizing processes, on the introduction of modern technologies in order to make all processes in the energy sector more efficient, which will ultimately contribute to reducing costs for the energy companies and increasing their competitiveness.

2. The current level of investigation of the issue

The 21st century marks the age of knowledge explosion, an age marked by an intense informational abundance. In this era, the management of companies underwent major changes, in order to adapt the managerial processes to the new changes imposed by the business environment. Thus, the “human bone skeleton” gives way to the “digital bone skeleton” transposed by the need to digitize business, to introduce new digital technologies aimed at helping companies cope with globalization processes, where the continuous effort should be directed towards updating knowledge and digital education of professional staff in solving the challenges faced by companies through the integration of information technologies in all enterprise sectors.

With the increase in information abundance, companies become dependent on the implementation of new changes in the management system. Changing technology is causing the nature of jobs to change. Information technologies are replacing jobs and drastically change the requirements towards them.

Researcher L. Pascari remarks that information technologies refer to the process of knowledge and its methods of application, processing, transfer, and realization of information. The information system includes the collection, organization, storage, publication, and use of information in the form of sound, graphic image, text, number, using the computer and telecommunication tools [12].

On the other hand, D. Oprea, D. Airinei, M. Fotache, 2002, appreciate that the important changes resulting from the information technology sector have become the source of basic changes in business management. The most important changes are rooted in the fact that technology has allowed managers to highlight the necessary information and monitor the work of their employees [11, p. 124].

In recent years, research in the field of management amplifies the importance of information technologies for business success. In 1998, research carried out by the Nolan-Norton Institute showed that the use of information technologies in management is reflected by the quality of the new managerial methods applied [12].

At the same time, researchers D. Oprea, D. Airinei, M. Fotache, 2002, appreciate that information technologies remain a tool that makes changes in the nature of work, integrates organizational duties and contributes to stimulating organizational competitiveness [11, p. 128].

The use of information technologies can reduce transaction costs through electronic data transactions and shared databases, can eliminate intermediaries in organizational processes. The use of computers and communication equipment offers the possibility of sharing data, images, sound and even video sequences.

According to researchers G. May, I. Barletta, B. Stahl, M. Taisch, 2015, energy management is defined as “a combination of industrial methods applied in business management to help make optimal use of energy resources for the efficient processing of tasks” [7, pp. 48-51].

On the other hand, M. Melo, L. Bueno, S. Campello, 2012, point out that energy management represents an evaluative perspective of the management of the energy system and it is important to evaluate and produce the efficient use of energy in order to maximize profits as well as to enhance competitive positions, through organizational measures and optimization of energy efficiency in the process [8, pp. 10-11].

In the same context, R. Kannan, W. Boie, 2003, appreciate that an efficient energy management is an essential tool both for saving energy costs and limiting the impact on the environment. The decisive factor for the effective implementation of energy efficiency is a proper energy management [6, pp. 946-948].

According to researchers L. Young Eal, L., K., Kyoo-Kun, a good management of energy consumption saves energy itself, on the one hand, as well as it is necessary to achieve the majority of technical energy-saving measures. Energy management, from any perspective approached, deserves attention from a triple perspective: financial, social, and environmental [16, pp. 1151-1154].

The continuous increase in the demand for energy resources on the international market has deepened the problem of efficient management of energy consumption, on the agenda of most states of the world. In terms of business, energy is vital as one of the fundamental input elements in almost every sector. Therefore, energy costs directly affect the profitability of an enterprise.

It is clear that countries that can keep their energy costs low offer their companies a competitive advantage [8, p. 12]. In this context, there is a strong relationship between the security of electricity supply of countries and their national security. The strong relationship means that when there is an inadequacy of energy supply, economic and political stability will deteriorate concurrently.

Researcher Thumann, A., 1998, in his works, appreciates that natural gas, even though it has more affordable production costs and shows less carbon emissions compared to coal or oil, being increasingly preferred in past fifty years, identifies various sector problems such as outdated infrastructure, unsafe transactions due to third-party inclusions, price fluctuations. This situation endangers the sustainability, therefore the security of the energy supply. In order to survive in the mentioned circumstances, both companies and countries develop various strategies and try to contribute to their sustainability, to achieving energy efficiency. Governments implement numerous strategies to ensure uninterrupted, affordable, and sustainable availability of required energy, called national security of energy supply. One of these strategies is the diversification of supply sources. It refers to the diversification of both primary energy sources used and suppliers for import [15].

M. Melo, L. Bueno, S. Campello, 2012, reiterate that countries aim to avoid dependence on investment in different sources of energy production and focus on importing from various suppliers and through various intermediaries. In addition to diversification, the development of relevant projects for the effective implementation of energy management is another crucial strategy applied to ensure the security of energy supply [8, p. 14-15].

It is worth noting that countries, which do not lack fossil energy resources and mostly must obtain these resources through imports, tend to focus on saving energy consumed and energy efficiency, as well as increasing investment in distribution efficient use of electricity, through the implementation of information technologies. For example, EU countries, which have a sensitivity to environmental pollution and climate change, express significant efforts in saving energy and achieving energy efficiency to encourage projects to reduce their greenhouse gas emissions to zero in the long term.

Another common strategy is to reserve energy resources through both production and import as strategic reserves [8, p. 16].

Energy management in the Republic of Moldova faces multiple problems:
- dependence on electricity supply sources;
- outdated technical equipment of electricity distributors;
- electricity losses at electricity distribution system operators [4].

According to the researcher C. Gribincea, “energy management in the Moldovan vision uses more engineering and economic principles to control the costs of energy consumed, than managerial principles”. At the same time, the author of the paper points out that “...the new concept of energy management includes performing at least once a year the analysis of energy consumption in the territory in order to determine the possible interventions for the efficiency of energy consumption and the creation of a qualitative and independent energy audit system for all final consumers, including to identify potential measures to improve energy efficiency” [4].

According to researcher D. Oprea, the impact of information technologies in energy management is extremely significant, contributing to the reduction of costs, as well as to the efficiency of the processes of enterprises in the energy sector [10]. Thus, the implementation of information technologies in the energy sector can offer multiple benefits to enterprises in the energy sphere, such as:
- streamlining the production and transportation processes of electricity;

- reducing electricity losses in the transportation process;
- reducing the reaction time of dispatchers in the event of interruptions from the electricity connection system;
- streamlining the registration of electricity supplies;
- streamlining the communication with electricity consumers;
- streamlining the intervention of the dispatch team in case of exceptional situations.

At the same time, companies in the energy sector have the opportunity to implement various modern technologies in order to improve the efficiency of the operational management of electrical networks such as:

1. Software elements implemented within the electrical enterprise;
2. Artificial intelligence designed to optimize response time from the enterprise team and to streamline processes;
3. Hardware elements designed to record possible disconnections, power losses, to store the information in dispatches, etc.;
4. Internal power grid management applications;
5. OMS electrical network management systems [12].

Following the research carried out, we can highlight that “the modern concept of energy efficiency management is based on the integrationist idea of management, associated with the reasoning of the valorization of energy and industrial value chains in the context of sustainable economic development, as well as the new challenges of the business environment at national and global level regarding compliance with the principles of eco-responsibility and sustainable development in ensuring the level of competitiveness related to the rules of the competitive economy” [4].

In order to make the energy management of the electricity distribution system operators more efficient, to identify the problems and challenges faced by the electricity distribution operators in the Republic of Moldova, we consider it relevant to carry out a case study based on the largest energy distributor electricity from the Republic of Moldova, “Red-Nord” JSC.

The *goal* of the research is rendered by researching the role of information technologies in the efficiency of the operative management of electrical networks on the example of the “Red-Nord” JS company.

Adjacent research objectives are:

O1: elucidation of the factors of the operational management efficiency of electric networks;

O2: evaluation of the operative management efficiency of the “Red-Nord” JS company;

O3: identification of the information technologies implemented within the “Red-Nord” JS company;

O4: highlighting the digital transformation prospects of the “Red-Nord” JS company.

3. Methods and applied materials

In order to carry out the study, a set of methods were applied. The epicenter of the research was focused on the empirical analysis, targeted on elucidating the role of information technologies in the efficiency of the operative management of electrical networks. In order to carry out the research, multiple data sources were used, such as:

a. *Specialty literature* – in order to substantiate the theoretical benchmarks of the work, studies from international databases were analyzed, related to energy management and the impact of information technologies in its efficiency;
b. *Reports of state bodies (ANRE)* – in order to analyze the research topic, the authors resorted to the analysis of the activity reports of the National Agency for Energy Regulation, which helped us to collect the data and to carry out a comparative analysis of the results obtained by the operators of the electricity distribution system in the Republic of Moldova;
c. *Internal reports of the "Red-Nord" JS company* – in order to substantiate the practical part of the study, we analyzed the internal reports of the "Red-Nord" JS company, which are available on the company's official website. The company's financial statements, management reports, technical-economic indicators, the investment plan, etc. were analyzed.
d. *The legislative documents in the field of energy* – in order to carry out the work, the legislative documents in the energy domain of the Republic of Moldova were analyzed to be able to understand the essence of the functioning of the energy sector, as well as the strategic objectives of the sector.

In order to research the theoretical approaches of energy management, we used, as a research method, *analysis and synthesis*, *induction and deduction*, which helped us to define the theoretical concepts, as well as to draw relevant conclusions.

On the other hand, we can mention that another method used in order to elaborate the paper was the *content analysis*, which resides in the analysis of ANRE reports, the internal reports of the "Red-Nord" JS company, the collection of data and their interpretation, with the formulation of relevant conclusions and recommendations aimed at making the operative management system of system operators in the Republic of Moldova more efficient.

The methods used were complemented by the *comparative analysis* of the analyzed indicators, on different electricity distribution companies, which helped us to identify the level of the energy management system development of operators of the electricity distribution system in the Republic of Moldova.

4. Results and discussions

Energy management in industrial enterprises is closely related to other types of management: production process management, production logistics, environmental management, and human resources management.

The human factor represents one of the most important factors with a decisive impact on the achievement of energy efficiency within enterprises in this sector. The competence, training, motivation, and involvement of human resources are the main pillars through which companies can achieve energy efficiency.

A decisive role in ensuring the efficiency of the management of a company in the energy sector belongs to the operational management of electrical networks by the dispatch service.

According to the Rules for the Technical Operation of Electric Networks NE2: 2020, approved by ANRE, each employee of the energy companies in the Republic of Moldova, "...must ensure the appropriateness of the arrangement and operation of equipment, buildings and constructions, electrical networks NE1-02: 2019 "Safety standards for the operation of electrical installations", approved by ANRE decision no. 394/2019 and the Technical Regulations "General Fire Protection Rules in the Republic of Moldova" RT DSE 1.01-2005, approved by Government Decision no. 1159/2007" [3].

At the same time, according to the provisions of ANRE, the personnel working within the energy companies are divided into 4 categories: electrotechnical, electro-technological, inspection, auxiliary, and non-electrotechnical personnel. Each of these categories has certain obligations to meet the qualification requirements, which require the continuous training of employees.

At the same time, according to ANRE, the operational management of the electrical networks is ensured by the dispatching service, which provides for the existence within the energy company of the dispatching service that is responsible for ensuring the continuity of electricity deliveries, checking the voltage, adjusting the machines, fixing the technical faults of the technical equipment [3].

The dispatch service within an energy company is divided into 3 levels:

- energy system dispatcher;
- electrical network dispatcher;
- service staff of the station, electrical network area dispatcher [3].

Each of the dispatchers is responsible for drawing up multiple technical record books.

Table 1. Registers filled out by energy company dispatchers

<table>
<tr><th>Category of dispatchers</th><th colspan="4">Registers filled out</th></tr>
<tr><td>Energy system dispatcher</td><td>Operational scheme of execution</td><td>The Register of requests for equipment decommissioning</td><td>The Register of protection by relays, automations and telemechanics</td><td>The Register for the record of the works performed in the electrical installations based on the authorizations and work provisions</td></tr>
<tr><td>Electrical network dispatcher</td><td rowspan="2">Daily execution operational scheme</td><td rowspan="2">The Register of requests for equipment decommissioning</td><td rowspan="2">The Register of protection by relays, automations and telemechanics</td><td rowspan="2">The Register for the record of the works performed in the electrical installations based on the authorizations and work provisions</td></tr>
<tr><td>Electrical network area dispatcher</td></tr>
</table>

Source: elaborated based on the Activity Reports of ANRE [3]

From the data in the table, we notice that the dispatchers draw up and make entries in multiple registers in order to record various deviations, decommissioning of some equipment, some records regarding the measurement of voltage in the electrical network. In addition, the dispatchers are responsible for ensuring the efficiency of the delivery of electricity in the dispatch centers in the territorial areas. Thus, if there is a more complex structure of the energy company, then the dispatch service is divided into:

– central dispatch service – is the central dispatcher that ensures the efficiency of electricity supplies at the national/regional level. The central dispatcher is responsible for ensuring uninterrupted deliveries, rectifying delivery delays and technical problems that may occur in the network.
– regional dispatch service – usually, it is subordinated to the general dispatcher, but it, in turn, has subordinated the local dispatchers in the region. Thus, the regional dispatch center is responsible for the continuous supply of electricity to the local dispatch centers, but also continuously cooperates with them in order to ensure optimal working conditions in order to prevent certain shutdowns, technical problems.
– local dispatch service – are the dispatch centers located in urban/rural localities that are responsible for the delivery of electricity, the technical condition of the equipment in those localities.

The close cooperation between the dispatching services, the records in the technical documents, the record of all irregularities, deviations, helps to achieve and increase the performance of the dispatching service.

The essence of the operation of dispatch services is shown in Figure 1.

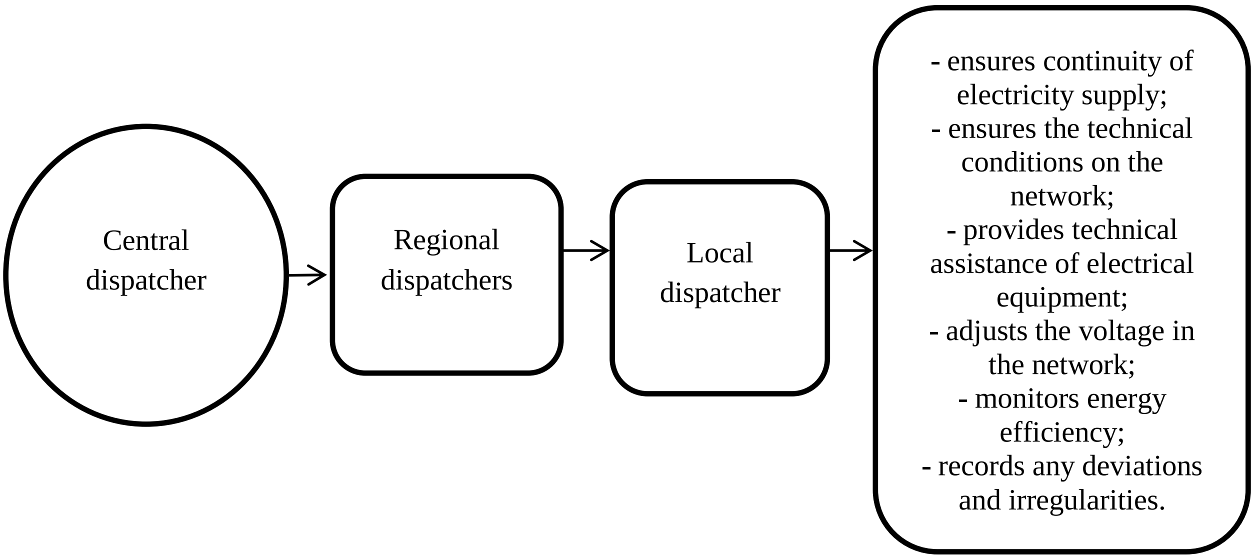

Figure 1. The role of dispatch centers in the efficient management of electrical networks
Source: elaborated by the authors

From the data in the figure, we notice that the dispatch service ensures the efficiency of electricity delivery to all the necessary points. Thus, the employees of the dispatching services must be competent persons, who have passed the following trainings:

1) NE1-02:2019 "Safety rules for the operation of electrical installations", approved by the ANRE decision no. 394/2019;

2) Norms for the arrangement of electrical installations (further on – NAIE);
3) Technical regulations "General fire protection rules in the Republic of Moldova" RT DSE 1.01-2005, approved by Government Decision no. 1159/2007, "Fire protection rules for electric power companies";
4) production instructions and job descriptions;
5) occupational health and safety instructions [3].

At the same time, the Technical Director of the energy company is the person responsible for ensuring the continuity of the company's electricity supply. The efficiency of the company, the technical condition of the equipment, etc. largely depends on his competence.

According to the ANRE provisions, the technical director of an energy company is responsible for:

1) directing technological processes;
2) organizing the supervision of the technical condition of equipment, buildings and constructions;
3) the elaboration, organization, and record of the fulfillment of the measures that ensure the safe and economic exploitation of the object;
4) investigation and record of all operational violations;
5) control over compliance with the requirements of normative-technical documents regarding operation, repair, and adjustment [3].

At the same time, the Technical Director of the energy company has under his command the dispatching services that are responsible for ensuring the continuity of the company's electricity supplies. In this sense, he is responsible for the elimination of irregularities, violations by the staff of the dispatch service. Thus, the dispatch centers of the energy companies are equipped with automatic recording equipment. In this context, the records of the calls of employees from the dispatch services are kept for 10 days, in normal situations, and in special cases, breakdowns, operational irregularities, they are kept for 90 days [3].

For dispatcher control to be effective, the following conditions must be met:

– it should be based on a reasonable groundwork of the production schedule and calendar plans;
– the control during production should be performed based on operational data;
– the dispatch service must be equipped with the necessary equipment;
– the staff of this service should be equipped with the necessary equipment for the current regulation of the production process.

The form of dispatcher regulation and its methods largely depend on the type of production/delivery. This control is carried out in connection with the implementation of daily programs, in shifts and timetables. Current control and regulation is primarily aimed at the fulfillment of the program and related tasks.

The performances recorded by the employees of the dispatch service are punctuated by the satisfaction of the company's consumers, by the quality indicators recorded by the employees of the dispatch service, due to the fact that the employees of this service ensure the uninterrupted delivery of electricity to final consumers.

The company that distributes electricity in the northern region of the Republic of Moldova is "Red-Nord" JSC, a company founded on 03.11.1997, based on the Decision of the

Government of the Republic of Moldova no. 628 of July 8, 1997. Later, based on Government Decision no. 605 of July 26, 2017, regarding the reorganization of some joint-stock companies, the process of merger by absorption of RED "Nord-Vest" JSC by "Red-Nord" JSC took place at the enterprise, according to the minutes of the general meeting of 30.10.2017.

During the 25 years of activity, "Red-Nord" JS company managed to modernize its electricity distribution lines, technical equipment, increase the length of its electricity distribution lines and to reduce the average duration of power outages.

The general activity indicators of "Red-Nord" JS company, in dynamics, are shown in Table 2.

Table 2. General activity indicators of the "Red-Nord" JSC, 2017-2022

Indicator	2017	2018	2019	2020	2021	2022
The number of consumers of the company, of which: a. Household consumers b. Non-household consumers	490930 461203 29727	491227 460481 30746	490885 460857 30028	490801 460699 30102	492366 461253 31113	492586 461221 31365
Electricity consumption rate: a. Household consumers b. Non-household consumers	476,487 371,589	485,245 375,418	499,311 386,02	512,205 376,835	529,435 414,385	494,041 405,322
Average electricity consumption per consumer, kWh	116	119	124	143	96	89
Total length of power lines (0.4 kV), km, of which: Length of low-voltage power lines (0.4 kV), km Length of high-voltage power lines (6-10 kV), km	22232,186 14652,349 7579,837	22468,712 14635,148 7833,564	21875,7 14572,17 7303,2	22047,52 14666,3 7381,22	21457,63 14071,23 7386,39	21316,29 7381,35 13934,94
The total capacity of the transformers, MVA	976,6	977,2	978,5	994,58	995,4	1021,98
Investments, lei: CAPEX / km of power lines built	110393,68 9 440,743	129129,130 486550	1580050,610 542,240	2378228,89 440,743	273948,80 634,443	204913,2 943,51
SAIDI – average outage time index	177	201,95	143	83,82	93,96	83,95
SAIFI – the average frequency of outages	2,4	2,74	2,33	1,65	1,99	1,67
CAIDI – average duration of an outage for the final consumer, minutes	73	74	62	51	57	50

Source: elaborated based on the "Red-Nord" JSC activity reports, 2017-2022

From the data in the table, we can see that the "Red-Nord" JS company has increased its total number of consumers over the years. Therefore, it went from 490,930 consumers served in 2017, to 492,586 consumers served in 2022. Thus, if we were to analyze in dynamics, we can observe an increase with during the period of 2017-2022, by 3,4%.

In addition to this, we must note that the average consumption per consumer, in the period of 2017-2022, registered an oscillating trend, with a decreasing tendency. If, from 2017 to 2020, there is an increase in the average consumption per consumer, from 116 kWh, in 2017, to 143 kWh, in 2020, then in 2022, the average consumption per consumer decreased, to 89 kWh, or by approximately 23% compared to 2017. This fact is due, in large part, to the pandemic crisis and the energy crisis, which affected this sector and disrupted the activity of companies in this sector.

At the same time, we can note that the length of the electricity distribution lines also increased, during the analyzed period. If in 2017, the length of the electricity distribution lines was 22232.186 km, then by 2022, their length of increased to reaching 21316.29 km, during the year of 2022.

During the analyzed period, we observe an increase in new power lines built by the company. Thus, if in 2017 the company built 440.743 km of power lines, then in 2022, the company built 943.51 km of power lines. We can see the continuous growth of electric power distribution lines throughout the analysis period.

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Along with the increase in the length of the electricity distribution lines, the company's investments in equipment modernization also increased. From the data in the table, we can see an increasing trend of investments allocated by the company in the modernization of equipment and electricity distribution lines. Thus, if in 2017, the company allocated 110,393,689 lei in the modernization of equipment, then in 2022, the value of investments reached 204,913.2 lei.

Analyzing the dynamics of the total capacity of the company's transformers, in the analyzed period, we can see that in 2017, the value of the indicator was 976.6 MVA, then due to modernizations, purchases of new technical equipment, repairs, the total value of the total capacity of the transformers reached the value of 1021.98 MVA, or an increase of about 5% is recorded.

In addition to this, we can note that in the period 2017-2022, there is a reduction in the average interruption time, the SAIDI indicator, which recorded a decreasing trend for the entire period of analysis. Thus, if in 2017, its value was 177, then in 2022, the value of the indicator was 83.95. This reduction is largely due to the implementation of information technologies in the company's activity, which allowed the operationalization of call recording and faster liquidation of interruptions.

In addition to this, the average frequency of interruptions, the SAIFI indicator, also decreased during the analyzed period within the "Red-Nord" JS company. Thus, if in 2017, the value of the SAIFI indicator recorded the value of 2.4, then in 2022, the value recorded by the indicator was 1.67.

In the same context, we can note that the average duration of an interruption (CAIDI), within the company, during the period 2017-2022 also decreased. Thus, if in 2017, the average duration of an interruption was 73 minutes, then by 2022, the value of this indicator has reached 50 minutes. The results obtained by the company, in the period 2017-2022, denote the improvement of the company's activity, the speed of receiving calls and solving the problems of consumers of the "Red-Nord" JSC. At the same time, we can note the efficiency of the operative management of the company's electrical networks, which was made possible thanks to the implementation of information technologies that allow dispatchers to quickly report technical problems and to intervene quickly in smoothing disconnections.

In Table 3, we have shown the dynamics of the economic-financial indicators of the "Red-Nord" JSC, for the period of 2017-2022.

Table 3. The economic and financial indicators of the "Red-Nord" JSC, 2017-2022

Indicator/Year	2017	2018	2019	2020	2021	2022
Sales income	667345986	692067132	711735107	677633530	743544970	671186899
Cost of sales	487376869	526811445	505118062	640251966	591180841	631134172
Gross profit	116175878	165255687	206617045	38241814	112275699	110432617
Net profit	99340154	80515402	100412133	17946897	51581953	69350104
ROE, %	7,1	4,8	4,4	5,40	15,10	16,45
ROA, %	7,0	5,4	4,9	2,91	1,56	1,59
Absolute liquidity ratio	0,029	0,013	0,010	0,01	0,02	0,024
Total liquidity ratio	0,699	1,722	1,037	1,04	0,9	1,05
Solvency rate	7,7	10,2	8,6	8,59	8,19	8,56

Source: elaborated based on the "Red-Nord" JSC activity reports, 2017-2022

Analyzing the dynamics of the economic-financial indicators of the "Red-Nord" JS company, in the period of 2017-2022, we can see that the company recorded, in most of the economic-financial indicators, significant increases.

Analyzing the solvency rate, in dynamics, we can see that this indicator registered an increase from 7.7 in 2017, to 8.56 in 2022.

On the other hand, we can also notice a spectacular increase in the total liquidity rate, from 0.699 in 2017, to 1.05 in 2022.

Thus, analyzing the company's net profit, in the period 2017-2022, we can see a significant reduction from 99340154 lei in 2017, to 69350104 lei in 2022, a reduction of 29990050 lei, or approximately 30%.

Although the net profit is decreasing, in the analyzed period, the ROE indicator registered a significant increase in the period 2017-2022. Thus, if the value of the indicator in 2017 was 7.1%, then in 2022, the value of the indicator reached the value of 16.45%.

The results obtained by the company, denote the efficiency of the operational management of the electric networks by the company, and point to the significant contribution of the implementation of information technologies within the company, which allowed the efficiency of the company's activity and the increase in the speed of service to the company's consumers.

A significant contribution in ensuring the increase in the performance of the "Red-Nord" JS company was provided by the company's dispatch service, which ensures the efficiency of the operative management of electrical networks [14]. Thus, the main object of activity of the dispatch service of the "Red-Nord" JSC is the operative management of the 10/0.4kV electrical networks. The operational activity carried out by the employees of the dispatch service consists in monitoring the set of lines, installations, and electrical equipment 10/0.4kV, which starts from the departures from the electrical stations of the "Moldelectrica" SE to the customer's delimitation point final.

Starting from 2018, the management of the "Red-Nord" JSC organized a restructuring and optimization of the operative management of the electrical networks according to the European models of operative management, as well as multiple information technologies were introduced in the activity of the operative management of the electrical networks. Thus, the dispatching service was restructured from 15 territorial dispatching subdivisions of the company in which the main dispatcher and 5 other dispatchers worked in each subdivision, major changes were made and 3 CDPs (Central Dispatch Points) remained, in which 5 people work [14].

Until the implementation of the reforms, 15 local dispatch points operated within the company, for each branch, where 5 dispatchers were active in shifts and the superior dispatcher, a total of 90 dispatchers. Starting from 2018 until now, 61 people are involved in the dispatch service, which includes dispatchers and employees from the 24/24 customer service group.

By the competence of the employees of the dispatch service of the "Red-Nord" JSC depends, in large part, the efficiency of the electricity supply of the end consumers, the lack of electricity outages, the quick resolution of technical problems arising in the electricity networks.

Operational management of high voltage lines (10 kV) is carried out by dispatchers from the Central Dispatch Points within the company. The personnel employed in the Central Dispatch Point work 24/24, in 12-hour shifts, managing the 10kV electrical installations operatively. The dispatch service within the "Red-Nord" JSC consists of 15 dispatchers, psychologically evaluated, who are annually examined and authorized, and once every 5 years they perform trainings and improve their knowledge within the training center of the "Moldelectrica" SE.

The "Red-Nord" JSC has 3 central dispatch points with the following service areas:

1. CDP1 - Balti, Floresti, Glodeni and Riscani.
2. CDP2 - Falesti, Singerei, Rezina and Ungheni.
3. CDP3 - Briceni, Donduseni, Drochia, Edinet, Ocnita and Soroca [14].

The main activity of dispatchers is reflected in the operative register, SAIDI data, authorization register, fault register, and for effective communication, urgent information is placed in Viber, including the morning report.

Operational management of low voltage lines (0,4kV) is ensured by the LVDP (Low Voltage Dispatch Point) in each office activating a LVDP dispatcher with a normal working schedule of 8 hours. These particular dispatchers operate the office from 7:30 a.m. to 4:00 p.m. on working days, and outside of working hours, the operational control is transmitted to the LVDP, that operates 24/24, exception being the office of Balti, Ungheni and Donduseni, where the dispatchers work 24/24, in 12-hour shifts, managing the 0.4kV electrical installations operatively, with 5 dispatchers per shift and a superior dispatcher, the service area being the following:

1. LVDP Balti - Balti, Floresti, Singerei, Rezina
2. LVDP Ungheni - Ungheni, Falesti, Glodeni, Riscani
3. LVDP Donduseni - Donduseni, Briceni, Drochia, Edenit, Ocnita, Soroca.

Within the "Red-Nord" JS company, in the last 5 years, major changes have occurred in the implementation of information technologies. Thus, in the period of 2017-2021, various innovative software was implemented, such as:

1. **The "24/24 customer service group" (Call center) was implemented –** in the call center, 13 employees work in 12-hour shifts, and depending on weather conditions and other factors, they can simultaneously work up to 6 employees, but not less than two employees per shift. The main factors that led to the organization of the "24/24 customer service group" with the aim of making the activity more efficient in serving customers, are the following:

- ✓ centralization of some activities carried out in order to improve the efficiency of human resources;
- ✓ implementation of the "Non-Stop" telephone service (Call Center) for receiving information about deviations, related to the distribution of electricity;
- ✓ implementation of the telephone service for handling customer complaints;
- ✓ notification of the non-domestic customers by phone about the date and duration of the scheduled interruption of electricity supply;
- ✓ implementation of a new high-performance computer system for processing the customer's calls.

At the same time, the creation of the "24/24 customer service group" (Call center) facilitated an enormous reduction of pressure from customers on dispatchers during the breakdowns.

2. **The SCADA/OMS system was implemented** – the SCADA/OMS system is an information system to support the relevant operational activities and functions used in the automation of electricity distribution at the level of dispatch centers and control rooms. With the implementation of this SCADA/OMS system, the control of all equipment and installations related to the medium voltage (MV) and low voltage (LV) networks of the "Red-Nord" JSC was achieved. With the implementation of this information system, there have been also improved the information made available to the dispatch center operators, as well as to the staff of the field teams, to the management. This generated an efficient exchange of information between the dispatch centers and the call center. The SCADA/OMS system offers the possibility to monitor in real time, through specific interfaces, the energy equipment of the "Red-Nord" JSC. However, we must note that a problem that disrupts the efficiency of the activities in the implementation of the system is the fact that only 30% of the equipment can be remotely controlled, and a large part (70%) of the total number of equipment lacks in remote control, and for incoming information into SCADA /OMS, the positioning of the switchgear is done manually by the dispatcher.

3. The Smart Metering System was implemented (remote record of electricity consumption) – the main task of the project is the design of a complex set of equipment, software and accessories for the formation of the system of collection, transmission, saving and processing of data from smart electronic meters, installed at household consumers in residential blocks, individual houses and at technical records, as well as and to non-domestic consumers being connected/supplied from the same transformation point (TP). This system is therefore an Automated Measurement System.

The main components of the Smart Metering System:

– smart electronic meters (with RS-485 interface) installed at electricity users;
– data concentrators that have a role of collecting data read from electricity meters/meters installed at electricity users and their transmission to the central system;
– gateway – with the role of collecting data from the concentrators (in cases where the concentrators according to the SMS architecture do not send data directly to the central server but only through gateways) and their further transmission to the central system (central server) through GSM technologies/ LTE/GPRS or through a dedicated line (telephone, optic fiber, etc.);
– central system with roles of data collection from concentrators/gateways and their transmission to the electricity supplier, drawing up reports with the role of identifying areas that require optimization from the perspective of electricity supply.

4. The information system of planned records was implemented – the implementation of the information system offered the possibility to digitize the operative management process by means of planning the disconnections that are to occur in the near future. Thus, it allowed emergency employees to streamline their work, record all disconnections and warn customers that in the coming period technical works will take place and, respectively, they will have disconnections from the network.

The efficiency of the dispatch service within the "Red-Nord" JSC company can be evaluated through the quality indicators of the operative management of electrical networks, registered by the company (Table 4).

Table 4. Quality indicators recorded by OSD, 2017-2020

	FCE "Premier Energy Distribution" JSC				"Red-Nord" JSC			
	2017	**2018**	**2019**	**2020**	**2017**	**2018**	**2019**	**2020**
A	1	2	3	4	5	6	7	8
Total Scheduled Outages	16230	14687	11402	11933	10441	10656	10841	11140
Unannounced scheduled outages	0	0	14	58	0	0	0	0
Requests for the release of the approval for connection to the electrical network of distribution of electrical installations of potential final consumers (10 days)	6727	6741	9243	8016	3921	3161	3497	4052

A	1	2	3	4	5	6	7	8
Requests for the release of the approval for connection to the electrical network of power plant distribution (30 days)	121	136	318	514	0	11	149	176
Number of connection requests	11422	12569	12840	15501	2509	2342	1795	2287
Number of final consumers connected within more than 2 days	15	12	4	0	0	0	0	0
Compensation amount, lei	576,13	243	353	0	0	0	0	0
Total number of consumers reconnected	11480	9740	14349	6919	10848	10526	8091	6947
Number of consumers reconnected within more than 2 calendar days	5	3	5	3	0	0	0	0
Amount of compensation paid, lei	78,25	173	207	601,2	0	0	0	0

Source: ANRE Reports, 2017-2021 [3]

Analyzing the data in Table 5, we can see that the electricity distribution system operator FCE “Premier Energy Distribution” JSC registered an increasing trend of scheduled unannounced outages, from 0, recorded in 2017, to 58 unannounced outages, recorded in 2020. On the other hand, the “Red-Nord” JS company, for the entire analyzed period, did not register any unannounced disconnections, in the period of 2017-2020.

In the same context, we can mention that the electricity distribution system operator FCE “Premier Energy Distribution” JSC registered an increasing trend of compensations paid, in the period 2017-2020. If in 2017, the operator paid 78.25 lei in compensation to its consumers, then in 2020, the value of the indicator reached 601.2 lei. On the other hand, the system operator the “Red-Nord” JSC, for the entire analysis period, did not pay compensation for its consumers. This denotes the seriousness, the promptness of the reaction of the “Red-Nord” JSC to consumer calls and the promptness of the actions taken by dispatchers from the company’s operational management system.

Following the research carried out, we can mention that through the reform of the dispatching service, the implementation of information technologies in the operative management of electrical networks within the “Red-Nord” JSC, the company managed to become more efficient, competitive and react faster to the requests received from its consumers.

5. Conclusions

Towards the end, based on the results of the research carried out, we can mention that the efficiency of the operative management of electrical networks represents a strategic approach for every operator of the electricity distribution system. In the Republic of Moldova, according to the existing regulations, the operational management of the electrical networks is ensured by the dispatch service of the electricity distribution companies.

a. Following the research carried out in this paper, we can observe that the quality indicators of operative management within the "Red-Nord" JSC are growing, for the period of 2017-2022. Thus, in the period 2017-2022, there is a reduction in the average interruption time, the SAIDI indicator, which registered a decreasing trend for the entire analysis period. Thus, if in 2017, its value was 177, then in 2022, the value of the indicator was 83.95. This reduction is largely due to the implementation of information technologies in the company's activity, which allowed the operationalization of call recording and faster liquidation of interruptions. In addition to this, the average frequency of interruptions, the SAIFI indicator, also decreased during the analyzed period within the "Red-Nord" JSC. Thus, if in 2017, the value of the SAIFI indicator recorded the value of 2.4, then in 2022, the value recorded by the indicator was 1.67. At the same time, we can note that the average duration of an interruption (CAIDI) has also decreased within the company, in the period 2017-2022. Thus, if in 2017, the average duration of an outage was 73 minutes, then by 2022, the value of this indicator has reached 50 minutes. The results obtained by the company, in the period 2017-2022, denote the improvement of the company's activity, the speed of receiving calls and solving the problems of the "Red-Nord" JSC consumers. At the same time, we can note the efficiency of the operative management of the company's electrical networks, which was made possible thanks to the implementation of information technologies that allow dispatchers to quickly report technical problems and to intervene quickly in smoothing disconnections/ outages.

b. Analyzing the economic-financial indicators of the "Red-Nord" JS company, we can observe that in the period of 2017-2022, the enterprise recorded significant increases in most of the economic-financial indicators. Analyzing the solvency rate, in dynamics, we can see that this indicator registered an increase from 7.7, in 2017, to 8.56, in 2022.
On the other hand, we can also notice a spectacular increase in the total liquidity rate, from 0.699 in 2017 to 1.05 in 2022. On the other hand, analyzing the net profit of the company, in the period of 2017-2022, we can see a significant reduction from 99340154 lei, in 2017, to 69350104 lei, in 2022, a reduction of 29990050 lei, or approximately 30%.

c. Carrying out a comparative analysis of the two electricity distribution system operators, we can highlight that the electricity distribution system operator FCE "Premier Energy Distribution" JSC, in the period of 2017-2020, recorded an increasing trend of scheduled unannounced outages, from 0 unannounced outages recorded in 2017 to 58 unannounced outages recorded in 2020. On the other hand, the "Red-Nord" JS company, for the entire analyzed period, did not register any unannounced outages, in the period of 2017-2020. In the same context, we can mention that the electricity distribution system operator FCE "Premier Energy Distribution" JSC registered an increasing trend of compensations paid, in the period 2017-2020. If in 2017, the operator paid 78.25 lei in compensation to its consumers, then in 2020, the value of the indicator reached 601.2 lei. On the other hand, the system operator "Red-Nord" JSC, for the entire analysis period, did not pay compensation for its consumers. This denotes the seriousness, the promptness of the reaction of the "Red-Nord" JSC to consumer calls and the promptness of the actions taken by dispatchers from the company's operational management system.

d. In the last 5 years within the "Red-Nord" JSC, in order to improve the operational management system of the electrical networks, the following changes have been made:

- *the "24/24 customer service group" (Call center) was implemented* – 13 employees work in 12-hour shifts in the Call center, and, depending on the weather conditions and other factors, up to 6 employees can work at the same time but not less than two employees per shift.
- *the SCADA/OMS system was implemented* - SCADA/OMS refers to real-time information systems and all elements necessary to support the relevant operational activities and functions used in the automation of electricity distribution at the level of dispatch centers and control rooms.
- *the smart metering system (remote record of electricity consumption) was implemented* – the main task of the project is the design of a complex set of equipment, software and accessories for the formation of the system for collecting, transmitting, saving and processing data from smart electronic meters, installed at household consumers, at apartment blocks, individual houses and at the technical record, as well as at non-household consumers being connected/supplied from the same transformation point (TP). This system is therefore an Automated Measurement System.
- *the information system of planned records was implemented* – the implementation of the information system offered the possibility to digitize the operative management process by means of planning the disconnections/outages that are to occur in the near future. Thus, it allowed emergency employees to streamline their work, record all disconnections and warn customers that in the coming period technical works will take place and, respectively, they will have disconnections from the network.

However, we believe that the operative management of the electrical networks within the "Red-Nord" JSC must be further made more efficient through consolidated efforts carried out annually, through the lens of increasing investments in new information technologies, in order to equip the equipment, as well as through the infiltration of digitization in all company processes.

Thus, we consider it necessary to implement within the "Red-Nord" JSC of the following ***recommendations****:*

a. Streamlining the system of receiving calls from end consumers – in order to increase the response speed from operators in the Call center, it is necessary to implement a specialized software, namely interactive voice response, also known as *IVR (Interactive Voice Response).* Traditionally, customers seek assistance from customer service specialists in person (such as when visiting information desks) or over the phone by calling a dedicated customer service number. But with the advent of new technologies such as interactive voice response systems and the increasing prevalence of online support resources such as frequently asked questions or live chat options on a company's website, customers may rely less on these personal interactions and more on self-service.

b. For more effective operation and increased network management, it is considered appropriate **to update and expand the existing SCADA/OMS system by modernizing the software and integrating more and more functions and possibilities.** For example, the installation of software applications for planning and dispatching the maintenance of distribution networks, namely the module for strict record keeping of authorizations and work dispositions. This module will be linked with the application, where the personnel in charge of the corresponding production sectors will have the possibility to fulfill the authorization or work order directly from the phone or personal computer. After the authorization will be drawn up properly and signed with the electronic signature, it will reach the dispatcher through protected channels. Next, this authorization or disposition will be automatically recorded, the dispatcher will check the correctness of the formation of the authorization. After verification this authorization or provision will be registered and will receive a unique and centralized code. After receiving the unique code, it will be possible to perform work tasks according to the steps listed in the authorization or provision with direct reporting to the SCADA/OMS system from the user's mobile phone.

c. **Implementation of electronic registers in the dispatch sector** – in order to improve the efficiency of the operational management of electrical networks within the "Red-Nord" JSC, it would be beneficial the integration of the Operative Electronic Register, which is currently filled in by hand. For this change to benefit the dispatcher, all operational commands and permissions need to be routed directly from the SCADA/OMS system and not over the phone. All switching devices in the non-SCADA system are equipped with (open/ closed) or (connected/ disconnected) buttons. For the electronic register to be functional, it is necessary, in addition to the existing buttons, to have the teams in the field, which will be able to execute the maneuvers so that the dispatcher will indicate the switching device, the status and the team that must execute the maneuver, and the command it will come directly as a tablet workload in the field to the appropriate executor.

On the other hand, all the teams, which have the right to operational maneuvers, must be equipped with tablets, in which the tasks will be executed. At the moment of execution of the maneuver, the operative person will check the completion of the task, and the automatic SCADA/OMS system will indicate the new position of the switching device, informing the dispatcher about the execution of the command.

When executing the work planned by the authorization or disposition, the automatic admitter will receive your authorization on the tablet, after its verification, by the dispatcher and ask you for permission to prepare the workplace, admit and complete the work from the application, where earlier the issuer registered the authorization, and the dispatcher will accept the requests submitted from the SCADA/OMS with the respective changes in the SCADA Operating Scheme (OS) and the automatic registration in the operative register and authorization register. It is necessary for the issuer and other interested parties to have access for tablet viewing of the Operating Scheme (OS) from the SCADA directly on the tablet.

The tablets must be provided with all the necessary applications, including the geolocation programs, where the "Red-Nord" JSC network will be included, to help new operatives react quickly and promptly to the dispatcher's requests.

d. **Integration, in the existing SCADA/OMS information system, of a mobile switching module, which is also called Mobile Switching Orders (*Mobile Switching Orders*)** – it is a web application, which, using the MMI (Man Machine Interface) or the HMI (Human Machine Interface), will allow remote updating of non-SCADA switchgear (open/ closed) directly by the field/ operating teams.

e. Restructuring of the dispatching service by absorbing the low voltage dispatching points – in order to digitize the operative management of electrical networks within the "Red-Nord" JSC, on the one hand, but also to reduce the number of dispatchers, operational expenses, but also to increase the automation of processes, on the other hand, we come with the proposal to implement another reform of the dispatching service by absorbing the low voltage dispatching points by the central dispatching points (CDP1, CDP2, CDP3).

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Rezumat

Prezenta lucrare reprezintă o incursiune metodologică privind elucidarea aportului factorului uman în eficientizarea gestiunii operative a rețelelor electrice. Scopul lucrării este redat prin cercetarea rolului tehnologiilor informaționale în eficientizarea gestiunii rețelelor electrice pe exemplul companiei S.A. „Red-Nord”. În vederea atingerii obiectivului general al cercetării, au fost analizate principalele tehnologii informaționale care pot fi aplicate în gestiunea operativă a întreprinderii energetice. Totodată, au fost trecute în revistă regulamentele ANRE privind eficientizarea gestiunii operative a rețelelor electrice, cu elucidarea rolului dispeceratelor în gestiunea operativă a rețelelor electrice. Drept urmare, au fost analizați principalii indicatori de activitate ai companiei S.A. „Red-Nord”, precum și indicatorii de gestiune operativă a rețelelor electrice în perioada 2019-2021. Totodată, au fost trasate concluzii și recomandări privind eficientizarea gestiunii operative a rețelelor electrice prin prisma dezvoltării factorului uman și introducerii tehnologiilor informaționale.

Metodele de cercetare utilizate în vederea elaborării prezentei lucrări sunt: analiza și sinteza, inducția, deducția, cercetarea empirică, analiza comparativă, care ne-au ajutat să identificăm aportul factorului uman în gestiunea operativă a rețelelor electrice.

În concluzii, putem remarca faptul că în ultimii 5 ani, compania S.A. „Red-Nord” a implementat softuri moderne în vederea eficientizării gestiunii operative a rețelelor electrice, precum: sistemul informațional al înregistrărilor planificate, implementarea sistemului SCADA, reorganziarea sistemului de dispecerat. Totuși considerăm necesară realizarea următoarelor optimizări: eficientizarea sistemului de recepție a apelurilor, perfecționarea softului SCADA/OMS în vederea introducerii de noi funcții care ar permite reducerea timpului de răspuns din partea companiei către consumatorii finali.

Cuvinte-cheie*: tehnologii informaționale, management energetic, gestiune operativă a rețelelor electrice, energie electrică*

Аннотация

Научная работа представляет собой методологический анализ нацелен на выяснение вклада информационных технологии в эффективность оперативного управления электрическими сетями. Цель статьи заключается в исследовании роли информационных технологий в эффективности управления электрическими сетями на примере компании S.A. «Red-Nord». Для достижения общей цели исследования были проанализированы основные информационные технологии, которые могут быть применены в оперативном управлении энергетической компании. В то же время были пересмотрены положения НАРЭ об эффективности оперативного управления электрическими сетями с разъяснением роли диспетчеров в оперативном управлении электрическими сетями. В результате были проанализированы основные показатели деятельности компании S.A. «Red-Nord», а также показатели оперативного управления электрическими сетями в период 2019-2021 гг. При этом, были сделаны выводы и рекомендации по эффективности оперативного управления электрическими сетями через развития человеческого фактора и внедрения информационных технологий.

Методами исследования, использованными при подготовке данной статьи, являются: анализ и синтез, индукция, дедукция, эмпирическое исследование, сравнительный анализ, что позволило выявить вклад человеческого фактора в оперативное управление электрическими сетями.

В заключение можно отметить, что за последние 5 лет компания S.A. «Red-Nord» внедрила современное программное обеспечение для повышения эффективности оперативного управления электрическими сетями, такие как: информационная система планово-предупредительного учета, внедрение системы SCADA, реорганизация системы диспетчеризации. Однако, мы считаем необходимым провести следующие оптимизации: повысить эффективность системы приема звонков, доработать программное обеспечение SCADA/OMS с целью внедрения новых функций, позволяющих сократить время ответа от компании до конечных потребителей..

Ключевые слова: *информационные технологии, энергоменеджмент, оперативное управление электрическими сетями, электроэнергетика*

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EXPLORING INVESTMENT STRATEGIES FOR SUSTAINABLE DEVELOPMENT IN AN UNCERTAIN LANDSCAPE

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Abstract

Current study examines the opportunities for individuals to invest in various money and capital market instruments, ranking, grading and analyzing each of the eleven options proposed. This issue is very relevant and affects all citizens, because in times of insecurity, crisis and war, people are scared and looking for alternatives to preserve their money's worth and "escape" from rising inflation.

At the same time, European directives in the last decade put sustainable development, the transition to a circular economy, "green" financing, etc. at the center of economies. The extent to which the economies of Eastern Europe are prepared for this transition is a matter of debate, but it is indisputable that large-scale investments are needed for its implementation.

Investment choice has always been at the center of every economic activity. That's why we turn our attention to possible investment options in today's uncertain times.

***Keywords**: investment, banks, stock exchange, securities, mutual funds, cryptocurrency, gold, emergency fund*

1. Introduction

We live in difficult times. The world has changed radically in a few years. The financial crisis of 2008 was a harbinger of what is happening today. This is because in order to overcome the financial shock, billions of dollars were printed at the time and due to this domestic and foreign debt increased, hundreds of banks and financial companies went bankrupt. It was clear to macroeconomists and financiers that this would sooner or later lead to inflation, which will be most felt in economies that are dependent on energy resources and raw materials.

Many experts have warned about this, and Bill Gates even in an interview in 2017 hinted at a possible epidemic caused by unknown viruses. No serious attention was paid to this fact then, or at least ordinary people did not have such information. As if life had returned to normal after 2012, economies were recovering at both a faster and slower pace. But then came 2019 and the world was rocked by a health crisis, the COVID-19 pandemic.

We are witnessing the collapse of health systems, high mortality, the forced closure of businesses, the loss of millions of skilled workers, limited access to institutions, the closure of borders, and so on. All this undoubtedly affected production, consumption, income, savings, investment opportunities, buying and selling real estate, financial instruments, currency, precious metals and more. These instruments are traded on the financial markets and it is logical that they react first and sometimes the collapse is more than expected.

The new year 2022 did not foreshadow a war, but it nevertheless happened. The problems are multiplying, as some of the factors influencing the economic development of the countries are already political. The prices of gas, oil and energy are decisive in production and their increase in markets leads to higher prices, and speculation in times of crisis is the greatest. So today the world is already in galloping inflation. It is natural for both individuals and legal entities to worry about their income, meeting their expenses, paying taxes and fees, protecting their savings.

The causes of the global financial, energy and environmental crises are rooted in the intensive and irrational extraction and use of natural resources together with poor management. As people began to realize the dangers of using this development model, the conviction that the world needed a new solution to the problem was increasingly confirmed. Environmental threats undoubtedly create new economic and financial responsibilities. The "green economy" is a new economic paradigm in which every participant bears responsibility for the environment: citizens are called to be responsible consumers; companies are called upon to be responsible producers of goods and services; regions are called to be responsible territorial managers; countries are called upon to respect the limits of economic growth.

2. The degree of investigation of the problem at the present time, the purpose of the research

The problem of investing by individual clients has been widely discussed in theory and practice. Opinions of prominent scientists in this field are analysed. The purpose of the study is to rank the possible investment options by degree of applicability, with special attention being paid to investing in energy-saving energy sources in households and switching to ecological consumption. The relationship between theory and practice is vividly expressed through supported empirical data from the banking system and the stock exchange of Bulgaria.

3. Applied methods and materials

In the article, the methods of induction and deduction are mainly used, and comparative characteristics of some of the investment methods considered, such as the method of comparison, the method of grouping and the method of detailing, are made.

4. Results obtained and discussions

GRADING AND ANALYSIS OF INVESTMENT OPPORTUNITIES IN CONDITIONS OF FINANCIAL, HEALTH, POLITICAL CRISIS

Economists know the most commonly used ways to invest during a crisis [4, p. 58-69; 2, p. 4-6]. Of course, every investment has its pros and cons. We need to focus on maintaining the purchasing power of our money and overcoming the effects of inflation. It is possible that it will remain at the current or higher levels for a few more years, which means that we may lose significantly if we do not find options to invest our free cash.

If we have to sort by size and preference the opportunities for investing in times of crisis and war, then the ranking could look like this:

1. *Most funds are kept in banks in various accounts - current, savings, deposit.*
The amount of household bank deposits in our country by the end of March 2023 is BGN 73,180,641 thousand and increases compared to the same period last year by 9.4%. be drawn, and the big ones to increase. Thus, deposits on a one-year basis up to BGN 1,000 decrease in number by 4.5%, and in volume by 3.1%, those from BGN 1,000 to 2,500 decrease in both number and volume by 1.3%, from 2,500 to 5,000 BGN by 0.9 and 0.8%, respectively. From here on, household deposits increase, with the largest increase observed in those from BGN 200,000 to BGN 500,000, respectively in cash by 20.2% and in volume by 19.4%, and deposits grow the most over BGN 1 million - by 25% in cash and by 25.3% in volume [14]. That is, the poor get poorer and the rich get richer. At zero interest rates on deposits, this investment is no longer an investment, on the contrary, negative returns are observed due to the high fees and commissions that are paid. The legal guarantee of BGN 196,000 of deposits in banks makes Bulgarians confident in bank deposits, but rather the reason for the growth in large deposits lies in the low investment culture, the fear of investments in the capital market, the small selection of quality securities, as well as in the poor knowledge of the market of precious metals.

2. *Bulgarians like to invest in real estate and that is why in the last two years there has been a new boom in the purchase of housing.*
The main reasons are increased demand, weaker supply, high inflation, the pandemic and the war in Ukraine. There are also many pitfalls in this type of investment. On the one hand, interest rates on mortgage loans are currently low - about 2-3%, but the expected increase in these levels may lead to inability to pay mortgages and problems for both banks and investors [10]. On the other hand, a real estate investment, when intended for rent, would have a return if it is repaid from the rent for 10 years. In our country this indicator is twice as high, i.e., the return is 15-20 years. Experts predict a "property bubble", but at least for now the market is stable and construction is growing. The market is extremely dynamic, and the banks also contribute to that. The number of transactions is growing by about 20% on an annual basis, with demand continuing to outpace supply [8]. The share of purchases made with a mortgage loan is also increasing - if by the fall of 2020 they were about half of all transactions, today external financing is used by about 60% of property buyers. It is good to choose this asset only if we have this opportunity and know what we are doing. Renting is not as easy a business as it seems.

3. *Investing in insurance, supplementary pension funds, insurance.*
There are nearly BGN 17.5 billion in the second and third pillars of our pension system [12]. Some insurance companies and pension funds offer flexible schemes and there is a positive return.

4. *Investing in securities on the stock exchange.*
The trading on the Bulgarian Stock Exchange - Sofia AD is carried out through the mediation of the so-called stockbrokers who are individuals and work under an employment or civil

contract with commercial banks and financial brokerage houses that are members of the stock exchange. The latter are called investment intermediaries. In order to reach trading, clients must submit written exchange orders to banks or investment intermediaries in person or through the COBOS system. The issues of financial intermediation are studied in great detail in the works of Prof. Petranov, Prof. Yordanov, Prof. Assenova [1, 2, 3] Associate Professor B. Krastev [5, 6] and others.

There are two markets for securities in Bulgaria: BSE Main Market and BSE Alternative Market [7]. On the Main Market, the BSE Main Market, which is elite, regulated, has the following market segments:

- Premium Equities Segment
- Standard Equities Segment
- Bonds Segment
- Exchange traded Products Segment
- Special Purpose Vehicles Segment
- Government Securities Segments
- Compensatory Instruments Segment.

The securities of these market segments must meet strict requirements in order to be admitted to trading or listed on the stock exchange. The ones that do not meet the requirements or the companies that are in the process of bankruptcy or liquidation are traded on the so-called BSE Alternative Market. It has only two segments: Equities Segment and Special Purpose Vehicles Segment.

The Standard Equities Segment has a higher market turnover and respectively a higher market capitalisation because the requirements for this type of segment are minimal. Unfortunately, many companies are on the Alternative Market because the market serves companies with serious problems and those in bankruptcy. The stock exchange is a place where investors take the risk of investing themselves, but it also provides great opportunities for raising capital, opening companies to the world, increasing profits, saving some taxes and more.

The Small and Medium Enterprises (SME) Growth Market Beam is a special market organised by the Bulgarian Stock Exchange (BSE) which allows small and medium companies in Bulgaria to receive financing. The Exchange has been granted an approval by the Financial Supervision Commission to create the new SME Growth Market **beam** at the end of 2018.

For innovative investors wishing to trade securities on world exchanges, an international market called MTF BSE International was created, which works with the platform of the German Stock Exchange.

In Bulgaria, the small investors who live in small towns and especially in rural areas are not active in the capital market. This is because they have not the necessary knowledge and are afraid of investing in securities. In addition, they have not investment advisers nearby, as the latter are located in the headquarters of banks and financial brokerage houses, and they are located mostly in the capital. What investors hate about the stock market game is uncertainty. There is also good news during the crisis, and that is that some shares are quoted quite well and last year the yield on them reached double digits, even up to 30%. Practice shows that investing in sectors such as healthcare, utilities, basic consumer goods, military industry, energy and fuels performs well on the stock market, despite the general situation of recession and collapse of markets due to the crisis and war.

5. *Investing in the so-called collective investment schemes.*
These are the well-known in European and American investment funds, mutuals funds that offer collective investment in securities and other assets. There are over 120 collective investment schemes in Bulgaria, which belong to commercial banks and financial brokerage houses and manage over BGN 2 billion [11]. Some of them, even in these difficult times of crisis, have double-digit returns on their structured products. For the last year the best mutual funds have an annual return of 30 to 40%. Such peaks have not been seen for years, and now they are due to the stock market boom, not only around the world but also in Bulgaria. Currently, there are few alternatives that can surpass collective investment schemes in terms of profitability. The above values, of course, are for a limited range, with a high-risk profile, but even some balanced schemes of a conservative nature can beat inflation or property returns.

6. *Investing in precious metals - gold, silver, and diamonds.*
Gold has been shown to best preserve its value in times of war and crisis. Therefore, since the crisis in 2008, many investors have turned to the "yellow" metal. The most direct way to own gold is to buy physical gold bars or coins, but they can be illiquid and must be kept safe. Gold exchange traded (ETFs) and mutual funds are also popular, and if you have access to derivatives markets in your brokerage account, you can also use gold futures and options.

7. *Export of capital abroad.*
Statistics show that for a ten-year period from 2010 to 2020, Bulgaria exported 37 billion euros, and the inflow of foreign capital was 16 billion euros [12]. These are funds that are not invested in the country, despite the fact that we have some of the lowest taxes in the EU. Obviously, the reasons are different and they are known - insecurity, corruption, poor infrastructure, problems in the judiciary, lack of skilled labor and more.

8. *Investing in cryptocurrency*.
The process of "mining" of cryptocurrencies such as bitcoin, ethereum and others requires a tremendous amount of energy. Some European countries have already begun to restrict and even ban such practices. Under conditions of inflation, the crypto market is not responding well. Bitcoin has fallen by 50%, yet it is a new asset that has not yet been well studied how it reacts to various events. Eventually, the market would move when real cryptocurrency purchases become a reality. In Portugal, a property was bought with bitcoins, in Bulgaria there are some shops that sell in cryptocurrency, but these are still isolated cases [9]. Maybe big countries with many players would also affect the market. Such are India and Vietnam. However, bitcoin mining is banned in Kosovo for example. Young investors definitely prefer this asset, and the digital economy is also conducive to its development.

9. *Investing in education.*
Education can improve both your life and the standard of your family. Investing in education and vocational training is an investment in the future. The more you learn, the better you understand the world, and the more likely you are to build a full-fledged career that improves your life not only with money. If you want to change your profession with a more lucrative or calmer job, it is never too late to invest some time and money in retraining. The investment

can be for example in a language course, innovative and modern courses in mathematics, bachelor's and master's degrees at home and abroad, sports schools and the development of professional sports skills.

10. *Investing in energy-saving energy sources in households and switching to ecological consumption.*

The purchase of small photovoltaic systems is becoming more and more profitable. The use of renewable sources, together with the rational use of energy, is an important driving force of sustainable development and at the same time ensures the achievement of the goals of security of energy supply and reduces dependence on sudden changes in oil prices, contributes to the reduction of trade imbalances and stimulates the creation of new jobs. The wide use of renewable sources and the introduction of energy efficiency measures are among the priorities of the country's energy policy and correspond to the goals of the new energy policy of Europe. Generating energy from renewable energy sources has many environmental and economic advantages. It will not only lead to an increase in the security of energy supplies, by reducing the dependence on oil and gas imports, but also to a reduction of the negative impact on the environment, by reducing carbon emissions and greenhouse gas emissions. The production of energy from renewable sources also contributes to the improvement of the competitiveness of enterprises, as well as the possibility of creating new ones, thus encouraging innovations related to the production of energy from renewable sources and biofuels. The traditional sources of energy, which are widely used in Bulgaria and more specifically in our homes, in business and for transport, belong to the group of exhaustible and non-renewable natural resources - solid fuels (coal, wood), liquid and gaseous fuels (oil and its derivatives - gasoline, diesel and propane-butane; natural gas) [13]. Considering the global trend of increasing energy consumption, the danger of energy dependence should not be underestimated. On the other hand, the high production and consumption of energy leads to environmental problems and specifically to the most serious threat facing the world, namely climate change. For these reasons, it is necessary to rethink the ways in which energy is produced and consumed. In response to growing consumption, rising energy prices, high dependence on imported energy resources and climate change, come renewable energy sources - sun, wind, water and biomass.

11. *Investing in an "emergency fund".*

You can best determine the amount needed according to your personal needs and preferences. It should bring you a sense of calm and comfort in meeting unexpected expenses. For some people, this "emergency fund" makes sense to be even higher (up to 12 month of expenses) if the household's income is difficult to predict and volatile.

5. Conclusions

These are some of the investment opportunities we have today. The choice is personal and is related to the ability to take risks, the investment culture, the size of the investment, age, computer skills, priorities, knowledge, morals, mentality of the individual or family as a whole. One thing is clear, in conditions of galloping inflation, which can escalate and in hyperinflation, savings are "melting", the purchasing power of money is declining, fear and uncertainty are growing and it is necessary to make informed investment choices. The practice offers many and varied options for this choice.

Sustainable development affects not only economies as a whole, but also the individual. That is why today, when the world has turned its attention to protecting the environment and moving to a low-carbon and green economy, more than ever it is important that households are aware of the new opportunities and above all have the knowledge, courage and responsibility to inform themselves and they use them.

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Rezumat

În studiul respectiv se examinează oportunitățile persoanelor fizice de a investi în diverse instrumente ale pieței monetare și de capital, clasificând, clasând și analizând fiecare dintre cele unsprezece opțiuni propuse. Această problemă este foarte relevantă și îi afectează pe toți cetățenii, deoarece în vremuri de nesiguranță, criză și război, oamenii sunt speriați și caută alternative pentru a-și păstra valoarea banilor și a „scăpa” de inflația în creștere.

Totodată, directivele europene din ultimul deceniu pun în centrul economiilor dezvoltarea durabilă, trecerea la o economie circulară, finanțarea „verde” etc. Măsura în care economiile Europei de Est sunt pregătite pentru această tranziție este o chestiune de dezbatere, dar este incontestabil că sunt necesare investiții la scară largă pentru implementarea acesteia.

Alegerea investițiilor a fost întotdeauna în centrul oricărei activități economice. De aceea ne îndreptăm atenția asupra posibilelor opțiuni de investiții în vremurile incerte de astăzi.

***Cuvinte-cheie**: investiții, bănci, bursă, valori mobiliare, fonduri mutuale, criptomonede, aur, fond excepțional*

Аннотация

В данном исследовании рассматриваются возможности для физических лиц инвестировать в различные инструменты денежного рынка и рынка капитала, ранжируя, классифицируя и анализируя каждый из одиннадцати предложенных вариантов. Этот вопрос очень актуален и затрагивает всех граждан, потому что во времена нестабильности, кризиса и войны люди напуганы и ищут альтернативы, чтобы сохранить ценность своих денег и «убежать» от растущей инфляции.

В то же время европейские директивы последнего десятилетия ставили в центр экономики устойчивое развитие, переход к экономике замкнутого цикла, «зеленое» финансирование и т. д.

Насколько экономики стран Восточной Европы готовы к этому переходу, является предметом дискуссий, но то, что для его осуществления необходимы масштабные инвестиции, бесспорно.

Инвестиционный выбор всегда был в центре любой экономической деятельности. Вот почему мы обращаем наше внимание на возможные варианты инвестиций в сегодняшние неопределенные времена.

Ключевые слова: *инвестиции, банки, фондовая биржа, ценные бумаги, паевые инвестиционные фонды, криптовалюта, золото, чрезвычайный фонд*

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MANAGEMENT OF MARKETING ACTIVITY IN AGRICULTURAL ENTERPRISES PRODUCING WHITE SEA BUCKTHORN

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Abstract

One of the features of the agricultural sector is the diversity of the organizational forms of management, the forms of ownership of the means of production and the products sold. A significant part of food products is produced in the private households of the population and in peasant (farmer) households. But the activity of large enterprises, representing all three areas of the agro-industrial complex (the technical-material supply of agriculture, agriculture itself and the valorization of agricultural production), has the greatest influence on the formation of the agri-food market. The category of these enterprises also includes those specialized in the cultivation of white sea buckthorn, which are increasingly forced to react to changes in the factors of the marketing environment. Fast and efficient adaptation to such changes is possible only if the company focuses its activity on the marketing concept, orients itself towards satisfying consumers, namely the full satisfaction of their needs, wishes and expectations.

In this paper, the problems related to the management of the marketing activity in agricultural enterprises specialized in the cultivation of sea buckthorn are elucidated, such as: monitoring of environmental factors, forecasting of the activity based on the state of the market situation, the formation of product, price, distribution and promotion policies as well as adapting the marketing mix, on the one hand to the demands and preferences of consumers and on the other to the behavior of competitors, intermediaries and resource providers. Based on the study, the need to carry out a series of actions is argued, which requires the creation of an integrated management system of the marketing activity. Only an integrated management system can offer rational solutions to the problems that arise in the enterprise, taking into account its material, financial and human resources.

***Keywords**: management, marketing activity, agricultural enterprise producing white sea buckthorn, marketing department, organizational structure, planning, control*

1. Introduction

The socio-economic transformations and the "boom" of science and technology at the beginning of the 21st century cause substantial changes in the approach to marketing strategies, methods and techniques. In order to be able to effectively use the opportunities that have arisen, it is necessary to know the fundamental elements of marketing activity management.

For farmers in the Republic of Moldova, the cultivation of sea buckthorn is a new sub-branch, which requires the managers of agricultural enterprises to carry out specific marketing actions to expand the cultivation and consumption of sea buckthorn products. Thus, the main objective of this paper is to optimize the marketing activity of agricultural enterprises, including those specialized in the production of sea buckthorn. Achieving this objective requires addressing aspects and concepts of management, marketing and analysis of economic activity, taking into account the coordinates of the market economy.

This objective is important for the activity of the agricultural enterprise in order to increase the level of profitability, starting from the premise that the existence and future development of a business in the agricultural field is conditioned by the existence of demand for the enterprise's products/services on the market, and for this business to be profitable, a concrete analysis must be carried out.

As defined by Ph. Kotler, marketing management encompasses the process of analysis, planning, implementation and control of activities aimed at establishing, strengthening and maintaining profitable exchanges with target customers in order to achieve certain organizational objectives, such as making profit, increasing sales volume, increasing share market etc. [1].

Thus, by marketing management we understand a set of managerial actions related to their organization, forecasting and coordination with other activities carried out within the company, as well as the training of the staff as a whole to acquire and adopt the marketing philosophy, including the control of the way of achieving the marketing policy developed in the enterprise.

Marketing activity management it is a complex process and its objective is, first of all, to anticipate the possible evolutions of market phenomena under certain conditions, for a shorter or longer period of time, with the aim of adapting the company's activity to the changes on the market. The anticipation of these developments takes place through the marketing forecast, which represents an estimate of market development in the following periods, based on the analysis of the evolution of external factors (endogenous and exogenous), in order to reduce risk, avoid uncertainty and frame the activity carried out by the company at present in a broad perspective vision. Forecasting is an important function of management, namely it provides information on the possible trends of some market phenomena (demand, sales, etc.), estimates the effects that will be generated in the future by the present decisions and actions. Based on the forecasts, strategic alternatives are developed from which the optimal development strategy of the agricultural enterprise is chosen.

Marketing management provides for the creation of an appropriate organizational structure within the enterprise, which has the mission of orienting and directing the activity/actions of each member of the enterprise, regardless of the position and function they occupy, in accordance with the marketing concept and vision.

In order to adopt reasoned decisions, the top management of the enterprise must be provided with truthful, operative and complete information. Thus, it is necessary to create a marketing information system, capable of ensuring the collection, storage and processing in the appropriate form of the information necessary to substantiate decisions.

Marketing management can influence the correlation, formalization and anticipation of the decisions of the company's management, therefore it is necessary to develop marketing programs, through which marketing strategies and actions are coordinated, increasing the efficiency of the company's economic activity.

In the conditions of the globalization of the economy, the business environment forces the management of agricultural enterprises specialized in the cultivation and production of sea buckthorn to develop effective marketing activities. Thus, marketing management plays a decisive role in creating and maintaining a competitive advantage of the enterprise in the market.

2. Degree of investigation of the problem

It is known that any marketing action involves certain costs, sometimes quite significant. For these reasons, specialists and experts in the field are concerned with the search for ways to optimize marketing activity, especially in the era of globalization and digitalization, when competition is not only at the local and regional level, but also at the global level. Thus, scholars have been researching this issue for a long time, and many of them consider marketing a management function. The issue of marketing activity management is often addressed in the works and publications of economists and marketing specialists. Renowned management and marketing scholar Ph. Kotler, defines marketing as "...asocial process by which individuals or groups obtain what they want by creating, offering, and freely exchanging valuable products and services" [1].

At the same time, the American Marketing Association approved the definition of marketing management, which means "the process of planning and executing the operations of conception, pricing, promotion and distribution of ideas, goods and services, in order to carry out exchanges that satisfy the objectives individual and organizational" [4].

In turn, other researchers analyzed this problem even more, as a result they established that the marketing management process consists of three stages:marketing planning,marketing organization and marketing control [2]. The main task of this process is to research, analyze and confirm the causes of the negative relationship towards the product or service and to develop strategies to improve the image of the product in the market.

Marketing activity management is achieved when at least one of the parties to a potential exchange analyzes the objectives and methods of obtaining the expected reactions from the other parties [3]. Etymologically, the term "management" comes from the Latin "manus", which means hand, or from the French word "manege", which means to train. In English, this word has the form of the verb "to manage", which means to administer, to lead, and this term is known all over the world.

So, in order to carry out an effective activity, enterprises specialized in the production of white sea buckthorn, as in other businesses, are obliged to know and apply the marketing concept through which they are oriented towards satisfying the needs of consumers, and on the other hand, the methods and principles of management which would ensure obtaining a high level of profitability.

3. Research methods

In this work, a series of scientific and empirical research methods and their components based on analysis and synthesis, comparison, graphic presentation of the obtained results, but also in the form of schemes and diagrams, were used. The research has an interdisciplinary, descriptive and applied character with a logical-deductive approach.

The research focused on the study of problems related to marketing management, especially the process of analysis, planning and realization of marketing actions, the principles, functions, methods, strategies with the help of which the established objectives are achieved.

The work is carried out within the Research Project "Elaboration of the production technology of white sea buckthorn in an ecological system and of the processing of fruits and biomass", with code no. 20.80009.5107.13. The data on the organization of marketing activity and marketing management were accumulated by researching the process of organizing marketing actions within agricultural enterprises, including those specialized in the cultivation of white sea buckthorn, namely SRL "Big Cuker" from the village of Clișova, Orhei district, SRL "Pomiproconsult" - consultant in the design of sea buckthorn orchards and "Argoexpert" - information company in agriculture.

4. Results obtained and discussion

Being a new culture and having an insignificant weight in the baciferal cultures, in the official statistics of the Republic of Moldova there are no data about the area of the plantations nor the amount of cultivated white sea buckthorn.

The white sea buckthorn began to be cultivated as a horticultural crop in the Republic of Moldova starting in 2013, with the planting of the first commercial plantation. In the year 2021, over 224 hectares of sea buckthorn are already registered, with a tendency to increase the areas, and geographically, white sea buckthorn plantations are registered in most districts, and the largest plantations are in the districts of Orhei, Dubăsari, Hâncești, Ungheni and others being cultivated the female varieties Clara, Mara and Dora, and from the male varieties Andros [6].

According to the data of SRL "Pomiproconsult", specialized in the design of sea buckthorn plantations, in 2022 over 220 hectares of plantations came into fruition, with over 895 tons of white sea buckthorn harvested, and in 2023 the area of plantations that came into fruition increased by 30 hectares (figure 1).

Along with the increase in the areas and the amount of sea buckthorn cultivated by agricultural enterprises, there is the need to efficiently manage their activity, so as to ensure the achievement of the expected results. There is a need not only to produce a larger amount of sea buckthorn, but also to ensure its commercialization, both on the local and international markets.

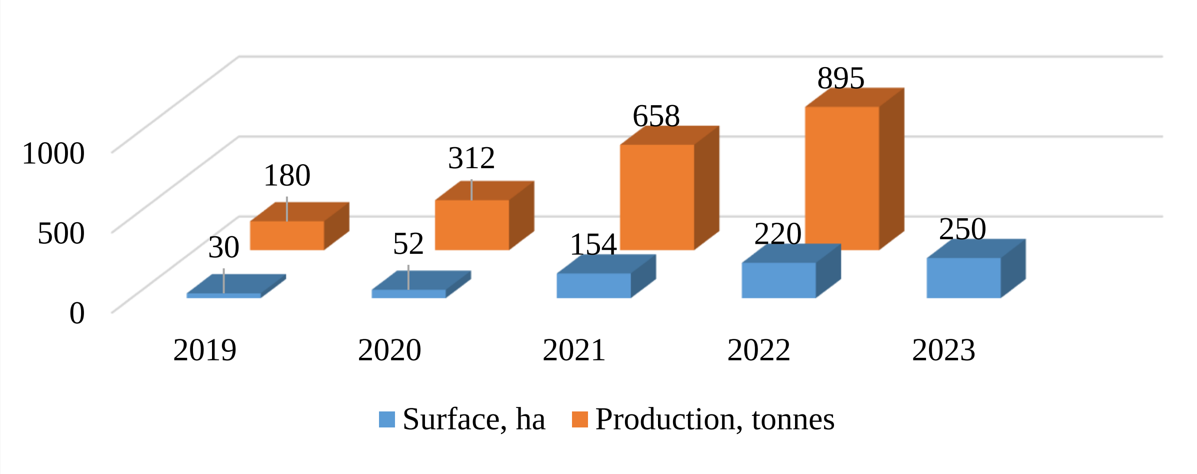

Figure 1. Area and production of sea buckthorn in the period 2019-2023 in the Republic of Moldova

Source: Report SRL "Pomiproconsult"

The white sea buckthorn and its derivatives are at the forefront of healthy human nutrition. As a result of the study carried out within the mentioned project, it was determined that sea buckthorn is used most often in the preparation of teas - 56.9%, for jams and jellies - 45.1%, fresh consumption in the proportion of 31.3%, oil and other bioactive substances – 29.4%, juices – 27.5%, but also other forms of consumption (figure 2). Of course, the share of products in the food set differs from one country to another and depends a lot on the economic development of the state.All these arguments favored the start of the research process on the consumption of sea buckthorn products in the Republic of Moldova.

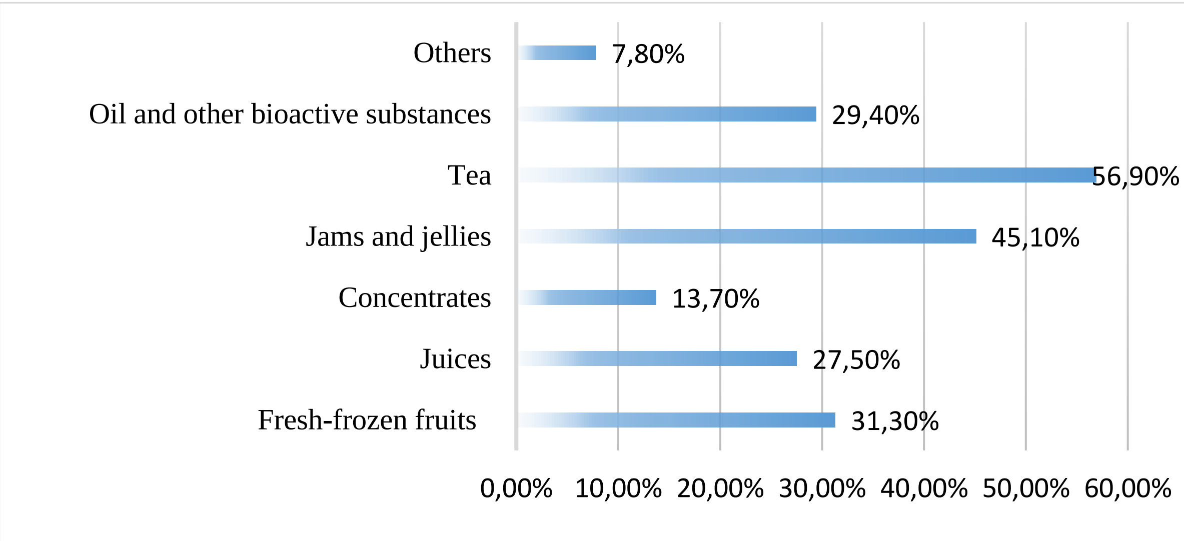

Figure 2. The structure of the consumption of sea buckthorn products in the Republic of Moldova

Source: results of the survey carried out during 2021 within the mentioned project

These data demonstrate that agricultural enterprises must strengthen their efforts to create a profile association, which is concerned with the problems of the development of the white buckthorn branch. Thus, in order to successfully carry out the activity of cultivating and marketing white sea buckthorn within agricultural enterprises, it is necessary to implement an integrated management system, which includes both the production process and the processing and marketing at the country level.

In the vision of Poșataev A., the author of the work "Marketing Management in the agro-industrial complex", an integrated management system in the agricultural field implies "directed action of the subject of management on the object of management, carried out in the best way using a certain technology, taking into account the influence of the legalities of the development of the market space, using that system of methods that would lead to the achievement of the goals of the agricultural enterprise" [7].

At the level of the agricultural enterprise, the management of the marketing activity involves the collection and processing of market information, the making of forecasts for its future development using the collected information, the development of the marketing plan based on the forecasts and the implementation of specific activities that will lead to the achievement of the planned objectives, but also monitoring the implementation of plans, evaluating the results obtained.

It is necessary to note that the management of the marketing activity at the agricultural enterprise level, as a rule, has a series of objectives:

- *improving the quality of life of consumers in the area, or country, region* where the agricultural enterprise operates. At the same time, we understand the quality of life as a socio-economic category, which includes not only the level of consumption of material goods and services by an individual, but also the satisfaction of his spiritual needs - spiritual comfort, preservation and maintenance of health, life expectancy, climate moral and psychological, etc.;
- *ensuring the balance between supply and demand*, that is, between the amount of goods that buyers are willing and able to buy at a given price in a given period of time and the amount of goods that producers are willing and able to sell;
- *the impact on the production process.* When forming the portfolio of products (goods and services), it is necessary to take into account market requirements, ensure a high level of quality, but also a level of competitiveness of the costs of these products, etc., using the latest achievements of scientific progress and technological;
- *increasing the efficiency of market relations* by establishing relations between market participants of an economic (volume of profit, level of profitability, etc.), social (positive image of the agricultural enterprise, improving the quality of life of the population through the consumption of specific goods, services, etc.), ecological (minimization of environmental damage in the process of production and (or) consumption of specific goods, services, etc.) and of another order.

In order to achieve the objectives of the management of the marketing activity at the agricultural enterprise level, it is necessary to establish and solve a number of tasks such as:

- competitiveness analysis, i.e. the ability of products to compete with similar products on the market;
- substantiating and choosing a certain position on one or more markets with the subsequent development of a marketing mix for each individual market;

- establishing a competitive balance, which would ensure a price at which the total quantity of the product from the agricultural branch can be sold and equalize the volume of demand with supply;
- regulating the internal and external potential of the agricultural enterprise in order to maintain the capacity to stimulate and maintain demand for its products;
- determining the strategic behavior of the agricultural enterprise, establishing the goals of its operation on the target market or the chosen market segment, choosing the means to achieve the goals established in a certain period of time.

Therefore, management actions aimed at achieving the goals of marketing activity management by solving certain marketing tasks are called marketing activity management functions.

In figure 3the classification of marketing activity management functions is represented, which today has the greatest practical significance and according to which these functions are divided into general and specific ones, depending on the direction of the management action.

The analysis of the management system of marketing activity includes the collection, processing, storage and permanent interpretation of market information obtained with the help of the marketing information system, conducting marketing research to obtain the information necessary for making individual management decisions related to the marketing activities of the enterprise agricultural, market segmentation and selection of target segments, justification and selection of product types in target segments, etc.

Marketing activity planning is the process of establishing objectives, substantiating and choosing a strategy to achieve them, as well as carrying out specific marketing activities aimed at implementing the chosen strategy for a certain period of time. Depending on the period for which these objectives are expected to be achieved, but also the fact that large enterprises have four organizational levels, then the planning of the activity will be structured according to them. As stated by Ph. Kotler, at the corporate level [1], the enterprise needs a strategic plan, covering the entire enterprise, at the departmental level – a divisional plan, at the activity unit level a unit strategic plan and at the product level a plan for each individual product.

a) long-term or strategic plan (over 5 years);
b) medium-term plan (from one year to 5 years);
c) the short-term (annual) plan.

The plan, as a rule, reflects the desired objectives, defined quantitatively and qualitatively, as well as the strategies for achieving them in a determined period. The specific activities that the agricultural enterprise intends to implement to fulfill the marketing plan are reflected in the marketing program, which is an integral part of this plan.

Organization function involves determining the structure of the management of the marketing activity, selecting and placing personnel in accordance with the chosen structure, establishing the rights and obligations of the employees of the marketing activity management service, determining the order of its interaction with other departments within the agricultural enterprise, etc. The key content of the function of organizing the management of marketing activity is to ensure the implementation of the developed plan by forming a management system, determining the place and role of each employee. It is necessary to decide on the structure of the subdivisions and the organization of the interaction between these subdivisions, to develop the documents that regulate their activity, but also the management apparatus and their employees, etc. (regulations, job descriptions)

Figure 3. The functions of the management of the marketing activity of the agricultural enterprise

Source: adapted from [1]

Control function in the management of the marketing activity consists in the continuous monitoring, analysis, evaluation of the actual process of carrying out marketing actions and comparing its results with those established in the marketing program, as well as identifying the necessary actions in the next management cycle.

The personnel involved in marketing activities to carry out an activity creatively and effectively must be motivated. Motivation as a function of management in the marketing activity involves the development of measures to encourage consumers, employees of the agricultural company's product distribution channels, sales staff, etc. to the implementation of specific actions necessary to achieve the goals of marketing activities (for example, consumers - to buy and consume a certain product, sales staff - to make additional efforts to increase the number of goods sold, etc.).

In addition to the performance of general functions, the management of the marketing activity at the level of the agricultural enterprise involves the implementation of a number of specific functions (figure 3), such as the management of the demand for the enterprise's products, the product policy, the range of products, the quality of the products and services, the risks associated with the activities of marketing, communication policy, innovative activities (primarily the development of new products), pricing policy, personnel (primarily employees of the marketing subdivision), finances and the effectiveness of marketing activities of the agricultural enterprise.

The implementation of both general and specific marketing activity management functions is based on a series of rules and regulations, which reflect the main models of the market mechanism and which form the system of marketing activity management principles (figure 4) [7].

Marketing activity management in an agricultural enterprise specialized in the cultivation of sea buckthorn involves the use of a set of techniques, methods or levers, with the help of which the objectives are achieved and certain tasks are solved. Such methods form the marketing activity management system, which includes:

1. Economic methods. These methods are based on the idea of material motivation and are expressed both in the form of a system of material rewards for the achievement of a certain quantity and quality of work, and in the form of a system of sanctions for the missing quantity and (or) inadequate quality. Of these we can mention: direct material reward, salary, prize, participation in the distribution of profit and capital, fines.

2. Organizational-administrative methods. This category includes methods that are implemented in the form of direct influence and that are directive (mandatory) in nature and based on discipline, responsibility, power and coercion. As an example, we can cite the status of the agricultural enterprise, its internal standards, instructions, accounting rules, production and financial plans, etc. – documents that establish general rules, binding for all, that determine the content and procedure of the company's activities. Another example is the issuing by the management of the agricultural enterprise specialized in the cultivation of the white sea buckthorn of orders, resolutions, indications, which, as a rule, refer to specific situations and are addressed to certain executors. These methods include: organizational design.

3. Socio-psychological methods that are based on inducing a person to specific actions, through moral encouragement of employees who demonstrate the best results, the formation of a favorable moral climate within the work team and which contribute to improving the performance of all team members, etc. These methods include, for example: moral encouragement, planning of social activities, belief, suggestion, own example, regulation of interpersonal relations in the collective, creation and maintenance of a moral-psychological climate in the collective.

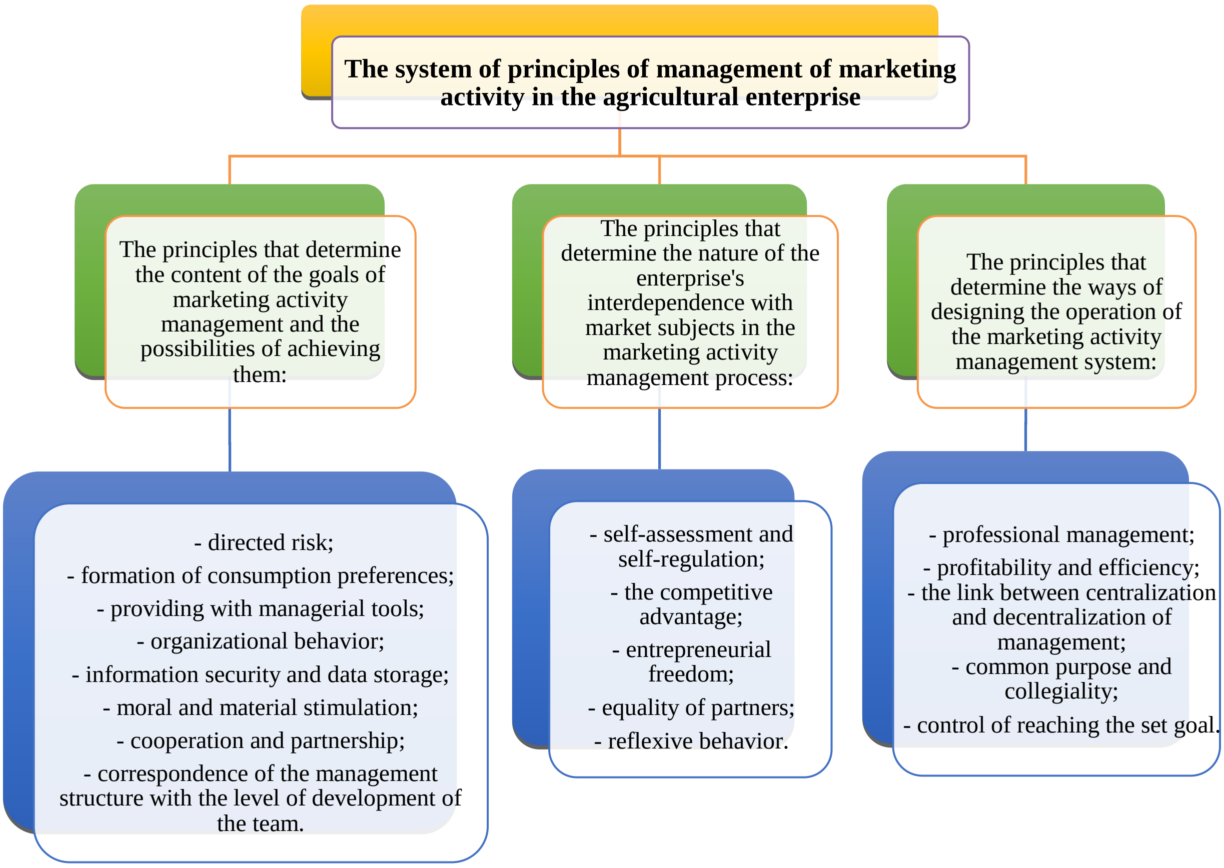

Figure 4. The principles of marketing activity management at the agricultural enterprise level

Source: adapted from [7]

The ability of the agricultural enterprise to adapt to changes in its market environment is significantly influenced by its internal structure, by which it refers, first of all, to the set of subdivisions that solve various problems and to the way in which these subdivisions interact with each other in in order to achieve the objectives of the company's operation. The totality of these units and the links established between them represent the organizational structure of the agricultural enterprise. From this point of view, the organization of marketing activities at the level of the agricultural enterprise implies:

- designing and improving the organizational structure of marketing activity management;
- the selection of qualified specialists necessary to solve the marketing tasks faced by the agricultural enterprise;
- creation of conditions for ensuring the effective work of employees of subdivisions of the agricultural enterprise that solve marketing problems (organization of workplaces, provision of appropriate machines and equipment, means of communication, provision of necessary information, etc.);
- organization of effective interaction of subdivisions solving marketing problems with other structural subdivisions of the agricultural enterprise.

In agricultural enterprises, including those producing white sea buckthorn, the mechanism of marketing activity management depends on marketing objectives, the form of ownership and management, the size of the enterprise, the availability of its material and labor resources, the level of staff training, the market conditions and the policy followed by the state in the development of agriculture and the national economy as a whole.

The direct organization of the marketing activity depends primarily on the size of the agricultural enterprise and its managerial orientation. Large enterprises (holding type, corporations) are focused on the marketing concept, they create marketing departments with a fairly detailed structure, with the orientation towards a specific market, a product line, or the issues of developing and implementing marketing strategies. price, distribution, or promotion. On the contrary, small agricultural enterprises (cooperatives, peasant households, farmers) tend to entrust all types of marketing activities to a small number of marketing managers.

For small agricultural enterprises specialized in the production of white sea buckthorn, it is recommended to organize marketing by assigning marketing functions by managers directly subordinate to the director or by hiring associate marketing managers or consultants from outside the enterprise (figure 5):

– assigning marketing functions to one of the most trained managers/employees of the enterprise;
– joint implementation of marketing activities with other small businesses (market research, advertising campaigns, etc.);
– inviting consultants and experts through one-time or permanent agreements regarding the development of the assortment range, the formation of a sales network, trial sales, promotion and public relations, etc.

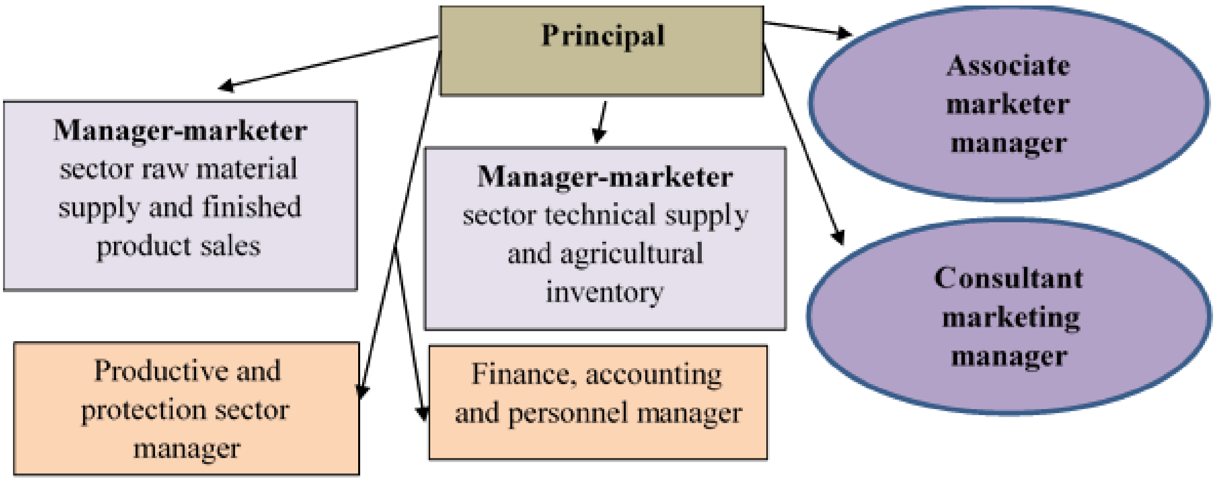

Figure 5. The model of the marketing management structure within the agricultural enterprise

Source: elaborated authors

For large enterprises in the agricultural sector, there are several typical organizational structures that have been formed for different levels of development and integration of marketing in the enterprise's activities. One of these structures is *production orientation* [1]. In such enterprises, marketing mainly fulfills the functions of product distribution, and the development of new products and the modification of existing products is carried out by other services (subdivisions where the finished product is produced). This approach to organizing marketing activities is possible in cases where market research, sales planning, promotion, etc. are not essential to the business. As a rule, this situation is observed in the activities of large agricultural producers of unprocessed food products for which they have reliable channels for marketing these products to processing enterprises.

In cases where an agricultural producer has problems with selling products, the place of marketing in the managerial structure of the agricultural enterprise must be reviewed. In this case, the diagram of the distribution of functions for managing the activities of the agricultural enterprise needs to be focused *on the sale of its products*. Such a marketing organization is typical for enterprises engaged in the production of relatively homogeneous products with a low degree of processing (canned fruits and vegetables, meat semi-finished products, etc.). This approach to marketing organization is also widespread in enterprises engaged in the production of means of production, that is, they do not work in consumer markets, but in the markets of goods and services for industrial purposes (machines and equipment, fertilizers, feed, plant protection products and animals etc.).

If we talk about manufacturers of food products with a high level of processing, that is, producing a wide range of products intended for final consumption, the importance of marketing in their activity increases dramatically. As a rule, in such agricultural enterprises, the management functions of the marketing activitythey are transferred to a special subdivision – the service or the marketing department (figure 6).

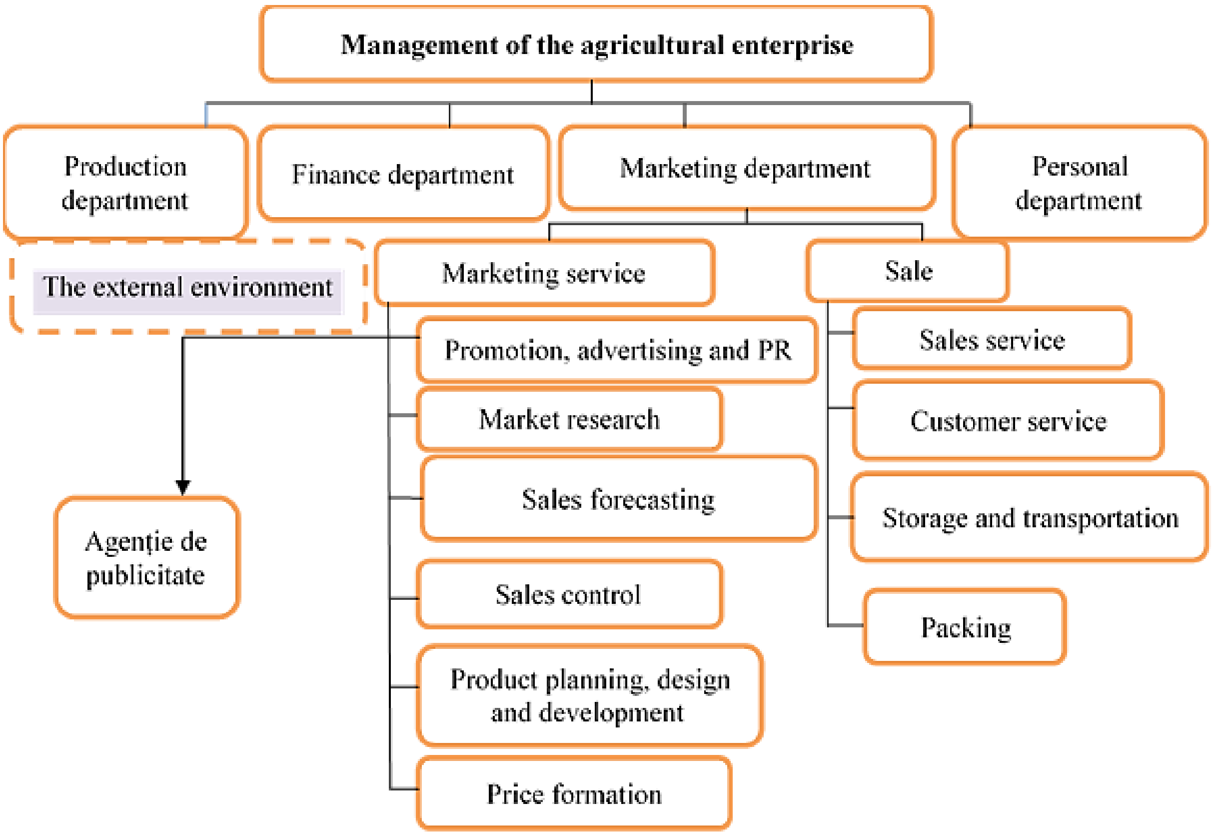

Figure 6. The organizational structure of the agricultural enterprise focused on the marketing concept

Source: developed by the author

The marketing department in agricultural enterprises is responsible for planning the product range, setting prices, etc. and interact with other market participants. Responsibility for making decisions regarding the appearance of the goods, their packaging, the name of the product, etc. it's up to the marketing professionals. It should be noted that the duties regarding the development of a marketing communication system can be transferred (on a remuneration basis) to specialized firms such as advertising agencies. This is due to the fact that for agricultural enterprises that grow sea buckthorn, the level and quality of the means and forms of sales promotion used is extremely important.

As I mentioned, the structure and the optimal form of organization of marketing activity depend on various factors and conditions in which the enterprise operates. Of course, the determining factors are the conditions of its marketing environment (both external and internal).

Another direction of marketing management is the development of plans. The marketing planning process includes three main phases:

1. Analysis of the current position of the agricultural enterprise and all elements of its marketing environment (SWOT analysis and others);
2. Elaboration of the objectives, strategy and tasks to achieve them;
3. Determining the combination of tools - the marketing mix, with the help of which it will be possible to achieve the objectives set by implementing the selected strategy most effectively.

So, the process of planning the marketing activity begins with a comprehensive situational analysis, which includes the analysis of the factors that form the marketing environment of the agricultural enterprise.

Marketing objectives they must be clearly defined in time and space and expressed in a quantitative form that can be measured. They must also be feasible (that is, the agricultural enterprise must be provided with the necessary means to achieve these objectives), for example: increase product sales by 20% within three years; increasing the level of profitability of sales by 10% during the year; achieving a sales volume in the regional segment of at least 1,500 quantitative units per year, etc.

When setting marketing objectives, it is necessary to take into account the possible interrelationships between them. If the achievement of one goal will prevent the achievement of another, a goal conflict arises (for example, if we simultaneously want to improve the quality of our products and increase the profitability of our activities by saving costs on raw materials and materials). More successful will be a combination of such objectives, according to which the achievement of one will contribute to the achievement of the other, that is, in the presence of a complementary relationship between the objectives (strengthening the positive image of the enterprise and increasing sales volumes).

After setting the objectives, it is necessary to determine how they will be achieved, that is, choosing the most suitable marketing strategy. The choice of strategy is influenced by the internal and external operating conditions of the agricultural enterprise, the most significant of which are:

- market size (local, regional, national);
- market development methods (mass, differentiated, target marketing);

- the volume of market development (one segment, several segments, the entire market);
- focusing on a certain marketing tool (quality, price);
- attitude towards competitors (neutral, aggressive);
- attitude towards cooperation (with resource providers, sales intermediaries, etc.);
- attitude towards growth rates (fast, moderate growth, production reduction);
- attitude towards innovation (development of new products, adaptation of existing products and technologies for their production to current market requirements, etc.).

A very important element of the marketing activity plan is the development of the marketing budget, which can help in the correct differentiation of priorities, objectives and strategies of marketing activities and the adoption of rational decisions regarding the allocation of resources. The costs of implementing the individual marketing elements presented in the budget are prescribed in accordance with the strategic marketing plan.

In order for the marketing activities management process to proceed according to the plans, a permanent control of these activities is needed. Control of marketing activity can be defined as a comprehensive, systematic and regular study of the marketing environment of the agricultural enterprise, its objectives, strategies or operational activities, in order to identify emerging problems and opportunities and issue recommendations on a plan of action to improve marketing activities (figure 7).

Control of marketing activity it must be objective and carried out in a certain consecutiveness. It is necessary to respect the frequency of carrying out the control, to ensure a comprehensive study of the issues under consideration. The starting point for the organization of the control is the establishment of the quantitative and qualitative parameters with which the actual results should be compared. In addition, it is necessary in each particular case to establish the time intervals in which such comparisons will be made. These quantitative, qualitative and temporal parameters are the basis of the so-called standards of the control system, against which the control is carried out.

Figure 7. The object of control of marketing activities within the agricultural enterprise
Source: adapted from [5]

The control of the marketing activity is carried out to establish the degree of achievement of the objectives (deviation analysis); identifying opportunities for improvement; checking how the company's adaptability to changes in environmental conditions meets the requirements.

There are two forms of marketing control: performance control and marketing audit (marketing review).

The task of monitoring the results is to verify the correctness and effectiveness of the implemented marketing concept by comparing the planned and actual values and finding out the reasons for the deviations. Control can be directed at the marketing complex as a whole, as well as at its individual tools (goods, price, sales, communication policy).

The control of economic results (sales efficiency, market share) and non-economic results (consumer attitude, company image) is distinguished. Data from statistical and accounting reports (control of sales results, profit calculation, etc.) and data from market research (image analysis, brand awareness, etc.) are used in the control process.

At the same time, the planned measurable indicators reflect the degree of achievement of the operational and strategic objectives of the enterprise. These indicators are compared with the data of previous periods or with other enterprises in the branch.

Marketing audit is carried out to identify the weak points of the marketing concept chosen by the enterprise. The task of the marketing audit is to verify the content of the marketing mix (product, price, distribution and promotion), the size and distribution of the marketing budget.

The starting point of the audit is to find out the real state of the management of the marketing activity within the agricultural enterprise producing white sea buckthorn, namely:

- if the marketing activities correspond to the conditions of the situation on the sea buckthorn market;
- if the objectives are consistent with the company's strategies;
- if the size of the budget corresponds to the tasks;
- is the budget is allocated accordingly to the different elements of the marketing mix;
- whether all possible alternatives have been considered;
- if the activities are coordinated with each other.

The marketing audit can be carried out by the company's employees or by independent experts involved from outside. Each of these options has both advantages and disadvantages.

As part of the marketing audit, an analysis of the internal and external capabilities of the agricultural enterprise specialized in the cultivation and production of sea buckthorn is carried out. It involves the study of the market, consumers, competitors, as well as other external factors.

The main attention in the marketing audit process is given to the planning of the individual components of the marketing mix. The analysis of the product policy, price, distribution and promotion of the finished products of the agricultural enterprise is carried out. The result of this analysis are specific proposals for improving the company's activities under the circumstances considered.

The final stage of the marketing audit is the analysis of the effectiveness of the management of the marketing activity. When conducting a marketing audit, existing problems in marketing implementation should be identified, existing marketing capabilities should be established, and recommendations should be developed to ensure a higher level of marketing effectiveness.

If problems and deviations are identified in the actual performance of the activities of the agricultural enterprise from the planned indicators, appropriate adjustments are made to the marketing plan, for which a corresponding section is provided in this document. Thus, the control of results and the review of marketing contribute significantly to the achievement of the objectives set for the agricultural enterprise, having a great impact on the level of efficiency of its functioning.

5. Conclusions

The research carried out allows us to conclude that in the Republic of Moldova the sea buckthorn is a new subculture, which has an insignificant share in the structure of the baciferal products, but according to the data on the area of the plantations and the amount of cultivated sea buckthorn, it is developing at an increased rate in the last 5 years, growing by over 150.0% annually. Thus, it is proposed to create an association of sea buckthorn producers, in order to centralize information about land, varieties, agrotechnical technologies, etc. on the one hand, and to make the process of processing and marketing white sea buckthorn products more efficient, on the other hand.

It is also necessary to pay more attention to the management of marketing within agricultural enterprises, to create an efficient system of management of marketing activity at the level of an agricultural enterprise producing white sea buckthorn that could offer:

- reducing the level of uncertainty in the process of developing and adopting managerial decisions based on the results of marketing research, on the collection and processing of information both about changes in the external environment of the agricultural enterprise producing sea buckthorn (about consumers, sales intermediaries, competitors, suppliers of resources), as well as about the restrictions created by the internal environment (with reference to the production process, financial and personnel activity). To expedite the collection and processing of information, the help of electronic data processing systems and marketing information systems is needed;
- optimal use of marketing tools by substantiating and choosing the most effective product, price, distribution and promotion policy;
- the organization of marketing activities by distributing rights and obligations between the employees of the agricultural enterprise carrying out marketing activities;
- the creation of independent subdivisions within the organizational structure of the agricultural enterprise, whose task is to carry out marketing actions;
- determining the nature of the interaction between the marketing activity and other activities and structural subdivisions of the agricultural enterprise producing sea buckthorn;
- control over the achievement of the goals of the agricultural enterprise's marketing activities, which verifies the correctness of the management decisions adopted in order to further adjust the planned and actually achieved economic results of the enterprise's activities, etc.

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Rezumat

Una dintre trăsăturile sectorului agricol este diversitatea formelor organizaționale de management, a formelor de proprietate asupra mijloacelor de producție și a produselor vândute. O parte semnificativă a produselor alimentare sunt produse în gospodăriile private ale populației și în gospodăriile țărănești (de fermieri). Însă activitatea marilor întreprinderi, reprezentând toate cele trei zone ale complexului agroindustrial (aprovizionarea tehnico-materială a agriculturii, agricultura propriu-zisă și valorificarea producției agricole), are cea mai mare influență asupra formării pieței agroalimentare. Din categoria acestor întreprinderi fac parte și cele specializate în cultivarea cătinii albe, care sunt tot mai mult forțate să reacționeze la schimbările factorilor din mediul de marketing. Adaptarea rapidă și eficientă la astfel de schimbări este posibilă numai dacă întreprinderea se axează în activitatea sa pe conceptul de marketing, se orientează spre satisfacerea consumatorilor și anume pe deplina satisfacție a nevoilor, dorințelor și așteptărilor acestora.

În lucrarea dată se elucidează problemele ce țin de managementul activității de marketing în cadrul întreprinderilor agricole specializate în cultivarea cătinii albe, cum ar fi: monitorizare factorilor de mediu, prognozarea activității în baza stării conjuncturii pieței, formarea politicilor de produs, preț, distribuție și promovare precum și adaptarea mixului de marketing, pe de o parte la cerințele și preferințele consumatorilor și pe de altă parte la comportamentul concurenților, intermediarilor și a furnizorilor de resurse. În baza studiului realizat se argumentează necesitatea realizării unui șir de acțiuni, care impune crearea unui sistem integrat de management al activității de marketing. Doar un sistem integrat de management poate oferi soluții raționale la problemele care apar în întreprindere, ținând cont și de resursele materiale, financiare, umane a acesteia.

***Cuvinte-cheie**: management, activitate de marketing, întreprindere agricolă producătoare de cătină albă, compartiment de marketing, structură organizatorică, planificare, control*

Аннотация

Одной из особенностей аграрного сектора является разнообразие организационных форм хозяйствования, форм собственности на средства производства и реализуемую продукцию. Значительная часть продуктов питания производится в личных подсобных хозяйствах населения и в крестьянских (фермерских) хозяйствах. Но наибольшее влияние на формирование агропродовольственного рынка оказывает деятельность крупных предприятий, представляющих все три направления агропромышленного комплекса (технико-материальное обеспечение сельского хозяйства, собственно сельское хозяйство и валоризация сельскохозяйственной продукции). К категории таких предприятий относятся и специализированные на выращивании облепихи, которые все в большей степени вынуждены реагировать на изменение факторов маркетинговой среды. Быстрая и эффективная адаптация к таким изменениям возможна только в том случае, если предприятие ориентирует свою деятельность на маркетинговую концепцию, ориентируется на удовлетворение потребителей, а именно на полное удовлетворение их потребностей, желаний и ожиданий.

В статье освещены проблемы, связанные с управлением маркетинговой деятельностью сельскохозяйственных предприятий, специализирующихся на выращивании облепихи, такие как: мониторинг факторов внешней среды, прогнозирование деятельности на основе состояния конъюнктуры рынка, формирование политик продуктов, цен, распределения и продвижения, а также *адаптация комплекса маркетинга, с одной стороны, к требованиям и предпочтениям потребителей, а с другой — к поведению конкурентов, посредников и поставщиков ресурсов. На основе исследования аргументируется необходимость проведения ряда мероприятий, что требует создания интегрированной системы управления маркетинговой деятельностью. Только комплексная система управления может предложить рациональные решения проблем, возникающих на предприятии, с учетом ее материальных, финансовых и человеческих ресурсов.*

Ключевые слова: *управление, маркетинговая деятельность, сельскохозяйственное предприятие по производству облепихи, отдел маркетинга, организационная структура, планирование, контроль*

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THE INTERPLAY OF CIRCULAR ECONOMY, ETHICAL TOURISM, AND INCLUSIVE ECONOMY

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Abstract

Post-COVID tourism must be framed within a new paradigm that embraces the values of sustainability with a triple impact (economic, but also environmental and social) as opposed to the immediacy of economic income. The circularity of the economy and social innovation become fundamental axes on which to build the pillars of a new tourism. The aim of this paper is to demonstrate that this is possible through the Social Economy. To this end, evidence will be presented on two initiatives worked on by our research group on social innovation and inclusive business over several years. Firstly, an experience developed with the indigenous community of the Nasa Council in Cali (Colombia) governed by a matriarchal system; and secondly, another one in a small village in central Spain, an area with serious problems of rural depopulation. Through two models of the Social Economy, a successful experience has been achieved that has lasted over time. Therefore, it is possible to combine social innovation with tourism to achieve full sustainability in destinations.

***Keywords**: sustainability, social economy, rurality, women, responsible tourism*

1. Introduction

The post-COVID era brought a significant number of studies on the need for a paradigm shift in the tourism sector after having seen the tremendous blow they experienced during the pandemic; and also on the risk if such a shift did not take place. Three years later, it may seem that the pandemic never existed, as the sector is once again focused on increasing tourism scores and indices at all costs. On the other hand, the confinement meant that, once over, people felt an even greater need to travel despite the international situation at all levels. In fact, international tourism grew by 102% in 2022 [1]. And in a country like Spain, where tourism accounts for more than 12% of GDP, all parties involved in the sector have focused all their efforts on increasing the number of visitors in order to achieve the highest possible rates of income, especially after the enormous losses that confinement meant for the sector. If we focus on the Autonomous Community of Valencia, in the eastern Mediterranean region comprising the provinces of Valencia, Alicante and Castellón (an eminently touristic region), in 2022 there was an increase of 114.1% in international tourists which, in turn, meant an increase in tourist expenditure of 131%. What is more, analysing the accumulated figures up to February 2023, we have already noted a 42.9% increase in the number of tourists and a 42.1% increase in expenditure, compared to the same period in 2022. In other words, we are once again starting to talk about massive waves of tourists to Mediterranean tourist destinations, and in particular, to this region of the country [2, 3].

On the other hand, the closure of borders during the pandemic led people to seek out rural destinations in their eagerness to travel, this time to natural, open destinations, to mitigate possible contagion. And after the pandemic, the trend has continued:

Figure 1. Domestic tourism in rural destinations-Comunitat Valenciana region 2022
Source: author

This means a significant increase in the number of visitors, both national and international, with both positive and negative consequences for the rural environment and its historical and natural heritage.

In Spain, domestic tourism was officially supported during the period of international restrictions, but this segment was soon forgotten when they were lifted. Similarly, domestic tourists soon forgot how good it was to visit and get to know their own country or territory (and thus help disadvantaged rural or inland territories) as soon as they were able to travel outside Spain again.

However, despite these figures, we cannot ignore the fact that 2023 is still a year of great uncertainty for all business sectors, particularly for the tourism sector [4]. On an international level, there are three major threats that could have a significant influence on the family economy, such as the increase in inflation, the possible evolution of the war in Ukraine, and the rise in interest rates with more expensive debt. On the other hand, there is a major challenge that the sector should face in Spain, namely, the dignity of the jobs associated with the tourism sector with the development of quality training and education.

There is no doubt that, in the face of so much risk, the tourism stakeholders focus on increasing visitors and, therefore, income through the culture of "just in case". However, this is a vision doomed to failure. It is clear that the sector has already forgotten the problems that arose shortly before COVID-19 due to mass tourism. These led to the environmental and cultural deterioration of destinations, of the tourist experience, of the quality of the visitor experience and, consequently, to the development of an anti-tourist feeling among residents in the face of hordes of uncontrolled and, in many cases, very rude and disrespectful tourists, towards the destination and its inhabitants. Therefore, we are currently faced with a very short term vision of economic benefits that cannot bring anything positive in the medium and long term [5]. This is particularly acute in the case of natural destinations where the hordes of tourists also push the resident to other hidden spots where visitors do not flock [6]; they have to compete with tourists to enjoy their natural environments and, in most cases, suffer the consequences of their degradation. With the pandemic and the international closing of borders, nature tourism experienced a boom in Spain that led to the overcrowding of these destinations. History always reminds us that people tend to forget crises early on in order to be quickly carried away by a supposed return to normality [7].

It is sad to note that the sector does not seem to have paid attention to the obvious warning signs that began to emerge in 2018 and whose examples we can recall in such serious cases as Venice, Majorca or Dubrovnik (where UNESCO threatened to withdraw the designation of cultural world heritage site if measures were not taken). It is serious to note that already in 1978, Pizam [8] predicted that a substantial increase in the number of visitors to a tourist destination leads to dissatisfaction of the host community and is reflected in negative attitudes. Forty years later, a new term was coined in the face of the sector's inattention and short-termism, i.e. overtourism. However, it is also unacceptable to promote a decline in tourism without further ado, as this would impoverish millions of people who depend on the sector for their livelihoods. A balanced approach is therefore imperative for the development of sustainable tourism in which measures are taken towards the recognition of the tourist's right to travel but also, the resident's right to a quality of life.

On the other hand, another major threat to the sector is climate change and hence the need to comply with the 2030 Agenda and triple-impact sustainability (economic, environmental and social). Although the sector publicly subscribes to these mandates, the inconsistencies are evident. Recently, a document of *Business Priorities Proposals 2023* by the Tourism Commission of the Valencian Business Confederation was published [9] in which 26 proposals were presented to all political parties in view of the general elections scheduled for July 2023 in Spain. The following should be highlighted from this document:

- None refer to the need to reconcile with the resident.
- None refer to the human factor as the backbone of the tourism experience.
- Only one refers to sustainability, although it deals with economic intelligence and big data, so it is simply tackling revenue.
- Only one refers to the dignity of employment in the sector.
- Only one refers to the need for the tourism sector and academia to work together to create and adapt qualifications and training curricula. However, when higher education institutions want to raise them, the sector does not seem to pay attention probably because they have other issues in mind they consider more relevant, i.e. measurement and revenue.
- Only one refers to the potential of the sector to alleviate depopulation, promoting rural destinations and avoiding seasonality. However, the focus is still on sun and beach tourism, which is what generates the rapid and short-term revenue.

Qualifications as well as rurality and depopulation are topics that are only tackled during election campaigns, but once the elections are over, these issues are put aside, especially in tourism. It is not in vain that Spain is a country that does not have a Ministry of Tourism as such (nor obviously a Council of Tourism, at regional government level) despite the fact that in 2022 the tourism sector accounted for 12.2% of GDP (15.8% in the Valencian Community).

Undoubtedly, we can no longer continue like this and, therefore, a change is needed towards the real fulfilment of the Sustainable Development Goals where the circular economy is key together with responsible tourism. Thus, the Social Economy and, in particular, the cooperative movement, become the vehicle that brings together the three factors, as it has been doing so since its beginnings in the mid-nineteenth century. The Social Economy plays an important role in the fight against poverty and contributes to the performance of more dignified and decent jobs; on the other hand, it helps to create employment, particularly in economic sectors or geographical regions where conventional enterprises would find it difficult to generate a shareholder value that would allow them to operate at a profit. It is therefore the ideal system for rural areas because it can help reverse the phenomenon of depopulation; for women because it helps fight inequality; and for youth because it promotes innovative and social entrepreneurship. Furthermore, by putting social cohesion at the forefront, the resident and the host community are valued and respected. This is vital for a quality and sustainable tourism experience as there can be no sustainable tourism without respect for the resident.

This paper will first explore the importance of the circular economy in the tourism sector. It will then focus on the rise of digitalisation and technology and the risk of dehumanisation of the tourism experience. Finally, it will stress the fact that responsible and triple-impact tourism can be a reality and will present examples of good practices in Colombia and Spain worked on by the social research and inclusive business group of our university institution.

2. The degree of research at the present time

Ellen MacArthur Foundation [10] defines the circular economy as the preservation and enhancement of natural capital, controlling finite stocks and balancing renewable resource flows. Therefore, natural capital becomes the key concept with the understanding that production systems should match their operation to nature, where the waste that is generated becomes the food and source of growth for other elements of flora and fauna. Evidently, it is more circular and sustainable to reduce and reuse than to recycle: on the one hand, the consumption of resources and the production of waste is reduced, and on the other hand, the waste is reused as a product [11]. Nevertheless, it is not easy to change to a system so drastically different from the established uses of the linear model firmly rooted among the business community. This change forces companies to rethink everything from the way they design and manufacture their products to their relationships with suppliers and customers. And probably for this very reason, there are many challenges that they themselves see for this possible implementation, ranging from a greater financial risk, compared to the linear model, to the difficulty of promoting practices consistent with the concept of circularity among tourists. It is then essential to focus on the social dimension of its implementation [12, 13, 14]. Despite the benefits of the circular approach, it cannot be a successful initiative if companies do not understand the real benefits of the circular economy and know the capabilities and technology needed for the paradigm shift. In other words, there are many theoretical analyses, but it is essential to ground the theory so that, in a pragmatic way, companies see the imperative need to move from the linear to the circular economy. And, of course, the help of public administrations (whether local, regional, national, or European) in the form of readily available funds is essential; that is, eliminating all the bureaucratic hurdles of the state machinery that make it almost impossible to obtain these funds, as is currently the case in Spain.

The Spanish Ministry of Industry, Trade and Tourism developed a practical guide for the application of the circular economy in the tourism sector in the aftermath of the pandemic [15]. It set out a series of circularity measures to be considered by tourism businesses:

- Reducing the use of non-renewable energy and resources.
- Self-production of energy from renewable sources.
- Choice of recycled consumer products.
- Supply of local and seasonal products.
- Minimising waste generation in tourist facilities.
- Implementation of zero plastic waste actions.
- Optimised water management.
- Implementation of building or restoration projects that allow for the reuse and recycling of materials.

However, many of these aspects conflict with reality, as for example, what would happen to the globalisation of the economy, if we focus on local and seasonal markets. Or how to minimise the generation of resources if we do not educate tourists so that their negative impact on the destination is definitely curbed. Or how to manage water properly if we do not first take into account the visitor absorption capacity of the tourist destination, which becomes a fundamental axis of responsible tourism and deepens the need to seek quality tourism instead of mass tourism. This would only be bread for today and hunger for tomorrow; and as mentioned above, the sector in Spain does not seem to have learnt anything from the pandemic.

The post-COVID scenario poses two key factors to be regarded. Firstly, eco-sustainability and the effects of climate change make the tourism sector particularly vulnerable. They can lead to changes in tourist flows, due to the appearance of new warmer areas, and even to the devastation of infrastructures such as in coastal areas as a result of rising sea levels or in mountainous areas owing to the scarcity of snow. Secondly, the technological revolution with automation, the use of robotics, artificial intelligence, etc., is taking hold. Entrepreneurs in the sector are aware of the challenges they face and of the benefits of the circular economy, but they lack collective action at the destination that can be channelled into specific actions to be articulated in a plan [16]. In short, a pragmatic and team approach is pursued with action plans agreed by all parties and with efficient resource management, which is what ultimately shapes the competitiveness of a tourist destination and is therefore key to the livelihood of the sector and triple-impact sustainability.

The importance of the tourism sector in the creation of employment and economic wealth cannot be doubted, but the tourism activity still develops at the expense of destination communities, putting them under considerable pressure from the negative consequences of tourism [17, 18, 19, 20, 21, 22, 23]. The socio-cultural aspect of responsible tourism cannot be neglected in the pursuit of sustainable tourism. The residents of the local community will only appreciate the real benefits of responsible tourism if they perceive that the outcome of tourism actions improves their quality of life and well-being. It is with good reason that responsible tourism highly values the promotion of local art and culture, traditions, natural heritage, indigenous styles, and everything the resident possesses. As a result, a sense of pride and value is generated among community members towards their own cultural heritage. And this is reflected in the tourism experience because it brings the resident and visitor together to offer an authentic and quality experience.

In terms of technological development, reference has been made earlier in this paper to the importance of implementing the latest trends in technology in the tourism sector. On the one hand, it helps to develop certain circularity measures already mentioned and, on the other, to focus on a target market that is constantly changing. One cannot compare the tourist belonging to the Spanish baby-boom generation (1960s when there was a significant demographic increase in the country) with the millennials or generation Z, to mention a few examples. Their perceptions, lifestyles, and use of technology vary considerably. Consequently, demand must be met, but always without neglecting the customer in its most general version. In fact, it cannot be forgotten that the human touch is and will always be absolutely necessary and, therefore, technology will be an important support for the tourism experience, although it can never replace people. Undoubtedly, technologies linked to Big Data will be very important, as they will allow us to better understand the market segments and have a direct impact on them in order to influence in some way their travel decision making. Additionally, this would enable to attract visitors that generate more value and sustainability to the destination, and not only in terms of income. Responsible and quality tourism should always be the ultimate goal.

In the luxury hotel sector, personalisation is a key business driver [24]. The customer will seek information and options through social media or any other digital network, but they will always want access to the human touch during their service engagement process. Consequently, there is a balance to be struck between automation of customer service processes and an exquisite personal touch; the customer should always feel pampered by the people offering a service rather than having to deal with automated systems that, on too many occasions, do not respond to demands. The introduction of digitalisation and automation will only serve to damage the establishment's image unless they are able to ensure several factors:

- that they will always have a support team to solve any technical problem immediately;
- that the technology introduced is user-friendly and, therefore, the customer does not see it as an obstacle in their experience;
- and that their system will not be hacked, with its many implications in terms of the privacy of the guests' data.

The tourism sector must be very careful in the application of technology to avoid a loss of spontaneity in the destination. If we do not rely on human capital, technology will be the new enemy, because without humanism there is no quality tourism experience.

However, when addressing technology in tourism, we must go further and hence the importance of the development of the *Smart Tourism Destination* concept. The Spanish

Ministry of Industry, Trade and Tourism has promoted a model of smart tourist destination with the aim of managing destinations in a more efficient and sustainable way, increasing tourism profitability and boosting the competitiveness of the Spanish economy. The aim is to apply the necessary technology and innovation to destinations in order to improve accessibility for visitors and the quality of life of residents, as improving the life of citizens is essential to improving the tourist experience. However, from the beginning, smart has been identified with technology, which has meant that the human factor has not been the cornerstone of tourist activity and, consequently, the well-being of residents has not been considered. Hence the outbreaks of tourist phobia that peaked shortly before the pandemic and which had been building up over the last few years. Nevertheless, the Spanish Association for Standardisation and Certification (AENOR for its Spanish acronym) [25] issued a standard for application in the tourism sector that relates the circular economy to the management of a smart destination; in addition, this standard proposes a series of indicators to measure sustainability in its environmental dimension. As can be seen, this norm does not prioritise triple-impact sustainability, but it is an important step forward. Obviously, not all tourism companies have this seal, nor do they apply for it, because the requirements are varied and strict.

Smart destinations should be understood as achieving valuable visitors. All stakeholders should adopt the same principles and also work together with higher education institutions to train tourism professionals who advocate sustainability and, above all, seek to promote the values of respect and customer solidarity in the destination. The Kaunas City Agency in Lithuania is an example to follow, where tourists are considered as citizens, i.e., they have the same rights, but also the same obligations as residents. It is not possible to continue with the motto of “everything goes” in front of the visitor. If tourists look for authenticity, they will have no problem to pay premium.

Therefore, a paradigm shift is needed in the sector where the key values of respect, ethics, solidarity, and equity are the basis on which the tourism experience is built. Namely, these values identify the cooperative world and the Social Economy.

3. Methods and materials applied

The aim of the work presented here is to show that the values inherent in the Social Economy, and in cooperativism in particular, are a fundamental pillar for the development of disadvantaged communities. The key value of triple-impact sustainability (economic, social and environmental) has remained the backbone on which to develop the initiatives described below. To this end, our work focuses on three fundamental pillars: rurality and depopulation, disadvantaged communities, and women and youth as the backbone of small communities.

In order to achieve their success, it has been vital to provide entrepreneurial training for the groups involved, as well as to raise awareness and social cohesion in order to increase self-esteem and a sense of belonging. This has been possible thanks to the use of different social innovation tools such as the *DES* methodology, which will be described below, or *Café del Mundo*, a specific focus group model that encourages collaborative and innovative participation and which, without using this technical name at the time of its development, allows for an environment of participatory freedom.

4. Results and discussions

Firstly, it is essential to understand the concept of sustainability in tourism with a broader focus. The application of circularity measures will be key to achieving this, but it is necessary to go further and ensure that these measures help to achieve sustainability throughout the country. That is to say, to seek territorial solidarity through the distribution of the territory in order to spread the tourist flow and prevent it from being absorbed in a single municipality and its likely negative impact. This would avoid overcrowding, the consequent degradation of the destination, and the impoverishment of other areas of the country that are not targeted by the tourist market. The ultimate objective would be sustainable territorial development and tourism would be a key tool to achieve it.

What is evident is that if businesses are not sustainable, tourism cannot be sustainable. This is good news, as there are signs that, in some cases, the sector is moving towards a Social Economy perspective to achieve triple-impact sustainability. For instance, in Finland they do not speak of sustainable tourism but of sustainable destination and, at the level of residents, of social cohesion, as evidenced by the Tourism Director of the Head of Unit City Helsinki during the 3rd *World Conference on Smart Destinations*, which took place in Valencia (Spain) in November 2022. In other words, there is a qualitative leap towards the well-being of the country itself and its citizens through the tourism experience.

In a way, it is feasible to say that globalisation has damage the sector significantly, as it has led to overcrowding and has made many destinations look alike, so that tourists can no longer differentiate between them in many cases (especially in the sun and beach segment). For this reason, it is very important to recover and focus on the identity of each town, on its roots, which is what attracted the first tourist flows since ancient times. Economic pressure is important, but if we go back to the pre-pandemic model, there will be no change. In Spain, it is particularly problematic because what attracted the first tourist flows in the 1960s was the sun and beach; and that has continued to be promoted, and exploited, to excess (even uncontrollably, at times). Hence, in some destinations, this identity has been lost. For example, Benidorm (Alicante) has gone from being a small fishing village to an environment of huge buildings (some of them skyscrapers) where the only objective is to generate income from tourism; there are no longer any fishermen or the reality of what it was as a town in the past. On the other hand, it is also necessary to be careful with smoke and mirrors, hence the rise of *green washing*, i.e., pretending to be very green in company policy through image and communication, but not being true to the core of it.

Solidarity and equity along with the achievement of benefits are possible through tourism. In fact, pilot experiences with responsible tourism have been carried out in places such as Kerala (India). Considering that this type of tourism is a valuable tool in favour of poverty eradication and sustainable development, these experiences resulted in an increase in the quality of life and sustainability in the destination. Therefore, the effective implementation of the SDGs through tourism is a tangible reality.

We will present now the outcomes of the two projects developed in two very different geographical areas: an indigenous community in Colombia and a small rural municipality in Spain. The objective has always been respect for the community, its inhabitants, its traditions and way of life, and the creation of decent and sustainable employment that, in turn, contributes to the economic sustainability of the local community; always bearing in mind respect and care for the natural and cultural heritage, as well as social cohesion and the increase of the resident's self-esteem.

1. *Bringing solutions to the indigenous community of the Nasa Council in Cali, Colombia*

Data on urban and rural population in Colombia practically reversed over the last century: in 1938 about 30% of the country's population lived in urban areas whereas by the end of the last century the proportion was almost 70%. And the trend has continued into the new millennium. In fact, in 2022, only 23.7% of the country's population, or 12.2 million people, lived in rural areas of Colombia (DANE, National Administrative Department of Statistics by its Spanish acronym, 2022) [26]:

Table 1. Rural demographics development in Colombia_1938-2022

Year	Rural Zone Population (%)	Urban Zone Population (%)
1938	70%	30%
2000	30%	70%
2022	23.7%	76.3%

Source: authors

These demographic data show how the forced displacement in recent decades represents a major threat in the case of indigenous communities, whose economic, social and cultural systems are based entirely on their relationship with the land. Such displacement destroys ancestral ways of life, social structures, languages and identities, and can ultimately lead to the disappearance of entire indigenous communities. More seriously, upon arrival in cities, indigenous communities face racism and discrimination, which, in most cases, leads to poverty and marginalisation, especially for women, as they face double discrimination: as indigenous and as women. Therefore, the political, social and economic exclusion of indigenous women, particularly in urban contexts, contributes to a permanent situation of structural discrimination, which puts women at the centre of all kinds of violence against them.

This paper therefore proposes the need to transform the core of the cultural and economic systems of exclusion and discrimination, designing a strategy of differential empowerment for the women of the indigenous cabildo of Cali, Colombia. This will range from the recognition of collective identities and rights to the creation of cooperatives that allow for economic autonomy on the basis of the promotion of difference and cultural diversity.

Next, a description will be provided of the process developed in the department of Valle del Cauca, Colombia, with women from the Nasa indigenous council. Under the umbrella of the Social Economy, these women managed to create and consolidate three cooperative enterprises that have become a stable source of income for them and their families. Moreover, they have consolidated themselves as an effective strategy for surviving the conditions of exclusion under which they have to survive: their poverty, their ethnicity, and their gender. Furthermore, it has allowed them to recover the cultural idiosyncrasy of their council through the production and promotion of handicraft products closely linked to their identity.

This initiative has been developed using the *Differential Empowerment Strategy* (DES) methodology [27], which proposes to address social and economic gaps in a holistic, inclusive, and gendered way. To this end, the focus is on using a conceptual framework of local development and social innovation based on the principles of epistemic justice and the ecology of knowledge. For this purpose, an entrepreneurial project has been launched with 20 women from the Nasa community who have devised, developed and structured their initiatives from their cultural identity, based on their own knowledge and the traditions of their people in order to promote their economic autonomy.

To ensure the success of these initiatives, they have been trained in the fundamentals of social entrepreneurship, from the initial concept phase to the creation and development of the business plan. The result has been the creation of three cooperatives:

- *Las Gaitanas*, dedicated to the manufacture of unique textiles that preserve the ancestral identity of the community.
- *Empanadas Sol Nasa*, where fast food is prepared based on the traditional products of the Nasa people gastronomy.
- *Chicha El Maíz*, which produces and distributes this ancestral drink (*chicha*, an alcoholic beverage resulting from the fermentation of maize in sugar water), with the best quality maize.

This obviously attracts visitors drawn by the power and strength of an ancestral indigenous community. The community can sustain itself by selling its unique and quality products which, on the other hand, puts the focus on this group of people to the outside world so that they can survive in dignified conditions.

The impact of these initiatives has been very positive in their perception of themselves as protagonists of their reality, has made them reconnect with their traditions, and has allowed them to contribute materially and culturally to their community. As a result, they have been able to improve community relations and generate collective strength through the empowerment that has come from emotional and economic autonomy. The use of the cooperative business model has enabled the establishment of social and solidarity-based enterprises in harmony with the ideals and principles based on the cultural values of their ancestral community; values that always foreground their vital connection to nature (the mother Earth, as they call it) and therefore imply respect for its sustainability. For communities like this one, the circular economy is simply their ancestral way of life.

From this point onwards, monitoring will be carried out to ensure that the three co-operatives continue to meet the objectives for which they have been created. Work will also continue through the launch of new initiatives in other indigenous and disadvantaged communities in Latin America.

2. *Tourism as a lifeline in depopulated Spain*

The phenomenon of depopulation in rural environments has never ceased increasing since its beginnings with the First Industrial Revolution, which caused a significant exodus to industrialised urban areas. Eurostat's latest report on demographic changes in the European Union territory [28] reveals disturbing data:

Table 2. Rural demographics development in the EU_2015-2020

Younger population (< 20 years)	-0.66%
Working age (20-64 years)	-0.63
Older (≥ 65 years)	1.80%

Source: authors

As can be seen, there is still a worrying increase in the number of young people leaving rural areas in search of employment and a better quality of life (although in many cases they simply swell the unemployment figures in the urban areas where they settle). It is also particularly worrying to see working-age people leaving rural areas, especially women who are the pillar of the family and therefore of population growth, as has always been the case in small rural towns. In total, only 21% of the population lives in rural areas and the downward trend is ongoing.

In the case of Spain, the data are revealing, with a 0.85% drop in the number of young people under the age of 20 and a worrying 0.86% drop in the active population. It is thus urgent to take measures to reverse this situation and continue to give life to rural environments, which, after all, represent the primary sector that supplies urban areas (although it may seem that those in power do not quite understand this).

Our research group has focused on a small village in Soria, Garray. Soria is a particular spot in the centre of Spain, which suffers one of the highest rates of rural depopulation. In just over a century, it has lost 40% of its population at the provincial level; if we focus on the small villages scattered throughout the municipality, some have even disappeared. Most of them have fewer than 8 inhabitants per square kilometre, which is why this province is also known as the ground zero of depopulation in Spain.

Garray is a small village rich in natural and cultural heritage. Its Celtiberian origins provide an important added value for the survival of the community; in fact, it has one of the most important archaeological sites in Spain, which had not been highlighted adequately until now.

The demographic trend has been significantly reversed thanks to the efforts of residents united through another type of Social Economy entity, the Associations. This work began at the end of the 20th century, and it is being still monitored and supported today. With the aim of halting the relentless depopulation of the community, in 1998 a small group of young people promoted the creation of Celtiberian historical re-enactments involving all the residents. The objective was to attract attention in order to appeal to possible visitors who would provide a flow of income. The initiative was a success, and it was decided to repeat the re-enactment annually free of charge. Over the years, more residents decided to take part in these activities and a small increase in the number of inhabitants started to be noticed. For this reason, we promoted the decision to create a non-profit cultural association (in 2003) that adopted several fundamental objectives:

- The safeguarding of the town by attracting, and settling, population.
- The promotion of a sense of community among all residents.
- The promotion and preservation of the historic Celtiberian heritage located there.
- The attraction of visitors that will help in the economic sustainability of the village.

The impact has been highly positive in terms of demographic evolution, as can be seen below:

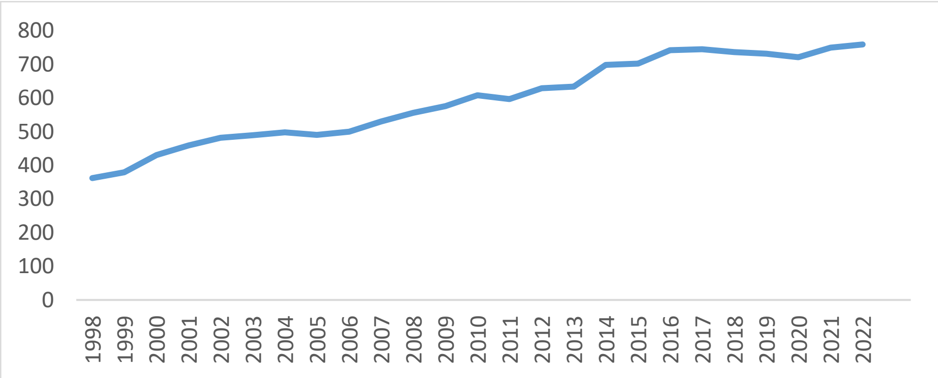

Figure 2. Population change 1998-2022

Source: authors

It is important to highlight the increase in the number of families, which is rising the number of births, a richness for any rural environment. In fact, 17.7% are under 18 years old (11% are children from 0 to 10 years old); 66.5% are people between 18 and 65 years old (working age range); and 15.8% are over 65 years old.

Another important point we took into account was sustainable development at the economic level, as the options that existed before the creation of the association were scarce to generate stable employment in the community:

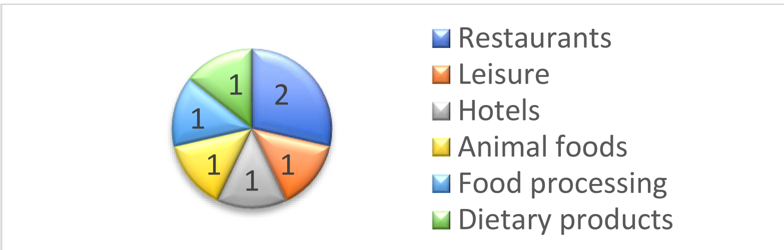

Figure 3. Number of companies before 2003

Source: authors

Following the creation of the association and the attraction of tourists to the village and thus of residents who decided to take up residence in the community, assistance was given in the promotion of entrepreneurial initiatives developed by young local people. These provided employment mainly for residents and covered the whole spectrum of needs for both community members and the visitors they sought to attract. The result is evident, as shown in the figure below:

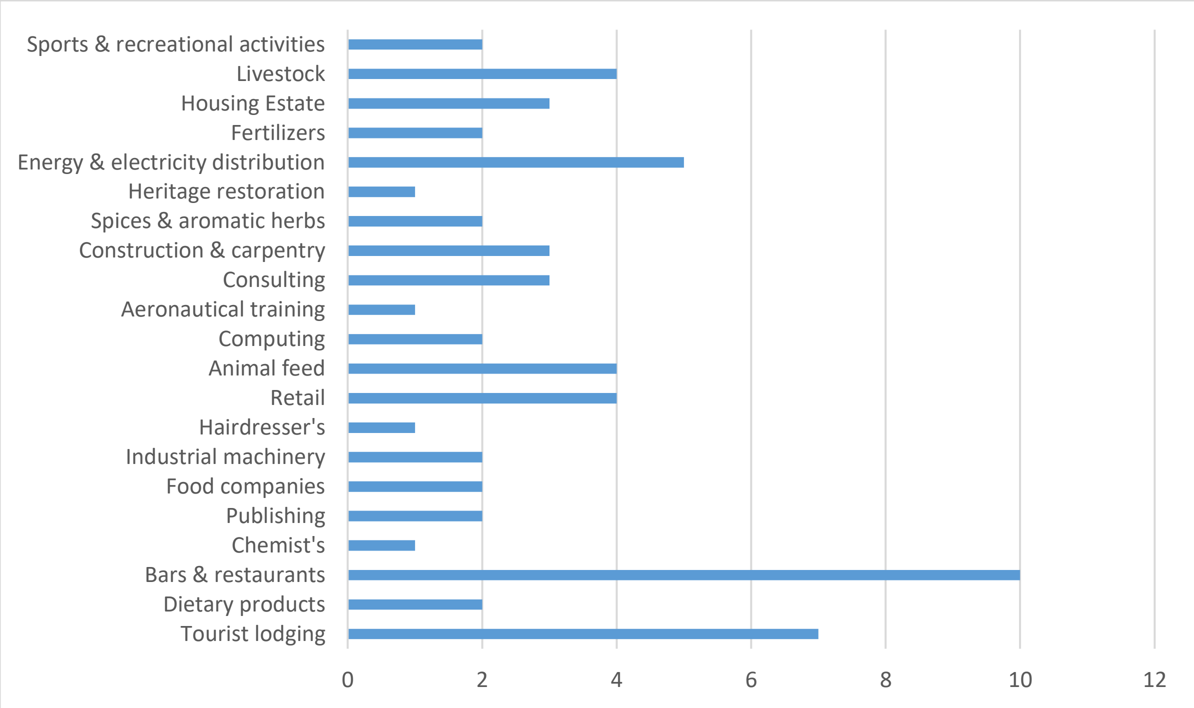

Figure 4. Evolution of enterprise development 2003-2022

Source: author

There has been a significant increase of 1000% in the creation of companies, from 6 companies in 2003 to 63 in 2022.

As for the number of tourists, up to March 2023 there was an increase of 13.7% compared to the same period in 2022: +14% of domestic tourists and +12.1% of international tourists. To promote overnight stays, the new entrepreneurs were encouraged to join the same project based on:

- Promoting the local and Celtiberian gastronomic tradition.
- Promoting local and Celtiberian handicrafts.
- Establishing a residues and food waste plan as low as possible, with the aim of reaching zero levels in the future.
- Educating visitors to respect the natural environment.
- Educating visitors on the Celtiberian heritage and its preservation.
- Controlling the flow of visitors so as not to exceed the capacity limits both at the level of the community and of visitors to the archaeological site.
- Offering a tourist experience of proximity by treating the visitor as a resident.

Thanks to all these actions, Garray went from being a village on the verge of death to being the richest municipality in the province in 2021 (latest data collected at municipal level by the

Spanish National Institute of Statistics, INE for its Spanish acronym), considerably above that of Soria capital and the average for the province [29]. Therefore, our initial hypothesis that respect for triple-impact sustainability with circularity measures and through the Social Economy is always a guarantee of success has been fulfilled. Surely, this can prosper as long as the resident is regarded as the cornerstone of any type of initiative to be developed in the community; otherwise, in the medium and long term, the actions will end up failing.

5. Conclusions

Tourism is an important source of wealth for destinations, but its ultimate purpose, i.e. bringing people together, strengthening ties, and contributing to peace between peoples, should not be overlooked. Unfortunately, this objective has been too often neglected in favour of focusing on income generation.

As indicated in this paper, COVID-19 was an important and urgent wake-up call to the tourism sector so that it could decide whether they wanted to continue with the existing model or start to make a paradigm shift towards a humanisation of the model. Regrettably, the parties involved do not seem to be aware of this reality.

It is a necessity to assume the generation of economic, social and environmental sustainability in all economic activities; and tourism cannot be an exception. If we only focus on one, or two, of these vectors, we cannot speak of sustainability. It is clear that, in this sense, the Social Economy is a benchmark to be taken into account as it combines both the circular economy and the common good as well as sustainable tourism and responsible tourism. Destination communities become protagonists in the tourism development of their environment and, therefore, in the sustainability of their own community at all levels.

In this analysis, two illustrative examples have been presented, developed by our research group on social innovation and inclusive business, of how two aspects of the Social Economy can contribute to the empowerment of disadvantaged communities. Firstly, the indigenous community of Nasa Council in Cali (Colombia), where women have been empowered through training and support for the development of their own entrepreneurial initiatives in the form of cooperatives, resulting in their own contribution to the sustainability of the community and a significant increase in their self-esteem and self-worth. Secondly, support and monitoring for a small rural community in central Spain (Garray, Soria), which was in serious danger of extinction; thanks to the creation of a non-profit association, it has been able to reverse the process, generate economic wealth, contribute to environmental sustainability and the preservation of its historical heritage, and profoundly promote the social cohesion of the community. In both cases, a follow-up is being carried out to ensure that the model continues to be as successful as it has been so far. We will also begin to identify other disadvantaged indigenous communities in Latin America to offer our support in their struggle to survive in the adverse circumstances that surround them, especially in the case of women. We will also continue to assist the initiatives of young people and women who wish to implement social entrepreneurship in depopulated areas of Spain in order to alleviate this situation.

It is important to work so that urban destinations prosper and create quality of life for their citizens. However, we cannot forget that rural communities are the custodians of both the culture and traditions of villages. Without them, the roots that created the nation are lost and, therefore, it loses its attractiveness to the outside world. Consequently, a nation without its idiosyncrasy has no future.

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Rezumat

Turismul post-COVID trebuie încadrat într-o nouă paradigmă bazată pe valorile sustenabilității cu impact triplu (economic, dar și de mediu și social) și nu pe cea a veniturilor economice imediate. Circularitatea economiei și inovația socială devin axe fundamentale pe care se construiesc pilonii unui nou turism. Scopul acestei lucrări este de a demonstra că acest lucru este posibil prin intermediul economiei sociale. În acest scop, vor fi prezentate dovezi privind două inițiative la care a lucrat grupul nostru de cercetare privind inovarea socială și afacerile incluzive de-a lungul mai multor ani. În primul rând, o experiență dezvoltată cu comunitatea indigenă a Consiliului Nasa din Cali (Colombia) guvernată de un sistem matriarhal; iar în al doilea rând, încă unul într-un mic sat din centrul Spaniei, o zonă cu probleme serioase de depopulare rurală. Prin două modele ale Economiei Sociale s-a realizat o experiență de succes care a durat în timp. Prin urmare, este posibilă combinarea inovației sociale cu turismul pentru a obține durabilitatea deplină în destinații.

Cuvinte-cheie: *durabilitate, economie socială, ruralitate, femei, turism responsabil*

Аннотация

Туризм пост-COVID должен быть внедрён в рамках новой парадигмы, которая охватывает ценности устойчивости с тройным воздействием (экономическим, но также экологическим и социальным), а не сиюминутным экономическим доходом. Циркулярность экономики и социальные инновации становятся фундаментальными осями, на которых строятся столпы нового туризма. Цель этой статьи — продемонстрировать, что это возможно с помощью социальной экономики. С этой целью будут представлены данные о двух инициативах, над которыми наша исследовательская группа работала с вопросами социальных инноваций и инклюзивным бизнесом в течение нескольких лет. Во-первых, опыт, полученный с коренной общиной Совета НАСА в Кали (Колумбия), управляемой матриархальной системой; и, во-вторых, еще один в небольшой деревне в центральной части Испании, в районе с серьезными проблемами сокращения сельского населения. Благодаря двум моделям социальной экономики был достигнут успешный опыт, который сохраняется с течением времени. Следовательно, можно сочетать социальные инновации с туризмом для достижения полной устойчивости направлений.

Ключевые слова: *устойчивость, социальная экономика, сельское хозяйство, женщины, ответственный туризм*

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TAX ON INCOME OBTAINED FROM CRYPTOCURRENCY TRANSACTIONS

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Abstract

The following research is aimed at individuals tangentially involved with digital or virtual currencies, who are increasingly facing questions about how to declare income derived from trading these financial instruments. The purpose of the research is to present the tax treatment of transactions with cryptocurrencies in the part related to the taxation of the income of legal entities and individuals obtained from the activity of trading with virtual currencies according to the legislation of the Republic of Moldova, as well as the practice followed in other countries.

The issue of taxation of these types of income is a current one both at the level of the legislation of the Republic of Moldova and at an international level, given the fact of abundant flooding of the world economy with an enormously large number of cryptocurrencies without which today the financial-banking system would look like a quaint one. It is worth mentioning that the clarity of the tax legislation regarding the taxation of new types of income, or the synchronous advancement of the tax legislation with the up-to-date needs of the taxpayers is a priority both for the institutions that collect the sources of the state budget, as well as the income payers. In other words, increasing the clarity of the tax legislation and the tendency to align with international standards and practices ensure greater efficiency in the successful administration of state revenues and an upward growth in the number of compliant taxpayers. At the same time, this research aims to examine the causal link between the harmonization of legislation to the needs of the market with the level of compliance of taxpayers and receipts to the state budget. The scientific methods used in the study are as follows: analysis of the legal framework governing the research, synthesis of information, comparison to identify distinctive features, deduction of challenges.

Keywords*: tax on income, cryptocurrency, subject of imposition, taxpayer, object of imposition, tax rate*

1. Introduction

Tax on income is a natural juridical-fiscal category for the state, being one of the funds necessary to achieve its economic and social goals, providing citizens with public goods and services [1]. As the economic Adam Smith has mentioned, the nature of mandatory payment for all natural and legal persons characterizes this resource as the basis for the emergence and development of the state by covering public expenses [2].

For tax income payers the obligation of taxation is a barrier that is somehow exceeded, which we cannot say about other principles of tax. A skepticism addressed by researchers and discussed to this day by society as a whole is the character of tax equality. In this context, the English philosopher and economist John Stuart Mill intervenes with a special principle in the matter of taxation, establishing that taxation must have an equal character for those who contribute on their own to the formation of the state budget, i.e., for taxpayers. In this sense, there is a continuous tendency of the legislator to ensure a uniform character of taxpayers in front of the law, which looks more and more undifferentiated at the income of taxpayers to be taxed with a tax on income.

The evolution of technological development in various fields also determined the emergence of various organizational-legal forms of entrepreneur, which in turn have the primary purpose of obtaining benefits or income. Everything would be much simpler if the legislator found a perfect way to tax income regardless of their source, respecting all those principles on which taxes and fees are based: neutrality of taxation, certainty of taxation, fiscal equity, fiscal stability, tax yield. Analyzing the tax on income in different countries, we can see that in terms of fiscal legislation, it has evolved into a direct dependence on the evolution of income types. Thus, the state, through its fiscal bodies, constantly examines new forms of income from the point of view of the need to impose them in order to ensure compliance with fiscal equity and the other principles that were mentioned.

Currently, the provisions of the current legislation of the Republic of Moldova do not regulate the use of virtual currency for trading or any related exchange methods on its territory. Cryptocurrency is not a form of electronic currency within the Law on payment services and electronic currency no. 114 of 18.05.2012 [3], and the activity regarding the issuance of the virtual currency and its trading is not subject to supervision by the authorized body. At the same time, it is known that starting from the period of 2008, when the most used cryptocurrency, called Bitcoin, was registered, the states of the world collided with know-how in the field of traditional currency operations. In addition to the fact that the laws of the states of the world did not regulate such a financial instrument or such a financial asset, the users of these virtual currencies went further, so that the entrepreneurial spirit invented ways to earn income on account of this technological progress. As a result, the tax legislation collided with a new task, namely the need to introduce into the legislation the provisions to regulate the new source of income obtained from the trading of cryptocurrencies, including the specification of how to determine and declare the tax obligations from these incomes.

Despite the fact that the provisions of the legislation of the Republic of Moldova do not regulate the use of virtual currency, people use various electronic platforms where they transact with an impressive variety of cryptocurrencies, thus obtaining income from these operations that can be converted into one of the trust funds.

Hence, the following study will focus on the research of the issue regarding the tax on the income of people who obtain benefits from cryptocurrency trading, being examined in terms of the way of regulation both in the Republic of Moldova and in other countries, whose experience is a model based on which modernization and adaptation of domestic legislation to European and international standards and practices in the field take place.

2. The degree of investigation of the problem at present and the aim of the research

Certainly, the current study presents an actuality through the presence of research related to cryptocurrencies and transactions with them both at the national level but especially at the international level, and at the same time, the taxation of revenues from transactions with cryptocurrencies is little researched. In this context, the aim of the following research is to examine the national and international provisions regarding the taxation of income from cryptocurrency transactions, the comparison of the respective practices, and the examination of the possibilities of application in the Republic of Moldova.

In the context of a trend of globalization and economic internationalization, society fails to properly adapt the legislation for adequate regulation of transaction and taxation processes. While some countries such as the USA and the United Kingdom are trying their best to take advantage of the opportunity of so-called “transparent data” to streamline business processes and to even create a better fiscal and legal framework, others are only now starting to look closely to cryptocurrency (India, Russia) or, on the contrary, completely ban their use (Nepal, Bolivia) [15]. All of this complicates the processes given the fact that cryptocurrencies are outside the legal framework, and the purchase and trading of virtual currencies takes place on an international exchange located in multiple jurisdictions, which makes it much more difficult to tax such transactions.

In order to achieve the goal of the research, the following tasks should be completed:

– examination of national provisions regarding the possibility of taxation of income from trading with virtual currencies;
– examination of international practice in the matter of taxation of the respective incomes;
– comparison of international practices with the national tax regime;
– evaluating the possibility of applying or adapting the national fiscal legislation to international practices.

3. Methods and materials applied

The study begins with research regarding cryptocurrencies and electronic currencies, transactions made with them, and examining the possibilities of taxation of income derived from cryptocurrency transactions. From a methodological point of view, it was desired to carry out the review of the fiscal and banking normative framework starting from the exhaustive analysis of the provisions of the Law on payment services and electronic money [3], Fiscal Code of the Republic of Moldova no. 1163-XIII of 24.04.1997 with subsequent amendments [6]. Based on the conducted research, some questions were also established: Is cryptocurrency a means of payment or a financial asset, or a mix of the two? What are the possibilities and international practices of taxation of income from cryptocurrency transactions? These questions will be studied and presented by describing them below.

Methods of scientific research were used in the following research as follows: analysis of the legal framework governing the study, synthesis of information, comparison to identify distinctive features, deduction of challenges, through which it was possible to present the conclusions related to the research.

4. Results obtained and discussions

From the point of view of the importance of the researched issue, we would like to mention the aspect that derives from the permanent tendency to increase the monetary mass involved in trading with virtual currencies, including the volume of investments in the cryptocurrency mining technique. The cryptocurrency market is developing very dynamically, nowadays reaching an extraordinary market capitalization. As can be observed in figure 1, the graph of the market capitalization of cryptocurrencies shows an increase especially in recent years, except for some fluctuations, which can be justified by the high volatility of virtual currencies. The capitalization of virtual currencies on the global market today is $1.27 trillion, a variation of -37.53% compared to last year [4]. Currently, the market capitalization of Bitcoin (BTC) is $559 billion, representing Bitcoin's priority of 44.21%. Meanwhile, the market capitalization of Stablecoins is $132 billion and has a share of 10.45% of the total market capitalization of virtual currencies [4].

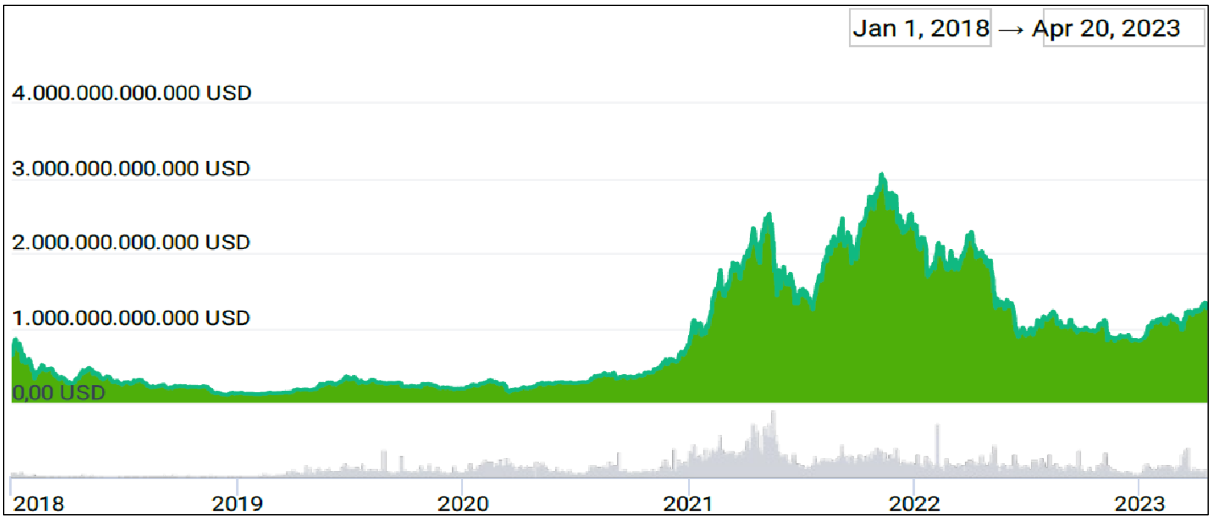

Figure 1. Graph regarding the total market capitalization of cryptocurrencies

Source: https://www.coingecko.com/ro/global-charts [4]

Cryptocurrency is a new phenomenon in the global economy, therefore, no unique foreign legal phenomena associated with it, which do not have scientific and practical significance for the Republic of Moldova and other countries have been identified. In this context, if we are to examine the systems of taxation on income from transactions with virtual currencies, we are going to mention that they depend on the formulation of the definition of cryptocurrency. Accordingly, if the cryptocurrency is designed in legislative acts as a means of payment and is equivalent to other units of fiat currencies, income tax is charged for each use of it. At the same time, if the virtual currency is identified with property or assets that can generate income (such as stocks, bonds, etc.), the income from its trading is subject to capital asset tax. There are also mixed tax approaches to cryptocurrencies. The tax regimes examined are presented in figure 2.

Although the legislation of the Republic of Moldova does not currently regulate the status of virtual currency or cryptocurrency and does not recognize it even from the aspect of electronic payment currency, however from the point of view of a property with a certain value it is qualified as an asset of a physical person who owns under one form or another a right to this currency. According to the current regulations, the physical person who obtains an income from financial investments made in cryptocurrency is treated from the point of view of tax legislation as an income obtained from capital investments and from investments in financial assets. According to art. 14 para. (1) lit. b) and lit. c) from the Fiscal Code [6], the said income is subject to tax on income. One of the conditions in this sense, according to art. 12 point 5 of the Fiscal Code [6], is that the taxpayer's participation in the organization of the activity should not be regular, permanent, and substantial. We draw attention to the fact that the legislation vaguely and interpretably defines this activity, which can cause various obstacles to the application of the law by honest and less honest taxpayers. However, according to the explanation presented by the State Fiscal Service on its website, the income obtained by a physical person resident in the Republic of Moldova from the alienation of cryptocurrency qualifies as taxable income, and the respective currency is assigned to the capital asset category [7].

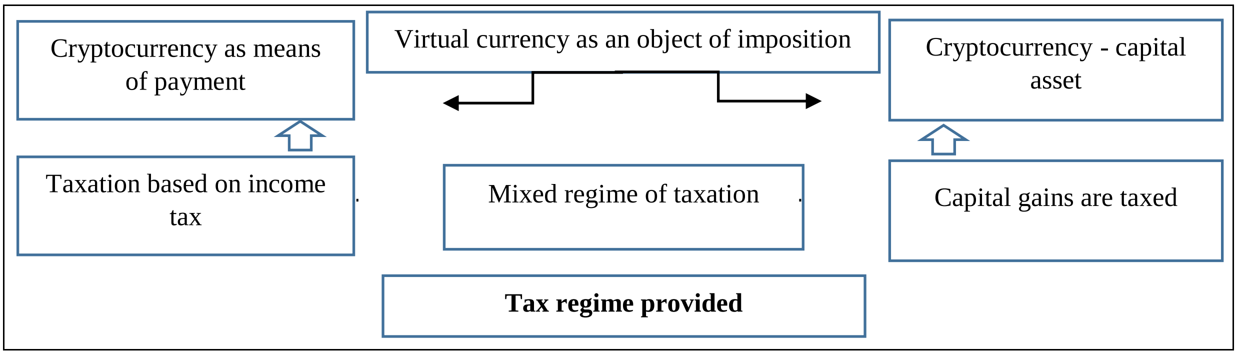

Figure 2. Taxation of income from virtual currency trading

Source: developed by the authors based on the information in the article "Сравнительный обзор международной финансовой политики в сфере налогообложения цифровых активов"[5]

Thus, in the sense of art. 39 para. (1) of the Fiscal Code [6], if the physical person holding cryptocurrency does not use this asset in the business activity, the cryptocurrency qualifies as a capital asset. According to the mentioned provisions, the regulation of capital growth and loss is applied both to the physical person who is a resident and non-resident of the Republic of Moldova and who do not practice entrepreneurial activity and who sell, exchange, or dispose of capital assets in any other form.

Method of capital growth taxation established in art. 40 para. (7) of the Fiscal Code [6], stipulates that the amount of capital growth during the tax period is equal to 50% of the excess amount of recognized capital growth over the level of any capital losses incurred during the tax period. The size of the increase or loss of capital resulting from the sale, exchange, or other forms of alienation of capital assets is equal to the difference between the amount received (income obtained) and the value base of these assets. According to the Order of the Ministry of Finance "List of confirmatory documents that are grounds for confirming the value base of capital assets" no. 40 of February 6, 2018 [8], a list of confirmatory documents is approved that represent grounds for confirming the value base of capital assets that are the basis for calculating the capital increase. Respectively, if the person does not have a document from the list of confirmatory ones, the capital asset will be calculated with a value base of zero lei.

Generalizing the aspects of the taxation of income obtained from transactions with virtual currency, we established that, even if the provisions of national legislation do not regulate virtual currency at the national level or foreign currency, not even as a means of payment, the income obtained from operating with cryptocurrencies is treated as taxable on the territory of the Republic of Moldova.

According to art. 37 of the Fiscal Code [6], the subject of increase or loss of the capital are taxpayers, which are residents and non-residents of the Republic of Moldova, that do not practice entrepreneurial activity and who sell, exchange, or alienate capital assets in any other form. Thus, according to art. 83 of the Fiscal Code [6], individuals (citizens of the Republic of Moldova, foreign citizens, stateless persons, including members of companies and shareholders of investment funds) who have obligations regarding payment of tax are obliged to submit the declaration regarding the tax on income. According to the order of the Ministry of Finance "Regarding the approval of form CET18 – Declaration of the individual regarding tax on income and the Regulation regarding on how to complete it" no. 150 of 05.09.2018, the Declaration form of the individual regarding tax on income (form CET18) was approved [9]. Thus, if the beneficiary of taxable income must determine the amount of the obligation and pay tax on income, he must submit the Declaration of the individual regarding the tax on income and pay the unpaid tax on income to the state budget.

At the same time, it should be noted that, until 2020, the provisions of the Fiscal Code [6] stipulated that the subjects of capital increase or loss are all taxpayers (individuals or entities), residents, and non-residents of the Republic of Moldova, who sell, exchange or dispose of capital assets in another form. Thus, according to the editorial up to 01.01.2020, legal entities, like individuals, had the possibility to buy and sell capital assets within the meaning of the provisions of Chapter 5 Growth and loss of capital from the Fiscal Code [6], to determine and declare income from the capital growth, being a taxable source, was to be taxed by legal entities. Accounting for income tax expenses occurs by increasing expenses and current liabilities at the same time.

Thus, according to the editorial up to 01.01.2020, legal entities, like individuals, had the possibility to buy and sell capital assets within the provisions of Chapter 5 Growth and loss of capital from the Fiscal Code [6], to declare and determine income from the increase in capital. According to art. 18 of the Fiscal Code [6], the increase in capital, being a taxable source, was to be taxed by legal entities by applying the quota established in art. 15 of the Fiscal Code [6].

According to the way of completing the Declaration regarding the tax on income for the fiscal period (form VEN12), the approved form for declaring the fiscal obligation regarding tax on income by legal entities, in annex 1.2 D Result from operations related to capital assets, which are not completed starting with the fiscal declaration period of 2020, the legal entity was to reflect the income from the operations with the capital assets found in the financial accounting for each group of assets, which is defined as the capital asset. The result obtained as following the calculations in annex 1.2 D are reflected in line 0208 of annex 1D Adjustment (increase/decrease) of income according to the provisions of the tax legislation, and these are later generalized and reflected in the Declaration regarding tax on income for the tax period (form VEN12) to determine taxable income and the amount of tax on income.

The accounting of tax on income expenses for legal entities takes place in strict accordance with the National Accounting Standard "Expenses", approved by Order of the Ministry of

Finance nr. 118 of 06.08.2013 with subsequent amendments [10], which establishes that the determination of expenses takes place by applying to the amount of taxable income tax rate established by the Fiscal Code [6]. Accounting for tax on income expenses occurs by increasing expenses and current liabilities at the same time.

Starting with 01.01.2020, with the exclusion of legal entities from the category of subjects of the capital increase in the sense of the provision of art. 37 of the Fiscal Code [6], the purchase of cryptocurrencies by a legal entity can no longer be considered as capital assets. At the same time, examining the provisions of art. 12 of the Fiscal Code [6], it can be acknowledged the existence of the notion of investment income – income obtained from capital investments and investments in financial assets, if the taxpayer’s participation in the organization of this activity is not regular, permanent and substantial, and the notion of financial income – income obtained in the form of royalty, annuities, from the leasing of goods, lease, from usufruct, from the exchange rate difference, from the assets that entered free of charge, other income obtained as a result of financial activity, if the taxpayer’s participation in the organization of this activity is not regular, permanent and substantial. Thus, we establish that the legal entity, when conducting transactions with virtual currencies, could reflect the income obtained from these operations as investment or financial income. In the part related to the taxation of these revenues, according to the established general taxation rule, these revenues are to be taxed according to art. 15 lit. b) of the Fiscal Code [6], with a tax rate of 12%.

It is worth mentioning that, under the Currency Regulation Law no. 62 of 21. 03.2008 [11], the National Bank of Moldova warns users of payment services that virtual currencies and related exchange methods are not subject to regulation on the territory of the Republic of Moldova. Consequently, the funds of the users are not protected [12]. Within the lines of what was mentioned above, incomes obtained from investments in financial assets of legal entities are not regarded as illegal, especially if the person calculates and pays the tax on income to the state budget from these incomes.

The following study also aimed to identify the characteristics of the taxation of cryptocurrency assets in various countries of the world in order to take over the most successful practices in the regulation of this field, including shedding light on the provisions of national legislation regarding the correct determination of the object of fiscal regulation respecting all principles such as fiscal equity, tax certainty, fiscal stability, and others. The aspect of legalization of cryptocurrencies in different states of the world is important, which counts more than 120 states. However, the degree of legalization, as well as the presence or absence of various restrictions on virtual currency transactions, still differ significantly from state to state.

As for legalizing the circulation of virtual currencies, buying and selling them, and making other transactions with digital assets, including investing in these types of assets or mining them, the legislation of each country looks at these things differently. Hence, in October 2020, the G20 approved a roadmap (Financial Stability Board, 2020) [13] which sets out to include improving cross-border payments to solve long-standing problems such as high costs, low speeds, limited access, and lack of transparency in such payments. Precisely for this reason, it was decided that the digital currencies of the central bank have a special role to play. Central bank digital currencies are defined as central bank digital money denominated in national units of account that can be used for retail payments and other settlements [13].

There are many interesting facts about cryptocurrency, for instance, in Western countries, the inclusion of Bitcoin and other cryptocurrencies in the list of means of payment for goods and services has already become a trend. Currently, there are more than 100 thousand companies worldwide that accept BTC, such as Microsoft, Amazon, eBay, WordPress, JM Bullion, and even KFC sell their chicken for Bitcoin and Playboy accepts cryptocurrency for a subscription [16]. The global transition to the virtual currency payment method, i.e. the blockchain financial system, is only a matter of time.

A survey conducted by Bank for International Settlements (BIS) employees in 2020 among more than 60 central banks showed that the pandemic increased central banks' motivation to develop retail central bank digital currencies, has put on the forefront the goal of providing access to central bank money during emergencies and the need to supplement cash payment methods where social distancing is required [14]. Thus, the question of whether digital currencies of central banks will change the use of cash in its physical form as a means of payment or savings in deposit accounts will depend on the decisions of the central bank. What is certain is that the decisions, as well as the extent and speed of the introduction of central bank digital currencies, will certainly vary from country to country and will depend on the payment infrastructure, existing payment instruments, and regulations regarding virtual currency trading.

Currently, the regulation of the taxation of virtual currencies goes in step with the way of recognition and acceptance of cryptocurrencies in the economic and financial life of states, which explains the variety of ways of taxing the income obtained from the possession or use of virtual currencies. So, as long as in some states such as Afghanistan, Algeria, Bolivia, Egypt, Nepal, and others, cryptocurrency is prohibited in any form of possession or use, there can be no question of legislation regarding the taxation of cryptocurrency income [15].

At the same time, in many states of the world, virtual currency has a different legal status, i.e. it can be positioned in the category of currency, commodity, or property, as shown in table 1.

Table 1. Legal status and scope of cryptocurrencies in some countries of the world

Country	**Category regulated by law**		
	Currency	***Goods***	***Property***
United Kingdom	V		
Germany		V	
Canada			V
Czech Republic			V
USA			V
France		V	
Japan			V
Switzerland			V

Source: elaborated by authors based on Bitcoin legality by country or territory, https://ro.wikipedia.org/ [15]

If we are to analyze the evolution of cryptocurrency cataloging, we can mention the experience of the USA, where in 2013 the treasury classified bitcoin as a decentralized virtual currency, and in September 2015 the "American Commodity Futures Trading Commission" (eng. Commodity Futures Trading Commission - CFTC) classified bitcoin as a "commodity", but according to the US Internal Revenue Service (IRS), bitcoin is taxed as "property".

In the year 2023, buying and selling cryptocurrencies will be officially legalized in Kazakhstan. Citizens will be able to transact digital assets for tenge through banks, while paying one of the world's lowest fees for such transactions. In addition, Kazakhstan will be one of the first countries in the world to include a core blockchain curriculum in university programs across the country. Within this program, over 40 thousand people are expected to be trained by 2026 [16].

If we are to examine the legislation of a neighboring country such as Romania, we establish that its tax legislation provides that any profit recorded from cryptocurrencies is subject to taxation. In Romania, transactions with virtual currencies were regulated for the first time in 2019, being introduced in the Fiscal Code provisions relating to the taxation of incomes obtained in this way. According to these regulations, income from the transfer of virtual currency falls under the category of income from other sources and is subject to the specific tax regime for this category, with certain peculiarities. One of the peculiarities is that the determination of the applicable income tax and social contributions is the responsibility of the income earners, not the income payers. Even for exchanges made through trading platforms, the reporting obligation remains with the users. Thus, in Romania, the beneficiary will pay 10% income tax both on any capital gain and on any additional income obtained from crypto investment activities if the person's total income during the financial year exceeds 600 Romanian lei. Another important aspect of Romanian tax law is that crypto losses are tax deductible, meaning you can offset them against capital gains to reduce your total tax liability in a given financial year [17]. The income tax due for these revenues is determined as the positive difference between the sale price and the purchase price, including the direct costs related to the transaction. The income tax payment deadline is the deadline for submitting the Single Declaration on income tax and social contributions owed by individuals [18].

5. Conclusions

Taxes are the most important financial resource for the state and the oldest, in the order of appearance of state revenues. Based on these resources, the state can achieve the objectives proposed to society. The purpose of the developed tax policies is to make taxes more equitable, efficient, and favorable to economic growth.

Cryptocurrencies are virtual currencies, that are not regulated by a financial institution and do not involve the intervention of a third party in the relationships between two of its users, which allows the business environment to exclude part of the burden of bank fees and to interact more operatively with customers. The business is like a flowing river that carves its own path, and if it considers that electronic currency eases its existence, the state only has to offer a legal cloak to this know-how, so it can benefit as well from this tool to the possible extent, and why not, to promote it and align to the experience of the countries that derive the greatest benefits from its implementation and use.

The permanent trend of increase in the amount of money involved in trading with virtual currencies imposes new requirements on the regulatory part at a national level, but also risks and challenges for the business environment and physical person. Based on the study carried out on the taxation of cryptocurrency transactions, the existence of three directions of treatment was established: if the cryptocurrency is designated in legislative acts as means of payment and is equivalent to other fiat currency units, tax on income is perceived for each of its use; if cryptocurrency is identified with properties or assets which can generate income (such as shares, bonds, etc.), the income from trading it is subject to capital asset tax; there are also mixed fiscal approaches to cryptocurrencies.

Another direction subject to research is the approach for taxation on income from cryptocurrency transactions and tax reporting for physical persons and legal entities in the Republic of Moldova.

The current research, by achieving the goal of studying the problems of the mechanisms of taxation of revenues based on trading with cryptocurrencies both from the aspect of the regulation of the field and from the aspect of the efficiency criterion, highlighted the existing imperfections in the tax legislation regarding the taxation of income tax on the background of the tendency to harmonize the taxation system with international standards and practices [19].

Generalizing what was mentioned in the current research, we establish that, the provisions of the legislation in different countries do not have a unique vision on how to use cryptocurrency in their economies so that some countries accept such a financial instrument, while others limit its use or prohibit it with criminal liability. At the same time, at the international level, the countries are in constant collaboration regarding the homogenization of tax treatment on income obtained from transactions with cryptocurrencies. Such standardization could guarantee the people that invest in this financial tool a certainty and legality of the activity that is carried out, and for the state, this would be a measure to prevent tax evasion. Thus, in order to align our country with international standards and practices, it is necessary to analyze the progress achieved by those that managed to introduce the new financial tool into the economy and to regulate the clear taxation of income obtained from the use of electronic currency.

Examining the national practices regarding the taxation on income from virtual currency, we conclude that the provisions of the tax legislation do not expressly present such income as being taxable or non-taxable, especially in the context of the Law on Currency regulation no. 62 of 21.03.2008, which does not regulate virtual currencies and methods related to exchange on the territory of the Republic of Moldova [11]. In this case, we consider it appropriate to review the provisions of the national legislation in order to ensure a uniform basis with the international practices for tax on income from cryptocurrency transactions, ensuring a clear and fair fiscal treatment, guaranteeing a tax rate close to states with a level of economic development like the one of Republic of Moldova, simplifying the way to declare and pay the tax for such incomes.

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Rezumat

Prezenta cercetare este destinată persoanelor care au tangență cu moneda digitală sau virtuală și care tot mai des se ciocnesc cu întrebări privind modalitatea de declarare a veniturilor obținute de pe urma tranzacționării cu aceste instrumente financiare. Scopul cercetării este de a prezenta tratamentul fiscal al tranzacțiilor cu criptomonede în partea ce ține de impozitarea veniturilor persoanelor juridice și fizice obținute din activitatea de tranzacționare cu monedele virtuale potrivit legislației Republicii Moldova, cât și practica altor state.

Problematica impozitării acestor tipuri de venituri este una actuală atât la nivelul legislației Republicii Moldova, cât și la nivel internațional, dat fiind faptul unei abundente inundări a economiei mondiale cu un număr enorm de mare de criptomonede fără de care astăzi sistemul financiar-bancar ar arata unul demodat. Este de menționat și acel fapt că, o claritate a legislației fiscale în privința impozitării noilor tipuri de venituri, ori, înaintarea sincronă a legislației fiscale cu necesitățile la zi ale contribuabililor, este o prioritate atât pentru instituțiile de colectoare a surselor la bugetul de stat, cât și a plătitorilor de venituri. Altfel spus, sporirea transparenței legislației fiscale și tendința de aliniere la standardele și practicile internaționale asigură o mai mare eficientizare în administrarea reuşită a veniturilor statului și o creştere ascendentă a numărului de contribuabili conformați. Totodată, această cercetare își propune să examineze legătura cauzală între armonizarea legislației la necesitățile pieței cu nivelul de conformare a contribuabililor și încasărilor la bugetul de stat. În cadrul studiului sunt utilizate metode de cercetare științifică, cum ar fi: analiza cadrului legal care guvernează cercetarea, sinteza informațiilor, compararea pentru a identifica trăsăturile distinctive, deducerea provocărilor.

Cuvinte-cheie*: impozit pe venit, criptomnede, subiect al impunerii, contribuabil, obiect al impunerii, cota impozitului*

Аннотация

Данное исследование предназначено для людей, имеющих отношение к цифровой или виртуальной валюте, сталкивающихся с вопросом относительно способа декларирования доходов, полученных от операций данными финансовыми инструментами. Цель исследования - представить налоговый режим операций с криптовалютами, а именно с налогообложением доходов юридических и физических лиц, полученных от деятельности по торговле виртуальными валютами, согласно законодательству Республики Молдова, а также практика других государств.

Вопрос налогообложения этих видов доходов является актуальным, как на уровне законодательства Республики Молдова, так и на международном уровне, учитывая факт обильного наводнения мировой экономики колоссально большим количеством криптовалют, без чего, сегодня финансово-банковская система выглядела бы устаревшей. Следует также отметить, что ясность налогового законодательства в отношении налогообложения новых видов доходов, или синхронное совершенствование налогового законодательства с современными потребностями налогоплательщиков, является приоритетом как для учреждений, собирающих источники государственного бюджета, так и для плательщиков доходов. Иными словами, повышение прозрачности налогового законодательства и стремление к приведению его в соответствие с международными стандартами и практикой обеспечивают повышение эффективности успешного управления государственными доходами и увеличение числа добросовестных налогоплательщиков. В то же время данное исследование направлено на изучение причинно-следственной связи между приведением законодательства в соответствие с потребностями рынка с уровнем соответствия налогоплательщиков и поступлений в государственный бюджет. В исследовании используются методы научного исследования, такие как: анализ нормативно-правовой базы, регулирующей исследование, обобщение информации, сравнение для выявления отличительных признаков, дедукция проблем.

Ключевые слова: *налог на прибыль, криптовалюты, субъект налогообложения, налогоплательщик, объект налогообложения, налоговая ставка*

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ELEMENTS OF THE ECOSYSTEM IN INNOVATIVE PEDAGOGY IN ISRAEL

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Abstract

This article examines the innovative approaches implemented within Israel's education system to advance innovative pedagogy and their potential contributions to enhancing teaching and learning. The author emphasizes the growing recognition of the necessity for innovative educational methods that cultivate creativity, critical thinking, and problem-solving skills, preparing students for the contemporary challenges they will face. Israel has emerged as a global leader in education innovation, exemplifying a compelling case study for investigating the promotion of innovative pedagogy through an innovation ecosystem. The Israeli Ministry of Education has initiated various programs, including teacher professional development, funding for innovative projects, and the integration of digital technologies to support teaching and learning, with the aim of fostering innovative pedagogy in schools. Research has also indicated that establishing an innovation ecosystem can significantly impact the promotion of innovative pedagogy, leading to heightened student engagement, improved academic performance, and a stronger sense of ownership in the learning process.

Keywords: *ecosystem, innovative pedagogy, Israel, innovative approaches, education, future-oriented pedagogy*

1. Introduction

The dynamic changes happening in the world in all fields directly affect education. The more we adapt education to the changing future trends, the more we can prepare students to be flexible, adaptive to changes, make them independent learners, equip them with the necessary tools they need to succeed in the world of changing reality. The purpose of this article is to present initiatives aimed at promoting innovative pedagogy in Israel. Some of the initiatives were created within Israel's education system, some by external bodies, entrepreneurs, external companies.

In the educational field, since the 2000s, the concept of learning Learning Ecosystem [16] has been widely used. This concept is based on the premise that the modern world is characterized by new trends (speed of technological change, automation and digitalization, greening, network-centricity of society) that affect the existing education system. The university ecosystem as a flexible system with multiple connections is able to quickly respond to external and internal changes.

Such concepts as "ecosystem in innovative pedagogy", "ecosystem of innovative pedagogy", "innovative learning environment" are associated with the ecosystem of learning and innovation.

A Learning Ecosystem refers to a broader concept that encompasses all the elements, interactions, and environments involved in the process of learning. It includes various stakeholders such as learners, educators, families, communities, institutions, resources, technologies, and networks that collectively support and facilitate learning.

The term "Ecosystem in Innovative Pedagogy" specifically focuses on the ecosystem within the context of innovative pedagogy. It highlights the interconnected elements and components involved in the implementation and success of innovative teaching and learning methods. It emphasizes the integration of innovative approaches, technologies, curriculum design, teacher development, and collaboration among stakeholders within the educational system [9].

The term "Innovative Pedagogy Ecosystem" focuses specifically on the ecosystem created to support and promote innovative pedagogical practices. It involves the integration of innovative teaching methods, assessment approaches, curriculum design, teacher professional development, and collaboration among various educational stakeholders. It emphasizes the interplay and synergy between these elements to foster creativity, critical thinking, and student engagement in the learning process.

An Innovative Learning Environment (ILE) refers to the physical, virtual, and social settings in which learning takes place. An ILE is a comprehensive system comprising of students, teachers, families, communities, educational content, and resources. It is a holistic and all-encompassing concept that is designed to be future-oriented and flexible, capable of adapting to the evolving and changing educational practices [5]. It emphasizes the design and organization of spaces, resources, and technologies to facilitate and enhance innovative teaching and learning practices. It encompasses aspects such as flexible learning spaces, personalized learning approaches, technology integration, and learner-centered pedagogies.

In summary, while all of these concepts are interconnected and share common goals of promoting innovation in education, they differ in their specific focus and emphasis. The learning ecosystem encompasses the broadest scope, while the ecosystem in innovative pedagogy, innovative pedagogy and ecosystem innovative learning environment concentrates on different aspects related to innovation in teaching and learning.

The role of the ecosystem in innovative pedagogy in Israel is significant and multifaceted. The ecosystem plays a crucial role in promoting and supporting the implementation of innovative pedagogical practices in the Israeli education system.

2. The degree of investigation of the problem at the present moment, the purpose of the research

The degree of investigation of the problem of ecosystem elements in innovative pedagogy in Israel is still in its early stages. Researchers such as Quan S. J., Wang Yu. L. [15], Kleiner G. B. [6], and others analyzed the educational environment as an educational ecosystem. There is a growing body of research on this topic, but much more work is needed to fully understand the factors that contribute to the success of innovative pedagogy programs in

Israel. The purpose of the research on ecosystem elements in innovative pedagogy in Israel is to identify the factors that contribute to the success of these programs. This research will help to improve the design and implementation of innovative pedagogy programs, and to ensure that they are effective in meeting the needs of students and teachers.

The theme of this article is to explore how building innovative approaches taken by Israel's education system can promote innovative pedagogy. To investigate how a culture of innovation in education leads to significant advances in teaching and learning. The motivation for this theme is the increasing recognition of the need for innovative approaches to education that can meet the demands of a rapidly changing world. Traditional models of education are often ill-equipped to prepare students for the challenges of the modern world, and there is a growing need for new approaches that can foster creativity, critical thinking, and problem-solving skills. The rationale for this theme is that Israel has emerged as a global leader in education innovation through its robust ecosystem of innovation. By examining the Israeli experience, we can gain insights into how an ecosystem of innovation can promote innovative pedagogy and drive significant advances in education. The definition of the problem is the need for innovative approaches to education that can meet the challenges of the modern world. This article aims to explore the current state of innovation and innovative teaching strategies in Israel, highlighting some of the successful programs and approaches that have been implemented.

3. Methods and materials applied

There are many materials and research methods that can be used to explore the elements of an innovative pedagogy ecosystem. The research methodology is based on the study of educational materials that give an idea of the content and structure of innovative pedagogical programs, methods and evaluation of the use of these programs. Various research methods (case studies, surveys, interviews, focus groups) provide an opportunity to gain a comprehensive understanding of the elements of the innovative pedagogy ecosystem in Israel. Numerous publications and reports served as support for the present research. The comparative method contributed to illustrating the peculiarities of the Israeli innovation work in higher education.

4. Results obtained and discussions

Israel has a thriving innovative ecosystem in education, with a focus on technology and entrepreneurship. This ecosystem includes a variety of stakeholders, including startups, investors, government agencies, and academic institutions, working together to promote innovation in education. One of the key elements of this ecosystem is the strong support for startups and entrepreneurs in the education space. Israel is home to a large number of EdTech startups, which are supported by a range of incubators and accelerators. These organizations provide mentoring, funding, and other resources to help entrepreneurs bring their ideas to market.

Another important aspect of the innovative ecosystem in Israel is the close collaboration between industry and academia. Israeli universities have strong ties with the private sector, which has helped to create a culture of innovation and entrepreneurship. Many universities also have dedicated research centers and programs focused on EdTech and other innovative approaches to education. The Israeli government has played an important role in fostering the innovative ecosystem in education. The Ministry of Education's Experimental R&D and Initiatives Division, for example, supports a range of programs and initiatives aimed at promoting innovation in education, including the Future-Oriented Pedagogy program.

In the following diagram, the author has summarized the initiatives that shows innovative approaches taken by Israel's education system.

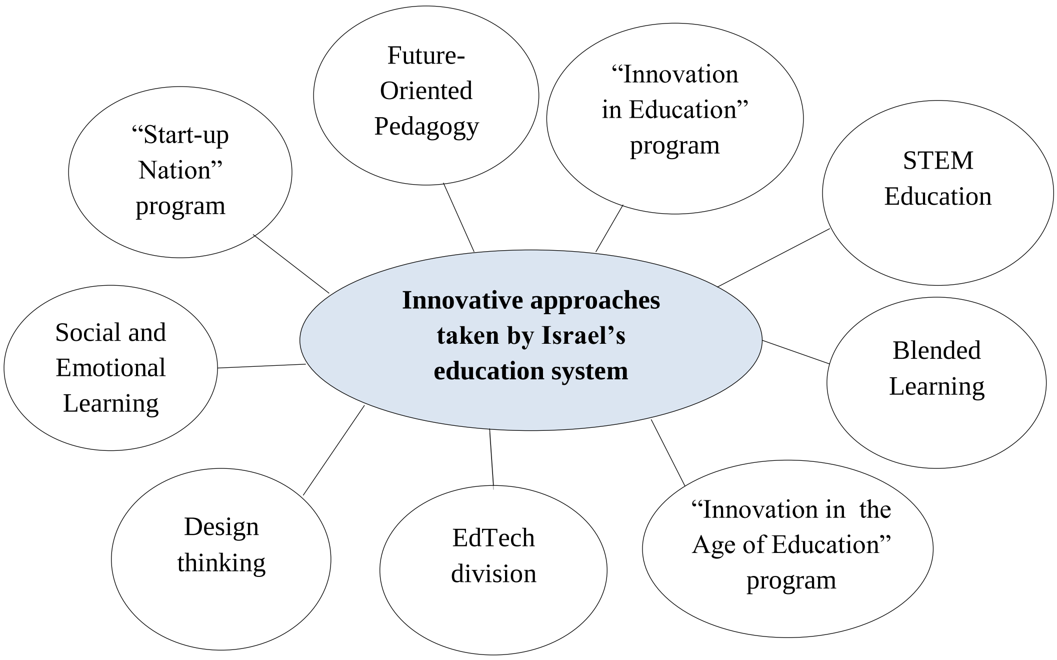

Figure 1. The initiatives that show innovative approaches taken by Israel's education system

Source: developed by the author based on 9

The author examined what processes and initiatives exist in Israel to promote study programs and initiatives aimed at responding to the challenges of the future. Below are the various projects that were created in Israel in order to develop an innovative pedagogy:

1. The Israeli Ministry of Education has launched a program called "Education in the Age of Innovation" aimed at promoting innovative pedagogy in schools. The program includes initiatives such as professional development for teachers, funding for innovative projects, and the use of digital technologies to support teaching and learning. "Education in the Age of Innovation" is a program in Israel that aims to transform the education system by integrating innovative technologies and pedagogies. The program is designed to equip students with the skills and knowledge needed to thrive in a rapidly changing world. The program was initiated by Israel's Ministry of Education in collaboration with the National Digital Israel Initiative. The program is based on the principles of "future-oriented pedagogy," which emphasizes critical thinking, creativity, collaboration, and communication skills. The program aims to develop students' digital literacy, promote innovation and entrepreneurship, and foster a culture of lifelong learning. One of the key components of the program is the use of innovative technologies such as virtual and

augmented reality, coding, and robotics. These technologies are integrated into the curriculum to enhance learning outcomes and promote student engagement. The program has been implemented in schools across Israel, and there have been several studies and reports on its effectiveness. The study found that the program had a positive impact on teachers' attitudes towards technology integration and helped to develop their pedagogical skills [2]. Overall, the "Education in the Age of Innovation" program represents a significant shift towards a more innovative and future-oriented education system in Israel.

2. Another project was created with the support of the education system named EdTech division [4]. The EdTech division in Israel education refers to the incorporation of technology into the learning process to enhance the quality of education. It focuses on developing and implementing digital tools and solutions to improve teaching and learning outcomes, increase access to education, and enhance the overall educational experience. The division works closely with educational institutions, teachers, and students to identify their needs and develop innovative solutions that address their challenges. The EdTech division in Israel is led by the Ministry of Education, which has established various initiatives and programs to support the integration of technology in education [14, p. 127]. These initiatives include the Digital Israel program, which aims to provide every student with a digital device and access to the internet, and the Digital Leaders program, which trains teachers to become experts in educational technology and provides them with ongoing professional development.

3. The other initiative that is used in education in Israel both among the educational staff and in the classroom is Design Thinking. Design thinking is a human-centered problem-solving methodology that has been increasingly applied to education in recent years. In the Israeli context, design thinking has been used as an innovative approach to promote creativity and innovation in education. Design thinking in education has been applied to a range of different areas, such as curriculum development, teacher training, and the design of physical learning environments. For example, in Israel, design thinking has been used to develop new teaching methods, create innovative learning spaces, and foster collaboration and teamwork among students [13].

4. One of the most successful initiatives in Israel's education system is the "Education for Excellence" program [2]. This program aims to improve academic achievement and develop leadership skills among students from underprivileged backgrounds. The program provides students with additional support and resources, including tutoring, mentoring, and summer camps, to help them succeed academically.

5. In addition, Israel has developed several programs to promote innovation and entrepreneurship among students. For example, the "Start-Up Nation" program provides funding and resources to high school students interested in developing their own tech start-ups [12]. The program aims to foster an entrepreneurial mindset among students, teaching them valuable skills in business and technology.

6. Israel has a strong emphasis on science, technology, engineering, and math (STEM) education, which has been a key driver of its innovative teaching strategies. STEM education has been shown to prepare students for the demands of the 21st century workforce, and Israel has recognized the importance of this [7].

7. Another educational approach that combines traditional face-to-face classroom instruction with online learning activities is Blended learning. Blended Learning is seen as a way to enhance the learning experience for students and improve learning outcomes [10]. By combining traditional in-person teaching with online resources and tools, students are able to have a more personalized and flexible learning experience that meets their individual needs [11, p. 2]. One of the key benefits of Blended Learning in Israel is that it allows educational institutions to overcome some of the limitations of traditional classroom teaching, such as limited class sizes and scheduling conflicts. With online learning, students can access course materials at their own pace and on their own schedule, while still having the opportunity to engage in discussions and interact with their peers and instructors during in-person class sessions.

   Some examples of Blended Learning in Israel include the Open University of Israel, which offers a variety of online courses and degree programs, and the Israeli Ministry of Education's virtual school, which provides online learning opportunities for K-12 students.

   However, there is still a need for teachers to be trained in the use of technology and for schools to provide adequate resources to support this approach. The integration of technology in the classroom is a challenge that many schools around the world are facing.

8. In order to respond to the challenges in the emotional field of the students, a program based on social-emotional learning is used. In recent years, Israel has also focused on developing social and emotional learning (SEL) programs to support student well-being and mental health [8]. SEL programs aim to teach students skills such as self-awareness, self-regulation, and empathy, which can help them to manage their emotions and build positive relationships with others.

   The potential benefits of SEL programs are significant, as they can improve academic achievement, reduce behavior problems, and promote positive social behavior. However, implementing SEL programs can be a challenge, as they require significant resources and training for teachers.

9. Israel has also developed several programs to promote innovation and entrepreneurship among students. For example, the "Start-Up Nation" program provides funding and resources to high school students interested in developing their own tech start-ups. The program aims to foster an entrepreneurial mindset among students, teaching them valuable skills in business and technology. Building Innovation and entrepreneurship is a crucial component of promoting innovative pedagogy in Israel. By creating networks of organizations and individuals that work together to promote innovation and entrepreneurship, Israeli educators can help to ensure that their students are well-equipped to succeed in the rapidly changing world of the 21st century.

One of the important components of innovative pedagogy is understanding and using the principles of future-oriented pedagogy. Future-oriented pedagogy is an approach to education that has been developed by the Experiments and Initiatives R&D Division of the Israeli Ministry of Education. This approach is based on the idea that education should prepare students for the future, rather than simply teaching them about the past. It is a forward-looking approach that emphasizes creativity, innovation, and problem-solving skills.

The principles of future-oriented pedagogy include: personalization, collaboration, informalization, glocalization, adaptivity and self-integration.

Personalization refers to the adaptation of educational resources to the learner's unique needs, aspirations, and situation.

Collaboration is a process where individuals work together to achieve a shared goal, improving learning effectiveness and helping individuals understand the complex and changing reality better.

Informalization relates to the phenomenon of human activity performed outside of formal organizational and institutional frameworks, which creates new opportunities for learning and action. However, the challenge is having society recognize the knowledge, experience, skills, and accomplishments gained through informal activities.

Glocalization is the combination of global and local skills, identity, and consciousness within the learner, providing a harmonious balance to act and succeed in both spheres simultaneously. Integrative, balanced, and exploitive local strategies can mitigate the contradictions between global and local dimensions. Applying the principle of glocalization in education can help learners act and succeed in both global and local spheres, motivating them to choose the best balance point suited to changing reality. It also exposes learners to wider geographical and cultural circles, encouraging them to deal with conflicting challenges. The modern era is characterized by rapid and complex changes that create an unprecedented challenge for individuals, organizations, and nations to adapt to.

The added value of the principle of adaptivity lies in the ability to shape and apply the desired future in the changing reality to preserve organizational or personal relevance. Adaptivity in education enhances the ability of learners and systems to adapt, act and succeed in a changing reality. The ability to learn and teach for a vague and unknown future is a challenge that requires coping with two levels of uncertainty stemming from the complexity of modern reality and its changeability.

The principle of self-integration, which refers to complete self-formation, helps the learner navigate the changing reality by having a personal compass and identity. Focusing on acquiring relevant personal attitudes and characteristics that support effective adaptation, such as self-confidence, personal motivation, and authenticity, is more effective than focusing on the acquisition of generic skills.

These principles of future-oriented pedagogy fit well with innovative pedagogical approaches in Israel, which also emphasize the importance of personalized learning, collaboration, project-based learning, and technology-enhanced learning. By incorporating these principles into their teaching practices, educators in Israel can provide students with the skills and knowledge they need to succeed in the rapidly changing world of the 21st century.

The ecosystem of innovation in Israel has been instrumental in promoting innovative pedagogy in education. An ecosystem of innovation refers to a network of organizations and individuals that work together to promote innovation and entrepreneurship. In the context of education, an ecosystem of innovation includes schools, universities, technology companies, and other organizations that work together to promote innovative pedagogy.

Despite the success of many innovative teaching strategies in Israel, there are still challenges to be addressed. One of the main challenges is the achievement gap between students from different socio-economic backgrounds. While programs like "Education for Excellence" have been successful in closing this gap, more work needs to be done to ensure that all students have access to high-quality education.

Another challenge is the integration of technology in the classroom. While many schools have adopted blended learning models, there is still a need for teachers to be trained in the use of technology and for schools to provide adequate resources to support this approach.

Looking to the future, there is much potential for further innovation in Israeli education. As the country continues to invest in STEM education and social and emotional learning, there will likely be new programs and approaches developed to support these areas [3]. Additionally, as the COVID-19 pandemic has highlighted the importance of remote learning, there may be further opportunities to develop and refine online learning tools and resources [1, p. 586].

Innovation and innovative teaching strategies are crucial for the development of modern educational systems. Israel has been a leader in this area, with successful programs and approaches that have improved student learning outcomes. While there are challenges to be addressed, there is much potential for further innovation in Israeli education. As the country continues to invest in STEM education, social and emotional learning, and technology in the classroom, there will likely be new programs and approaches developed to support these areas, benefiting students and the wider community.

As described earlier - there are important principles found in future-oriented pedagogy to promote innovative pedagogy. One of the prominent principles is the principle of collaboration. This principle is also the most important component in the ecosystem of innovation.

5. Conclusions

Innovative pedagogy is essential for preparing students for the challenges of the 21st century. By building an ecosystem of innovation in education, we can provide a supportive framework for teachers and students to explore new ideas and experiment with new approaches to teaching and learning. This, in turn, can help improve student engagement, motivation, and academic achievement, and create a culture of innovation that will benefit our schools and communities for years to come.

The Israeli Ministry of Education, the Israel Innovation Authority, and non-profit organizations have all played a significant role in fostering a culture of innovation in education. Through the development of new technologies, the use of design thinking frameworks, and the provision of resources and support for teachers, Israel has become a global leader in education innovation. The success of the ecosystem of innovation in Israel serves as a valuable model for other countries seeking to promote innovative pedagogy in education. By investing in innovation and providing support for teachers and organizations working to develop new approaches to teaching and learning, countries can create an ecosystem of innovation that drives significant advances in education.

There are still challenges on the way to building an optimal innovative pedagogy. But many efforts are being made in cooperation with the education system, government bodies, entrepreneurs, and external companies in order to equip the students with the tools that will help them function for the better and succeed in functioning in a changing reality.

In conclusion of the article, it can be noted that many efforts are being made to create innovative pedagogy based on critical thinking tools, innovative technologies, many programs, collaborations, and entrepreneurship. Israel is still in the process of development, the field of innovative pedagogy needs to be explored and developed, but it seems that there is a desire and willingness to move in the direction and provide the best response in line with future trends - through future-oriented pedagogy.

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Rezumat

În articolul dat se examinează abordările inovatoare implementate în sistemul educațional israelian cu scopul promovării pedagogiei inovatoare și contribuția lor potențială la îmbunătățirea calității predării și învățării. Autorul subliniază recunoașterea tot mai mare a necesității implementării unor metode inovatoare de predare care să dezvolte creativitatea, gândirea critică și abilitățile de rezolvare a problemelor, pregătind studenții pentru provocările moderne cu care se vor confrunta. Israelul a devenit lider mondial în inovarea educațională, un exemplu convingător de cercetare în promovarea pedagogiei inovatoare printr-un ecosistem de inovare. Ministerul israelian al Educației a inițiat diverse programe, inclusiv dezvoltarea profesională a profesorilor, finanțarea proiectelor inovatoare și integrarea tehnologiilor digitale pentru a sprijini predarea și învățarea pentru a dezvolta pedagogii inovatoare în școli. Cercetările au demonstrat, de asemenea, că crearea unui ecosistem de inovare poate avea un impact semnificativ asupra promovării pedagogiei inovatoare, ceea ce va duce la creșterea angajamentului studenților, la îmbunătățirea reușitei academice și la creșterea gradului de responsabilitate pentru procesul de învățare.

Cuvinte-cheie: *ecosistem, pedagogie inovatoare, Israel, abordări inovatoare, educație, pedagogie orientată spre viitor*

Аннотация

В этой статье рассматриваются инновационные подходы, реализованные в системе образования Израиля для продвижения инновационной педагогики, и их потенциальный вклад в повышение качества преподавания и обучения. Автор подчеркивает растущее признание необходимости инновационных методов обучения, которые развивают креативность, критическое мышление и навыки решения проблем, готовя учащихся к современным вызовам, с которыми они столкнутся. Израиль стал мировым лидером в области инноваций в сфере образования, что является убедительным примером исследования продвижения инновационной педагогики через инновационную экосистему. Министерство образования Израиля инициировало различные программы, включая профессиональное развитие учителей, финансирование инновационных проектов и интеграцию цифровых технологий для поддержки преподавания и обучения с целью развития инновационной педагогики в школах. Исследования также показали, что создание инновационной экосистемы может существенно повлиять на продвижение инновационной педагогики, что приведет к повышению вовлеченности учащихся, повышению академической успеваемости и усилению чувства ответственности за процесс обучения.

Ключевые слова: *экосистема, инновационная педагогика, Израиль, инновационные подходы, образование, ориентированная на будущее педагогика*

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EDUCATIONAL POLICY IN THE CONTEXT OF GLOBALIZATION AND INTERNATIONAL COOPERATION

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Abstract

Education policy has always been an important component of a country's development agenda, but in the context of globalization and international cooperation, it has taken on even greater significance. With the rise of global interconnectedness, education has become a key factor in a country's ability to compete and succeed in the global economy. At the same time, international cooperation has become increasingly important as countries seek to share best practices, collaborate on common challenges, and promote global values such as democracy and human rights. This article will examine the educational policies of various countries (emphasis on the European Union and the Republic of Moldova) in the context of globalization and international cooperation. The article examines the impact of globalization on educational policy, including the emergence of global educational programs and the integration of technology into education. In addition, the article highlights the importance of international cooperation in the development of education policy, especially in the exchange of best practices and resources between countries.

***Keywords**: globalization, international cooperation, education, educational policy*

1. Introduction

In the era of globalization and increasing international cooperation, it can be assumed that all significant spheres of life are conducted through international communication. Today, as the world enters the era of globalization, many processes associated with the development of language, culture, and other components of human society are taking on new forms. Education, as an integral and necessary component of personality in modern society, is also taking on the form of international cooperation. It pursues a number of goals that can only be achieved through the joint efforts of all nations. The most significant goals include: a) training of competent personnel that meets the standards of both national and global economies; b) sharing the accumulated knowledge, skills, and abilities of all countries to address global challenges; c) achieving the necessary level of education that matches the individual's needs in contemporary society; d) providing support to countries in enhancing their underdeveloped education systems; e) leveling the qualifications and professional training, in general, educating specialists in various countries and regions worldwide. Many countries of the world are interested in solving these problems and are already working to achieve these goals through cooperation in the field of international education. International educational cooperation is presented in various forms. It can be state, non-state, local and individual level. Also, cooperation can be organized through interuniversity, interdepartmental and other agreements. The most common forms include numerous grants, internships, foreign scholarships, etc.

2. The degree of investigation of the problem at present, the purpose of the research

The problem of educational policy in the context of globalization and international cooperation is currently receiving significant research. This is due to the growing interconnectedness of nations, the rapid development of technology and the global exchange of knowledge and ideas of the education system, with new challenges and opportunities.

The purpose of the study is to study the impact of globalization and international cooperation on educational policies and systems. It is important to understand how some countries are adapting their education policies to meet the needs of a globalized world and to promote international cooperation in education.

The issues of determining the essence of educational policy were paid attention to by such researchers as H. WANG, Y. HAN, J. FIDRMUC, D. WEI [11], L. S. DROVALEVA, E. V. DRAGILEV, L. L. DRAGILEVA [12]. The authors came to a number of conclusions that educational policy is defined as a system of goals, principles and strategies developed by the state or other interested parties, with the aim of regulating and improving education in a particular country or region. Accordingly, globalization and international cooperation are becoming increasingly important aspects of educational policy. Countries are striving to adapt their educational systems to global challenges, strengthen international cooperation in the field of education and share best practices.

International cooperation in the field of education, as an integral aspect of international relations in the period of globalization, is presented in the scientific works of L. A. CHERNYSHEVA, A. A. SHEVCHENKO [14]. Researchers also emphasize the importance of taking into account local characteristics and needs in the development of educational policy. Each country has its own unique contextual factors that must be taken into account when making decisions and shaping strategies in the field of education.

Researchers such as J. MATIJAŠEVIĆ-OBRADOVIĆ, M. SUBOTIN [8] and others hold a view on the importance of promoting international educational reforms and developing the internationalization of higher education. Their works emphasize that the development of international relations and the attraction of foreign students and scientists can contribute to improving the quality of education and increasing intercultural competence. This includes understanding different cultures, intercultural communication, the ability to work in international teams and solve global problems. Research highlights the role of international mobility in the development of higher education. These aspects emphasize that the internationalization of higher education contributes to the improvement of the quality of education, the global preparation of students and the development of scientific research.

In general, the studies of these authors emphasize the complexity and multidimensionality of educational policy, as well as the need for its constant updating.

3. Applied methods and materials

In this scientific article, the authors explored the methods of theoretical and empirical analysis for their research. Specifically, the theoretical methods employed include literature review, conceptual analysis, and theoretical modeling. These methods were utilized to examine existing theories, concepts, and frameworks pertaining to the subject of the study, which is educational policy in the context of globalization and international cooperation. The authors critically analyzed and synthesized the relevant literature in order to develop a theoretical framework for their research.

Furthermore, empirical methods were employed to collect and analyze data. The authors conducted a statistical analysis of the dynamics of processes in the field of higher education, as well as an analysis of the policies and strategies of a sample of EU countries in comparison with the Republic of Moldova.

The combination of theoretical and empirical methods allowed the authors to comprehensively investigate the subject matter. The theoretical methods provided a framework for understanding the relevant concepts and structures related to the research topic, while the empirical methods facilitated the collection of data to test the findings of the theoretical studies.

4. The obtained results and discussions

The processes of transformation in higher education are currently taking place under the influence of global trends in education. Universities around the world are facing increasingly serious challenges due to growing competition in the global education sector. They must now compete not only in academic and scientific research, but also in creating innovations, driving economic growth, and tackling major global issues.

The educational policy is an integral component of the state policy, and it encompasses the entirety of objectives and goals, practical measures for the operation and progress of the educational system, the nature of existing education-related legislation, and the overall direction of organizational and managerial actions [12, p. 49].

Globalization has led to increased international cooperation in many fields, including education policy. As countries become more interconnected, they face similar challenges and opportunities in their education systems. Therefore, countries often collaborate to exchange knowledge, best practices, and resources in order to improve their own education systems. This can take many forms, such as joint research projects, student and faculty exchange programs, and shared curriculum development. Additionally, globalization has led to the internationalization of higher education, with students from around the world seeking education opportunities in different countries, and universities establishing campuses or partnerships in other countries. The expansion of choice for those who want to receive an education is an indisputable advantage of global processes in the field of education. This opportunity includes the choice of the country of study, the university, the list of disciplines studied, as well as the teachers. Choice is the basis of competition, and competition is the basis for development and improvement. This further increases the need for international cooperation in educational policy.

The system of credits, within the context of globalization, is characterized by comparability. This allows students to "accumulate" the courses studied and the results obtained, which can be mutually recognized by various educational institutions across different countries. Additionally, the global education system facilitates the exchange of scientific and methodological experience among teaching staff through systematic mutual internships. These advantages, gained through the process of globalization and increasing competition in the education market, compel educational institutions to specialize in more promising areas of research and stronger fields of study. As a result, the quality of education and the effectiveness of scientific research are expected to improve inevitably.

The creation of the Bologna Process aimed to unify diverse education systems by establishing common European standards. This harmonization was expected to enhance international cooperation and promote educational mobility. As a result, the Bologna Process is often associated with the globalization of education.

Developing political, economic, and cultural ties with EU member states is a strategic goal and policy direction for the Republic of Moldova (RM). The relations between the EU and RM are complex and varied, including in the area of education.

The directions of educational policy of the EU and the Republic of Moldova have some similarities but also some differences in their target priorities. Let's compare the educational policy of the European Union and the Republic of Moldova in the context of globalization in the main directions, which are presented in Figure 1.

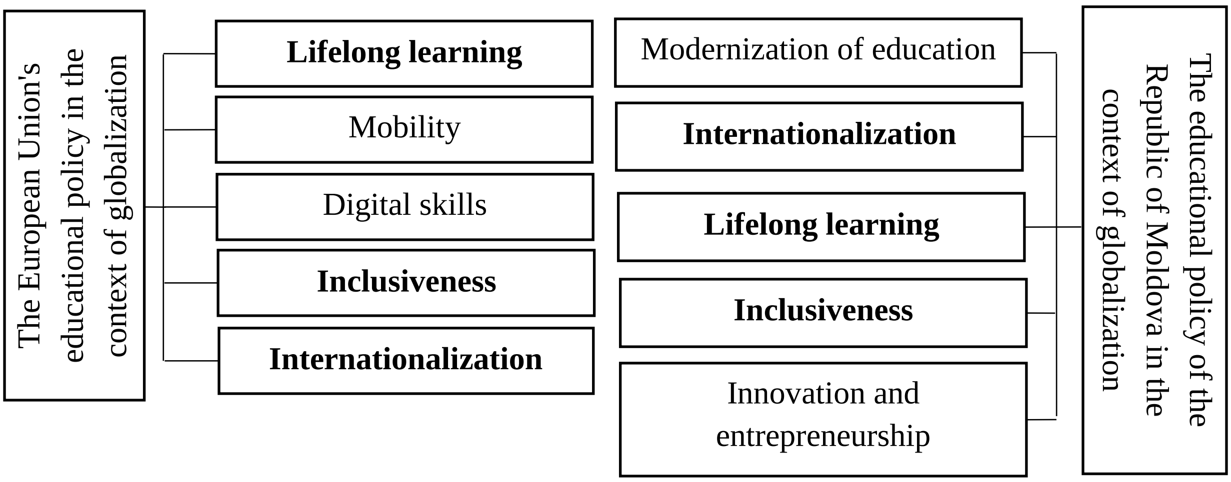

Figure 1. Directions of the educational policy of the European Union of the Republic of Moldova in the context of globalization

Source: Elaborate based on Education and Training 2020 (ET 2020). [6] http://www.oidel.org/doc/Doc_colonn_droite_defaultpage/ET%202020%20RESUME.pdf

The European Union's educational policy in the context of globalization aims to develop a knowledge-based economy, promote social cohesion, and enhance Europe's global competitiveness. The educational policy of the Republic of Moldova in the context of globalization aims to prepare students for a rapidly changing world and to enhance the country's competitiveness in the global economy.

For the EU, lifelong learning is a key priority and has been emphasized in various policy documents and initiatives. The European Commission's "Education and Training 2020" strategy, for example, sets out a vision for lifelong learning and promotes the development of a culture of lifelong learning in Europe [6]. Lifelong learning aims to create lifelong learning opportunities for people of all ages, including vocational education and training, adult education and higher education. The EU also places emphasis on promoting innovation, digital skills, and language learning, among other priorities.

In the case of the Republic of Moldova, while lifelong learning is also recognized as an important principle in education, the government has placed greater emphasis on the modernization of the education system as a key priority. Article 3 of the Education Code states that one of the fundamental principles of education in Moldova is to provide opportunities for lifelong learning and continuous professional development [3]. The Code also emphasizes the importance of creating a flexible and adaptable education system that can respond to the changing needs of individuals and society. This includes reforms aimed at improving the quality of education, increasing access to education, reforms to the curriculum, teaching methods, and assessment practices, investment in infrastructure and technology and aligning education with the needs of the labor market. The government has also prioritized developing vocational education and training programs, as well as promoting internationalization and mobility in education. The Code of Education of the Republic of Moldova includes provisions for the development of adult education and vocational training programs. Article 61 of the Code states that adult education and vocational training programs should be developed to meet the needs of individuals who have completed their initial education and are looking to acquire new skills or retrain for new professions. This demonstrates the commitment of the Republic of Moldova to providing opportunities for lifelong learning and continuous education to its citizens.

The European Union and the Republic of Moldova are adapting their education systems to the requirements of a rapidly changing world by promoting internationalization and mobility through initiatives such as the Bologna Process and Erasmus+ program, which aim to harmonize higher education systems and promote student and staff exchange between European countries and beyond.

Increasing student mobility is the main objective of the European Higher Education Area and a top political priority on the EU agenda for the modernization of higher education. This is one of the main ways in which young people can strengthen their future employability, as well as their intercultural awareness, personal development, creativity and active citizenship [7]. The EU's educational policy promotes student and staff mobility within Europe and beyond, with the aim of developing intercultural understanding and a sense of European identity. This includes initiatives such as the Erasmus+ program, which supports student and staff mobility, and the European Credit Transfer and Accumulation System (ECTS), which facilitates the recognition of qualifications across Europe. The Republic of Moldova is a partner country in the Erasmus+ program, which means that students and staff from Moldovan universities are eligible to participate in the program. Additionally, the Republic of Moldova has signed agreements on academic cooperation with several other countries, including Romania, France, Germany, Italy, and the United Kingdom. These agreements facilitate student and staff mobility by providing opportunities for exchange programs, joint research projects, and other collaborative initiatives.

The main factors hindering the export of educational services from the Republic of Moldova are the inflexibility of the legislation concerning foreign students, the underdevelopment of the educational and social infrastructure. While the country's universities are trying to attract foreign students, Moldovan applicants tend to go to study in other countries. Among the countries that are the choice of Moldovan students are Romania, Russia, Italy and others, which is shown in Figure 2.

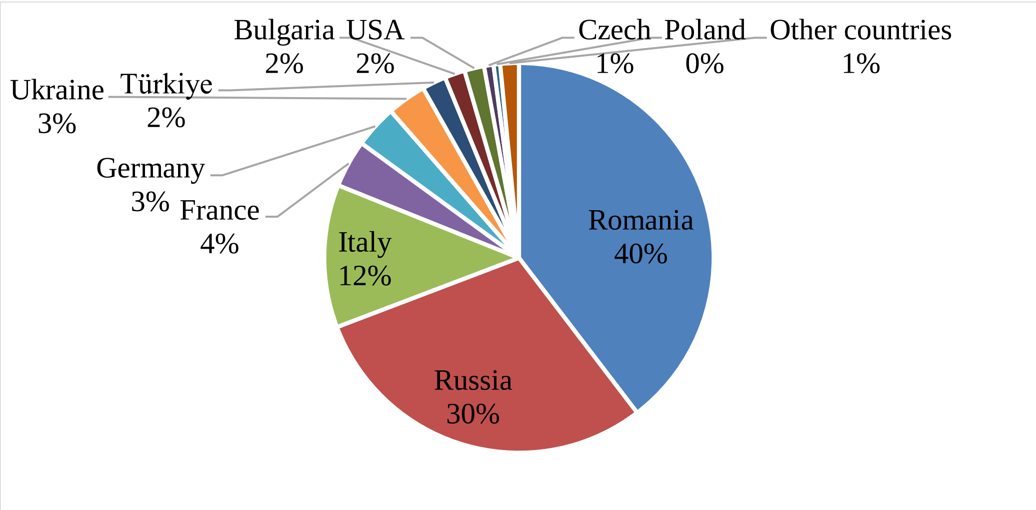

Figure 2. Outgoing student mobility in the Republic of Moldova, 2022

Source: Elaborate based on UNESCO. Building peace in the minds of men and women. https://en.unesco.org/.

The largest number of mobile students in the Republic of Moldova tend to leave to study in Romania and Russia, which is explained by the absence of a language barrier in the learning process. Also popular countries are Italy, France, Germany, Ukraine, etc. In recent years, Moldovan universities have been actively involved in the process of internationalization, paying special attention to student mobility for the following reasons: the desire to train competitive specialists; the need to increase educational and research capacity; the desire to acquire a high international reputation, meet international standards; the need to attract the most promising teachers and students.

At the same time, most universities in the Republic of Moldova focused on attracting foreign students, as shown in Figure 3.

The majority of foreign citizens who receive higher education in the Republic of Moldova come from Israel, Romania, Ukraine, Turkey and India, etc. The smallest number of foreign students come from such countries as China, Belarus, Jordan. The interest of foreign students to receive higher education in the Republic of Moldova is dictated by the following reasons: relatively low cost of education and accommodation for foreign students; the opportunity to study in foreign languages; international quality assessments and participation of universities of the Republic of Moldova in international educational rankings; diplomas of universities of the Republic of Moldova, which are listed in many countries; favorable geographical location of the Republic of Moldova - Central Europe; relatively easy conditions for admission to the university.

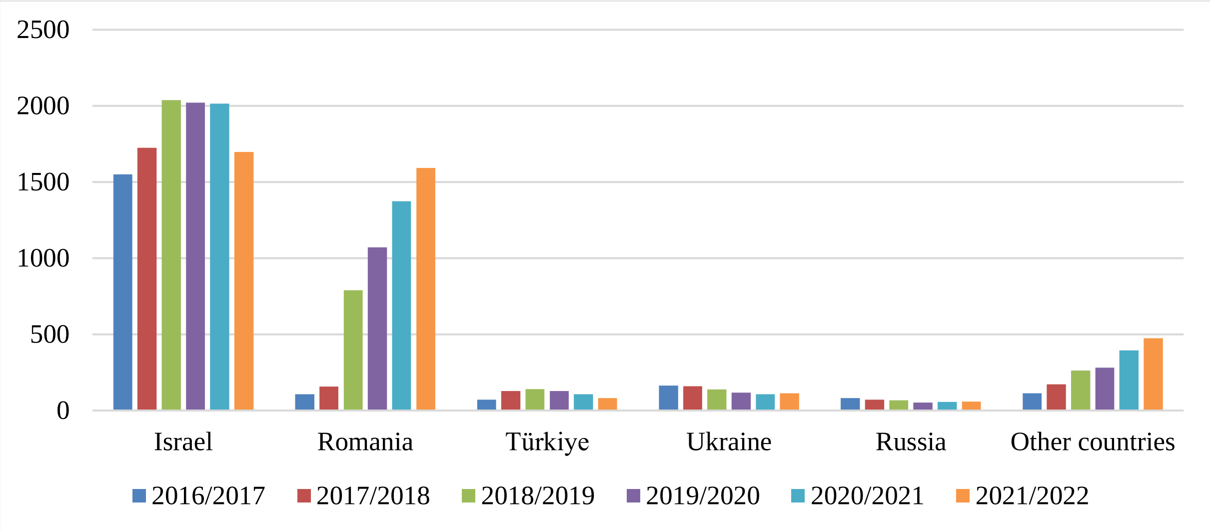

Figure 3. Dynamics of the number of foreign students in the universities of the Republic of Moldova, 2016-2022

Source: Elaborate based on Biroul Național de Statistică al Republicii Moldova. BIROUL NAȚIONAL DE STATISTICĂ © 2020. https://statistica.gov.md/index.php?l=ro.

The EU's educational policy recognizes the importance of digital skills in the global economy and aims to ensure that all citizens have the necessary digital competences. This includes initiatives such as the Digital Education Action Plan [5] and the European Coding Initiative [9], which aim to promote digital literacy and coding skills among European citizens. Digital skills have become a crucial component of educational policy in the Republic of Moldova, as the country continues to invest in digital infrastructure and modernize its economy [1]. The Ministry of Education, Culture, and Research has placed a strong emphasis on integrating digital skills into the national curriculum at all levels of education, from primary schools to universities. This includes training teachers and providing them with the necessary resources to effectively teach digital literacy, as well as promoting online learning opportunities and the use of educational technology in the classroom. The government has also collaborated with international organizations and private sector partners to support the development of digital skills and improve access to technology in rural and remote areas.

The EU's educational policy aims to promote inclusiveness and equal opportunities in education, with the aim of reducing social inequalities. This includes initiatives such as the European Pillar of Social Rights, which includes principles relating to education and training. One of the key policy initiatives aimed at promoting inclusiveness is the Education for All National Plan 2020-2030, which aims to ensure that all children in Moldova have access to quality education regardless of their social background, gender, or disability status. The plan outlines a number of measures to promote inclusion, such as improving access to education for children from disadvantaged backgrounds, providing support for children with disabilities, and promoting gender equality in education.

In modern conditions of the development of education at the international level, one of its leading directions, ensuring the formation of a single educational space, taking into account economic, socio-political, cultural and educational factors, is internationalization. The EU's educational policy recognizes the importance of internationalization in the global economy and aims to promote cooperation and partnerships with countries outside of Europe [8]. The government of the Republic of Moldova has also prioritized the development of internationalization in education as a key policy direction [13]. This includes efforts to establish partnerships with universities and educational institutions in other countries, promote the recognition of foreign qualifications, and develop programs and initiatives aimed at enhancing intercultural competence and global citizenship among students and staff.

Different countries are adapting their education systems in various ways to meet the demands of a rapidly changing world and promote internationalization and mobility. Here are a few examples. The U.S. education system is increasingly focused on developing skills in science, technology, engineering, and mathematics (STEM) to prepare students for a technology-driven economy. The country also promotes internationalization through student and staff mobility programs, partnerships with international institutions, and the promotion of English language learning [4, p. 873]. China is investing heavily in its education system to enhance its competitiveness in the global economy. This includes reforms to the curriculum, teaching methods, and assessment practices, as well as investment in infrastructure and technology. The country also promotes internationalization through initiatives such as the Belt and Road Initiative and the establishment of Confucius Institutes around the world [11, p. 237]. Finland's education system is known for its emphasis on equity, inclusiveness, and teacher professionalism. The country promotes internationalization through student and staff exchange programs and partnerships with international institutions [10, p. 93]. Finland also places a strong emphasis on developing students' critical thinking, problem-solving, and collaboration skills.

Thus, different countries are adapting their education systems in various ways to meet the demands of a rapidly changing world and promote internationalization and mobility. This includes reforms to the curriculum, teaching methods, and assessment practices, as well as investment in infrastructure and technology, promoting international exchange programs, and developing critical thinking and problem-solving skills.

While both the European Union and the Republic of Moldova prioritize education as a means of promoting social and economic development, their specific target priorities differ depending on their respective national contexts and priorities. If the EU education policy in the context of globalization is aimed at promoting a knowledge-based economy, social cohesion, and global competitiveness by promoting lifelong learning, mobility, digital skills, inclusiveness, and internationalization, in the Republic of Moldova, the emphasis is on the modernization of the education system and increasing the country's competitiveness in the global economy.

International cooperation is a powerful lever for the development of the world education system and solves many urgent problems, such as: strengthening international solidarity and partnership in the field of higher education; cooperation with international organizations; support for partner countries; capacity building and training, and others.

Let's compare the directions of educational policy in the context of international cooperation between the European Union and Moldova (Figure 4).

The EU's educational policy in international cooperation aims to promote collaboration and partnership with other countries to address global challenges and achieve shared objectives. This includes support for partner countries, cooperation with international organizations, mobility and exchange programs, capacity-building and training, and the promotion of shared values. The Republic of Moldova, in its educational policy, aims to strengthen partnerships with other countries and align the education system with international standards, in addition to the aspects mentioned above.

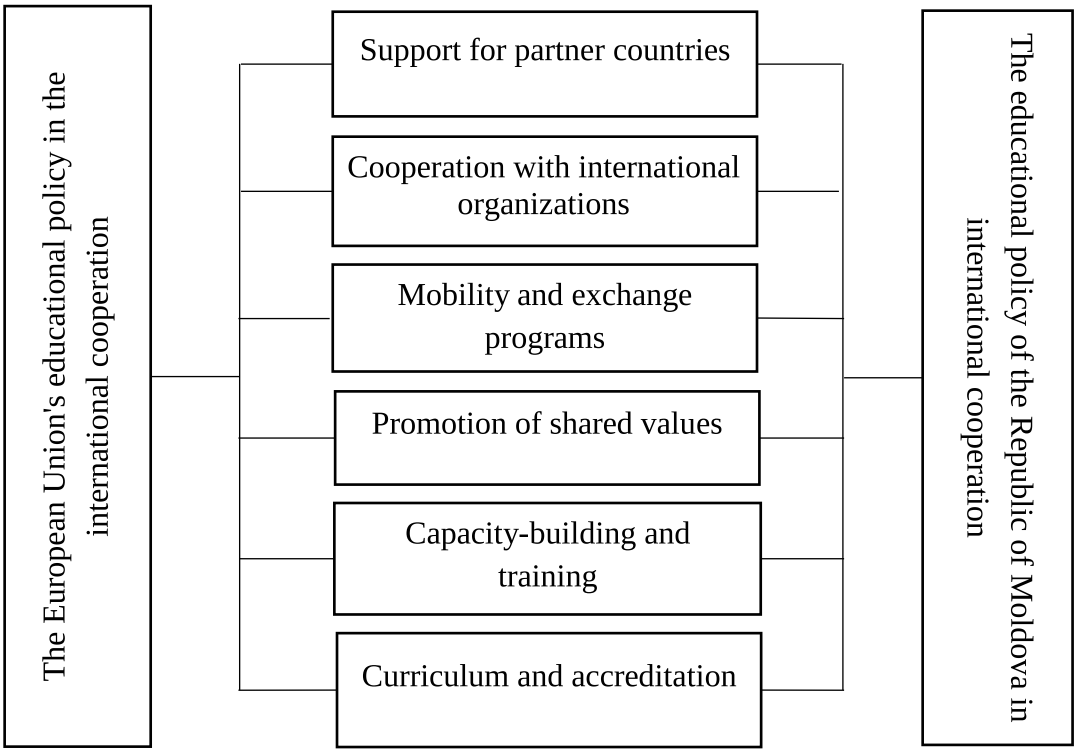

Figure 4. Directions of the educational policy of the European Union of the Republic of Moldova in the field of international cooperation

Source: Codul educaţiei al Republicii Moldova. https://lege.md/act/codul_educatiei [3]

The EU supports partner countries in their efforts to improve their education systems and ensure equal access to quality education for all. The Erasmus+ program provides funding for education and training projects in partner countries. The Republic of Moldova provides scholarships to students from partner countries to study in Moldova, and develops joint programs and projects with partner institutions.

The EU recognizes the importance of working with international organizations such as UNESCO, the World Bank, and the OECD to promote education as a key driver of sustainable development. The EU also participates in multilateral forums such as the Global Partnership for Education and the Education 2030 Steering Committee.

The EU's educational policy promotes student and staff mobility and exchange programs as a means of promoting intercultural understanding and cooperation between countries. The

Erasmus+ program also includes funding for international credit mobility, which enables students to study abroad and have their credits recognized at their home institutions. Mobility programs in the Republic of Moldova are aimed at enabling Moldovan students and teachers to study and work abroad, as well as foreign students and teachers to come to Moldova. The numerous internships, student exchanges, international forums, and conferences are important aspects of the international educational process. They provide students with the necessary experience to become highly qualified specialists in modern society [14, p. 166].

With the help of the European Training Fund, the EU supports vocational education and training in partner countries, provides opportunities for capacity building and training of teachers and education administrators.

Moldova's educational policy aims to ensure that the country's education system is aligned with international standards and best practices. This includes the accreditation of educational institutions and programs in line with European standards, as well as the development of a national qualifications framework that is compatible with the European Qualifications Framework.

The EU's educational policy aims to promote shared values such as democracy, human rights, and social inclusion through education. The European Union Education Policy Initiative promotes education as a means to promote European values and identity". The Republic of Moldova develops programs for civic education and the promotion of tolerance and respect for diversity [2, p. 5]. Promoting common values is a shared goal in the educational policies of both the EU and the Republic of Moldova.

International educational cooperation is presented in various forms. This can be at the state, non-state, local and individual level, and cooperation can also be organized through interuniversity, interdepartmental and other agreements. The most common forms include numerous grants, internships, foreign scholarships, etc.

5. Conclusions

Globalization and international cooperation have significant impacts on educational policy in various countries around the world. As educational systems continue to evolve and adapt to the challenges of globalization, it is important for policymakers to remain aware of these trends and work collaboratively with their international counterparts to ensure that all students have access to high-quality education. The EU and the Republic of Moldova prioritize education as a means of promoting social and economic development, their specific target priorities may differ depending on their respective national contexts and priorities.

The educational policy of the European Union and the Republic of Moldova reflects the importance of education in promoting social and economic development. While the EU aims to promote a knowledge-based economy, social cohesion, and global competitiveness through lifelong learning, mobility, digital skills, inclusiveness, and internationalization, Moldova focuses on modernizing its education system and increasing the country's competitiveness in the global economy. Both the EU and Moldova recognize the importance of international cooperation in education and offer various programs to support partner countries in improving their education systems. The promotion of common values is also an important aspect of educational policy in both the EU and Moldova. Ultimately, these policies serve as a means of preparing individuals to navigate an increasingly interconnected and globalized world.

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Rezumat

Politica educațională a fost întotdeauna o componentă importantă a agendei de dezvoltare a unei țări, dar în contextul globalizării și al cooperării internaționale, aceasta a căpătat o semnificație și mai mare. Odată cu creșterea interconectării globale, educația a devenit un factor cheie în capacitatea unei țări de a concura și de a reuși în economia globală. În același timp, cooperarea internațională a devenit din ce în ce mai importantă pe măsură ce țările încearcă să împărtășească cele mai bune practici, să colaboreze la provocări comune și să promoveze valori globale precum democrația și drepturile omului. În acest articol se examinează politicile educaționale ale diferitelor țări (accent pus pe Uniunea Europeană și Republica Moldova) în contextul globalizării și al cooperării internaționale. Autorii abordează impactul globalizării asupra politicii educaționale, inclusiv apariția programelor educaționale globale și integrarea tehnologiei în educație. În plus, articolul subliniază importanța cooperării internaționale în dezvoltarea politicii educaționale, în special în schimbul de bune practici și resurse între țări.

***Cuvinte-cheie**: globalizare, cooperare internațională, educație, politică educațională*

Аннотация

Политика в области образования всегда была важным компонентом повестки дня страны в области развития, но в условиях глобализации и международного сотрудничества она приобрела еще большее значение. С ростом глобальной взаимосвязанности образование стало ключевым фактором способности страны конкурировать и добиваться успеха в глобальной экономике. В то же время международное сотрудничество становится все более важным, поскольку страны стремятся обмениваться передовым опытом, сотрудничать в решении общих проблем и продвигать глобальные ценности, такие как демократия и права человека. В данной статье рассмотрена образовательная политика различных стран (с акцентом на Европейский Союз и Республику Молдова) в контексте глобализации и международного сотрудничества. В статье подвергается анализу влияние глобализации на образовательную политику, в том числе появление глобальных образовательных программ и внедрение технологий в образование. Кроме того, в статье подчеркивается важность международного сотрудничества в разработке образовательной политики, особенно в обмене передовым опытом и ресурсами между странами.

Ключевые слова*: глобализация, международное сотрудничество, образование, образовательная политика*

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