

International Journal of Multidisciplinary Comprehensive Research

The road to circularity: What managers need to implement circular economy?

Angela Albu

Faculty of Economics, Administration, and Business, `Stefan cel Mare` University of Suceava, Romania, Universitatii Street, Suceava, Romania

* Corresponding Author: **Angela Albu**

Article Info

ISSN (online): 2583-5289

Volume: 02

Issue: 06

November-December 2023

Received: 05-09-2023;

Accepted: 10-10-2023

Page No: 13-20

Abstract

Starting from '90, when the concept of circular economy (CE) was launched and defined for the first time, humanity made only a few steps to accept, understand, and implement it in business, strategic and operational management, and daily activities. We still face a big resistance against the adoption of this concept because it dramatically changes the economic paradigm and impels us to rethink and act differently, compared with the past. It is not a question if we want to adopt and implement the principles of the circular economy; the question is how quickly and how efficiently we are able to do this, in the context of continuous environmental degradation, and intensification of the pressure on the non-renewable resources. The paper is included in complex research to identify the actual situation and problems associated with the implementation of the circular economy in the Northern part of Romania and to propose solutions for enhancing the adoption of the concept in daily business practices. After the characterization of the local economic environment and proposals for circular economy models adapted to the industry and service branches existing in the region (published in a previous paper), this paper continues the research and aims to identify and analyze the managers' opinions regarding the implementation of the CE. The findings show a poor level of knowledge of the concept and the possibilities of implementation, but a big willingness to improve the environmental performance of the business through any available techniques, including circular economy practices.

DOI: <https://doi.org/10.54660/IJMCR.2023.2.6.13-20>

Keywords: circular economy, managerial decisions, recover, recycle, reuse, waste management

1. Introduction

The circular economy is a new concept with very old roots in the history of humanity. For millenniums, repair, and reuse were part of the normal behavior of the population, products' replacement rate being slow. When finally, a good was unable to be used anymore and was dumped, the environmental impact was minimal due to the natural origin of the product. The industrial development which started with the first Industrial Revolution represented a huge step towards progress and brought a wide range of advantages but at the same time, it was accompanied by new and unknown problems for which the society was not prepared. It takes a long period to realize that we should change our way of thinking and decision-making process to face and find solutions to the environmental problems we caused in the past. The delay was due to the success of the linear economic model which provided big volumes of goods at affordable prices without thinking of the impact on the environment and resource consumption.

At the moment governments and businesses are becoming very concerned about the available resources in the future and realize that the CE represents a solution to reduce consumption without renouncing the development strategies. Of course, the CE is not a general panacea for all environmental problems but a correct and systematic application will have not only economic and environmental benefits but also will lead to a shift in thinking and acting for all populations. If we always integrate environmental

criteria in economic, social, and political decisions we have the chance to reduce the pollution pressure, unsustainable consumption, but more than that, we have the opportunity to build a new philosophy of production and living.

The CE concept developed in two distinctive directions, a theoretical direction, and a practical, applicative one. Both of them are important for the general understanding of the

concept and its connections with other knowledge in the field and for its use as a solution for different problems and real situations from the socio-economic environment. The scientific literature confirms this dual development and provides different definitions of the concept which fall into several categories. Table 1 contains a synthesis of the definitions of the CE concept.

Table 1: Definitions of the CE concept

Definition/comments	Source
CE is considered a new economic paradigm, with some clear certainties but with a lot of unanswered questions, lack of knowledge, challenges, and limitations. With the rising interest in CE in more and more fields, future research must bring more clarity, basic knowledge, and explanations for a better use of the concept.	Friant, Vermeulen, Salomone, (2020) ^[5] Geissdoerfer, Savaget, Bocken, Hultink (2017) ^[6]
CE is viewed as a new economic model in which economic activity is integrated with environmental care and protection in a sustainable way with mutual benefits. In this model, all the economic activities are managed both as processes and outputs to minimize the negative impact on the environment and maximize social well-being.	Murray, Skene, Haynes, (2017) ^[10]
Other definitions consider CE as a strategy for product design and for closing the resource loops. The CE is used to produce goods with longer life or to extend the life of existing ones. Also, the material close loops are reducing the consumption of virgin raw materials and the waste volumes disposed in the environment.	Bocken, de Pauw, Bakker, van der Grinten, (2016) ^[11] Sing, Ordenez, (2016) ^[12]
CE is considered a new business and development model, perfectly integrated into the sustainable development concept and able to offer practical and efficient solutions at micro, meso, and macro levels to economic and environmental challenges.	Ghisellini, Cialani, Ulgiati, (2016) ^[7] Lewandowski, (2016) ^[9]
In a more practical vision, CE is considered a new industrial system that merges several practices like eco-design, recover, reuse, recycle, refurbish, repair, and others for better resource use, decoupling the development from the raw material consumption, and reducing the waste volumes.	Hobson, Lynch, (2016) ^[8]

Source: own elaboration

For the purposes of our research, we focused on the papers that discuss the implementation of the CE into processes from different fields as a new business model, strategy, or industrial system because here we found information about what are the problems for which the CE can be the solution and what are the challenges the managers should face in the managerial decision and implementation processes.

According to OECD (2018) ^[11], the adoption of the CE concept in business is changing the pattern of product and material flows, but these changes must be prepared both from technological and managerial perspectives. There are five directions in which the new CE business models are or will be adopted. The first one refers to the supply chain for materials; compared with the linear model where the source of the material was mainly the extraction process, in the CE business model for supply chain, an important share of virgin materials are replaced with bio-based, recovered, or renewable ones. The pressure on natural resources is reduced there are also positive changes in behavior, both for managers and employees. The second CE business model shows one of the most visible effects and is focused on waste management. The huge volume of waste produced by industry and agriculture represents the source of many valuable materials. Without implementing the waste management principles and CE concepts these materials will be lost forever through their disposal in the soil. A deep recovery of recyclable materials from waste and transformation into new resources will reduce the material costs, the demand for new virgin materials, and the volume of disposed waste. Regarding the third model of business for implementing the CE, the suggestion is to design products with a longer lifetime and to extend the life of the existing ones, which will lead to a slower material flux, a reduced quantity of waste, and less demand for new extracted resources. The last two business models for the CE include also the concept of dematerialization. They promote sharing

practices and product as service to reduce ownership of products, the demand for new products, and to support a more efficient use of goods.

The five business models for the CE represent patterns with high applicability, but the concrete form of implementation will be decided by the managers according to the business specific, local economic environment and the collaboration network from which it is part of.

The EU policies in the field of CE go back to 2005 when the document: *Thematic Strategy on the Sustainable Use of Natural Resources* was launched (Commission of the European Communities, 2005). Now we have in force a strong set of policies and regulations that created the action frame and support the transition process from linear to circular economy. In the context of this paper, we want to highlight the document *A New Circular Economy Action Plan. For a Cleaner and More Competitive Europe* issued in 2020 in which are stated the directions to implement circularity in the design and production processes, creating a well-functional market for secondary raw materials, and enhancing the CE implementation through innovation and digitalization. The policies' success and achievement of objectives are conditioned by three core factors:

- Strong financial support, both from EU and national sources;
- A dynamic and continuous communication process for spreading the information about de CE in the business environment;
- Correct and customized managerial decisions.

In this context, studies and research are necessary to offer managers models, examples, and/or best practices to improve their knowledge about CE and to create a professional background for future managerial decisions. Ellen MacArthur Foundation, a forefront organization in the effort

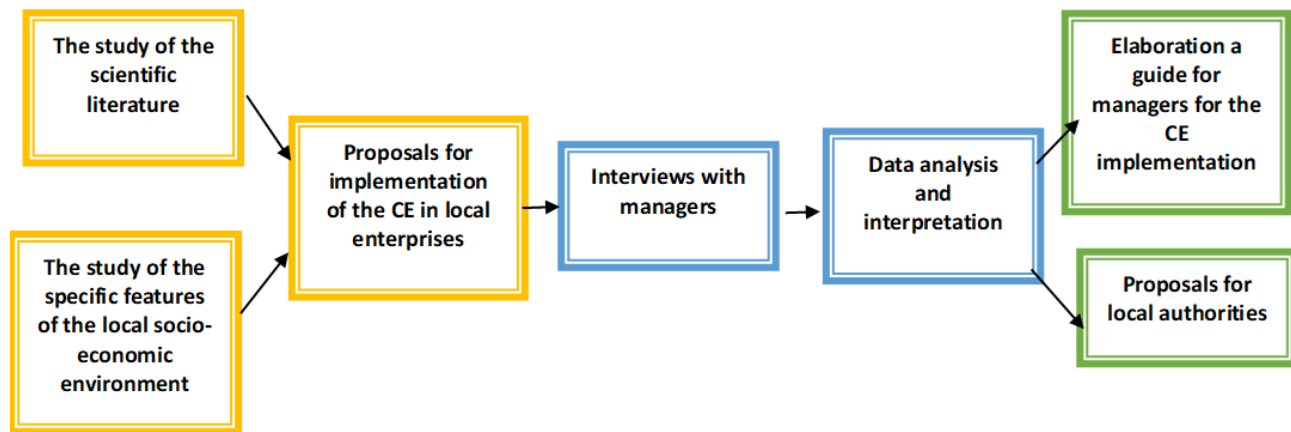
of the implementation of the CE constantly publishes reports and studies with examples, best practices, and solutions for different industries or activities. A basic and common idea emerges from these documents – each business, and each organization needs its own strategy to implement the CE principles, but the information about other experiences in the field is necessary for a correct understanding of the complex connections between the businesses and the environment (Ellen MacArthur Foundation, 2021) [3].

Research Methodology

The research presented in this paper is included in complex research to identify the actual situation and problems associated with the implementation of the circular economy

in the Northern part of Romania, Suceava County. Some of the objectives established at the beginning of the research were achieved, such as a study of the local businesses with fields of activity, number of employees, and number of organizations. Considering that we didn't find any information about initiatives for the implementation of the CE in Suceava County, we elaborated a set of recommendations regarding the possible actions based only on the theoretical study of the economic environment. The recommendations describe the proposed actions, fields that can be involved, and the CE model suitable for the proposed actions.

The steps followed in the research process are presented in Fig. 1.



Source: own elaboration

Fig 1: Organization of the research process

The research process was designed in three phases; the first phase (represented with yellow) carried out a detailed study of the concept of CE and the specific economic environment of the Suceava region. The first phase of the research finished with a set of proposals for managers suggesting how can start to adopt the CE principles and actions in their daily activities. This document can have an added value if it has the confirmation from the practitioners' part. This is one of the goals of the second phase of the research (represented with blue); in this phase, we designed a semi-structured interview for the managers with questions regarding their knowledge

about the CE, the initiatives of implementation of some actions for the CE and the barriers/problems they faced or consider that can meet if they adopt strategies in the field of the CE.

For a proper application of the interview, we selected managers from different parts of Suceava County and the most representative and numerous economic activities of the region. According to the Suceava County's Statistics Office, the main economic activities as the number of organizations are represented in Table 2.

Table 2: The main fields of economic activity for the organizations situated in Suceava County

No.	Field of activity	Number of organizations
1.	Wholesale and retail trade, repair, and maintenance of motor vehicles and motorcycles and personal and household goods	4701
2.	Transport and warehouse for goods	1958
3.	Construction activity	1847
4.	Different processing industries	1691
5.	Professional, scientific, and technical activities	1176
6.	Hotels and restaurants	1050

Source: own elaboration with information from Suceava County's Statistics Office, <https://suceava.insse.ro/wp-content/uploads/2023/10/151-Unitati-locale-active-pe-activitati-CAEN-rev.2-si-clase-de-marime-in-anul-2021-.pdf>. Accessed on the 29.10.2023

For our research, we selected managers from these six main areas of economic activities representative of Suceava County. In the selection process, we looked for good coverage of the whole County and inclusion of all types of organizations – SMEs, and big companies. An important fact

was the managers' willingness to participate in the interview. To respect the EU legislation regarding personal data protection, we will not provide the managers' and companies' names, only the field of activity and number of employees. Table 3 contains this information.

Table 3: Brief presentation of the participants at the interview

Manager	Field of activity	Number of employees	Location in Suceava County
M1	Repair, and maintenance of motor vehicles and motorcycles	4	Suceava city
M2	Repair, and maintenance of motor vehicles and motorcycles	21	Suceava city
M3	Wholesale and retail trade	11	Vatra Dornei (South West part of the County)
M4	Transport and warehouse for goods	18	Ipotesti (East part of the County)
M5	Construction activity	360	Suceava city
M6	Different processing industries (wood processing)	821	Radauti (North part of the County)
M7	Professional, scientific, and technical activities	10	Falticeni (South East part of the County)
M8	Hotels and restaurants	4	Sucevita (North part of the County)
M9	Hotels and restaurants	38	Gura Humorului (Central part of the County)

Source: own elaboration with data resulting from the interviews

As it was mentioned above, we used the semi-structured interview for data collection, in a face-to-face discussion. The advantage of the semi-structured interview is the fact that, besides the core questions designed previously, we can add supplementary ones, according to the information we get during the discussion. The core questions were organized in the following sections:

- General questions about the company: location, number of employees, field of activity, what products/services are provided;
- Questions about the manager's professional background and level of knowledge in the field of CE;
- Questions about the environmental impact of the organization's activity (type of pollution and pollutants, concentration if case);
- Questions about the measures, actions, or other types of activity implemented to reduce environmental impact, connected with the CE principles and the associated problems, if any;
- Strategies, and goals for adopting the CE in the future, if any.

The interviews were organized in August and September 2023.

Results

The results of the interview application were very interesting and, in some parts, unexpected. Of the nine managers who participated in the interviews, 8 of them graduated from higher education studies, bachelor and master studies (M2 – M9), and the ninth graduated the high school and a qualification program (M1). Regarding the concept of CE, as general information, all managers heard about it, but when they were asked to explain the meaning, the results were different; managers M2, M6, M8, and M9 gave a complete description of the concept showing a correct understanding both from theoretical and practical points of view. Managers M4, M5, and M7 gave us a partial description of the concept, and M1, and M3 have a poor knowledge of the CE concept.

The next group of questions aims to gather information about the environmental impact of each organization involved in the study. Considering the fact that, according to the EU and national legislation, for all economic entities the Environmental agreement is compulsory for them to work, all the managers were well informed about the impacts of their activity and were able to provide information about the main measures implemented in this direction. But when we went deeper and asked about the activities associated with the CE implemented in the organization, we realized that such actions were few, almost all of them integrated into general environmental regulations. With only one exception (the manager M6) the organizations involved in the study don't

have a strategy for adopting the CE. Regarding the problems/barriers they faced, even though the activities are very diverse, some problems are common as the lack of authorities' involvement, the lack of networks for recycling, recovering the materials, the lack of financing sources, and the lack of knowledge about the CE and the implementation possibilities.

The last set of questions focused on the adoption of the CE's principles and actions in the future in the organizations involved in the research. We consider that the managers understood the importance of reducing the environmental impact of their businesses and the fact that the CE represents an effective tool for this goal. Except for manager M3, all the other eight managers affirmed that they intend to introduce in their future development strategies different goals and actions connected with the CE. Also, the majority of them are sure that these types of decisions will be imposed by the EU legislation, considering the changes and the orientation of the EU's policies in the field of sustainable development.

Comments

The results of the discussions with the managers presented above give us a general image of the implementation of the CE in Suceava County, but they must be analyzed in more detail, according to factors specific to each field of activity. It is known the fact that not all activities have the same potential and opportunities to be involved in the CE and implement its principles. For this reason, the results from the interviews were analyzed separately, in each field of activity. The first two managers (M1 and M2) work in the same field - Repair, and maintenance of motor vehicles and motorcycles, which is directly connected with the CE. Good maintenance and periodic repair activities lead to a longer life for vehicles at their optimum parameters – one of the principles of the CE. Besides their current work, the entities from this field can add other initiatives associated with the CE, for example, the refurbishment of the broken parts from vehicles and motorcycles. M1 manages a small organization consisting of 4 workers and doesn't have the economic power and technological endowments to extend the activity with the refurbishment process, but as a future strategy, he intends to join a network of similar entities to send the broken parts to a collaborator for refurbishment process. The parts that can't be mended will be sent to a local enterprise that collects and recycles different metals. Also, M1 has as a short-term goal the installation of solar panels on the roof of the building to reduce the consumption of energy produced from non-renewable sources. As a legal obligation imposed by the legislation, during the repair activities, the waste engine oil is collected and sent to authorized waste management companies, and the used tires are directed to a regional

cement producer to be burned together with the fuel and provide energy (contributing the reduction of fuel consumption). Regarding the second company, managed by M2, it is a bigger one and is able to provide more complex repair and maintenance services. In the field of CE, they already are putting into practice some initiatives; the first one is the integration of the refurbishment process in their current activity, but only for some types of broken parts resulting from their own repair process. A new hall is under construction where it will be mended through mechanical and steelmaking methods some types of broken parts from vehicles and motorcycles. Another initiative implemented by M2 regards plastic parts. Usually, if they are broken, the plastic parts can't be mended, they should be replaced; in the repair process, the workers collect the plastic parts and send them to the local waste management company to be re-introduced in the materials' circuit. An important aspect of adopting the CE principles is the basic knowledge of all employees about this subject. As mentioned above, the manager M2 is well informed and he is interested in adopting appropriate decisions according to the specific field of activity, but he affirmed that almost all other workers have poor or no knowledge about CE. The situation is similar in the first entity where neither the manager M1, nor the employees don't know much about CE.

The second field of activity investigated in our study is Wholesale and retail trade, with an enterprise of 11 employees. The trade is a field with fewer possibilities to adopt the CE, these being limited in the collection, recovery, and re-introducing of the waste into the materials circuits. Indeed, during the interview with the manager M3, we realized that there are no initiatives for circularity. The current practices regarding cardboard, paper, glass, and plastic waste are implemented due to the legislation in force. The building where is situated the business has heating and electric systems based on renewable sources of energy, but this investment is not considered by the manager connected with the CE, but an economic strategy to reduce the costs. There are no other initiatives for circularity like a selection of the business partners choosing the ones who offer goods with less packaging or with reusable packaging; also, there are no internal regulations to reduce paper use or to buy eco-paper. Regarding the level of knowledge about the CE, like in the previous two entities, it is poor and there are no perspectives to improve it. The Human Resource Management office doesn't have a plan of training or courses for the employees with the subject of sustainable development, sustainable trade, circular economy, or other similar themes.

Transport and warehouse for goods is a field with a very rapid development in Suceava County during the last 10-15 years (<https://www.topfirme.com/caen/4941/>). Most of the new companies opened in this area are concentrated in the Ipotesti region. Unfortunately, the managers we contacted and asked to participate in the study were not very open; finally, we had one manager – M4 – who accepted and answered the questions. The activity is concentrated on goods transportation within EU countries but they have a warehouse for products storage for limited periods. Regarding the adoption of the CE in the current activities, the questions referred to both the transportation and storage aspects. In the products' transport activities, there are some initiatives focused on the reduction of the environmental impact that can be associated with the CE, such as:

- The company uses modern trucks with lower fuel

consumption and lower pollutant emissions;

- The routes are calculated and optimized through an informatic program; the use of this program led to a fuel reduction of 10% per year, according to the financial office's calculations;
- There is a contract with the regional cement producer for the used tires.

For the storage activities in the warehouse, we identified only the replacement of the classical source of energy for lighting and heating with renewable sources, which is an important action, considering the big consumption of energy specific to warehouses. For the future, the enterprise board is studying the possibility of using reusable or multi-purpose containers to reduce the package waste volume and costs. According to the manager M4 answers, the collaboration with different partners from the EU improved the knowledge about sustainable development and CE, but he considers that they are too small to have a strategy only for the CE. Appropriate initiatives in this field will be integrated into future development strategies of the entity. He highlighted the fact the local authorities don't have any initiatives to promote the CE and the actions already carried out are only the results of the involvement of the private sector. Regarding the employees' knowledge about the CE, we received the same information—they have a poor level or don't have any knowledge.

The manager M5 is leading a big company with activities in several fields, from which building construction is prevalent. It is important to add that they started with the metal processing activities and they still have these activities. The company's vision includes sustainability as a pillar together with comfort and facilities for people. For the real estate branch, there are some actions connected with the CE as a very strict waste management aiming to recover and recycle all the valuable materials and to send to the disposal places as little as it is possible. The steel waste is recovered and recycled in their metal working branch. In the design stage are included objectives associated with the CE principles. For example, high-quality materials with very good insulation characteristics are used for the buildings to minimize energy loss. When it is possible, the first option is to use local materials to reduce the costs and the pollution due to transport. When the projects are finalized the areas around the buildings are rehabilitated by planting trees, bushes, and grass. For the metalworking branch, the CE is visible in some compulsory actions integrated into the daily work from the beginning of business. It is about the complete use of steel, avoiding any loss. Inside the company, is implemented metal waste management and designed the metals circuit to maximize their use. If works at clients' locations are carried out (like metal fences, gates, and others) all the metal pieces resulting during the work should be collected and brought back to the company. Regarding the future strategy and objectives, the company's board will improve the actual one by introducing a separate chapter for sustainable development that will include aspects of CE. The situation with the level of knowledge about CE is better than in the previous companies. The Human Resources office organized training with themes in the sustainability field for employees who graduated from higher education studies focused on specific aspects of real estate and metalworking activities. For the other employees (workers) there is a plan for information sessions for the 2024 year.

The company managed by the manager M6 is a branch of an international company well known in the field of wood processing. Its motto is *'More from wood'* which shows its commitment to the sustainable use of this very valuable resource. The concept of CE is known very well, there is a strategy, objectives, and actions already implemented in the past and directions for the future. A set of international standards are implemented as ISO 9001, ISO 14001, ISO 45001, ISO 50001, ISO 38200, and in the Organizational chart there is a department in charge of environmental management. From the most important initiatives in the field of sustainability and CE, we highlight:

- The wood used as raw material comes only from certified sources; the company supports sustainable forestry and invests every year in afforestation actions.
- The company buys secondary products from regional and certified sawmills. By using secondary products, the natural resources are saved.
- All the products have an Environmental Product Declaration with information about the environmental and health impact.
- The waste wood from the production of wood-based materials is recycled. This waste comes from discarded goods such as furniture, pallets, or packaging materials.
- The company has several biomass power plants that produce energy and heat for their own needs and a part of the population living in the vicinity. The plants are using biomass and wood residues which can't be used anymore in the production process.

There is a constant concern for the employees' professional training, with several courses, information sessions, and training being organized every year at different levels. The knowledge about sustainability, environmental protection, CE, and EU legislation in the field is integrated into these trainings. The sustainability strategy is updated every year and a Sustainability Report is issued every year starting with 2017.

The seventh entity involved in our research is active in the field of Professional, scientific, and technical activities, more precisely it is a consultancy firm specialized in European project writing and implementation. The manager M7 is quite new in her position replacing the previous one who retired a year ago. During the interview, she provided a partial understanding of the CE concept and specified that there wasn't any application for European funds in the field of the CE since she occupies the manager position at the firm. A consultancy activity has few opportunities to adopt the CE principles in the current activity, but in our opinion, the employees should know about it to be able to write successful projects for different clients. There is one employee, an environmental engineer, and another two economists with experience in the implementation of previous projects in the field of the environment. Regarding the CE initiatives in their current activity, we can mention only the installation of motion sensors in the office building to save the electricity consumed and the replacement of the company's two old vehicles with new ones, one of which is electric. For the future, M7 forecasts strong financial support from the EU, oriented toward projects with high positive environmental impact. To be prepared for this, the manager M7 identified some courses and training offered by authorized training providers in which the employees will participate in 2024. The last two managers participating in our research are active

in the tourism field. The manager M8 is running a small rural pension in a beautiful mountain area and she is very interested in introducing practices and measures to support sustainable tourism and indirectly, the CE. The building was built by the previous owner from sustainable materials, mainly wood, and has two installations for heating the pension and the water, both based on sustainable resources: an air-water pump and an installation that works with biomass. In their daily activities use bio-detergents and are very careful with waste separation. Regarding this aspect, she specified that only since 2020 the Village Hall has introduced waste selective collection. Before then, the waste was gathered all together, recyclable and non-recyclable, and sent to the landfill. Even though we are a member of the European Union, in some rural regions waste management is poor and hinders the efforts of private entities to recover and re-introduce valuable materials in the economic cycle. Other initiatives implemented by the manager M8 regard food waste which is transformed into compost for the small vegetable garden or is used for feeding the chickens, according to one specific technique used in the application of the CE concept *'Waste is food'*. The business managed by M8 is a family business; she and her husband recently graduated a master's degree study in Business administration, specialization in Tourism Destination Management which completed their engineering background and provided updated information in different fields, including sustainable development. In the future, she plans to rehabilitate the building to improve the insulation layer and reduce energy consumption using the European funds allocated through the program The Big Renovation, part of the European Green Deal strategy. Other initiatives for the future are the reduction of packages for some food and non-food products needed in current activity and signing a contract for the maintenance of the electric devices (refrigerators, washing machine, dishwashing machine, ...) with a specialized firm from the village to extend the using period of these apparatus.

The manager M9 is the owner of two four-star hotels very popular in Suceava County. One is situated on the top of Rarau mountain, with a splendid view and a lot of possibilities for mountain lovers; the second is situated in Gura Humorului town and resort, which offers facilities for tourists all year round. The hotel has a large hall for organizing events like wedding parties or others similar. Like manager M8, manager M9 is very interested in reducing the environmental impact of the activities carried out in the two hotels and preserving the natural, beautiful landscape with all its beauties. Even though he doesn't have a proper CE strategy, there are a lot of activities already implemented in the hotels, according to the CE principles. Where it is possible, the activities are similar for both hotels, if not, are different according to the location, clients, and other factors. From the common initiatives, we highlight:

- Both hotels were rehabilitated after the pandemic period to improve the insulation and reduce energy consumption;
- Both units implemented strict waste management; all recyclable materials are collected separately and re-introduced in the economic cycle inside the hotel or through the local company for waste management. For example, big cardboard boxes are reused to store different items or pack paper and cardboard waste; food waste is composted and used as fertilizer for the decorative plants placed inside and outside the hotels.

- There is a policy to reduce the use of printed documents. The employees from reception and accounting-financial offices are trained to print only the documents compulsory to be printed.
- In both hotels there are motion sensors in common spaces and outside the buildings.

Regarding the specific measures, adapted to each location, we can mention:

- At the first hotel situated on the top of the mountain all roof surface was covered with solar panels, and the building became energetically independent.
- For the hotel with a large hall for parties, there are customized contracts with different food providers to return the unconsumed food, if it was not unpacked and the cold chain was not interrupted. In this way, the food is not wasted and some costs are saved.

As barriers/problems, he mentioned the lack of collaboration between different economic entities to support each other in the process of adopting sustainability and circularity, very slow changes, and improvements initiated by the local authorities in this field, and sometimes high costs to recycle, recover, and refurbish the valuable materials. Regarding the level of knowledge in the field of CE, he used the period during the pandemic when the hotels were closed, to participate with a part of the employees in some online training and tutorials in different areas, including sustainability in tourism. In the future, at the hotel from Gura Humorului will be installed an electric car charging station.

Conclusions

The application of the interview was a very good qualitative scientific method to gather information about the implementation of the CE in different fields. A structured interview or a questionnaire wouldn't have the same efficiency because are more rigid. From the discussions with the nine managers, we can summarize some general conclusions:

- Suceava County doesn't have a strategy for the CE, the initiatives we have identified belong to private entities and are based on the fact that the managers/boards realized the importance of these actions, and economic purposes (cost reduction, saving money).
- The majority of the actions are focused on waste management, i.e., recovery, recycling, reuse, and refurbishment of valuable materials.
- In second place are the initiatives regarding sustainable energy sources.
- Almost all the nine managers are aware of the importance of adopting sustainability/ circularity in businesses, but the employees are not; lacks a minimum level of knowledge about the CE.
- The situation can be better in the future if all the proposed measures are implemented, but it is not enough; local/County authorities should do their part and create specific conditions for all businesses to take part in the positive change.

As a final remark, a business can't adopt the CE by itself, alone. General conditions, appropriate legislation, and a lot of networks are needed to support private initiatives and to offer diverse possibilities to create loops for each valuable material.

Acknowledgement

This work is supported by project POCU 153770, entitled "Accessibility of advanced research for sustainable economic development - ACADEMIKA ", co-financed by the European Social Fund under the Human Capital Operational Program 2014-2020

References

1. Bocken NMP, de Pauw I, Bakker C, van der Grinten B: Product Design and Business Model Strategies for a Circular Economy. *Journal of Industrial and Production Engineering*. 2016; 33(5):308-320. Available at <https://www.tandfonline.com/doi/epdf/10.1080/21681015.2016.1172124?needAccess=true>
2. Commission of the European Communities. Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee, and the Committee of the Regions: Thematic Strategy on the Sustainable Use of Natural Resources. COM (2005) 670 final; Commission of the European Communities: Belgium, Brussels, 2005. Available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52005DC0670>
3. Ellen MacArthur Foundation: Completing the picture. How the Circular Economy Tackles Climate Change, 2021. Available at <https://emf.thirdlight.com/file/24/XoGiOySXvopGQ9Xo4d6XnKIvUh/Completing%20the%20picture%20-%20Executive%20summary.pdf>
4. European Commission. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions: A New Circular Economy Action Plan. For a Cleaner and More Competitive Europe, COM (2020) 98 final; European Commission: Belgium, Brussels, 2020. Available at https://eur-lex.europa.eu/resource.html?uri=cellar:9903b325-6388-11ea-b735-01aa75ed71a1.0017.02/DOC_1&format=PDF
5. Friant MC, Vermeulen WJV, Salomone R. A Typology of Circular Economy Discourses: Navigating the Diverse Visions of a Contested Paradigm. *Resources, Conservation & Recycling*. 2020; 161:1-19. Available at <https://www.sciencedirect.com/science/article/pii/S0921344920302354>
6. Geissdoerfer M, Savaget P, Bocken NMP, Hultink EJ. The Circular Economy-A New Sustainability Paradigm? *Journal of Cleaner Production*. 2017; 143:757-768. Available at https://www.researchgate.net/publication/311776801_The_Circular_Economy_-_A_new_sustainability_paradigm
7. Ghisellini P, Cialani C, Ulgiati S. A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*. 2016; 114:11-32. Available at <https://www.sciencedirect.com/science/article/pii/S0959652615012287>
8. Hobson K, Lynch N. Diversifying and de-growing the circular economy: Radical social transformation in a resource-scarce world. *Future*. 2016; 82:15-25. Available at <https://www.sciencedirect.com/science/article/pii/S0016328716300246>

9. Lewandowski M: Designing the Business Models for Circular Economy-Towards the Conceptual Framework. Sustainability. 2016; 8(43):2-28. Available at https://www.researchgate.net/publication/291171892_Designing_the_Business_Models_for_Circular_Economy-Towards_the_Conceptual_Framework
10. Murray A, Skene K, Haynes K. The Circular Economy: An Interdisciplinary Exploration of the Concept and Application in a Global Context. Journal of Business Ethics. 2017; 140:369-380. Available at <https://link.springer.com/article/10.1007/s10551-015-2693-2>
11. OECD: Business Models for the Circular Economy. Opportunities and Challenges from a Policy Perspective, 2018. Available at <https://www.oecd.org/environment/waste/policy-highlights-business-models-for-the-circular-economy.pdf>
12. Sing J, Ordonez I. Resource Recovery from Post-Consumer Waste: Important Lessons for the Upcoming Circular Economy. Journal of Cleaner Production. 2016; 134:342-353. available at https://mycourses.aalto.fi/pluginfile.php/1573226/mod_folder/content/0/Sing%20and%20Ordo%C3%B1ez%20%282016%29.pdf?forcedownload=1
13. <https://www.topfirme.com/caen/4941/>