

CIRCULAR BUSINESS MODELS IN THE ROMANIAN SOCIAL ECONOMY: AN EXPLORATORY CLUSTERING EXERCISE

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Abstract. *During the last few years, the role of social enterprises in developing a circular economy has increased constantly, even if it is a great challenge for social enterprises to compete with for-profit companies. Regulation and governmental support are crucial in this context. In terms of Romanian regulations, the potential of the social economy domain was officially recognized by law in 2015, while the circular economy was in 2022. These acts, directly and indirectly, influence the private organizations operating in the social economy, respectively circular economy. The research focuses mainly on the potential of the social economy domain to support the circular economy toward a green sustainable transition. Two main lines of investigation are followed: (1) the mapping of the circular social enterprises in Romania and (2) clustering the Romanian circular social enterprises considering their business models. Regarding research design, an online questionnaire was distributed to the 50 identified entities for self-application. In terms of results, this updated mapping exercise emphasized an increase of the specific entities especially set up mainly as companies active in urban areas. It also reveals that from the four main types of business models (Reduce, Recycle, Repurpose, and Share), the most common one the Romanian investigated organization considers is Reduce. The paper brings a fresh, original contribution towards understanding an emergent sub-sector of the social and solidarity economy in Romania: circular social economy. It also represents a step forward in conducting further research in the field.*

Keywords: *circular economy; social economy; social enterprise; Romania.*

Introduction

We face a recent and increasingly visible concern among international and national policymakers, practitioners, academia, and researchers, about how to leverage the potential of the social economy to support the circular transition. As stated in the new Social Economy Action Plan (European Commission, 2021, p.18), *“the contribution of the social economy is particularly remarkable for the development of a circular economy*

where it is pioneering activities and business models that retain the value of products and materials for as long as possible, reduce waste, provide cost-saving opportunities to citizens and create local jobs, especially in repair, reuse, sharing and recycling activities. This potential can be further promoted by raising awareness of the scope for greater uptake of these practices and reinforcing partnerships with mainstream businesses along value chains and public-private partnerships involving public authorities, research institutes, industry and social economy entities". On the other hand, the OECD together with European Commission has recently launched the report "Policy brief on making the most of the social economy's contribution to the circular economy" (2022), explaining how can social economy contribute to the circular economy: the social economy has a long-term demonstrated experience in developing circular activities, the social economy makes the transition to the circular economy more inclusive, the social economy can inspire business models and practices based on collaboration at local level, the social economy furthers stakeholder engagement and improves social acceptance of circular products and green technologies, and the social economy promotes more circular and sustainable behaviors (OECD/European Commission, 2022). In this favorable global context for putting together the two new paradigms of socio-economic development (social and solidarity economy and circular economy), we can say that a new important sub-sector of the social economy is arising: circular social economy, which becomes to be slightly visible also in Romania. Therefore, we will explore in our paper the potential of the Romanian social economy sector in supporting circular activities and related business models.

The context of the research

The main objective of this paper is to discern the most representative types of circular business models for the Romanian social economy sector. This paper represents the continuation of previous research conducted by the authors in 2021 to elaborate a first exploratory mapping of the social economy organizations active in the circular economy in Romania. The previous research output was an initial mapping of the social economy organizations active in the area of circular economy in Romania, covering 37 organizations, acting in various fields, grouped in the 3 Rs (Reduce, Reuse, and Recycle) general models of the circular economy (Barna, Zbucnea, & Stanescu, 2021).

The current research-specific aims: (1) To do a deep theoretical dive into the circular business models, in general, to better discern and analyze the main circular business model types that can be observed in the activities of the social economy organizations included in the previous mapping exercise; (2) To define the most representative clusters of social economy organizations active in circular economy in the base of existing frameworks for circular economy models adapted by the authors to the context of an emergent social economy sector; (3) To update and develop the mapping of the social economy organizations active in the circular economy in Romania, released in 2021.

Approach and structure of the paper

The present paper includes a brief analysis of the role of the social economy in the development of the circular economy in Romania. The following section defines the frameworks related to the business models in the circular economy, aiming to cluster the possible approaches. The next section is dedicated to presenting the methodology,

followed by the associated findings and discussions. We reviewed the social economy initiatives in Romania's circular social economy field, updating the previous research (Barna, Zbucea, & Stanescu, 2021), using secondary research methods (online research). We identified 50 circular social economy organizations that follow a circular business model and observe the principles of social and solidarity economy, representing an increase of almost 40% in the number of organizations. The last section includes conclusions and further implications.

The present research advances the previous one with an exploratory clustering exercise to define the most representative clusters of social economy organizations active in the circular economy.

State of the art: the contribution of the Romanian emergent social economy sector to the circular economy

The role of social enterprises and organizations in developing the circular economy is constantly developing. Increasingly more social enterprises worldwide are getting involved in the circular economy. Recycling has been replaced by the redistribution of products and services, and even for social organizations, it is a significant challenge to compete with business-oriented organizations (Lane & Gamley, 2018). Therefore, social organizations should assume more business-like approaches. A significant benefit for society if social economy organizations get more involved in the (circular) economy would be the social and economic impact on certain disadvantaged segments. With this in mind, more government support is not only expected from the sector (Lane & Gamley, 2018) but also desired for the countries and economies.

The Romanian social economy sector is still emerging compared to other European countries, also facing many challenges. However, recently there have been some improvements to the legislative framework concerning the social economy. In March 2022, in the context of the reform of the social economy foreseen in Romania's National Recovery and Resilience Plan, the Romanian Government approved the Government Emergency Ordinance amending and supplementing Law 219/2015 on the social economy. This ordinance brought several conceptual and terminological clarifications and introduced some provisions intending to create a favorable environment for the development of the social economy sector in Romania. We mention as a key point for our topic of research the fact that now article 5 d) of Law 219/2015 on the social economy recognizes the contribution of the social economy to the transition to the circular economy: "*Art.5 - (1) The social economy contributes to a) development of local communities; b) job creation; c) development of social inclusion and cohesion; d) transition to the circular economy and social innovation; e) involvement of people from the vulnerable group in social and/or economic activities; f) access of people from the vulnerable group to community resources and services*". By broadening the contribution of the social economy to the transition to the circular economy, the recent reform of the legislative frameworks opens up new opportunities for the social economy sector. This is the most important as Romania is currently working on the National Strategy on the Circular Economy, and in August 2022, the Ministry of Environment, together with the Sustainable Development Department within the Government's General Secretary, released the project strategy. On the 21st of September, 2022, the National Strategy on Circular Economy was formally adopted through the standard juridical procedure (DpDD, 2022). According to the Governmental Decision on the approval of the National

Strategy on Circular Economy launched on the 27th of September 2022, the sector can be defined by three main principles:

- Phasing out non-recoverable waste and reducing pollution,
- Keeping products and materials at their highest use value for as long as possible,
- Regeneration of natural systems, biodiversity, and ecosystems (Official Monitor, 2022, p. 9).

The most recent macro data on the social economy sector remains those provided by CIRIEC Intl. report 2017: the Romanian social economy provides under 2% of the working population (136.385 paid employment); the associations, foundations, and other similar accepted forms count 99.774 jobs, 42.707 entities, and the cooperatives and other similar accepted forms sum up 31.573 jobs, 4.934 enterprises and 3.032.000 members (including credit unions) (Monzón & Chaves, 2017). Actual data exists only for the sub-sector of certified social enterprises in the Single Register of Social Enterprises, which provides official data on social enterprises and social integration enterprises certified by Law 219/2015. In August 2022, the Single Register of Social Enterprises managed by the National Agency of Employment subordinated to the Ministry of Labor and Social Solidarity includes 2681 certified social enterprises, including 183work integration social enterprises. We notice a significant increase in interest in social enterprise certification from 2020 onwards, mainly because of the conditions imposed by the Human Capital Operational Program, which requires mandatory certification.

As mentioned in our previous research (Barna, Zbucnea, & Stănescu, 2021), even if not specifically dedicated to the circular social economy, the implementation of the European Structural Funds grants financed under the social economy calls Human Resources Development and Human Capital Operational Programs also created sustainable premises for pioneering the circular social economy in Romania. However, besides the good practice project examples identified in our previous research, many questions arise after the data provided by the recent Retrospective Evaluation Report POSDRU 2007-2013, Major Intervention Direction (DMI) 6.1 Social Economy Development (MIPE, 2022). According to this report, with regard to the sustainability of the social economy structures after the completion of the financing of the DMI 6.1, the evaluators' analyses based on official data on tax returns and the number of employees indicate that only 55% of them are still in operation today. Of course, this evolution is correlated with the most important difficulty faced by the social economy structures set up under DMI 6.1, which was the lack of facilities offered to social economy enterprises by the legal framework. But moreover, the evaluation report also shows that less than half of the social economy structures set up (40%) continue to serve a social mission, which is worrying in terms of real social impact.

As highlighted in our previous research, we identified in the Romanian social economy landscape initiatives related to various dimensions of the circular economy model: Reduce (less packaging), Reuse (Refill and Repurpose), and Recycle – a vital component of the circular economy (Barna, Zbucnea & Stănescu, 2021). By way of example, we mentioned in the 2021 paper some well-known circular social economy initiatives in Romania, such as Recicleta (developed by Visitor Plus Association), Remesh, and Educlick (developed by Atelier Fără Frontiere Association) or Redu (developed by Mai Bine Association). We are glad to see international public recognition of one of these initiatives. In 2021, the Civil Society Prize Competition organized by the European Economic and Social Committee selected Atelier Sans Frontieres for the work carried

out in the Educlick workshop, ranked third in the European Union for involvement in climate action. Also, the Educlick workshop's project "Dăm Click pe România/ We click Romania" won second prize in the Shaping a Circular Industrial Ecosystem and Supporting Life-Cycle Thinking category in the first edition of the New European Bauhaus festival in 2022. Last but not least, we mention the award received by the circular social initiative e-Natura, an online shop, which gained the Start-up prize at GPeC 2022, the most important competition awarding e-commerce and digital marketing. Additionally, e-Natura received among the best results at the GPeC Proficiency Program (GPeC, 2022). This award shows that the professionalism of such initiatives can match the companies, considered more business-wise.

Defining the circular social economy clusters

To define the most appropriate circular social economy clusters for the Romanian social economy sector, we have first analyzed various frameworks and approaches concerning mainstream circular business models available in the literature. For example, OECD (2018) proposed a very sound framework and highlighted five headline business models for a more circular economy, also mentioning that the distinction between different circular business models is clear in theory but maybe less so in reality because, in many cases, firms adopt combinations of business models. These models are: 1) Circular supply models; 2) Resource recovery models; 3) Product life extension models, 4) Sharing models, and 5) Product service system models.

Some authors stress the difficulties of complying with both requirements – of social economy and circular economy. Some models were developed to stress the interconnected components and the vital role of stakeholders, segmented into power bodies, the local population, the business community, and strategic partners (Smitskikh, Titova, & Shumik, 2020). This framework stresses the importance of governmental support, which was also highlighted by other studies (Lane & Gamley, 2018). More attention has been given to circular business models in general, with no specific social dimension (Bocken et al., 2016; Centobelli et al., 2020; Geissdoerfer et al., 2020; Lüdeke-Freund, Gold, & Bocken, 2019; Nußholz, 2017). Also, researchers point out the difficulties in understanding how these models are set and evolve (Centobelli et al., 2020), highlighting the difficulties in identifying an encompassing clustering set of criteria. A review by Rosa, Sassanelli, and Terzi (2019) revealed that at the time that 5 archetypes, 9 classification methods, 5 adoption-oriented challenges, 4 decision-support tools, and 3 additional research areas were used by researchers, with the most common approach of 3R model (Reuse, Remanufacturing, and Recycling).

Geissdoerfer et al. (2020) identified that in the previous literature, the most frequent strategies presented were: (1) recycling (*"materials and energy are recycled within the system, through reuse, remanufacturing, refurbishing, and recycling"*); (2) extending (*"the use phase of the product is extended through long-lasting design, marketing, maintenance, and repair"*); (3) intensifying (*"the use phase of the product is intensified through sharing economy solutions or public transport"*); and (4) dematerializing (*"product utility is provided without hardware through substitution with service and software solutions"*). Each approach has specific implications on value proposition, value creation, delivery, and value capture.

Besides the OECD model, there are numerous other approaches. Nußholz (2017), observing an emerging field, identified 16 business models considering only the resources efficiency strategies. They are grouped according to five life-cycle stages (material extraction, processing, production, use phase, and end-of-life treatment). Most of them, 11 models, are associated with the to-use phase (Nußholz, 2017, p. 9). The researcher concludes that *“understanding what a circular business model remains heterogeneous, there appears to be agreement that circular business models lend themselves to:*

- *substituting primary material input with secondary production;*
- *extending the useful lifetime of products through design for longer average lifespans and enabling second life (e.g., repair or remanufacturing); and*
- *material recycling”.* (Nußholz, 2017, p. 9)

Another review, considering the 6 major reverse cycles of the circular economy (repair & maintenance; reuse & redistribution; refurbishment & remanufacturing; recycling; cascading & repurposing; biochemical feedstock extraction) identified 19 models (Lüdeke-Freund, Gold, & Bocken, 2019, p.47). Each has dozens of design options, considering value proposition, value delivery, value creation, and value capture.

Finally, based on the experience in our previous research on the topic (Barna, Zbucnea & Stănescu, 2021), we have decided it is the most appropriate for the realities of the Romanian social economy sector to apply the theoretical framework provided by the European Parliamentary Research Service (EPRS) concerning the circular economy. We explain below the main issues considered in this framework used in the questionnaire survey and mapping circular social economy clusters. According to EPRS, the circular economy is a production and consumption model which involves reusing, repairing, refurbishing, and recycling existing materials and products to keep materials within the economy wherever possible. A circular economy implies that waste will become a resource, consequently minimizing the amount of waste. It is generally opposed to a traditional, linear economic model based on a 'take-make-consume-throw away' pattern.

EPRS circular economy framework considers five important areas of circular economy:

1. Recycle: products such as metals, paper, glass, or plastics can be recycled as a source of secondary raw materials.
2. Remanufacture: products such as electronic goods can be rebuilt to the original manufacturer's specifications using reused, repaired, and new parts.
3. Reuse: products such as glass bottles can be reused many times before being discarded.
4. Repair: Products are generally less durable and repairable than in the past. Enabling and promoting repair, for instance, by making spare parts and information more easily available, can bring old products back to life.
5. Share: with a shift from ownership of products to their accessibility, more efficient consumption is possible. Sharing goods (e.g., car-sharing or car-pooling) makes their use more efficient and reduces their environmental impact.

We have deeply analyzed the areas of circular economy from the above framework and considered ***four circular operational models*** in our exploratory clustering exercise:

1. **REDUCE.** Consumption reduction corresponds to the following specific approaches: reduction of raw material consumption, reducing energy consumption, reduction of emissions (CO₂); and reduction of waste from your organization's processes.
2. **RECYCLE.** Considering the following situations: metal, paper, glass, or plastic products are recycled as a source for raw materials; recycled products are creatively transformed into new, higher quality, and higher value products (upcycling); recycled products are of lower quality and functionality than recycled products (downcycling).
3. **REPURPOSE.** The following situations are considered to extend the life of products:
 - ✓ **Remanufacturing:** products (such as electronic products) can be rebuilt to the manufacturer's original specifications using a combination of reused, repaired, and new parts.
 - ✓ **Reuse:** products (such as bottles) can be reused many times before being discarded.
 - ✓ **Repair:** carrying out repairs, e.g., using spare parts and other operations to bring old products back to life.
 - ✓ **Return:** the organization has a system for returning products sold to customers, e.g., through buy-back.
4. **SHARE.** This approach involves moving from ownership of products to accessibility through sharing, leading to more efficient consumption. The following situations are considered to facilitate access to products: sharing infrastructure with other organizations, including co-working spaces, offering products or services on a sharing/rental basis, and funding projects through crowdfunding campaigns.

Research objectives and methodology

The main focus of this paper is to discern the most representative types of circular business models for the Romanian social economy. This paper is the continuation of previous research by the authors in 2021 (Barna, Zbucea, & Stănescu, 2021), which resulted in the first exploratory mapping of the social economy organizations active in the circular economy in Romania. The present investigation aims to update the map considering several dimensions: geographical spread, legal status, and business model approach.

Step 1: To update the map with new social and circular enterprises, we scanned the latest 2022 publically available version of the Unique National Register of Social Enterprises (2022) as well as the Romanian Circular Economy Platform, previous research outputs as well as other direct recommendations following the so-called „snow bowl” research method. We also used a referral technique to identify other organizations since some enterprises support and operate, considering the value of social enterprises, but are not registered as such. We stress that the map does not include exclusively organizations certified as social enterprises but all organizations which consider themselves as such based on the principles of social economy. All identified organizations have been vetted online, first considering their websites, social media platforms, but also other sources of information. This process aimed to ensure they are still operating and comply with the two criteria associated with their business model: comply with social values associated with social economy organizations and adopt some form of circularity in their operational processes.

Step 2: The investigation has started from a deep theoretical dive into the circular business models, in general, to better discern and analyze the main circular business

model types that can be observed in the activities of the social economy organizations included in the previous mapping exercise. Based on this research, starting from existing frameworks, such as the European Parliamentary Research Service's circular economy framework (EPRS) or OECD's policy perspectives (OECD, 2018), we proposed a 4-dimensions model: Reduce, Recycle, Repurpose, and Share. Each approach, include several main aspects, as presented in Table 1.

Table 1. Items associated with the main circular business models (author's elaboration)

| Business model | Main dimensions considered |
|-----------------------|--|
| Reduce | consumption of raw materials energy consumption emissions consumption (CO2) waste |
| Recycle | recycling upcycling downcycling |
| Repurpose | remanufacturing reuse repair return |
| Share | sharing infrastructure sharing/rental products/services crowdfunding |

Step 3: Quantitative research aiming to survey all identified organizations to map their business models. The secondary objectives of the survey have been profiling the circular social economy organizations and observing their perspectives concerning their legal status as social enterprises, as well as their intentions as circular organizations.

An online self-administrated questionnaire was distributed in June-August 2022. 26 out of the 50 organizations fulfilling the two criteria identified in Romania responded, most of them after repeated email and phone invitations.

Findings and discussions

The previous database of circular social economy organizations active in Romania increased from 36 to 50. Most are established as companies (36), mainly active in urban areas (28). We observed that there are two years, 2015 and 2021, when most of them have been set up. Data also shows an increased interest in combining the two forms of business models (see Figure 1).

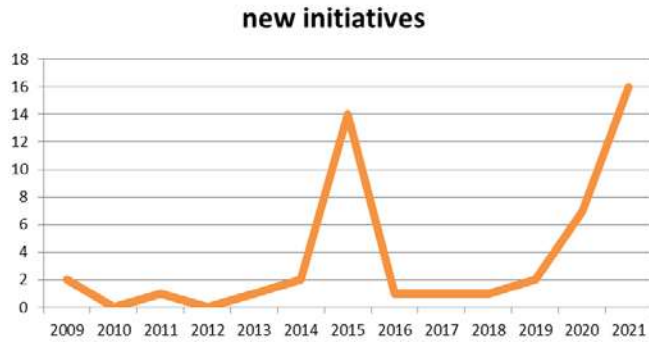


Figure 1. The evolution of newly established social and circular organizations are still in operation (authors' elaboration)

The two peaks of the rate of newly established circular social economy organizations can be explained in correlation with European funding (POSDRU and POCU Operational Programs) dedicated to social enterprise start-up financing. Therefore, we can discuss a supply-driven development of this new sub-sector of the social economy, as it is also the case of the whole emergent social enterprises sub-sector.

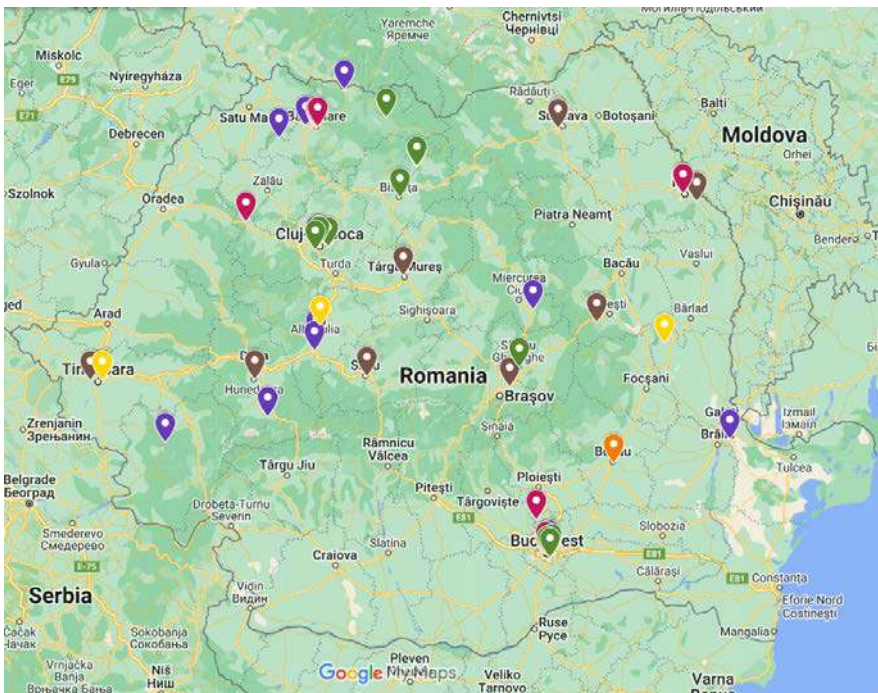


Figure 2: Map of the circular social economy organizations in Romania (June 2022) (authors' elaboration)

Figure 2 shows that most organizations are placed in Transylvania and Banat. Being close to Central Europe might explain this phenomenon, but this is also correlated with the high absorption rate of European funds in these regions. In terms of urban

concentration, Bucharest and Cluj are the first two cities to consider, therefore, Figures 2a and 2b present these cities in detail.

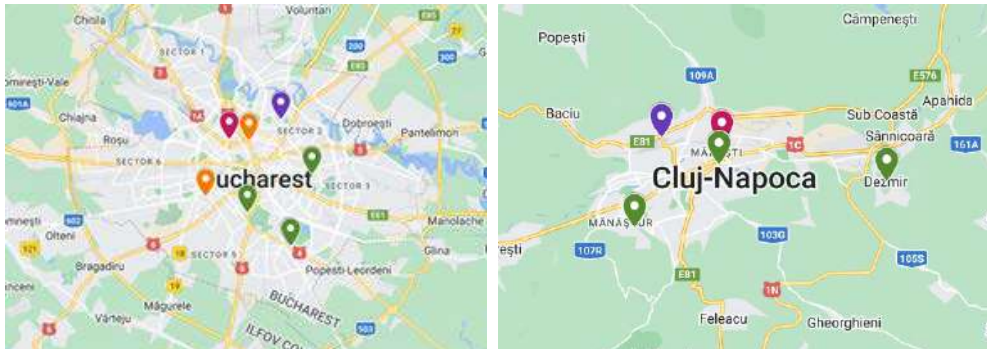


Figure 2: Map of the circular social economy organizations in Bucharest (2a) and Cluj (2b) (authors' elaboration)

There are some differences between the national distribution of registered social enterprises and the distribution of circular social economy organizations, as depicted in Figure 3. The samples we have are small, but we observe that the social enterprises in Transylvania and Banat prefer circular models compared to the rest of the country.

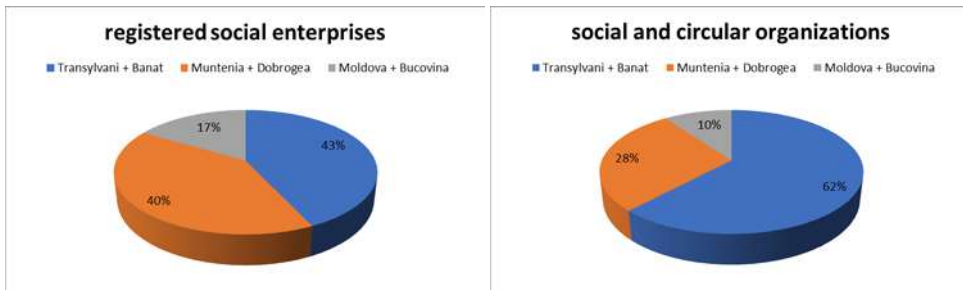


Figure 3. The regional distribution of social enterprises in Romania (authors' elaboration)

In terms of object of activity, the most numerous are those collecting materials. 10 companies are collecting and recycling DEEE (presented with brown on the map), 4 organizations are collecting and recycling oil (in yellow on the map), and 11 companies are collecting and recycling various other materials (in blue on the map). Another large group is that of companies involved in food and catering, formed by 7 organizations (in red on the map).

Profile of the Romanian circular social economy organizations

In the following section, we will concentrate on the responses received from the self-administered survey; as specified, 26 out of 50 identified organizations have answered. Most respondents (14) are the initiators of the circular social economy organizations and their managers. Five of the respondents are acting managers, while the remaining 7 are initiators. Therefore, the respondents know and understand the situation of their organizations very well.

Seventeen of the organizations have been established in the past three years. Only 4 organizations that responded have more than 10 years of experience. The following tables present the structure of the sample from a juridical perspective (Table 2), demographical characteristics (Table 3), and financing (Table 5).

Table 2. The characteristics of the respondents and their organizations considering their juridical status (author's elaboration)

| Dimension | Number |
|---|---|
| Juridical status | Company (SRL – limited liability company): 18 Nongovernmental organization (NGO): 7 Individual enterprise: 1 |
| Social enterprise accreditation | The organization is accredited: 16 The organization started the accreditation process: 1 The organization intends to obtain the accreditation: 6 The organization is not interested in being accredited: 3 |
| Social insertion enterprise accreditation | The organization is accredited: 7 the organization started the accreditation process: 1 the organization intends to obtain the accreditation: 5 The organization is not interested in being accredited: 13 |

Most organizations represented are operating as companies and are or will be accredited as social enterprises. The interest in being a social insertion enterprise is much lower among the representatives in the sample. This could seem surprising considering that 9 out of the 26 respondents consider that the social enterprise status does not offer any facilities from the state. Only 2 organizations have evaluated at the maximum that the status of an accredited social (insertion) enterprise would provide access to facilities, mechanisms, and support measures from the state. The average evaluation is 2.3, where 1 is the minimum (no facilities) and 5 is the maximum (at the widest degree). Therefore, the certification of circular social organizations is mainly correlated with the requirement of the POCU Operational Program in this sense, in the lack of dedicated national funding, insufficient private funding, or insufficient support measures such as socially responsible public procurement.

Table 3. The characteristics of the respondents and their organizations considering demographical and operational elements (author's elaboration)

| Dimension | Number |
|---|--|
| Location of the social headquarters | Rural area: 7 Urban area: 19 |
| The geographical location (development regions) | Bucharest and Ilfov County: 4 South-East: 2 North-East: 4 North-West: 11 Center: 2 |

| Dimension | Number |
|------------------------------|--|
| | West: 3 |
| Number of years of operation | Less than three years (since 2019): 17 Between 3 and 10 years: 5 More than 10 years: 4 |
| Number of employees | 10 employees at most: 22 11-25 employees: 2 More than 25 employees: 2 |
| Operating area | in more than 5 localities: 9 in 3-5 localities: 4 in two localities: 4 one locality: 9 |
| Mother-organization | Without a "mother organization": 18 A Romanian NGO: 5 An international NGO: 1 Part of a group of companies: 1 Affiliated to the Catholic Church: 1 |
| Core operating domain | HoReCa: 4 Production/Manufacturing: 6 Collection and recycling of waste or various products: 6 Other: 10 |

As noticed in the Table above, the organizations are extremely diverse. Some are local organizations with a short operational history, others are well-established organizations, and others are operating in a wide area. Most of them (15) are independent companies, either having or being interested in obtaining the accreditation of social enterprises. It comes as no surprise that protecting the environment and educating people to seem to be important focuses for the respondents.

We also observe that the organizations are small (with less than 10 employees), even if half operate in at least three locations. This might be associated with limited social and economic impact. It is also worth remembering that around half of the organizations declare they developed significantly in the past years, and the turnover also increased. These evolutions are associated with a decrease in the number of employees. See Table 4 for details.

Table 4. Development of the organizations in the past years (author's elaboration)

| Dimension | Average evaluation |
|--|--------------------|
| The turnover increased. | 3.8 |
| The number of employees has increased. | 2.7 |
| The enterprise has developed a lot. | 3.3 |

*A 5-point Likert scale has been used (1 – totally disagree, 5 – totally agree)

Nevertheless, we mention that most organizations are young ones, being established or operating almost exclusively during the COVID-19 pandemic. Therefore, it is hard to critically investigate the economic dynamics of this specific sector of circular social organizations.

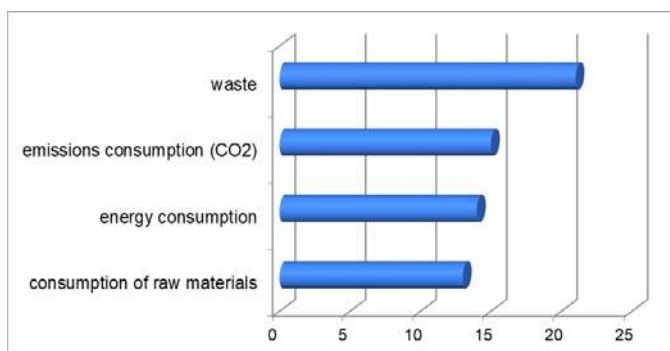
Table 5. Financing mechanisms (author's elaboration)

| Dimension | Number |
|---|-------------------|
| Established through European funding | Yes: 14 No: 12 |
| Accessed European funding while operating | Yes: 8 No: 18 |
| Initiated crowdfunding campaigns | 5 out of 26 |

More than half of the represented organizations have been established using European funding (see Table 5). Four of the EU-funded organizations continued to access European funds. Four organizations that have not been established using European funding accessed later, while operating, EU programs. Therefore, access to the funds provided by the EU is an important factor of development for these organizations especially since they do not perceive too many facilities offered by the Government, as mentioned above.

The business models of the Romanian circular social economy organizations

Among the four investigated business models, **REDUCE** is the most common approach. Only two organizations do not assume any type of usage reduction. Figure 4 illustrates the frequency of the investigated approaches associated with this model.

*Figure 4. The frequency of reducing strategies (author's elaboration)*

21 out of the 24 organizations with a business model assuming a reduction of consumption are adopting waste management. Seven organizations declare that they take into consideration all 4 reduction approaches. Figure 5 presents the number of organizations combining different approaches. Most organizations implement at least two reduction strategies simultaneously.

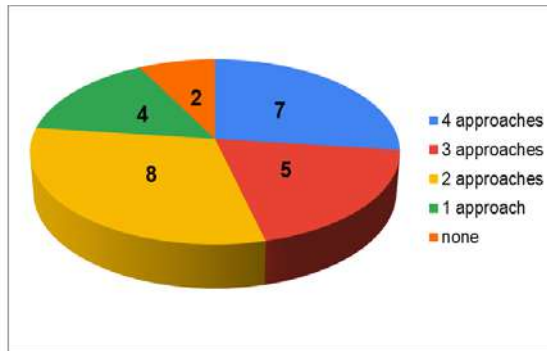


Figure 5. The number of Reduce approaches assumed by respondent organizations (author's elaboration)

RECYCLE-based business models are second-popular. Nevertheless, seven organizations out of the 26 do not have recycling approaches. The most popular approach is upcycling, as illustrated in Figure 6.

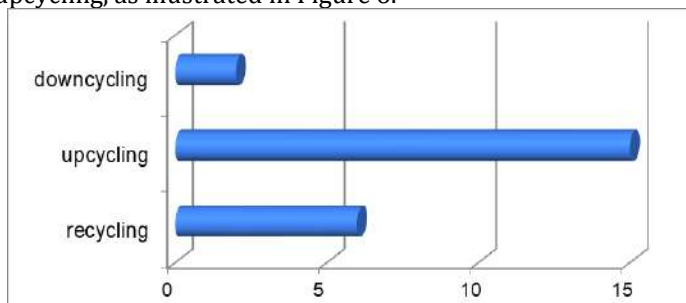


Figure 6. The frequency of recycling strategies (author's elaboration)

Only one organization is assuming all three approaches, while two others are doing recycling & upcycling, respectively upcycling & downcycling.

The business models associated with the **REPURPOSE** strategy are: remanufacturing, reuse, repair, and return. Nine of the investigated organizations do not adopt this model. The reuse model, assumed by 14 organizations, is the most frequent, as presented in Figure 7.

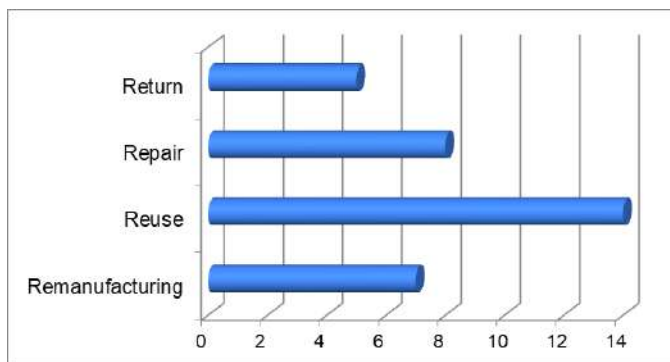


Figure 7. The frequency of Repurpose strategies (author's elaboration)

Five organizations have more complex approaches, assuming at least three repurposing models, as presented in Figure 8.

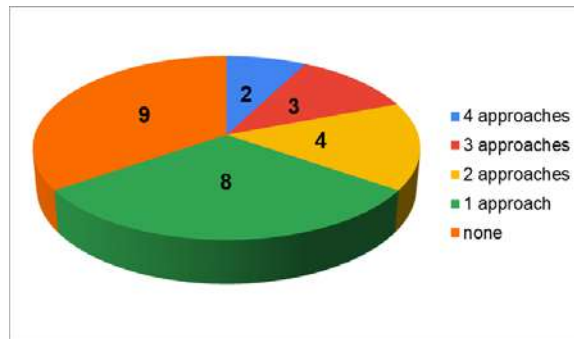


Figure 8. The number of the Repurpose approaches assumed by respondent organizations (author's elaboration)

14 out of the 26 organizations in the sample have a **SHARE**-based business model, as illustrated by Figure 9. One organization approached all three strategies, while three others – two of the strategies.

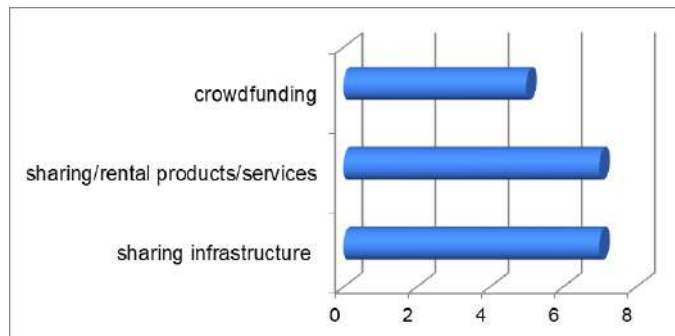


Figure 9. The frequency of sharing strategies (author's elaboration)

This model might be less popular because it needs more assets and might be more expensive or difficult to handle. Maybe it is also less known or understood. Qualitative research might highlight additional light on this aspect.

We detect a tendency for some organizations to assume complex approaches. For example, one company is assuming all tested models without sharing the infrastructure – this organization has been operating since 2020 only in Bucharest. The activity is the fields of ecology and responsible consumption, and for the moment is not accredited as social (inclusion) enterprise but intends to ask for both certificates. Another complex approach is assumed by an NGO from Bucharest, which was established in 2018 and at the present, operates in more than 5 localities, with no accreditation as a social enterprise and no intention of obtaining this status.

We also observe the most frequent combination of business models is the Reduce one with the Repurpose one. This is business-wise since the more complex repurposes

approach, the more waste and material consumption – therefore, these organizations might be interested more in reducing waste and consumption.

The last aspect investigated is that most organizations intend to develop the circularity dimension in the next period. 20 out of 26 declared that they intended it to a large or very large extent. The average score is 4.2, where 1 represents not at all and 5 to a large extent.

Conclusions

Our research paper contributes to understanding an emergent sub-sector of the social and solidarity economy in Romania: circular social economy. We have chosen to investigate this topic because we have identified a gap in Romanian academic research. Moreover, our research also has an applicative dimension if we consider the imperative to highlight the existence of the social circular economy sub-sector in the light of the new opportunities that could arise in the development of the social and solidarity economy sector in the near future in connection with the new strategies and priorities at the EU level, such as the EU Action Plan for the Circular Economy or the Fair Transition Mechanism of the European Green Deal.

First, our paper revealed that we can discuss an emerging sub-sector of circular social economy in Romania: we have identified and analyzed 50 social circular economy organizations, including them in an exploratory mapping exercise. The map of circular social organizations is available online as the main research output. We have defined the most appropriate circular business models and areas for circular social economy in Romania based on existing mainstream frameworks and approaches: Reduce, Reuse, Repurpose, and Share. Finally, based on a self-administrated survey of 26 organizations (out of the total of 50), we realized the profile of circular social organizations: most of the organizations have been established in the last 3 years (supply-driven development by European funding), most of them are certified social enterprises (because of the specific requirement in POCU Operational program), most of them are SRL (limited liability company), most of them act locally in an urban area, most of them have 10 employees at most, and REDUCE is the most embraced circular business model, with a prevalence of WASTE component.

The findings should be interpreted considering some limits of the study that could not be overcome at this research stage: insufficient sample size because only 26 out of the 50 organizations responded to the questionnaire, and the inherent limitations of an exploratory research stage.

Our paper paves the way for future research directions concerning the topic of circular social economy, such as periodically updating the map of circular social organizations, determining the value added by this subsector to the sector of social and solidarity economy, defining a social and environmental impact measurement framework for such enterprises, or further in-depth analysis of specific management models.

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