DIRECTIONS FOR SUSTAINABLE DEVELOPMENT OF TOURISM AND CIRCULAR ECONOMY IN GIURGIU COUNTY, ROMANIA AND THEIR IMPACT ON THE LOCAL ECONOMY

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Abstract

The purpose of this research was to assess the structure and dynamics of tourist accommodation capacity in Giurgiu County during the period 2015–2024 and to identify its implications for the implementation of circular economy principles in local tourism. The analysis followed both the structural characteristics of the market and its potential to support a sustainable development model, based on diversification, efficiency and integration into the local economy. The methodology was quantitative, descriptive-analytical, based on official data from the sources of the National Institute of Statistics. The data set included the total accommodation capacity broken down by type of structure. The processing involved the calculation of absolute and percentage variations, weights by type, as well as synthetic indicators of evolution, coefficient of variation, average annual growth rate, CAGR, and structure, Herfindahl–Hirschman index, Simpson index, Shannon entropy, effective number of types and Pielou equilibrium index. The results highlighted a high and constant concentration of accommodation capacity around the hotel segment, a low typological diversity and an unbalanced distribution between the types of structures. The low coefficient of variation indicated structural stability, and the positive but low CAGR suggested a slow pace of expansion. These characteristics limit the flexibility of the market and reduce the capacity for a balanced distribution of tourist flows and pressure on resources. The resulting conclusions indicate the need for a deliberate transition towards a circular tourism model, capable of reducing the degree of concentration, diversifying the typology of structures and integrating local economic chains. The proposed model, structured on six strategic components, typological diversification, optimizing resource consumption, circular waste management, integration into the local economy, community and tourist involvement, as well as performance measurement and reporting, provides an applicative framework for increasing the resilience and sustainability of tourism in Giurgiu County.

Key words: circular economy, tourism, sustainable development, Giurgiu

INTRODUCTION

The circular economy has emerged as a central idea in European and worldwide sustainable development goals in recent decades [2, 20]. By proposing strategies that increase the usable life of resources, stop losses, and maximize the value of goods and materials, it provides an alternative economic model to the linear one, based on the concepts of extract, create, consume, and discard [13]. According to this viewpoint, the circular economy is not just an environmental strategy but also a comprehensive framework for restructuring economic processes that may foster innovation, competitiveness, and community resilience [10, 24].

In tourism, the integration of circular economy principles has a strategic role, as this industry involves a significant consumption of natural and material resources, generates large waste streams and directly influences ecosystems and local communities [14, 18, 21]. Transforming tourism into a circular sector means implementing practices such as reducing energy and water consumption in accommodation units, responsible waste management, sourcing food from local sources, using green infrastructure and developing tourism offers that emphasize the conservation of natural and cultural heritage. [7, 16].
The link between the circular economy and sustainable development in tourism is obvious:

sustainable tourism, based on reuse, efficiency and respect for resources, contributes not only to protecting the environment, but also to creating long-term economic and social benefits [3, 5, 23]. By implementing these ideas, local communities may achieve stable incomes, promote entrepreneurship, and minimize reliance on imports, resulting in a model of balanced economic growth. By making responsible decisions and acting responsibly, tourists also take an active role in the shift towards sustainability [25]. Several studies highlight the need for an integrated strategy when implementing the circular economy in the tourist industry, where communities, public authorities, and economic operators work together to develop local and regenerative value chains [6, 8]. Practices such as reusing materials in the construction and furnishing of accommodation units, reducing water consumption through efficient technologies, or transforming organic waste into locally usable compost have a direct impact on reducing the carbon footprint and improving environmental quality [11, 17].

According to research, the circular economy in tourism encompasses both the sociocultural and technological facets of resource management: heritage conservation, revitalization of traditional crafts and promotion of local products [19]. These elements not only diversify the tourism offer, but also strengthen the cultural identity of the destination, attracting segments of tourists interested in authentic and responsible experiences [12]. Moreover, the specialized literature emphasizes the importance of education and professional training for the success of the transition to circular tourism [1, 4]. Staff in the field must be prepared to adopt and promote sustainable practices, and tourists must be informed and encouraged to actively participate in reducing negative environmental impacts. Eco-certification programs, green labels and awareness-raising campaigns are key tools identified as having a decisive role in changing behaviors and strengthening the circular culture [15].

In Romania, the circular economy has gradually started to be integrated into regional and local development strategies, including in the field of tourism, but the pace of implementation varies significantly between regions [22]. In areas with low or insufficiently exploited tourism potential, such as Giurgiu County, the application of circular economy principles can be a catalyst for revitalizing the sector. By capitalizing on local resources – from natural and cultural heritage to traditional agri-food products – and through the active involvement of the community, tourism can become a driver of economic growth and social cohesion [26]. Giurgiu County, located in southern Romania, benefits from a strategic position on the Danube and the border with Bulgaria, with access to international trade and tourism routes. However, the tourism infrastructure is still limited and tourist flows are modest compared to the existing potential. This backdrop provides a chance to design the development of the tourist sector from the start using circular economy logic, avoiding growth paradigms that have resulted in environmental degradation or economic imbalances in other locations.

The goal of this research is to assess the existing condition of tourism in Giurgiu County based on available statistical data and highlight the ways in which the circular economy principles might assist to the sustainable growth of this sector. In this way, the aim is not only to describe an economic reality, but also to formulate a set of strategic directions that support the transition towards a competitive, sustainable and community-adapted tourism model.

MATERIALS AND METHODS

With the aim of examining the dynamics and structure of Giurgiu County's tourist lodging capacity in relation to the possibility of incorporating the circular economy's tenets, the current study used a quantitative, descriptive-analytical methodology. The database used comes from official statistics published by the National Institute of Statistics for the period 2015–2024 and includes information on the total accommodation capacity, expressed in number of places, broken down by the main types of structures: hotels, tourist and agro-tourism guesthouses, hostels, motels, tourist

villas, campsites, ships and other similar structures.

Data processing involved centralizing and organizing annual series in a tabular format and calculating basic quantitative indicators, such as absolute and percentage variations from one year to the next, the share of each type of structure in the annual total capacity and the average growth rate. To characterize the general evolution, the average annual growth rate, CAGR, and the coefficient of variation, CV, were determined, useful for assessing the stability and trend of the sector during the analyzed period.

The market structure was investigated through established concentration and diversity indicators: the Herfindahl–Hirschman index, HHI, for measuring the degree of concentration by type of structures; the Simpson diversity index, for the probability that two randomly selected units are different; Shannon entropy and the effective number of types, for assessing functional diversity; the Pielou equilibrium index, J, for the uniformity of capacity distribution between types. These indicators were calculated annually, to capture short-term variations, and synthesized over the entire period, to outline a stable structural profile.

The interpretation of the results was carried out by integrating the circular economy perspective, assessing how the degree of concentration, typological diversity and structural balance influence resource consumption, waste management and the potential for integration into local economic chains. Finally, based on the findings, a theoretical-applicative model of circular tourism for Giurgiu County was formulated, structured on six strategic components: typological diversification, optimization of resource consumption, circular waste management, integration into the local economy, community and tourist involvement, continuous performance measurement and reporting. This model is proposed as an adapted response to the identified structural particularities, with the objective of increasing the resilience and sustainability of the local tourism sector.

RESULTS AND DISCUSSIONS

The examination of the growth of tourist accommodation capacity in Giurgiu County is significant not only for analyzing the sector's development potential, but also for finding chances for incorporating circular economy concepts. Data on accommodation structures allow us to understand how the tourist infrastructure has developed over time and how it can be optimized to use resources efficiently, reduce environmental impact and capitalize on local potential. Correlating development trends with energy efficiency measures, responsible waste management and local sourcing can contribute to shaping a sustainable tourism model, adapted to market requirements and community needs.

The analysis of the time series related to the total tourist accommodation capacity (Figure 1) highlights a moderately upward trend in Giurgiu County during the period 2015–2024, with occasional oscillations determined by structural and cyclical factors. From an initial level of 589 accommodation places in 2015, the indicator recorded a sustained increase until 2017 (817 places), which can be associated with initial investments in the tourist infrastructure, including the diversification of the typologies of structures. During the period 2018–2020, the values presented a relative stability, followed by a constant advance until 2023, when the maximum of the period was reached with 952 places. The decrease from 2024 to 873 places reflects processes of temporary withdrawal from the market of some units, changes in classification and adjustments of the nominal capacity for economic or legislative reasons.

From a circular economy perspective, this development is important, as changes in accommodation capacity directly influence the pressure on local resources and determine the need for integrated solutions for managing material and energy flows. The progressive increase in capacity implies both opportunities to attract a larger number of visitors and the responsibility to implement sustainable operating measures, energy efficiency, waste reduction, local sourcing, in order to prevent imbalances between economic potential and environmental resilience. In this sense, planning for the development of

accommodation infrastructure must be correlated with circular economy strategies, so that the expansion of capacity does not generate long-term environmental and social costs.
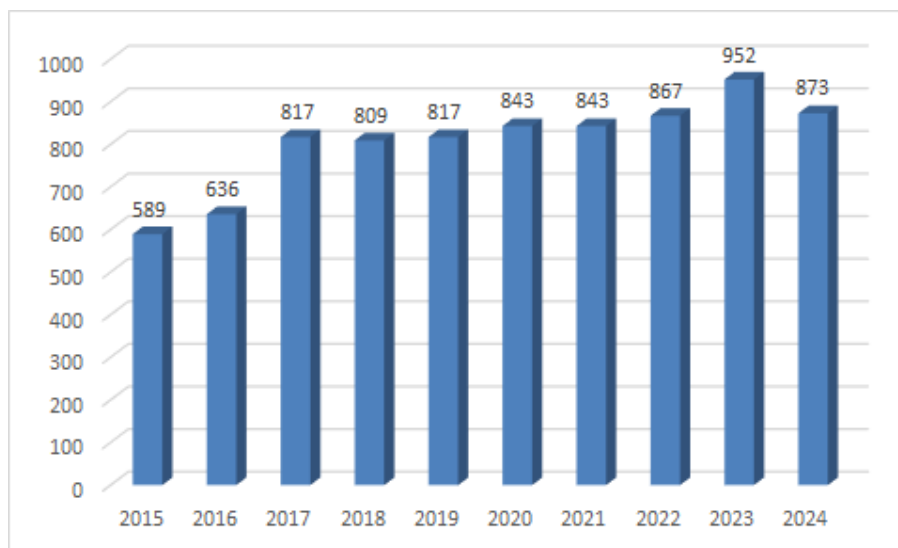

Fig. 1. Evolution of the total existing tourist accommodation capacity in Giurgiu County during 2015-2024 (number of places)
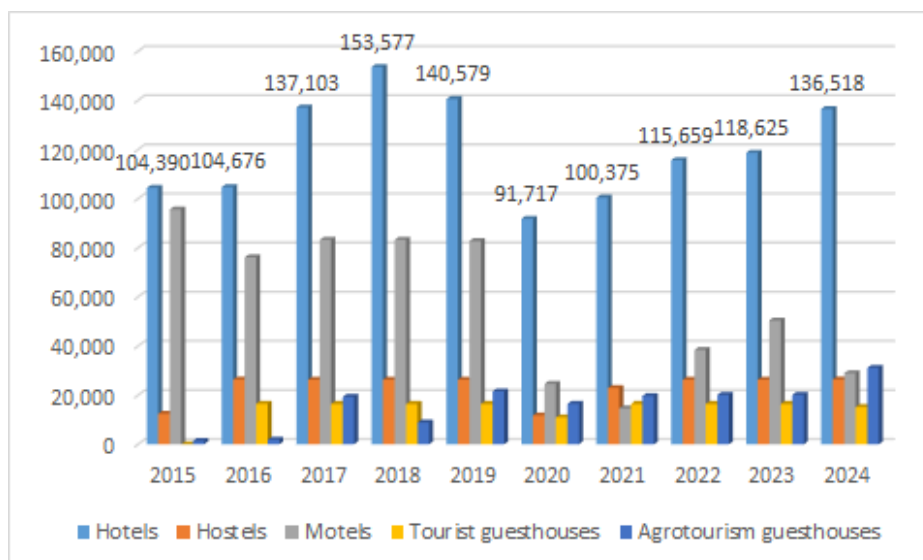Source: own processing [9].

Fig. 2. Accommodation capacity, by type of structure in the period 2015-2024 (number of overnight stays)
Source: own processing [9].

The analysis of the accommodation capacity structure shows a significant concentration of the tourist offer in certain types of units, which outlines the functional profile of the tourism sector in Giurgiu County. Throughout the analyzed period, hotels represented the dominant category, with consistently high shares in the total number of accommodation places, indicating that the local market is mainly oriented towards organized tourism and towards visitor segments that prefer standardized facilities. Motels and guesthouses had a variable, but lower contribution, suggesting a limited diversification of accommodation typologies and a low concentration on alternative forms of tourism, such as agrotourism, ecotourism, etc. The presence of distinctive units, such as lodging ships or other unconventional constructions, indicates the potential to capitalize on natural resources for the creation of differentiated

tourist goods, but their relative share remains modest in relation to the potential of the area. From a circular economy perspective, the analysis of weights is relevant for sizing the interventions needed to reduce the impact on the environment. For example, hotels, with their large capacity, concentrate higher energy and water consumption, as well as larger volumes of waste, which requires the adoption of energy efficiency practices, selective waste management and the implementation of water saving solutions. Smaller structures, such as guesthouses, can play an important role in stimulating short supply chains and integrating local products and services into the tourism

offer, which contributes to strengthening the economic resilience of the community. In the medium and long term, a balanced strategy would involve not only increasing the number of accommodation places, but also adjusting the weights between types, in favor of structures that can more easily implement circular and sustainable operating models. Thus, the diversification of accommodation types, correlated with the integration of green technologies and responsible practices, can contribute to transforming tourism in Giurgiu County into a vector of sustainable development and regional competitiveness.
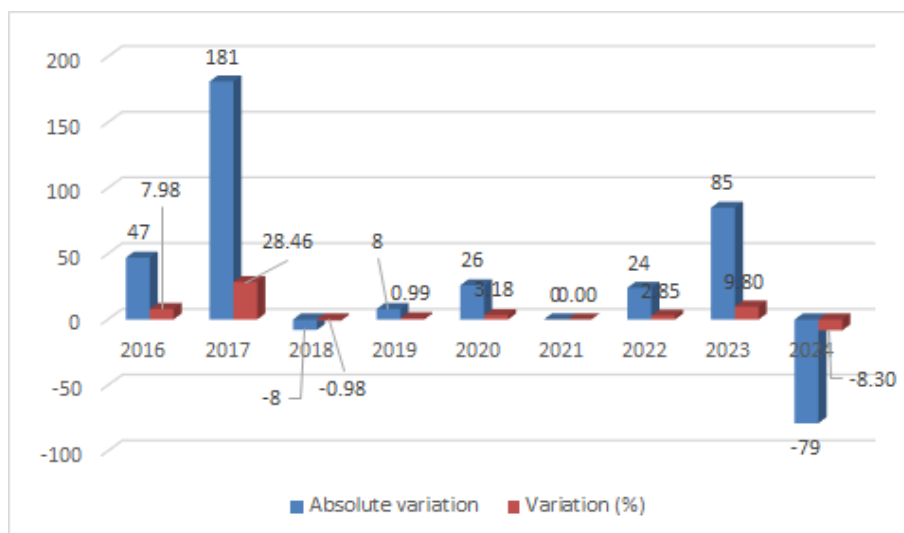

Fig. 3. Evolution of the absolute and percentage variation of the total tourist accommodation capacity in Giurgiu County during 2015-2024
Source: own processing [9].

The analysis of absolute and percentage variations highlights two distinct phases in the evolution of accommodation capacity (Figure 3). The first phase, between 2015 and 2017, is characterized by significant increases, with an absolute advance of over 200 places and an annual growth rate of over 10%, which denotes an accelerated process of infrastructure development. This period most likely coincides with the opening of new structures and the expansion of existing ones, possibly supported by investment programs or non-reimbursable funds. The second phase, between 2018 and 2020, reflects a relative stagnation, with minor fluctuations, followed by a new increase in 2021–2023, culminating in a historical maximum in 2023 (952 places).

The decrease in 2024 (-79 places, respectively -8.3%) shows a temporary withdrawal of some units from the tourist circuit or capacity adjustments determined by economic factors, legislative changes or the reorientation of some spaces towards other functions.
From a circular economy perspective, monitoring these variations is essential for planning resource consumption and related infrastructure (water, energy, waste management). Rapid increases require proactive planning to prevent environmental overload, while decreases can create opportunities for ecological rehabilitation and upgrading of facilities to green standards, paving the way for a sustainable tourism model.
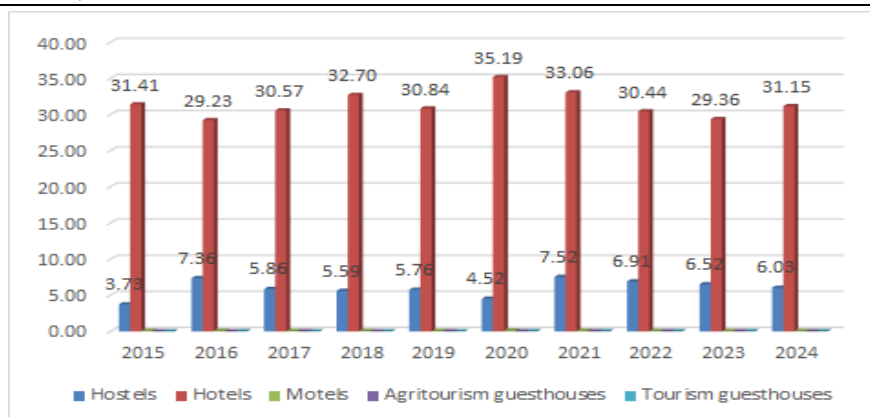
Fig. 4. The share of accommodation units by type in the total tourist capacity in Giurgiu County in the period 2015-2024 (%)
Source: own processing [9].

The structure by type of accommodation units remained relatively stable during the period under review, with the constant predominance of hotels, which hold the largest share in the total number of available places (Figure 4). This configuration indicates a concentration of supply in the classic tourism segment, oriented towards standardized services and a less diversified audience. Pensions, motels and other types of structures (including accommodation ships) had variable but significantly lower shares, which suggests a limited exploitation of the potential for niche, rural or ecological tourism.

From the circular economy point of view, the analysis of weights provides a basis for supply balancing strategies. Hotels, due to their large number of places, also concentrate the highest resource consumption, which requires the implementation of energy efficiency technologies and sustainable management systems. On the other hand, smaller structures, with a low weight, can be developed as responsible tourism poles, integrated into local production and service networks, reducing dependence on external supply chains and increasing local economic resilience.

Diversifying the accommodation structure and increasing the weight of units that adopt circular operating models (use of renewable sources, waste reduction, community involvement) can contribute to creating an image of a sustainable destination for Giurgiu County, with a positive impact on its competitiveness on the tourism market.

The Herfindahl–Hirschman index values for the period 2015–2024 (Table 1) indicate a high concentration of tourist accommodation capacity in Giurgiu County, oscillating between approximately 0.57 and 0.60. This level exceeds the threshold of 0.25 generally considered a signal of a concentrated market, which confirms the dominance of a single category – hotels – in the structure of the offer. In a circular economy logic, this concentration can amplify the impact on resources (water, energy) and waste management infrastructure, given that large structures usually have a more intense and less flexible consumption. The Simpson diversity index and Shannon entropy highlight a low diversity of types of accommodation structures, with values corresponding to an effective number of only 2.1–2.4 active types in weighted terms. This shows that, although there are several registered categories, only two have a significant share in the total capacity. This limited structure reduces the possibilities of adapting supply to demand for alternative forms of tourism (ecotourism, rural tourism, accommodation in units with a low carbon footprint). The Pielou equilibrium index, constantly below 0.8, confirms the uneven distribution of capacity between existing types, which implies a high dependence on the dominant segment. From a circularity perspective, such dependence reduces the resilience of the tourism system: disruptions in the dominant segment can affect the entire sector, and the absorption capacity of sustainable innovations remains limited.

Table 1. Annual indicators of concentration and diversity of the structure of tourist accommodation capacity in Giurgiu County in the period 2015-2024

Year	HHI	Diversity Index Simpson	Entropy Shannon	Number of types	Balance Index Pielou
2015	0.511803	0.488197	0.777054	2.175056	0.482811
2016	0.484892	0.515108	0.849791	2.339157	0.474277
2017	0.494394	0.505606	0.825262	2.282479	0.460587
2018	0.484772	0.515228	0.832372	2.298765	0.464556
2019	0.493841	0.506159	0.824996	2.281873	0.460439
2020	0.478546	0.521454	0.82704	2.286542	0.425015
2021	0.458796	0.541204	0.882439	2.416787	0.453484
2022	0.482334	0.517666	0.849474	2.338416	0.436543
2023	0.494236	0.505764	0.832216	2.298407	0.427675
2024	0.488594	0.511406	0.833684	2.301782	0.465288

Source: own processing [9].

The findings indicate that to shift to a circular tourism model, there is a need to increase the proportion of small and medium-sized businesses that are integrated into local production and consumption chains in order to decrease the degree of concentration. Diversifying the typology of units would allow for the distribution of pressure on resources, encourage the use of local materials and services, and faster implementation of energy efficiency and small-scale waste reduction measures. In addition, a more balanced accommodation structure could support innovation and experimentation with new business models, from the collaborative economy to closed circular systems for resource management.

Table 2. Synthetic statistical indicators of the structure and concentration of tourist accommodation capacity in Giurgiu County

Indicator	Value
CV (total capacity)	0.136
CAGR (total capacity)	0.045
Average HHI	0.487
Min HHI	0.459
Max HHI	0.512
Simpson diversity index (average)	0.513
Shannon entropy (average)	0.833
Effective number of types (average)	2.302
Pielou equilibrium index (average)	0.455

Source: own processing [9].

The synthetic statistical indicators calculated for the period 2015–2024 highlight some essential structural and dynamic features of the tourist accommodation capacity in Giurgiu County (Table 2). The relatively low coefficient of variation, CV, indicates a moderate fluctuation of the total capacity over time, which suggests a stability of the supply in the medium term, without sudden variations determined by massive investments or significant closures of units. The accommodation infrastructure is gradually expanding, as indicated by the positive but modest trend shown by the average annual growth rate, or CAGR. The high average Herfindahl-Hirschman index and the closely spaced minimum and maximum values show a steady supply concentration around a small number of building types, primarily hotels. This characteristic is correlated with the relatively low levels of diversity indices, Simpson and Shannon, which show that although there are several typological categories recorded, their distribution is unbalanced and dominated by a few major segments.

The effective average number of types of structures, of 2.3, and the sub-unit Pielou equilibrium index confirm that the local accommodation market operates almost as a typological oligopoly, which limits both the options for tourists and the capacity of the sector to integrate circular economy practices. From a sustainable development perspective, reduced diversity can mean vulnerability to economic shocks or changes in tourist preferences, as well as a disproportionate concentration of pressure on resources in a few large types of structures.

These findings demonstrate that in order to support the transition to a tourism model based on the principles of the circular economy, local and regional policies that encourage typological diversification, the integration of small and medium-sized businesses into local economic circuits, and the adoption of waste management and energy efficiency technologies at a scale appropriate for each type of structure are all required.

A significant concentration of supply around a small number of unit types, particularly hotels, and a decreased variety of the typology of available structures are highlighted by the study of the structure and dynamics of tourist accommodation capacity in Giurgiu County. From a circular economy perspective, this configuration limits the sector's flexibility in adopting sustainable practices and increases the pressure on resources and infrastructure.

To respond to these challenges, it is necessary to implement a circular tourism model that simultaneously aims to diversify the supply, optimize resource consumption and integrate short supply chains, with the active involvement of the community.

First of all, the typological diversification of accommodation structures is an essential condition. Reducing the degree of concentration and increasing the share of small and medium-sized units – guesthouses, agro-pensiones, ecological campsites, farm accommodation – would contribute to a more uniform distribution of tourist flows and would allow for a more flexible implementation of resource-saving solutions. Small-sized units can more easily adopt modular technologies, adaptable to seasonal requirements and with low energy consumption, such as photovoltaic panels, heat pumps or water recovery systems. Optimizing resource consumption must become a strategic objective for tourism operators. This involves installing smart water and energy monitoring systems, implementing renewable sources, and promoting efficient lighting and air conditioning solutions. At the same time, integrating sustainable construction standards and using materials with a low carbon footprint can reduce the long-term environmental impact of tourism infrastructure.

Circular waste management is another central component. In practice, this means separate waste collection, composting the organic fraction from food operations, and repurposing materials and equipment when they become unusable. By partnering with local recycling companies and public authorities, accommodation establishments can transform waste streams from a problem into a resource. Integration into the local economy completes the circular framework. Prioritizing local suppliers for food, construction materials and services not only reduces emissions associated with transport, but also stimulates the economic development of the community. In addition, collaboration with agricultural producers, artisans and cultural operators can lead to the creation of integrated tourism packages with high added value, responding to the demand for authentic experiences.

The involvement of the community and tourists in the transition to circular tourism is essential. Information and education campaigns, facilitating collaborative platforms for the exchange of resources between operators and encouraging responsible behavior among visitors can accelerate the adoption of good practices. At the same time, tourists can become promoters of sustainability through their consumption choices, preferring establishments that apply green standards and services with a low environmental impact.

An effective circular tourism model requires continuous measurement and reporting. Establishing key indicators – average water and energy consumption per tourist, share of recycled waste, degree of local supply – and publishing the results annually would allow monitoring progress and adjusting strategies. This openness can boost market and community trust while encouraging healthy rivalry among industry players. By putting this approach into practice in Giurgiu County, the tourist industry would be transformed into a force for sustainable development that can distribute financial gains fairly, lessen environmental stress, and boost community resilience to socioeconomic shifts. An integrated strategy built on cooperation, diversity, and efficiency might make local

tourism a useful illustration of how the circular economy's tenets can be implemented.

CONCLUSIONS

The analysis of the structure and dynamics of tourist accommodation capacity in Giurgiu County for the period 2015–2024 reveals a profile characterized by high concentration and low diversity of accommodation unit types. Concentration indicators (HHI) remain at high values throughout the period, indicating a persistent dominance of the hotel segment, while diversity indices (Simpson, Shannon) and balance indices (Pielou) confirm the existence of a typological oligopoly, with only two types of structures having a significant share. The low coefficient of variation and the moderate average annual growth rate (CAGR) suggest a relatively stable market, without major fluctuations, but also with a slow rate of expansion.

From the perspective of the circular economy and sustainable development, this structural configuration has important implications. High concentration limits the flexibility of the tourism sector in adapting to new demands and reduces the capacity for balanced distribution of pressure on natural resources and infrastructure. In addition, low diversity restricts the possibility of developing alternative forms of tourism with a low carbon footprint, such as ecotourism, agrotourism or community tourism.

The circular tourism model proposed in the study provides a strategic direction for the transformation of the local sector, based on six major components: typological diversification of structures, optimization of resource consumption, circular waste management, integration into the local economy, community and tourist involvement, as well as performance measurement and reporting. The application of these principles could lead to a reduction in the degree of concentration, stimulation of the local economy, increased resilience and improved sustainability of the tourism sector in Giurgiu County.

Therefore, the data and analysis carried out indicate the need for a deliberate transition towards a circular tourism, based on diversity and efficiency, in which economic, social and environmental benefits are distributed equitably in the community. The implementation of coherent local policies and strategies, supported by public-private partnerships and the active involvement of all actors in the field, can transform Giurgiu tourism into an example of good practice at regional and national level.

REFERENCES

[1]Achdiani, Y., Widiaty, I., Ningsih, M. P., Mubaroq, S. R., Latif, M. A., Fauziah, S. F., 2025, Green Jobs in Tourism Vocational School, Journal of Vocational Education Studies, 8(1),
https://doi.org/10.12928/joves.v8i1.11143
[2]Banaitė, D., 2016, Towards circular economy: analysis of indicators in the context of sustainable development, Social Transformation in Contemporary Society, 4(9), 142-150.
[3]Borysova, O., Gryniuk, O., Mykhailenko, T., Shparaha, T., Hryniuk, T., 2022, Global trends in tourism and imperatives of the circular economy in the context of sustainable environmental development of states, Review of Economics and Finance, 20(1), 196-202.
[4]Bosone, M., Nocca, F., 2022, Human circular tourism as the tourism of tomorrow: The role of travellers in achieving a more sustainable and circular tourism, Sustainability, 14(19), 12218.
[5]Croitoru, I. M., Grigoras, M. A., Popescu, A., Grigoraș, B. A., 2024, Embracing the circular economy: a paradigm shift for sustainable prosperity, Scientific Papers Series Management, Economic Engineering in Agriculture & Rural Development, 24(2), 397-406.
[6]Dagilienė, L., Varaniūtė, V., Bruneckienė, J., 2021, Local governments' perspective on implementing the circular economy: A framework for future solutions, Journal of Cleaner Production, 310, 127340.
[7]Giurea, R., Precazzini, I., Ragazzi, M., Achim, M. I., Cioca, L. I., Conti, F., ... Rada, E. C., 2018, Good practices and actions for sustainable municipal solid waste management in the tourist sector, Resources, 7(3), 51.
[8]Howard, M., Hopkinson, P., Miemczyk, J., 2019, The regenerative supply chain: a framework for developing circular economy indicators, International Journal of Production Research, 57(23), 7300-7318.
[9]INSSE, National Institute of Statistics, 2015-2024, https://giurgiu.insse.ro/produse-si-servicii/statistici-judetene/turism/, Accessed on 10.07.2025.
[10]Jensen, H. H., 2025, Circular Economy as a Catalyst for Innovation and Growth, Circular Economy Opportunities and Pathways for Manufacturers: Manufacturing Renewed (pp. 429-442), Cham: Springer Nature Switzerland.
[11]Jones, P., Wynn, M. G., 2019, The circular economy, natural capital and resilience in tourism and

hospitality, International Journal of Contemporary Hospitality Management, 31(6), 2544-2563.

[12]Manniche, J., Larsen, K. T., Broegaard, R. B., 2021, The circular economy in tourism: transition perspectives for business and research, Scandinavian Journal of Hospitality and Tourism, 21(3), 247-264.

[13]Manickam, P., Duraisamy, G., 2019, 3Rs and circular economy, Circular economy in textiles and apparel (pp. 77-93). Woodhead Publishing.

[14]Marcuta, L., Onea (Stanciu), M.G., Marcuta, A., 2023, Analysis of the relationship between tourism and the circular economy: a critical review of the literature, Scientific Papers. Series "Management, Economic Engineering in Agriculture and rural development", Vol. 23(3), 555-564.

[15]Meis-Harris, J., Klemm, C., Kaufman, S., Curtis, J., Borg, K., Bragge, P., 2021, What is the role of eco-labels for a circular economy? A rapid review of the literature, Journal of Cleaner Production, 306, 127134.

[16]Mdoda, S. S., Dube, K., Montsiemang, T., 2024, Tackling Water and Waste Management Challenges Within the Tourism and Hospitality Industry: A Sustainable Development Goals Perspective, Water, 16(24), 3545.

[17]Rodríguez-Antón, J. M., Alonso-Almeida, M. D. M., 2019, The circular economy strategy in hospitality: A multicase approach, Sustainability, 11(20), 5665.

[18]Rodríguez, C., Florido, C., Jacob, M., 2020, Circular economy contributions to the tourism sector: A critical literature review, Sustainability, 12(11), 4338.

[19]Rudan, E., 2023, Circular economy of cultural heritage—possibility to create a new tourism product through adaptive reuse, Journal of Risk and Financial Management, 16(3), 196.

[20]Sanguino, R., Barroso, A., Fernández-Rodríguez, S., Sánchez-Hernández, M. I., 2020, Current trends in economy, sustainable development, and energy: a circular economy view, Environmental Science and Pollution Research, 27(1), 1-7.

[21]Sørensen, F., Bærenholdt, J. O., 2020, Tourist practices in the circular economy, Annals of Tourism Research, 85, 103027.

[22]Stefan, A.M., Uliu, D.V., Vladu, M., 2025, Study on the impact of the circular economy in agriculture and rural development through non-refundable funds, Scientific Papers. Series "Management, Economic Engineering in Agriculture and rural development", Vol. 25(1), 877-886.

[23]Strippoli, R., Gallucci, T., Ingrao, C., 2024, Circular economy and sustainable development in the tourism sector–An overview of the truly-effective strategies and related benefits, Heliyon, 10(17).

[24]Suchek, N., Fernandes, C. I., Kraus, S., Filser, M., Sjögrén, H., 2021, Innovation and the circular economy: A systematic literature review, Business Strategy and the Environment, 30(8), 3686-3702.

[25]Verbeek, D., Mommaas, H., 2008, Transitions to sustainable tourism mobility: The social practices approach, Journal of sustainable tourism, 16(6), 629-644.

[26]Vîntu, C. R., Ungureanu, G., Ungureanu, B. A., 2024, Aspects regarding sustainability and food security in Romania in the context of European policies, Scientific Papers Series Management, Economic Engineering in Agriculture & Rural Development, 24(2), 941-952.