

Supply and Demand in Tourism Destinations in Romania. Pre and Post Pandemic Comparative Analysis

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Please cite this paper as:

Popescu, C.R., Popescu, D., Tudose (Pop), I and Militaru, I.A., 2023. Supply and Demand in Tourism Destinations in Romania. Pre and Post Pandemic Comparative Analysis. In: R. Pamfilie, V. Dinu, C. Vasiliu, D. Pleșea, L. Tăchiciu eds. 2023. *9th BASIQ International Conference on New Trends in Sustainable Business and Consumption*. Constanța, Romania, 8-10 June 2023. Bucharest: ASE, pp. 495-502

DOI: [10.24818/BASIQ/2023/09/048](https://doi.org/10.24818/BASIQ/2023/09/048)

Abstract

Tourism is considered one of the most dynamic sectors of the economy and is an essential element for countries that have significant tourism resources that can be exploited. The rational use of tourism resources is closely related to the increase in tourist flows and the number of accommodation establishments, i.e. tourism demand and tourism supply. The article deals with the relationship between tourist demand and tourist supply, using the example of destinations in Romania, and aims to identify destinations where there is a balance between accommodation units and overnight stays, and how to intervene to reduce the gaps between them. In this sense, quantitative methods such as Spearman and Kendall indicators were used to rank these destinations based on the statistical data provided by Tempo online during the period 2000-2021 for two periods 2000-2019 and 2019-2021. The research results show that highly specialized destinations are the most affected by seasonality. A solution to remedy this situation could come from Destination Management Organizations (DMOs). The study addresses the issue in a crucial period for tourism worldwide, not only in Romania, namely the period characterized by the pandemic COVID -19. Thus, both the period before the pandemic, when tourism reached its highest level, and the period after the pandemic, when a return to a normal situation, but marked by profound changes, is observed, are evaluated. The novelty of the article consists in the creation of a consolidated relationship between the destinations in Romania and the eight DMOs recently established in Romania, in order to allow a better management of the tourist activities.

Keywords

Supply and demand in tourism, tourism destination, Destination Management Organization (DMO), correlation.

DOI: [10.24818/BASIQ/2023/09/048](https://doi.org/10.24818/BASIQ/2023/09/048)

Introduction

Destinations represent complex situations, with a wide range of attractions and activities, with a variety of local tourism stakeholders, from the public, private and civil sectors, influencing the environmental and socio-economic resource base of the tourism sector (UNWTO, 2007a). Moreover, destinations are complex and adaptive systems, where the elements that make them up must be aligned toward a common goal that improves competitiveness (Rodríguez-Díaz and Espino-Rodríguez, 2019).

Tourism has a significant impact on the natural and human environment, but at the same time it leaves its mark on the well-being and culture of the host population. Depending on how tourism is managed and how developed it is, the impact can be positive or negative. Because tourism can play an important role in sustainable development, the World Tourism Organization (WTO) calls on all countries to ensure that their tourism development and management policies and measures take full account of sustainability

principles (UNWTO, 2007a). To ensure the long-term sustainability of tourism, effective plans and strategies are needed at all levels, especially at the local destination level where tourism activities take place. UNWTO (2007b) has developed a guide on indicators for sustainable development of tourism destinations to identify key aspects and indicators that can help managers make a destination viable and attractive. Destination management organizations (DMOs) play an important role in the sustainable management of destinations (Conaghan, Hanrahan, and McLoughlin, 2015). Despite their stated importance, the level of implementation lags significantly (Wagenseil, Wyss, and Huck, 2022). The crisis caused by the COVID -19 pandemic underscores the need for resilient and sustainable forms of tourism and thus represents a strategic goal in discussions about the sustainable future of tourism (UNWTO, 2020).

At the beginning of the 1990s, tourist destinations in Romania were oriented towards the source markets of the past, and the development of tourism was more influenced by local and regional initiatives. After 2000, several pilot tourism associations emerged in various Romanian destinations, trying to promote the offer on a competitive international market. Chaşovschi (2019) describes the evolution of the Associations for the Promotion and Development of Tourism (APDTs), which became destination management organizations (DMOs), and identifies two important phases in the development of DMOs in Romania: the early phase from 1997 to 2007, characterized by the first steps in the development of DMOs, and the second phase after 2008, when the number of APDTs increased and a better understanding of the role of destination management emerged. In 2022, the Romanian government established eight regional DMOs (Guvernul Romaniei, 2022), which are linked to historical regions and not to existing destinations, so it is quite difficult to compare between them, as the criteria for establishment are different. There are major differences between these eight DMOs, both in terms of area and tourism characteristics.

Tourism is one of the economic sectors with a significant impact on the economy, and the natural tourist resources available on Romanian territory are a favorable factor for the development of tourist activities. The great diversity of landscapes and the human resources present on the territory of the country have led to highlighting several tourist destinations. Different variants of classification of destinations and their elements can be found in the literature, usually focusing on resources. The most appropriate approach to the issue of destinations includes four elements at the destination level: tourist attractions, facilities and services offered, access infrastructure, and destination image (Coroş, 2015). According to the data of the National Institute of Statistics, the following tourist destinations are delimited in Romania: Spas; Seaside, excluding Constanta town; Mountain resorts; Danube Delta area, including Tulcea town; Bucharest and county residence town, excluding Tulcea; Other localities and touristic routes. The tourist destinations in Romania, due to the high degree of specialization such as the resorts in the coastal or mountain areas, in some cases, large gaps between tourist demand and supply, a fact that leads to a degree of occupancy largely dependent on seasonality, while the destinations that are major urban centres, such as Bucharest and county residence town, excluding Tulcea, due to the more diversified demand, shows a low level of seasonality. Tourism is characterized by a highly localized production and a highly concentrated consumption of supply and demand (Carreras, 1995). The identification and evaluation of localization models of tourism supply and demand are essential to support the development of sustainable tourism (Popescu and Persu, 2022).

The aim of this work is to evaluate the situation of tourist demand and supply in tourist destinations in Romania, in order to find solutions to increase the occupancy rate of accommodation units over a longer period of time, reduce seasonality and attract tourists in less popular destinations. The results of this study will allow hotel managers to make better decisions, especially in the post-pandemic period when it is so important to revive tourism. The paper includes a brief review of the literature, followed by the presentation of the research methodology and results, and finally the conclusions.

Review of the scientific literature

A destination is a geographic area in which tourism plays a prominent role and in which the revenues generated by tourism have a significant impact on the economy. Destination management is a part of tourism management that involves managing all the different aspects of a destination. This includes accommodations, events, transportation, activities, environmental issues, and local resources. It can also include business premises, area controls, and land use planning (Perez, 2022). Accountability in tourism destinations is another topic (Pechlaner, Zacher, Eckert, and Petersik, 2019). Key aspects of management and responsibility in destination networks are presented and a contribution is made to a conceptual analy-

sis of the sustainability of tourism destinations based on a resilience-based approach. This contributes to a better understanding of resilience from a DMO perspective in the context of shared responsibility.

UNWTO defines DMO as the coordinated management of all elements that characterize a destination, such as: Attractions, facilities, access, marketing and tariffs (UNWTO, 2007a). Thus, DMO can be defined as a process of creating, directing and adjusting the factors that contribute to the creation of a destination's tourism product by a management team (Geić, 2010). Notarstefano (2008) considers the establishment of destination management organizations as a necessity to maintain a balance between the economic development of destinations, the preservation of tourism resources, and the increase of the living standards of the local population. Pike (2021) aims to provide a rationale for the DMO, develop a structure, roles, and objectives of the DMO, communicate a destination branding process, develop a philosophy of integrated marketing communications, lead to the emergence of visitor relationship management and with interested parties, and present options for performance measurement.

Although DMOs were theorized only after 2000, Morrison (2013) explains the fact that they exist all over the world in different forms, either as government departments or as quasi-ministerial structures, and can function at different levels (national, regional, local). The literature on destination management gained momentum after 2000, when about 98% of the papers were dedicated to DMOs, and after 2010, about 99.5% of the papers continued to deal with this topic (Negruşa and Coroş, 2016). The success of a destination is a combination of tangible elements (product, location, and accessibility) and less tangible elements (services and community experience). All of these factors determine the visitor experience. DMO managers can have a strong influence on the success of a destination. Negruşa and Coroş (2016) therefore explore how DMO activities can contribute to the competitiveness and success of destinations, examining the role of DMO and specific activities, but also the relationship between DMO success and destination success.

An analysis of available sources has shown that modern DMOs take a variety of legal and organizational forms, although the most common are public and private partnerships of a nonprofit nature. Thus, Borzyszkowski (2013) presents, first, the possible legal and organizational forms of DMOs and, second, their influence on the potential range of tasks and responsibilities of these organizations. Several studies highlight the importance of the interaction between the public and private sectors, where governmental and nongovernmental parties collaborate with regard to destination management (Roxas, Rivera, and Gutierrez, 2020). A fundamental but less considered aspect is the role and contribution of tourists to sustainability, in addition to the interaction of the different interested parties.

The impact of the COVID-19 pandemic is also visible in DMO (Fedyk et al., 2022). Drawing on lessons learned from the COVID-19 pandemic, Gowreesunkar, Maingi, and Micera (2021) present cases and competencies in their work to advance theoretical and empirical knowledge on post-pandemic destination management and propose new management solutions to develop the adaptive capacity of destinations and strengthen their resilience in the future. Guerreiro (2022) analyzes the way in which destination management can be a fundamental tool in the process of building a more inclusive, sustainable and competitive sector. On the other hand, Fedyk et al. (2022) identified the need to modify anti-crisis programs and/or expand them to include other forms of support that can be useful for DMOs.

The implementation of sustainable projects and measures is one of the most important tasks in destination management (Haid, Albrecht and Finkler, 2021), and the implementation processes are not linear or synchronous. As the tourism sector undergoes digital transformation, DMOs often struggle to adapt to the changing technological environment. Digital collaboration is critical for micro-DMOs as they are forced to transform their current websites into digital platforms that act as hubs where business stakeholders can actively participate. The study highlights three aspects of digital collaboration: Marketing, Networking and Knowledge Sharing, which require special attention (Zainal-Abidin, Scarles and Lundberg, 2023).

Research methodology

The analysis of tourist demand and supply of destinations in Romania covers a period of more than 20 years, starting from the year 2000, in order to observe in the long term how tourists' preferences change and whether the supply of tourist facilities follows the same trend, but also what is the impact of the different types of crises, especially on tourist demand. In addition, the authors try to better understand the impact of the pandemic crisis by performing a series of analyzes for 2019 compared to 2021, knowing that 2020 was completely atypical for economic and social activity in general, but especially for tourism activity, due to the pandemic. Based on the existing data on the Tempo online website, the analysis of tourism demand is carried out based on Arrivals of tourists accommodated in the structure of tourists

reception by tourist destinations and Staying overnight in the establishments of touristic reception by touristic destinations. For the supply, Establishments of touristic reception with functions of tourists accommodation by touristic destinations and Existing touristic accommodation capacity by touristic destinations are analyzed. For these indicators of tourist supply and demand, average indicators were calculated in absolute values (arithmetic mean and absolute average change) and in relative values (average dynamic index and average rate of development), and in the second part, correlations were made between demand and supply indicators to observe whether or not tourist demand influences tourist investment, more specifically whether new accommodation units are built at the destination level in accordance with tourists' preferences for specific destinations. The correlations were determined using the rank correlation coefficient (Spearman) and confirmed by calculating Kendall's correlation coefficient. According to Țițan (2003), the rank correlation or the association of ordinal variables means that the socio-economic variables (in our case, the tourist demand and tourist supply) measured on an ordinal scale are assigned a rank number (rank) to all units, so that they can be ordered according to the criteria studied (in our study, the criterion is the classification of the indicators of tourist demand and tourist supply in the tourist destinations in Romania). For conducting this research, the following hypotheses were established:

H1. The Covid 19 pandemic had a greater impact on the demand than on the supply in the tourist destinations;

H2. There is a strong correlation between the demand and supply indicators in the destinations.

Results and discussion

At the Romanian level, an almost constant increase in the number of tourists can be observed (Figure no. 1a.), from 4920129 people arriving in the tourist reception structures in 2000 to 9370232 tourists in 2021, with a maximum in 2019 (13374943 arrivals) and with two periods of decrease in the number of tourists, the first during the economic crisis of 2008-2010 and the second, much more drastic, in 2020, during the SARS-Cov 19 pandemic, when the number of tourists decreased by more than half compared to the previous year, reaching 6398642 people. Among the destinations, Bucharest and county residence town, excluding Tulcea, where the number of tourists increased during the analyzed period from 2237397 in 2000 to 3660935 tourists in 2021, with a maximum of 6275835 tourists in 2019 and a slight decrease during the economic crisis, when 2884121 tourists were reached in 2009, and a sharp decline in 2020, when, after the peak in 2019, reached 2359090 tourists. This is due to the fact that the above destination as a form of tourism predominantly overlaps with business tourism; there was also a disruption of many economic activities in this area during the economic crisis (2008-2010), but especially during the pandemic period (2020-2021). The least affected destination, but which also has the smallest share in the total number of tourists staying in accommodation establishments, is the Danube Delta area, including the city of Tulcea, which increased from 34,462 tourists in 2000 to 137,182 tourists in 2021, with very small fluctuations in 2009 and in 2020, as shown in Figure No. 1a. This destination is largely represented by the Danube Delta Biosphere Reserve, which means that tourist flows are largely controlled by protected areas legislation.

From Figure no. 1a. it can be seen that the smallest increase in the number of tourists was in the spa area (by 1.49%) and the largest increase was in the other places and tourist routes (by 7.10%). It is interesting to note that the number of accommodation establishments (Figure No. 2b.) for the destination "Other places and tourist routes" also increased by 7.10%, which shows an almost perfect match of supply with tourist demand in this destination and for the two indicators of tourist demand and supply.

According to Tempo Online data (2023), the number of tourists (Figure No. 1a.) arriving in tourist destinations in 2021 is 29.94% lower than in 2019; moreover, the number of overnight stays (Figure No. 1b.) in 2021 decreased by 30.75%, which means that the number of arrivals decreased much less than the number of overnight stays of tourists in lodging establishments. Instead, in 2021, the number of tourist reception structures (Figure No. 2b.) and tourist capacity (Figure No. 2a.) increased by 8.86% and 2.23%, respectively, which means that investments in small accommodation units continued. In fact, the demand, especially during the pandemic, went to small accommodation units, which seem to be safer, but also the tendency before the pandemic was to choose accommodation structures smaller and tailored to the needs of tourists, which justifies the continuation of investments in accommodation units also during the pandemic. Consequently, the increase in the number of lodging establishments in 2021 and the decrease in arrivals and overnight stays could be a direct consequence of the pandemic COVID-19 and its associated restrictions. In Romania, the tourism industry was severely affected by the travel restrictions, the decrease in tourism activities and the slowdown of the economy, which led to a significant decrease in the number of tourists visiting these destinations. The only measure taken by the authorities before the pandemic,

which resulted in a relatively smaller decrease in the case of Romanian tourists, was the vacation vouchers granted to those working in the state sector.

H1 is confirmed.

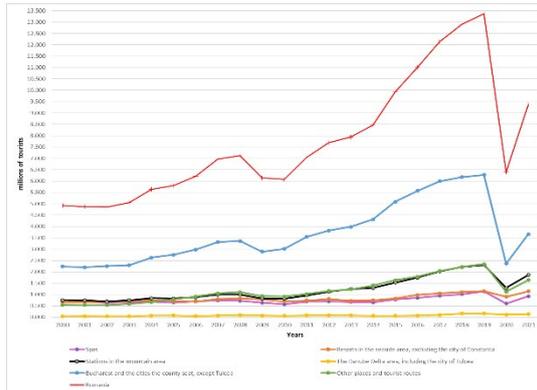


Figure No. 1a.

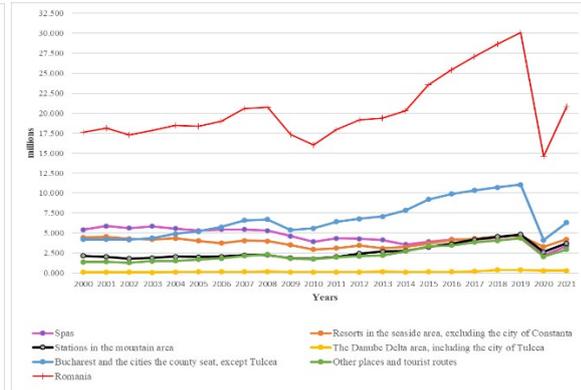


Figure No. 1b.

Evolution of demand: arrivals (1a) and overnight stays (1b) of tourists in tourist reception structures with accommodation function, in tourist destination areas, in the period 2000-2021

Source: prepared by the authors on the basis of data Tempo Online: Available at:

<<http://statistici.inse.ro:8077/tempo-online/#/pages/tables/inse-table>> [Accessed 20 March 2023].

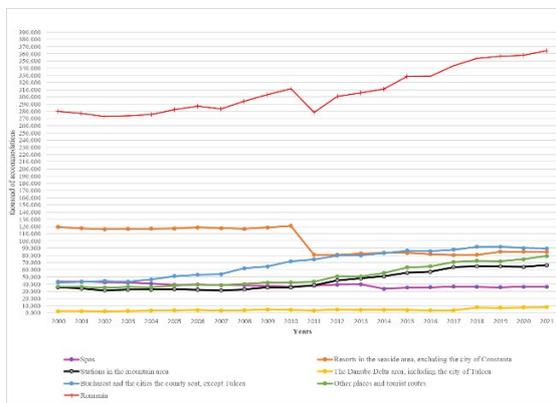


Figure No. 2a.

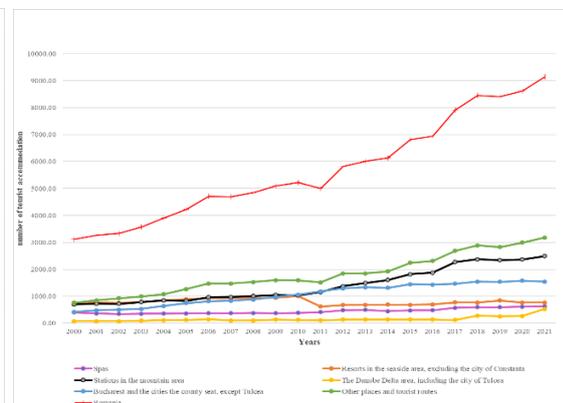


Figure No. 2b.

Development of supply: tourist capacities (2a) and tourist reception structures (2b) at destinations in the period 2000-2021

Source: prepared by the authors on the basis of data Tempo Online: Available at:

<<http://statistici.inse.ro:8077/tempo-online/#/pages/tables/inse-table>> [Accessed 20 March 2023].

The similarity of the ranks for the demand and supply indicators for 2019 and 2021 suggests that there is a relatively stable relationship between these two indicators before and after the pandemic. This may indicate that the factors affecting demand and supply in the tourism industry have not changed significantly between 2019 and 2021, at least in terms of the ranking of their importance. According to Table no. 1., the Danube Delta region, including the city of Tulcea, ranks 6th/6th in the four demand and supply indicators studied: arrivals and overnight stays, as well as the number of accommodation structures and accommodation capacity. At the top of the ranking, with position 1/6, are the resorts of the coastal area (excluding the city of Constanța) for the demand indicators, arrivals and overnight stays, but also for one supply indicator, the accommodation capacity.

Spearman and Kendall correlation coefficients are statistical methods that measure the degree of association between two ordinal or rank variables. In other words, these correlation coefficients indicate the extent to which two variables move in the same direction with respect to their classification. Spearman and Kendall correlation coefficients are statistical methods for evaluating the relationship between two ordinal variables (Puth, Neuhäuser and Ruxton, 2015.). This means that the variables do not have to be measured in an exact numerical scale, but can be ranked or ordered. In our analysis, it is found that the value of Spearman correlation coefficient is between -1 and +1, which indicates a strong positive correlation between the number of arrivals and the number of accommodation units. This means that the number of arrivals increases with the number of lodging units and vice versa.

Table no. 1. Values of demand/supply indicator rankings for 2019-2021 for destinations

Supply and demande indicators	Destination						
	Rank	Spas	Seaside, excluding Constanta town	Mountain resorts	Danube Delta area, including Tulcea town	Bucharest and county residence town, excluding Tulcea	Other localities and touristic routes
Arrivals / Accommodation units	rx0	5	4	3	6	1	2
	rx1	5	4	2	6	1	3
	ry0	5	4	2	6	3	1
	ry1	5	4	2	6	3	1
Arrivals / Accommodation capacity	rx0	5	4	3	6	1	2
	rx1	5	4	2	6	1	3
	ry0	5	2	4	6	1	3
	ry1	5	2	4	6	1	3
Overnights / Accommodation capacity	rx0	3	4	2	6	1	5
	rx1	4	2	3	6	1	5
	ry0	5	2	4	6	1	3
	ry1	5	2	4	6	1	3
Overnights / Accommodation units	rx0	3	4	2	6	1	5
	rx1	4	2	3	6	1	5
	ry0	5	4	2	6	3	1
	ry1	5	4	2	6	3	1

Source: prepared by the authors on the basis of data Tempo Online: Available at: <http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> [Accessed 20 March 2023].

The strong positive relationship indicates that the two variables are closely related and an increase in one variable is generally associated with an increase in the other. Also, a Kendall correlation coefficient of 0.73 (Table no. 2.) indicates a strong correlation between the two variables, implying that a close relationship exists.

H2 is confirmed.

Table no. 2. Values of correlation coefficients calculated for demand/supply indicators for 2019-2021 for destinations

Indicators of Tourism Supply / Demand	Correlation coefficients	Years	
		2019	2021
Arrivals (X) million persons / Accommodation units (Y) number	Spearman	0.83	0.77
	Kendall	0.73	0.60
Arrivals (X) million persons / Accommodation capacity (Y) number of seats	Spearman	0.83	0.77
	Kendall	0.73	0.60
Overnight stays (X) million persons / Accommodation units (Y) number	Spearman	0.31	0.26
	Kendall	0.13	0.13
Overnight stays (X) million persons / Accommodation capacity (Y) number of seats	Spearman	0.54	0.83
	Kendall	0.33	0.73

Source: prepared by the authors on the basis of data Tempo Online: Available at: <http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> [Accessed 20 March 2023].

Conclusions

Thanks to the Romanian tourists who traveled with the vouchers offered by the Romanian state, the number of tourists in 2021 stayed above the number of those who stayed in 2000 and was even higher than the number of those who stayed in the accommodations in Romania in 2009 and 2010, years that, as mentioned before, were affected by the economic crisis.

Kendall's rank correlation coefficient takes values between 1 and -1, and its value is usually slightly lower than Spearman's. This means that an increase in tourist arrivals is generally associated with an increase in the number of available lodging units and a decrease in tourist arrivals is associated with a decrease in the number of available lodging units.

It is important to note that correlation is not synonymous with causality. While the strong positive correlation indicates a relationship between the number of lodging establishments and arrivals, it does not necessarily mean that an increase in lodging establishments directly causes an increase in arrivals or vice versa. On the other hand, owners of lodging establishments invested in building, developing, and upgrading their lodging establishments during the COVID-19 pandemic to attract tourists once the restrictions were lifted. However, as tourists avoid travel due to health risks and travel uncertainties, the increase in the number of lodging establishments could lead to increased competition among lodging establishments for a limited number of tourists willing to travel. The authors believe that one solution to increase tourism demand in destinations is to strengthen the role of DMOs.

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