



STATISTICAL ANALYSIS OF THE TOURIST POTENTIAL IN THE CĂLINEȘTI-OAȘ AREA

Lia Sanda ROTARIU¹, Anișoara DUMA COPCEA¹, Elena TONEA¹, N.D. POPA¹

¹University of Life Sciences "King Mihai I" from Timisoara, 119 Calea Aradului,
300645 Timisoara, Romania

Abstract: The Oaș Land is a large depression, enclosed by the Gutâi and Oaș Mountains to the North-East and South, by hills to the West, and to the South-East it has access to the plain. The typology of settlements in the area is of the scattered type. The villages extend over relatively large areas, on an irregular terrain, formed by hills and valleys with extensive orchards. The Oaș Country has an area of 614 km² and includes in this space the bodies with the villages belonging to it: Călinești (Lechința, Coca, Dumrava), Orașu Nou (Prilog, Racșa, Remetea Oașului, Orașu Nou - Vii); Pasunea Mare, Vama (Vama Băi); Certeze (Huta, Moșeni), Trip Băi, Boinesti, Bixad, Târșolț (Aliceni); Cămârzana and the town of Negrești-Oaș; a total of 22 settlements. The purpose of the research is, therefore, threefold: inventorying resources through the lens of the new market requirements of 2026, statistical validation of tourist preferences for the agrotourism segment and proposing an integrated management model that would maximize the visibility of the Oaș Country on the international tourist map.

The studied material is represented by a set of primary and secondary statistical data relating to tourist flows in the Călinești-Oaș area for the first quarter of 2024. The SAS Studio platform was used as a method to apply multivariate analysis techniques, essential for giving scientific rigor to tourism potential.

The novelty of the work consists in the use of multivariate analysis and clustering (through SAS Studio) to mathematically substantiate the tourist potential of the area. It moves from the subjective description of traditions to a data-based approach (Eigenvalues and covariance matrix), a method that allows for demand forecasting and optimization of tourist packages in 2026. The research results are based on data processed in SAS Studio for the first quarter of 2024.

• Introduction

Rural tourism and agrotourism represent, in the context of the contemporary economy of 2026, not only an alternative to mass tourism, but an essential vector for the sustainable development of local communities. The Călinești-Oaș area, located in the ethnocultural hearth of Țării Oaș, constitutes a remarkable case study due to the symbiosis between the anthropic heritage (traditions, folk costume) and the natural resources (Călinești-Oaș Lake).

Moreover, the success of an agritourism guesthouse in 2026 is inextricably linked to the ability to capture tourist flows during off-season periods. The research demonstrates that seasonality phenomena, discussed extensively by (BUTLER, 2001) in his model regarding the life cycle of destinations, can be mitigated by capitalizing on local specificity. The integration of organic gastronomy and crafts into a digitalized tourism product represents, according to (BUHALIS, 2000; NISTOREANU, 2006), the path to "e-Tourism", where correctly processed information becomes the main competitive advantage of small locations.

• Material and method

The database used in this paper consists of tourist flow indicators collected between January and March 2024 for the Călinești-Oaș micro-region.

The data sample includes the volume of requests and overnight stays structured into 7 categories of accommodation units: hotels, motels, tourist villas, chalets, tourist guesthouses, agro-tourism guesthouses and apartments/rooms for rent.

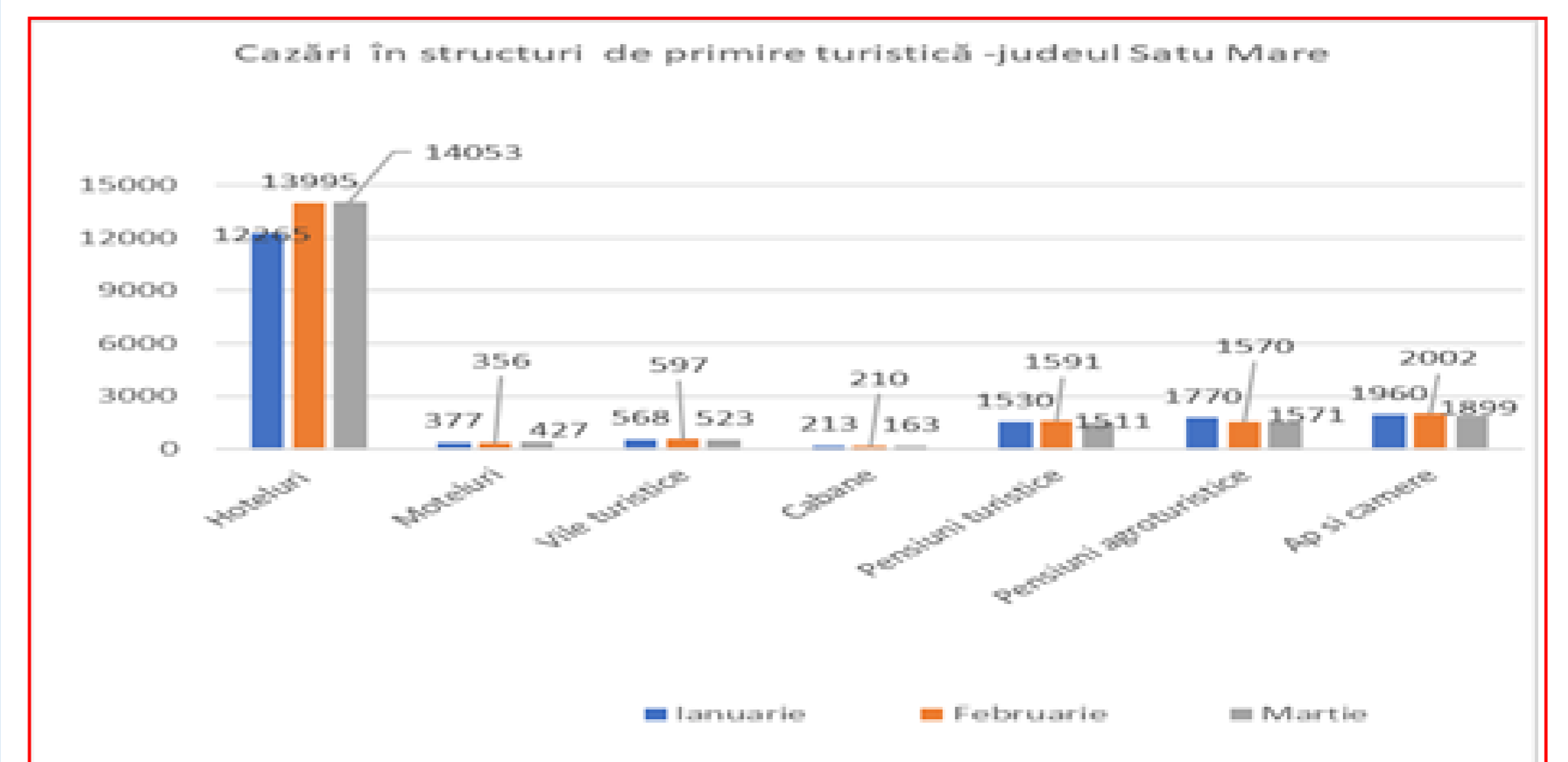
Variables analyzed - the average arrivals (Mean), the standard deviation (StdDev), the minimum and maximum values, as well as the frequency of requests depending on calendar events (e.g. February 14 and 24) were taken into account.

The source of primary data comes from the statistical records of the profile units in Țara Oașului, centralized to observe the dynamics of demand in the off-season.

The research adopts an advanced quantitative methodology, using the SAS Studio platform for data processing. The analytical stages include: descriptive and comparative analysis; multivariate analysis (principal components - PCA); Cluster analysis (Hierarchical Clustering); qualitative observation method.

• Results and discussions

The analysis of centralized data for the first quarter of 2024 indicates an increase in tourist flow in February, the dynamics being driven by seasonal holidays (February 14 and 24). Accommodation options primarily targeted agrotourism guesthouses and hotels with half board. For an objective assessment, SAS Studio software was used, applying the calculation of Euclidean distances to the arrival matrix to determine the degree of proximity and attractiveness of the profile units in relation to the Călinești-Oaș locality.



The figure presented represents a comparative analysis of the tourist flow (number of accommodations) in Satu Mare County, during the first three months of 2024, structured by types of tourist reception units.

• Conclusions

The study presented in the paper demonstrates the efficiency of using multivariate analysis methods in substantiating the tourism potential of the Călinești-Oaș area, providing an objective perspective on the market dynamics in the context of 2026.

The statistical analysis confirms that hotels represent the dominant variable of the regional tourism ecosystem, with an average of 13,437.67 overnight stays. The high Eigenvalues associated with this segment reflect its capacity to absorb most of the tourist flows, acting as a pillar of stability for the county infrastructure.

The data processed for the first quarter of 2024 indicate a notable resilience of the agrotourism segment and rental apartments during the off-season. The peak reached in February (2,002 accommodations in the apartment segment) validates the hypothesis that "proximity tourism" and the experience economy can compensate for traditional seasonal fluctuations.

Therefore, the Călinești-Oaș area presents a dual tourism profile: a hotel core that ensures volume and an emerging agrotourism sector that confers authenticity and dynamism. The long-term success of the destination lies in the ability to digitize the analysis of data flows to optimize tourism packages according to the market requirements of 2026.