

EXAMINING THE DYNAMICS OF EVOLUTION AND COMPETITIVENESS OF ARANDJELOVAC AND TOPOLA AS TOURIST DESTINATIONS

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ABSTRACT

The paper is to identify the triggering events in the evolution of Arandjelovac and Topola as tourist destinations by applying horizontal visibility graphs method. Simultaneously, there is a focus on assessing the destination's competitiveness through the lens of social exchange theory. It emphasizes the need for sustainable development across economic, ecological, socio-cultural, and political dimensions. The study findings indicate that pivotal events in destination evolution play a significant role, alongside economic growth in the region, in enhancing destination competitiveness.

Keywords: the dynamics of evolution, a tourist destination, Arandjelovac and Topola, complex and dynamic system

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INTRODUCTION

Until the seventies of the last century, the tourist spot fully met the requirements of the tourist market. Yet, the rising demands of contemporary tourists have led to an inadequacy in the attractiveness of tourist offerings at the destination level. Consequently, expanding the tourism offerings at the destination level becomes crucial. In these circumstances, the tourist destination emerges as a critical factor for competitiveness in tourism and contributes significantly to the development of the tourist economy within the national economy. However, despite the great interest in tourist destinations, there is still no unified attitude or definition of what a tourist destination is. The existence of different definitions is primarily a consequence of the different perspectives from which the definition starts, that is, the different contents and ambient units that a certain space has. The above is further complicated by the fact that the term tourist destination describes entire regions, countries, tourist zones and the like. It is not a rare case that a tourist destination is identified with a tourist place or centre, and even in some cases with the very tourist facilities where tourists stay (so-called functional facilities) or which they visit (mountain top, beach, etc.). The consequence of this is the existence of different classifications and treatment of the spatial hierarchy of tourist-geographic areas, as valorized space that is not limited by administrative boundaries and on which there must be certain material elements that will initiate tourist demand and consumption.

Despite the large number of different definitions of a tourist destination, basically two groups can be distinguished. The first group consists of definitions that look at the tourist destination from a macro aspect and hence define it as a rounded geographical entity that, through the integration of various attractive, communication and receptive factors, has the power to shape tourist demand. From that aspect, a tourist destination includes all those natural, social and cultural-historical and other assumptions that are necessary for accommodation, nutrition, entertainment and recreation of tourists. Respecting these assumptions, perhaps the most comprehensive definition of a tourist destination was presented by Vujović et al., (2012) who define a tourist destination as "a part of the space of a certain region or country that has inorganic, organic and anthropogenic attractiveness, the exploitation of which is possible by tourists thanks to a well-designed and built supra and infrastructure". A similar definition is presented by Davidson and Maitland, who describe it as an area that has the ability to create and offer its own tourism product [22].

The second group consists of definitions that identify a tourist destination as a tourist place or a tourist center. In this context, Burkart and Medlik (1974) describe a tourist destination as a geographical unit visited by tourists as an independent tourist center in which all the elements of the tourist product exist. In this context is the understanding of the tourist destination as a production function of vacation, which consists of fixed and variable factors. The first factors are those that are immutable or whose changes require a longer period of time, such as hotels, facilities for sports, culture, entertainment, recreation, landmarks, landscapes, etc. These factors provide tourists with certain opportunities for tourist activities. The variable factors of a tourist destination are tourist services and activities aimed at connecting those services and their marketing on the market. Bearing in mind the above, a tourist destination should be understood as an optimal combination of fixed and variable factors that exist in a certain area, which is capable of permanently adapting to the changing requirements of the tourist demand side and establishing a sustainable competitive advantage through these adjustments.

The above suggests that despite variations in how tourist destinations are managed, they fundamentally represent market-oriented spaces valued by tourists. These spaces transcend administrative boundaries and require specific infrastructure to stimulate tourist demand and consumption. A tourist destination defined in this way, in addition to the traditional note referring to the fact that it represents a certain space in which certain interactions are established between the constitutive elements of the destination, it also includes a perceptive element that indicates that the understanding of the destination depends on the subjective interpretation of the tourist. This is exactly how the understanding of a tourist destination is made possible by seeing it as a complex and dynamic system.

Identifying a tourist destination with a complex system is a useful way to explore its structural and dynamic characteristics ([6], [7], [14], [15], [16], [17], [26], [32]). The central theme in the study of the destination as a system is the study of its dynamics, which is reduced to the analysis of the evolution of the

system over time [19], [20]. The evolution of the system is mainly a consequence of the variability of the connections between the elements. The impact of globalization, the rapidly changing behavior patterns of tourists, the development of transport and information technologies, and the modification of the form of organizations and work, only reinforce this dynamic even more. Thus, destinations evolve from a completely ordered and stable state to situations characterized by complex behavior or even to completely chaotic conditions in which, in essence, long-term assumptions are impossible. Research by [5], [30] and [27] show that attractive destinations exist on the edge of chaos and order and that for this reason, such systems are unstable. More precisely, they determined that these systems are in a state of fragile equilibrium, on the threshold of transition to a rapidly changing state, which can trigger new dynamic phases.

Coshall [12] points out that by studying the dynamics of the system, discontinuities in the evolution of the destination can be identified, focusing on various key events, which he labels as breaking events. These events signify pivotal moments in the time series, marking the transition from one phase to another in the destination's evolution. According to Laws' (1996) cycle of destination development, these events typically involve investments in hotels, facilities, and infrastructure, leading to an upsurge in tourist arrivals and overnight stays, i.e. natural disasters, environmental damage, political instability, etc., which for the consequence is a reduction in the number of tourist arrivals at the destination and/or the adoption of new development plans for the destination, which results in the development of new contents and the attraction of new tourists. Baggio [4] describes this as the system's response to external and internal inputs, leading to the evolution of the destination.

Empirical research into the systemic dynamics of tourist destinations reveals identifiable stages in their evolution, often linked to the concept of a destination's life cycle (Tourist Area Life Cycle - TALC) ([9], [21], [24], [25]). However, when accepting the results of these researches, one should be careful in the sense that different methodologies and techniques were used and that the researches are limited to case studies of individual tourist destinations. In addition, numerous studies have used methods that treat the relationships between actors and their activities in the destination as a dependent but linear relationship, despite the realization that these relationships can be highly non-linear. Therefore, in the study of the main characteristics of the dynamics of tourist destinations, different techniques and methods should be used, which have in common to measure certain variables of the system capable of demonstrating the main dynamically invariant properties of the tourist destination as a complex system. From the perspective of computer and time dependence, the application of these methods requires very sophisticated algorithms and programs. For this reason, the so-called is gaining more and more popularity horizontal visibility graph (HVS) method, which is based on the transformation of observation time series into mathematical objects, i.e. graphs. The method has gained great popularity in recent years since it has been shown that it can successfully co-opt properties of time series data, such as periodicity, fractality, and chaoticity, and thus it is possible to establish a correlation between time series analysis and nonlinear system dynamics.

The paper aims to pinpoint key developmental moments in Arandjelovac and Topola as tourist destinations using the horizontal visibility graph method. Additionally, it examines the competitiveness of these destinations through the lens of social exchange theory, emphasizing sustainable development across economic, ecological, socio-cultural, and political dimensions.

ANALYSIS OF THE DYNAMICS OF THE EVOLUTION OF ARANDELOVAC AND TOPOLA AS A TOURIST DESTINATION

In the evolution of Arandjelovac and Topola as tourist destinations, certain events, known as triggering events, serve as pivotal turning points in their development. Emphasis is on co-opting the properties of periodicity, fractality and chaoticity and correlations between time series analysis and nonlinear system dynamics. More precisely, the analysis is aimed at identifying critical events and shocks that represent a turning point in changing the destination's development trajectory. The concept of the evolutionary path was chosen because in the traditional approach of the destination life cycle [11] the events that mark the transition from one stage to another are poorly defined and often difficult to substantiate empirically [23], [28].

Starting from the visibility condition, which can be written mathematically as follows:

$$y_c < y_a + (y_b - y_a) \frac{t_c - t_a}{t_b - t_a} \quad (1)$$

where as

y_i - the value of the i th data at the moment (t_i) ;

(t_i) - time.

the time series of data on the construction of accommodation facilities from 1811 to 2020 was transformed into a network of nodes. As the structure of the time series is inherited in the associated graph, periodic, random and fractal series are mapped in the network with the corresponding typology. The modularity index was calculated using the algorithm presented by [4]:

$$Q = \sum_i (e_{i,i} - a_i)^2 \quad (2)$$

where as:

$e_{i,i}$ - the portion of an edge in a network between any two nodes;

a_i - overall fractal connection;

Q - a normalized quantity that takes values from 0 to 1, where 0 implies the absence of modules, while 1 represents perfect separation between groups (communities).

The validity of the graph was tested by applying the fulfilment of the condition derived from the Handshaking rule, which states that the sum of the degrees of all nodes in the network is equal to twice the number of edges in the network, or mathematically:

$$\sum_{v \in V} d(v) = 2|E| \quad (3)$$

that is, in a form more suitable for examining the validity of the graph:

$$\sum_{v \in V_0} d(v) + \sum_{v \in V_e} d(v) = 2|E| \quad (4)$$

where as:

$d(v)$ - number of degrees of nodes in the network;

E - the number of edges in the network;

V - number of nodes in the network;

V_0 - the number of nodes in the network with an odd number of degrees in the network;

V_e - the number of nodes in the network with an even number of degrees in the network.

The data required for the analysis of the destination's development dynamics were collected for the period from 1811 to 2020. These data were also used because there is no data related to the number of overnight stays at the destination during the observed period.

The results of applying the previously described methodology are shown in Figure 1, where the nodes of the network (V) are shown, which are marked with alphabetical letters, as well as the edges between the nodes are marked with the corresponding lengths.

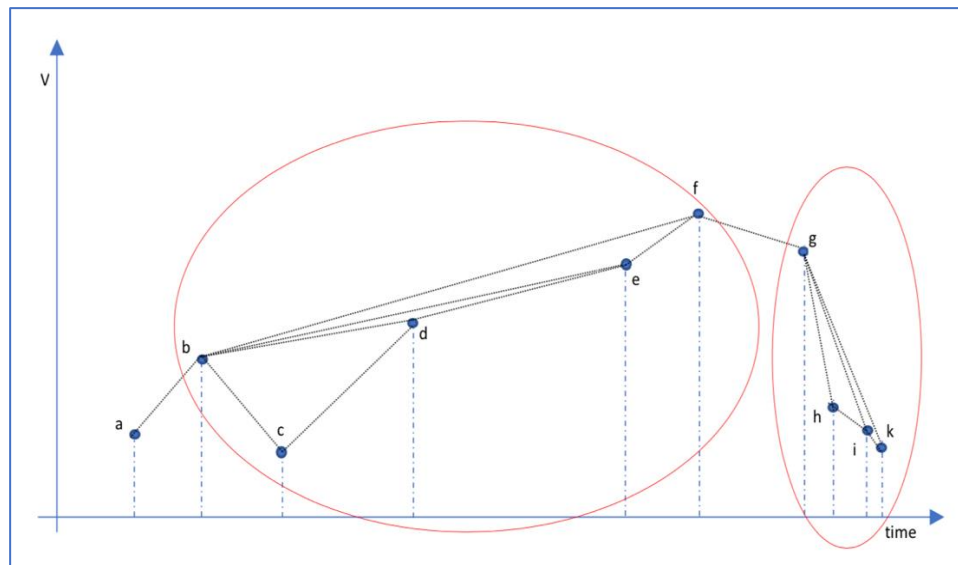


Figure 1. Visibility graph based on a time series of data on the evolution of accommodation capacity at the destination

Source: Authors

Although it can be clearly seen from the figure that the implicit graph validity condition derived from the Handshaking theorem is fulfilled, the mathematical confirmation of the graph validity condition can best be seen from the adjacency matrix, which is shown in Table 1. The modularity index (Q) is 0.8793, which indicates great clarity in distinguishing communities, i.e. easy identification of triggering events. The results of the analysis shown in Figure 1 clearly reveal two turning points (turning points - node b and node g) in the evolution path of the destination. The first is related to the opening of the Bukovička Banja in 1836 (the opening of the specialized rehabilitation hospital "Bukovička Banja") and marks the development of mass spa tourism (node b), and the second to the privatization of the "Izvor" hotel, i.e. the creation of the luxurious Spa and Wellness Resort hotel "Izvor" (five stars) with an aqua park and marks the development of luxury Spa and Wellness tourism (node g). Analysis of the function of these two turning points, in the context of the concept of moments in path-shaping trajectories of the tourist destination, presented by [28] reveals the binary nature of triggering events, thus confirming the hypothesis that triggering events are unique in nature. Presenting these two triggering events using function parameters, it can be concluded that the development of Bukovička Spa in 1836 had a catalytic function, while the creation of the luxurious Spa and Wellness Resort Hotel "Izvor" with an aqua park has a transformational function in changing the trajectory of the development of Arandelovac and Topola as a tourist destination. In the context of the concept of the authors [28] the first turning point represents a subsequent critical event, while the second represents the so-called triggering events.

Table 1. Neighborhood matrix

	a	b	c	d	e	f	g	H	i	k
a	0	1	0	0	0	0	0	0	0	0
b	1	0	1	1	1	1	0	0	0	0
c	0	1	0	1	1	0	0	0	0	0
d	0	1	1	0	1	0	0	0	0	0
e	0	1	0	1	0	1	0	0	0	0
f	0	1	0	0	0	0	1	0	0	0
g	0	0	0	0	0	1	0	1	1	1
h	0	0	0	0	0	0	1	0	1	0
i	0	0	0	0	0	0	1	1	0	1
k	0	0	0	0	0	0	1	0	1	0
d	1	5	2	3	3	3	4	2	3	2
$\Sigma d = 28$										
$V = 10$										
$E = 14$										

Source: Authors

The analysis of the evolution of Arandjelovac and Topola as a tourist destination reveals the existence of a series of so-called peripheral triggering events or as Van der Duim et al., (2012) call pre-moments (peripheral moments), which, depending on the context in which they occur, determine the nature and function of the turning point in the development of the destination, but also a series of so-called reinforcing moments. Thus, the arrival of the Serbian educator Dositej Obradović at the destination and his narration about the medicinal properties of water in 1811 (node a), the use of water for medicinal purposes by the Serbian Prince Miloš Obrenović and the decision to bottle the water under the name "Knjaz Miloš", the construction of the first regulated spring of mineral water, "Stublina" in 1835, represent peripheral moments that determined the nature of the first turning point in the development of the destination. The following events can be identified as reinforcing moments of the destination's evolution towards mass spa tourism: the construction of a pool with mineral water in 1846, a steam bath in 1870, the establishment of the Vinogradarska Cooperative in 1903, the conversion of the "Old Building" castle into a hotel in 1906, the construction of the "Šumadija" hotel in 1929, which served as a spa hospital for tourists with low personal incomes, the political decision after World War II to transform the specialized rehabilitation hospital "Bukovička Banja" into the "Bukovička Banja Natural Spa", in which citizens of FNR Yugoslavia and SFR Yugoslavia had the right to be treated at the expense of the Republic Institute for Health Insurance, then the construction of a pool with mineral water in 1958 in the grounds of the "Bukovička Banja", the construction of the "Izvor" hotel in 1978, a children's resort "Bukulja" and similar. The establishment of cultural manifestations in 1966 and 1974, "Marble and Sounds" and "World of Ceramics" can be marked as supporting triggering events in the development of mass spa tourism at the destination.

The disintegration of the SFR Yugoslavia, the socio-economic crisis following war events and conflicts, and the decision to convert the Šumadija hotel into a military hospital during the war negatively impacted the development of mass tourism in the destination. However, these events did not alter the overall trajectory of the destination's development.

The improvement in Serbia's transition process due to democratic changes starting in 2000, along with the privatization and subsequent reconstruction of the "Izvor" hotel in 2004, marked pivotal moments that shifted the destination's development path from mass spa tourism to luxury Spa and Wellness tourism. The privatization of a.d. can be identified as supporting events for this development. "Bukovičke Spa" which includes the hotels "Šumadija" and "Staro Zdanje" and its transformation into "Bukuljska nova slatina" a.d. as well as the development of luxury private apartments, villas and ethnic villages.

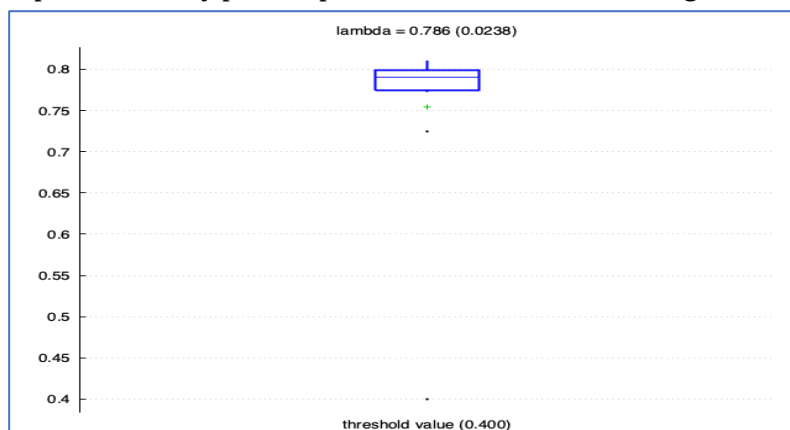


Figure 2. The value of the exponent of the degree of complexity distribution of Arandjelovac and Topola as a tourist destination

Source: Authors

This analysis of the destination's developmental dynamics highlights both positive and negative peripheral events and supporting triggering events that have influenced its evolution. It also underscores that deviations from the destination's intended development path, such as moving away from mass tourism, are influenced by local political decisions and institutional frameworks (e.g., the Sustainable Development Strategy of Šumadija and Pomoravlje). This finding contrasts with Moulart et al., (2012) assertion that deviations are primarily defined by broader economic trends rather than local context specifics. Namely, although local policy and

institutional assumptions supported the path of development of mass spa tourism, there was still a deviation from this development trajectory at the destination, but not from a deviation from the development of spa tourism, which means that there was no deviation from the specificity of the local context. The reasoning behind this lies in the fact that the triggering events originated internally (endogenous triggering events), indicating that the system itself fostered adaptability and progression.

Figure 2 shows the value of the exponent of the degree of distribution (λ) in relation to the complexity threshold value (λ_c) of the destination as a complex and dynamic system. The value (λ) is 0.786 with a standard error (0.0238). The value of this indicator indicates the relative complexity of the destination as a system, but the fact that it is well above the threshold indicates that the system does not exhibit the characteristics of a chaotic system. Bearing in mind the theoretical assumptions of the system theory, the implication of this characteristic of the destination is reflected in the low creativity and innovation of the destination.

ANALYSIS OF THE COMPETITIVENESS OF ARANDJELOVAC AND TOPOLA AS TOURIST DESTINATION IN THE CONTEXT OF SOCIAL EXCHANGE THEORY

The growing societal awareness that destination development must encompass sustainability across economic, ecological, socio-cultural, and political dimensions underscores the necessity to evaluate the potential and competitiveness of destination development, considering diverse societal factors [1]. Given the comprehensive scope of the social exchange theory, an assessment of Arandjelovac and Topola's competitiveness as tourist destinations should be conducted within this theoretical framework.

The development of tourism at the destination is seen as a means of diversifying the local economy and reducing dependence on the processing industry, primarily the non-metal processing industry. Hence, the development of the destination is recognized as a strategic goal of the local economy, which should be achieved by exploiting the advantages of this area. At the same time, in the context of the theory, destination development is seen as a means to strengthen and increase the economic sustainability of marginalized areas, by encouraging social regeneration and improving the living conditions of marginalized rural areas. In support of this, the best evidence is the determination and support for the development of rural and rural tourism. Attributing a strategic role to the development of tourism in the destination and strengthening its competitiveness is especially justified, if and only if there are positive effects from the development of the destination on the economic strengthening of other sectors, not only in the territory of Arandjelovac and Topola, but in the entire region of Šumadija. This can only be seen on the basis of the analysis of the causality between the development of tourism at the destination and the strengthening of its competitiveness and the economic expansion of the region.

Causality analysis was performed using the Granger causality model. The development of tourism at the destination, i.e. the strengthening of its competitiveness, is expressed through the growth rate of the number of overnight stays at the destination, while the development of the Šumadija region is expressed through the growth rate of the region's gross domestic product. The model can be represented mathematically as follows:

$$TD_t = \alpha + \sum_{i=1}^m \beta_i (TD)_{t-i} + \sum_{j=1}^n \tau_j (GDP)_{t-j} + \mu \quad (5)$$

$$GDP_t = \theta + \sum_{i=1}^p \phi_i (GDP)_{t-i} + \sum_{j=1}^q \psi_j (TD)_{t-j} + \eta_t \quad (6)$$

where as:

- TD_t - rate of growth in the number of overnight stays at the destination;
- GDP_t - the rate of growth of the gross domestic product of the Šumadija region;
- μ, η - model residuals assumed to be identical and independently distributed (Independent and identically distributed - IID) with $N(0,1)$.

The parameters of models (5) and (6) were estimated using the least squares method for the following four possible cases:

1. that the change in the growth rate of the gross domestic product of the Šumadija region affects the change in the growth rate of the number of overnight stays at the destination:

$$\sum_{j=1}^n \tau_j \neq 0 \text{ и } \sum_{j=1}^q \psi_j = 0 \quad (7)$$

2. that the change in the growth rate of the number of overnight stays at the destination affects the change in the growth rate of the gross domestic product of the Šumadija region:

$$\sum_{j=1}^n \tau_j = 0 \text{ и } \sum_{j=1}^q \psi_j \neq 0 \quad (8)$$

3. that there is a two-way causal relationship between changes in growth rates:

$$\sum_{j=1}^n \tau_j \neq 0 \text{ и } \sum_{j=1}^q \psi_j \neq 0 \quad (9)$$

4. that there is no relationship between changes in growth rates:

$$\sum_{j=1}^n \tau_j = 0 \text{ и } \sum_{j=1}^q \psi_j = 0 \quad (10)$$

The results of the stationarity test of the time series of the growth rate of tourism income and the growth rate of the gross domestic product, as well as the optimal number of arrears, are shown in Table A1, with the note that the stationarity analysis was performed using the unit root test (extended Dickey - Fuller - ADF test), with respect facts about whether the data series has a trend or not, as well as whether it oscillates around a constant or not. To determine the optimal number of delays, in the case of the stationarity test, the rule was used. Although both data series showed the characteristic of non-stationarity, the fact that they have a different number of unit roots, i.e. that the TD series becomes stationary only after applying the second-order differentiation technique, i.e. GDP becomes stationary after applying the first-order differentiation technique, points to the conclusion that there is no cointegration between the series. The optimal length of delays was determined by applying appropriate information criteria, such as Akaike (AIC), Schwarz-Bayesian (BIC) and Hannan-Quinn (HQC).

An examination of the causal relationship between tourism development at the destination, its enhanced competitiveness, and the economic growth of the Šumadija region during the period from 2010 to 2020 indicates a clear cause-and-effect dynamic between these factors. The results of the analysis of the cause-and-effect relationship between these two developments shown in Table 2 indicate the following:

- that the economic development of the Šumadija region affects the development of the destination and the strengthening of its competitiveness. This can be explained by the fact that with the economic strengthening of the region, the living standard of the population increases, so a larger amount of the budget can be spent on tourism. This is to be expected if we bear in mind that according to the data of the Republic Institute of Statistics, in the observed period over 82% of tourists at the destination are domestic tourists. There is no data on the percentage of guests from the Šumadija region in the total number of domestic tourists. In addition to this, the development of the region allows more significant funds to be invested in the improvement of certain constitutive elements of the destination, which contributes to strengthening its competitiveness and attracting new tourists;
- the lack of substantial impact from tourism development and enhanced competitiveness on regional development can be attributed to the relatively minor share of income derived from tourism compared to other sectors. This suggests that tourism in the destination has not yet attained a level where it could be considered a strategic sector for the region.

Table 2. Results of the causality test between the development of tourism at the destination and the economic development of the Šumadija region

Causality			Test value	p-value
There is no Granger causality between dGDP and ddTD			F(2, 2) = 19,594	0,048
There is no causality in the Granger sense between ddTD and dGDP			F(2, 2) = 1,253	0,443
Equation 1: dGDP dependent variable				
	<i>Coefficient</i>	<i>St. error</i>	<i>t-ratio</i>	<i>p-value</i>
Const	1,27196	1,454	0,874	0,474
dGDP _(t-1)	-0,164	0,936	-0,175	0,877
dGDP _(t-2)	-2,779	1,681	-1,651	0,24
ddTD _(t-1)	-32,280	20,459	-1,578	0,255
ddTD _(t-2)	15,615	16,452	0,941	0,443
R ²	0,74			
Equation 2: ddTD dependent variable				
	<i>Coefficient</i>	<i>St. error</i>	<i>t-ratio</i>	<i>p-value</i>
Const	0,059	0,115	0,514	0,658
dGDP _(t-1)	-0,015	0,074	-0,205	0,856
dGDP _(t-2)	-0,226	0,132	-1,704	0,23
ddTD _(t-1)	-2,674	1,618	-1,653	0,24
ddTD _(t-2)	1,136	1,301	0,873	0,474
R ²	0,76			

Source: Authors

Of course, not only positive effects from destination development on regional development and vice versa occur, as best evidenced by the research results of [2], [3], [29]. This is particularly evident in a situation where most inputs are imported, which leads to the leakage of newly created value from tourism. The analysis of the impulse response function shown in Figure 3 clearly indicates that shocks in the economic development of the region, in a short period of time, will not have an impact on the development of tourism at the destination and the strengthening of its competitiveness, but the effects will be felt significantly in the long term.

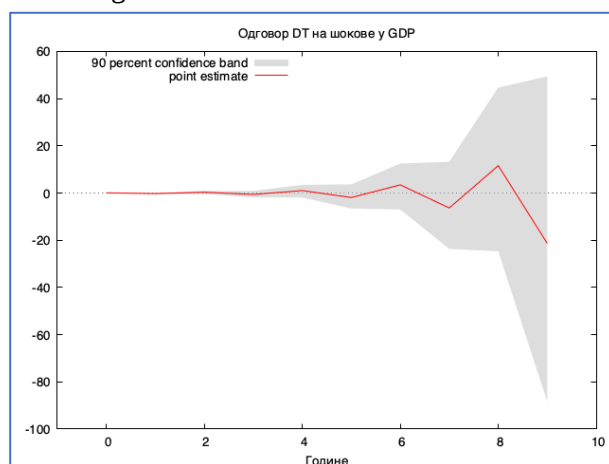


Figure 3. Impulse response function of tourism development at the destination to shocks in the economic development of the Šumadija region

Source: Authors

The first effects of shocks in the development of the region will be felt in a period of 4 to 6 years. This is important to keep in mind for planning and defining development strategies for both the region and the destination. The analysis of the impulse response function of the development of tourism at the destination and the strengthening of its competitiveness to shocks in the development of the destination indicates somewhat different conclusions than expected. The effects are expected to be felt immediately. However, the analysis shows that significant effects will be felt only in the medium term, with the effects being more intense. The results are shown in Figure 4.

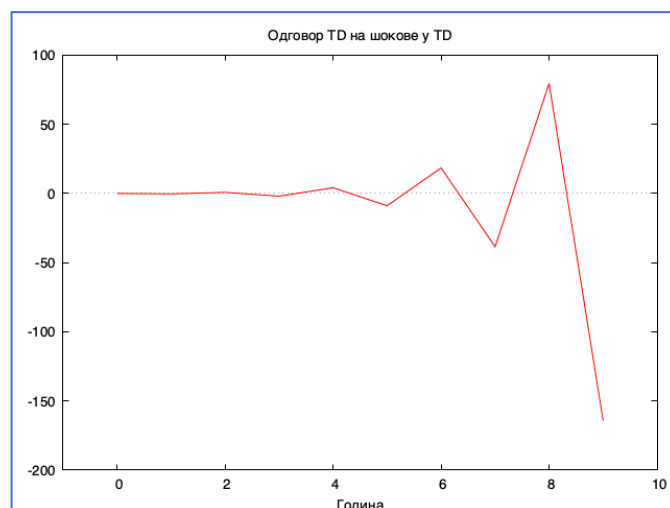


Figure 4. Impulse response function of destination tourism development to destination shocks
Source: Authors

According to the findings of Tugc [29], negative effects from the development of tourism in the destination can also be a consequence of the wrong distribution of income in the destination. The consequence of the wrong distribution of income will be that some constitutive elements lose their substance, which will negatively reflect on the entire chain of value creation in tourism at the destination.

CONCLUSION

In the last thirty years, tourism has become one of the most attractive economic branches that attract enormous attention from professional circles, as well as academics and the general public. It represents one of the key branches in the development of national economies. Highly developed economies see tourism as a sector that generates large inflows of money, contributing to the growth of employment and gross domestic product. Developing countries see tourism as a means to diversify the economy and reduce dependence on the primary and secondary industries, but also as a means to strengthen and increase the economic sustainability of marginalized areas, by encouraging social regeneration and improving the living conditions of marginalized rural areas. However, regardless of the role attributed to it, tourism represents one of the most complex economic branches, because the creation of a tourist product, integrates the cooperation of a large number of factors and different human activities, which at first glance seem unrelated, but are very spatially and temporally connected [10]. The tourist product is precisely the result of their cooperation, and its quality, as well as competitiveness, are determined by the degree of coordination and synchronization between all those heterogeneous factors and agents along the chain of creating additional value in tourism.

Since the perception of the overall quality of the tourist product by tourists depends on their experience at the destination, it becomes essential for the competitiveness and development of tourism in a national economy. More precisely, it occupies a central place because it represents the starting point to which tourists aspire and because it has the power to shape and create a tourist offer, offering tourists integral content that goes beyond the boundaries of a single place or region. That is why it is important to discover the factors that determine its development through the quantification of their impact on improving the destination's competitiveness. Since tourism plays a significant role in strengthening national economies, especially in those countries where it is recognized as a strategic sector, understanding the determinants of the destination's competitiveness will enable an understanding of how it is possible to improve national competitiveness.

The first step in studying the determinants of a destination's competitiveness implies that the tourist destination is defined in a way that will allow seeing all the elements and factors that influence its competitiveness. One of the solutions was found in treating it as a complex and dynamic system. Treating the tourist destination in this way made it possible to look at all its constitutive elements, their mutual interactions, as well as the interactions and influences of the external environment, in order to identify the desirable features of the destination as a complex and dynamic system.

Starting from the fact that systems differ both according to the number of constitutive elements and according to the quality and number of their relations, relations and connections, and that in this context different elements will have different importance in achieving the desirable features of the destination as a complex and dynamic system, for the analysis dynamics of the development of Arandjelovac and Topola as a tourist destination, data on the construction of accommodation facilities for the period from 1811 to 2020 were used, while the analysis of the competitiveness of destinations in the context of the theory of social exchange was carried out for the period from 2010 to 2020. The results of the research indicate a series of significant discoveries, which can be useful to the creators of social policies, primarily at the local level, but also to other participants in the chain of creating additional value in tourism at the destination.

The first significant discovery refers to the fact that a turning point has been identified in the development of the destination from traditional, mass spa tourism to luxury spa tourism, which is oriented towards a segment with greater purchasing power. The successful privatization of the "Izvor" hotel and its transformation into a luxurious Spa & Wellness Resort influenced the change in the direction of tourism development in the destination. In the context of the concept of moments of the trajectory of the evolution of a tourist destination, the privatization of the "Izvor" hotel and its transformation into a luxury Spa & Wellness Resort represent a trigger in changing the trajectory of tourism development at the destination.

Another notable finding is that there exists no reciprocal causal relationship between the development of tourism at the destination and the economic growth of the Šumadija region where the destination is situated. Research findings indicate that the tourism development in the destination does not exert a significant impact on the broader economic growth of the region. The justification for this can be found in the fact that tourism has a small share in the overall economic activities of the region, and therefore the recorded growth rates in the observed period did not have a significant impact on the economic growth rate of the region. On the other hand, the economic growth of the region has a positive effect on the development of tourism at the destination. This is explained by the fact that economic growth is accompanied by an increase in the purchasing power and living standards of the inhabitants of Šumadija so that they can direct a significant part of the budget to spend on tourism.

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APPENDIX 1.*Table A1. The result of the stationarity test and the optimal number of lagged.*

ADF test				optimal number of lagged.					
TD		GDP		AIC		BIC		HQC	
test value	p – value	test value	p – value	No. Lag.	the value of the criteria	No. Lag.	the value of the criteria	No. Lag.	the value of the criteria
-1,150	0,861	-2,94	0,382	1	4,847	1	4,801	1	4,274
-2,136 ¹	0,236	-4,566 ¹	0,008	2	4,688*	2	4,610*	2	3,733*
-3,355 ²	0,047	-	-						

*Note: 1 and 2 refer to the application of the differentiation technique of the first and second order, respectively. Tests were conducted for a confidence level of 95%. * indicates the optimal number of lagged.*

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