

## Model for the assessment of competitiveness of geotourist destinations in Slovakia

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### ABSTRACT

The paper is devoted to the issue of competitiveness of geotourist destinations in Slovakia. It assumes that competitiveness is a trait that determines the success of a destination in competition with other geotourist destinations not only for regional and trans-regional level. On the basis of clearly defined indicators directly and indirectly affecting the competitiveness of geotourist destinations a model of its assessment is proposed on the basis of which it is possible to predict the specific level of competitiveness of assessed geotourist destinations.

**Key words:** geotourist destination, competitiveness, geotourism

### INTRODUCTION

In the territory of Slovakia there is a number of destinations with attractive geotourist locations, which include hydrogeological, stratigraphic, paleontological, tectonic, or speleological sites, including many mining objects, technical, or other historical monuments. Their competitiveness is determined by several specific factors based upon the general principles of geotourism which is an integral part of the recreation of almost all actors involved in tourism. Competitiveness of destinations can therefore be generally understood as the correlation of two or more geotourist destinations that compete among themselves and during this process each is trying to gain some competitive advantage. During the constant competitive struggle at the same time, the competitive potential is formed in the direct interaction at very competitive ability of a particular geotourist destination.

From the above information, the competitiveness can be understood as a

form geotourist potential, which is formed by a multilateral set of factors creating a favourable destination environment. For these reasons, it is necessary to assess the competitiveness of geotourist destinations based on clearly defined indicators of primary, secondary, tertiary sector but also destinations that can be clearly quantified and compared with one another.

### GENERAL CHARACTERISTICS OF GEOTOURIST DESTINATIONS

Based on generally applicable definitions of tourist destinations, a geotourist destination can be understood as “a specific target area with typical wide geotourist attractions and tourism infrastructure” (Pavolová et al., 2011). Geotourist destination as a product and thus a competitive unit of geotourism is a system composed of individual service providers (accommodation, catering, sports facilities, montane monuments, cultural and historical monuments, etc.) influenced by the

environment in which it is operated (political, economic, social, natural environment) (Pavolová et al., 2012).

Geotourism is a new and dynamically evolving form of tourism oriented mainly on geomorphological, geological, mineralogical, paleontological, speleological attractiveness whose origin is in the natural values of the area (Weis & Kubinský, 2012), or exploring of technical, cultural and historical sites associated with mining activity such as mining works, mining museums and the like (Drebenstedt et al., 2011).

From the above information the definition of indicators, based on which it is possible to assess the competitiveness of geotourist destinations, it is necessary to base it on identification of geotourist attractive sites occurring in a particular destination, i.e. on geotourist specifics forming a significant competitive advantage, as well as other objects of primary, secondary and tertiary sector of geotourist offer.

### **MODEL SOLUTION FOR ASSESSING THE COMPETITIVENESS OF GEOTOURIST DESTINATIONS**

Competitiveness is determined by geotourist destinations and their potentials, which can be assessed on the basis of clearly pre-defined indicators. According to the document on the development of a tourism development (MDVRR SR, 2013) and annual reports (SACR, 2013) we can assess, at regular intervals, indicators of development of tourism in Slovakia including the number of overnight stays of tourists, the number of tourists, number of beds, number of accommodation facilities, foreign exchange income, foreign currency expenditure. These indicators can further include the development of tourism ratios, e.g. tourist intensity and density. These indicators can be accurately quantified and thus mutually compared. Therefore, it would be appropriate to include in the system management an approach promoting

competitiveness of geotourist destinations.

In the case of identification of geotourist potential which is influenced by the specific features of geotourist destinations, i.e. geological composition determining the occurrence of spatial objects, it is also necessary to include into the competitiveness the assessment of this indicator which also determines their competitive advantage. In assessing the competitiveness it is necessary to take into account the significant negative aspects connected to previous development of tourism in Slovakia, for example inadequate infrastructure, lack of skilled professionals, lack of financial resources for further development of geotourist destinations, illegal accommodation (Muchová & Pavolová, 2011), and the incidence of various types of brownfields, which reduce the overall attractiveness of the destination and ultimately their competitiveness.

Generalising the previously mentioned facts we started to put together the matrix of positive (Tab. 1) and negative (Tab. 2) factors affecting the competitiveness of geotourist destinations that predict specific level of competitiveness, in which we also quantified the weight of their importance to the need to define the above-mentioned competitiveness. When quantifying the importance weights, which also indicate the degree of interactions of assessed aspects, we used the methodological approach described below:

- identification of positive and negative factors affecting the competitiveness of geotourist destinations,
- creation of a square matrix of size  $m \times n$ , where  $m=n$ , i.e. to the defined number of factors,
- the individual factors were compared and weighed with values 1, 0, and 0.5,
- if the considered factor is more important than the one it was compared with, we assigned a value of 1, if it is less important, we assigned 0, and if they are on the same level we assigned 0.5,
- on the matrix diagonal we did not put

any value (Tab. 1, Tab. 2),  
 - then we created partial sums of the individual lines, which were quantified by summing the final value reflecting the interactions of factors which were used for quantification of the final value of the individual weights  $\alpha_i$ .

The proposed matrices of positive and negative factors affecting the

competitiveness of geotourist destinations are closely related to a specific category of competitiveness based on the quantification of their mutual ratio (Table 3), which indicates the predominance of positive over negative factors and hence the use of competitive advantages in form of geobjects in this model.

**Tab. 1** The matrix of positive factors of promoting competitiveness of geotourist destination

Factor	spa & treatment facilities	cultural and historical monuments	natural wealth	hydrogeological sites	mining objects	caves	stratigraphic locations	protected areas	paleontological sites	sum	$\alpha_i$
spa & treatment facilities	<b>X</b>	0.5	0.5	0.5	0.5	0.5	0	0.5	0	3	<b>7.79%</b>
cultural and historical monuments	0.5	<b>X</b>	1	1	0.5	0.5	0.5	1	0	5	<b>12.99%</b>
natural wealth	0.5	0	<b>X</b>	0.5	0.5	0.5	0.5	1	1	5.5	<b>14.29%</b>
hydrogeological sites	0.5	0	0.5	<b>X</b>	0.5	0.5	0	0.5	1	4.5	<b>11.69%</b>
mining objects	0.5	0.5	0.5	0.5	<b>X</b>	0.5	1	1	0.5	5.5	<b>14.29%</b>
caves	1	0.5	0.5	0.5	0.5	<b>X</b>	0.5	0.5	0.5	4.5	<b>11.69%</b>
stratigraphic locations	0.5	0.5	0.5	1	0	0.5	<b>X</b>	0.5	0.5	4	<b>10.39%</b>
protected areas	0.5	0	0	0.5	0	0.5	0.5	<b>X</b>	0.5	2.5	<b>6.49%</b>
paleontological sites	1	1	0	0	0.5	0.5	0.5	0.5	<b>X</b>	4	<b>10.39%</b>

**Tab. 2** The matrix of negative factors of promoting competitiveness of geotourist destination

Factor	inadequacy of prices to the services	non-conceptual development of geotourism	lack of infrastructure	lack of skilled professionals	illegal accommodation	language barrier	occurrence of brownfields	deficit of financing to expand	suma	$\alpha_i$
inadequacy of prices to the services	<b>X</b>	0.5	0	0.5	0.5	0.5	0.5	0.5	3	<b>10.71%</b>
non-conceptual development of geotourism	0.5	<b>X</b>	0.5	0.5	0.5	0	0	1	3	<b>10.71%</b>
lack of infrastructure	1	0.5	<b>X</b>	1	0.5	0.5	1	0.5	5	<b>17.86%</b>
lack of skilled professionals	0.5	0.5	0	<b>X</b>	0.5	0	0.5	0.5	2.5	<b>8.93%</b>
illegal accommodation	0.5	0.5	0.5	0.5	<b>X</b>	0	0.5	0.5	3	<b>10.71%</b>
language barrier	0.5	1	0.5	1	1	<b>X</b>	1	0.5	5.5	<b>19.64%</b>
occurrence of brownfields	0.5	1	0	0.5	0.5	0	<b>X</b>	0	2.5	<b>8.93%</b>
deficit of financing to expand	0.5	0	0.5	0.5	0.5	0.5	1	<b>X</b>	3.5	<b>12.50%</b>

**Tab. 3** Scoring ratio of positive and negative factors affecting the competitiveness of geotourist destination

Factor	positive	negative	$\alpha_i$	scoring ratio
inadequacy of prices to the services		3	<b>42.11%</b>	<b>1.4</b>
non-conceptual development of geotourism		3		
lack of infrastructure		5		
lack of skilled professionals		2.5		
illegal accommodation		3		
language barrier		5.5		
occurrence of brownfields		2.5		
deficit of financing to expand		3.5		
spa & treatment facilities	3	<b>57.89%</b>	<b>57.89%</b>	
cultural and historical monuments	5			
natural wealth	5.5			
hydrogeological sites	4.5			
mining objects	5.5			
caves	4.5			
stratigraphic locations	4			
protected areas	2.5			
paleontological sites	4			

Based on the outcome of the quantification of the relationship of positive and negative factors of competitiveness of geotourist destinations we can proceed to the identification of categories of competitiveness that accept numeric expression ratio just above defined positive and negative factors directly affecting the competitiveness (Tab. 4) under which it is possible to state that competitiveness is good in this model solutions.

Described model solution for assessing the competitiveness of geotourist destinations is based on the general principles and respects the definition of geotourist destinations. The very process of assessing the competitiveness in close interaction to the further development of geotourism should be an integral part of management support for competitiveness with clearly defined rules for monitoring and periodic evaluation of pre-defined quantitative indicators of geotourism. Systemic approach to promoting the competitiveness of geotourist destinations

should be based on effective plan projects to increase the attractiveness of the priority acceptance of specifics and further development of geotourism. It may affect the overall economic prosperity of not only all professional traders in geotourism but also the geotourist destinations.

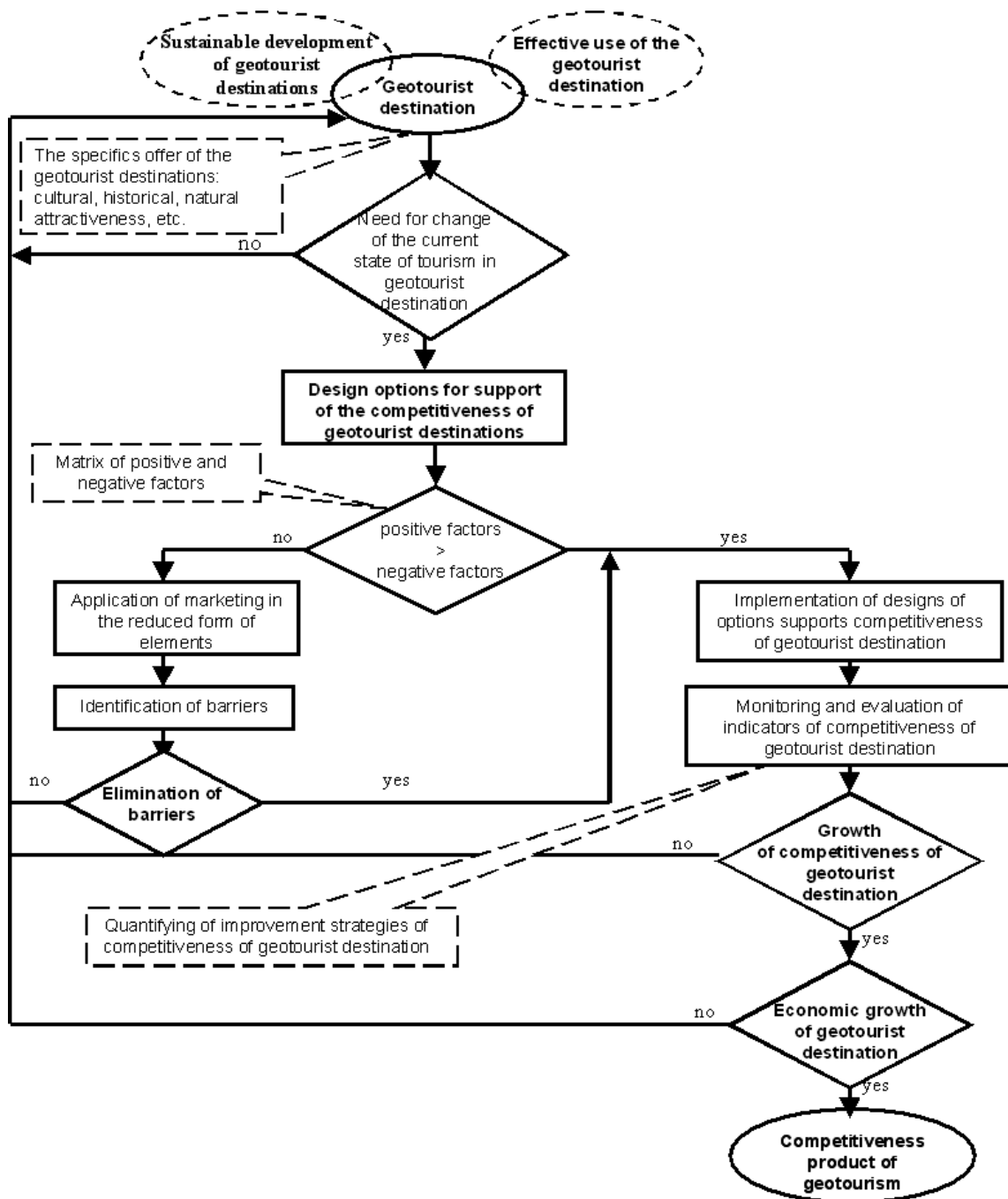
The above information, leading to increased competitiveness of geotourist destination, can be continuously integrated into the model management system supporting the increasing competitiveness of geotourist destination (Fig. 1) accepting the fact of dynamically changing preferences and portfolio composition of participants of the geotourism of particular destination that respects the particularities of geobjects and the needs of tourists.

Proposed management model for improving the competitiveness in order to create a competitive geotourist product points to a systemic approach in solutions that can be used on a global level in all other areas of partial support of tourism development.

**Tab. 4** Categorization of geotourist destination competitiveness

Categorization of geotourist destination competitiveness			Scoring ratio
<b>I. category</b>	Excellent	more than 2	
<b>II. category</b>	Very good	1.99 – 1.70	
<b>III. category</b>	Good	1.69 – 1.40	
<b>IV. category</b>	Satisfactory	1.39 – 1.10	
<b>V. category</b>	Sufficient	1.09 – 1.00	
<b>VI. category</b>	Insufficient	less than 1	

This model, based on the generalized characteristics, can be arbitrarily expanded to include additional specific inputs, factors of positives and negatives in the evaluation matrix of competitiveness as an integral part of this model, or supplement, for example, the opportunities and threats affecting the scope of the evaluation matrix or the actual enlargement of geotourism



**Fig. 1** Model of management support competitiveness of geotourist destinations in Slovakia

indicators. In this way, we would reach various modifications of the proposed model for application in other areas of the national economy, for example in the management of environmental and socio-economic development of regions in Slovakia, and in promoting the use of renewable energy sources in order to accomplish greater energy security of Slovak micro-regions, or even in the field of system management of population supply with healthy and safe drinking water, etc. This model of system approach (Fig. 1) can be used also in monitoring and comparison of predicted status of the proposed project for improving the competitiveness with the real state after its implementation.

## CONCLUSION

Competitiveness of geotourist destinations is the result of the synergistic action of factors creating their geotourist environment. Competitiveness is a subject to the structure of geotourist attractions, educational level of the workforce, the structure of economic activities, the availability of destination, or funds to

support the development. These factors are reflected in the development of measurable indicators of geotourism in specific destinations according to which it is possible to review the progress of geotourism, to identify competitiveness, or devise a strategy to use its competitive advantage to increase.

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