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## Article

# Sectoral tourism concentration in the context of the regional policy

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## Sectoral Tourism Concentration in the Context of the Regional Policy<sup>1</sup>

Anna MICHÁLKOVÁ – Viera KUBIČKOVÁ – Jozef GÁLL\*

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### Abstract

*The main goal of the article is to evaluate the importance of regional competitiveness of tourism as a factor of regional growth. The starting point is to examine the operation of cluster tourism organizations in the identified natural clusters of tourism. By calculating the location quotient, we obtain an overview of the concentration of the tourism sector in the Slovak regions and, by applying shift-share analysis, we explain the impact of regional competitiveness in tourism on regional growth and profiling of regional specialization in tourism. The existing cluster tourism organizations do not copy the sectoral tourism concentration in the regions. Only three tourist regions where cluster organizations operate are characterized by regional competitiveness in the context of the profiling of tourism specialization. The justification for the questionable action of cluster tourism organizations and their public funding is a challenge for the formulation of a cluster and regional tourism policy.*

**Keywords:** *tourism clusters, clustering, location quotient, shift-share analysis, tourist regions of Slovakia*

**JEL Classification:** L83, O18

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## Introduction

The most of cluster organizations in the Slovak Republic were established in 2008 in connection with the EU budget for the period 2007 – 2013 and the possibility of drawing from public resources for clustering in the regions. In addition to cluster organizations in the industry sector, cluster organizations in tourism were also established. Besides the EU funding opportunities, the unresolved situation in the organisation of regional tourism development as well as the absence of systemic and legislative provision of destination management in tourism at that time, they both contributed to their emergence.

There are up to 13 cluster organizations in the tourism sector in the territory of the Slovak Republic. Their establishment was not guided from above or by legislative (there is no legislation specifically regulating the establishment and operation of cluster organizations, most of them act as Interest groups of legal persons) or in the form of a conceptual cluster policy or strategy at national or regional level (unified cluster policy has not been formulated).

Over the following years, there have been many impulses from private and public sector entities to establish cluster tourism organizations. The initialization phase of the subjects, to create cluster tourism organizations, is recorded by the author Némethyová (2011) in her publication and also by the database of applications for non-repayable financial contributions in the context of the call of the Regional Operational Program from 2010 (Ministry of Transport and Construction of the Slovak Republic, 2008). Examining the current situation, we can state that most entities did not fulfill their plans or ended the organization's activities in the region. The second case is represented by cluster organizations that are currently operating and involved in the intensive development of tourism in the region. The membership of these organizations has gradually (in some cases) expanded and in others has remained unchanged since their creation. The research by the authors Micháľková and Gajdoš from 2015 proves that most of the membership base is mainly represented by the public sector. Their funding has been carried out in a project, not systematically; at the same time, cluster organizations are not evaluated in any way or certified, as in the case of foreign countries. In addition to economic and social development in the region, cluster organizations strive to create a world-renowned tourist destination through the cooperation of actors and their participation in the European Union programs. The majority of tourism clusters in Slovakia were established as Interest Groups of Legal Persons and Civic Associations.

The presented paragraph intends to examine tourism clusters in the tourism regions of Slovakia as a regional concentration of tourism, resp. sectoral specialization in the context of the existence of cluster tourism organizations. We identify

the goal of the paragraph on two levels, namely to determine the scope of cluster tourism organizations in natural tourism clusters and to evaluate the importance of regional competitiveness of tourism as a factor in the growth of regions. The importance of the topic lies in the elaboration of the issue of clustering in tourism in terms of the use of the chosen method of quantification of the importance of tourism competitiveness as a factor in the growth of a region. The application of the localization coefficient as well as shift-share analysis, in the environment of tourism clusters, in the context of cluster tourism organizations is an original contribution to the issue of clustering. The application to the environment of Slovak tourism has practical benefits for the optimization of decision-making processes of regional policy and the use of public resources to support clustering. The main idea is to confirm the applicability of the presented methodological apparatus as a tool for assessing the support of clustering in the framework of regional policy and tourism development.

Table 1

#### Cluster Tourism Organizations in the Slovak Republic

Cluster organization	Registration	Seat of an organization	Legal form*
Cluster of regional Development – Western Slovakia	2008	Trnava	IALP
Balnea Cluster Dudince	2008	Dudince	CA
Cluster LIPTOV	2008	Liptovský Mikuláš	IALP
Cluster TURIEC	2009	Martin	IALP
Cluster ORAVA	2009	Dolný Kubín	IALP
Cluster Smolenice	2010	Smolenice	CA
Cluster of Border Castles	2010	Fiľakovo	IALP
Cluster HOREHRONIE	2011	Brezno	IALP
Cluster TOPOLEČANY	2012	Topoľčany	IALP
Tourism Cluster – Šariš	2014	Prešov	IALP
Tourism Cluster – Slanské Mountains	2014	Herľany	IALP
Cluster of Kremnica Mountains	2014	Krahule	CA
Cluster Oravaregión	2015	Oravský Podzámok	IALP

Note: \* CA – Civil Associations/IALP – Interest Associations of Legal Persons.

Source: processed by the authors according to data by Register of the Interest Groups of Legal Persons and Evidence of Civic Associations, Ministry of Interior of the Slovak Republic (2020).

## 1. Literature Review

Tourism is a comprehensive package of services that creates an image of the entire destination. It is not possible to operate as a separate unit in this sector (Michalová and Krošláková, 2014). Even if there was an interesting attraction in the area, without the material and technical base and additional services, it would not be able to attract visitors and keep them for a long time (Eisenstein, 2010). According to the authors Scott Baggio and Cooper (2008), such problems help solve tourism clusters, bringing innovative ideas and the incorporation of new

products and services to the destination. By facilitating cooperation and creating more beneficial links, individual entities can focus on improving the services and tourism products provided in cooperation with other entities. Thanks to this cooperation, subjects can provide more comprehensive services (Petrů, Tomášková and Krošláková, 2019). At the same time, they contribute to the overall attractiveness of the area, which can be easier and conceptually promoted through joint marketing within the cluster.

The authors Kubičková et al. (2016) argue that clusters play a key role in national and regional development. Cluster theories and concepts were initially applied mainly to the more traditional sectors and their applicability in services (especially in the tourism sector) was rare. In recent years, however, this issue has seen exponential growth. Jackson and Murphy (2002) even argue that the application of the concept of industrial clusters in the tourism sector is particularly appropriate given that the tourism product cooperates with local bases, supports joint actions of interconnected companies and institutions, and leads to the creation of agglomerates. In the world literature, the discussion on tourism clusters did not take place very dynamically from the beginning, but this situation has changed over time (Cruz and Teixeira, 2010). The authors Ferreira and Estevao (2009) in their work performed a comprehensive analysis of the definition of the tourism cluster in the world literature. They were based on a basic definition, which emphasizes the geographical concentration of companies and institutions that cooperate with them, on activities aimed at attracting the tourist area (Capone, 2004). The tourism cluster is characterized by a close connection with the concept of tourism destination, which is understood as a set of attractions, facilities, infrastructure, transport, and hospitality (Kozak and Baloglu, 2011; Pechlaner et al., 2015). The authors Tvaronavičienė and Razminienė (2017) assume that the creation of cluster organizations in the tourism sector is one of the strategies to become a successful and competitive region.

Most of the definitions of the tourism cluster are based on theoretical studies prepared by Porter in 1990 as a set of companies operating in the tourism sector in a certain area or region, which brings together companies, suppliers, customers, and other cooperating enterprises. In addition to these entities, universities, research centers, and other educational institutions operate in the cluster. In the cluster, companies not only compete with each other but also cooperate, thus gaining a competitive advantage over non-participating companies (Székely, 2008). The main benefits of tourism clusters are the rapid implementation of innovations from the theoretical sphere into practice. This is because the development of innovation is taken care of not only by the companies themselves but especially by all educational institutions. Thanks to this interconnection, innovations are brought to the

real business environment faster. Innovations in this context mean the area of human resources, human resources management, production processes, and cooperation with suppliers and customers (Stejskal and Kovárník, 2009). According to several economic studies (Barkley and Henry, 2001; Mazur et al., 2016), clustering is undeniably characterized by advantages (market position, regional development, prompt response to market demands, cost allocation, availability of other services, etc.) and disadvantages (loss of sovereignty, more dominant submission, lack of skilled labour forces, geographical location, etc.) that the creation and operation of clusters bring to members and the region (Havierníková and Janský, 2012).

The direct evidence that the clustering concept is becoming increasingly popular in the field of tourism is a constantly growing number of cluster organizations bringing together various subjects, directly and indirectly, involved in the supply of tourism products and services (European Commission, 2016). When we compare cluster organizations in the European Union and cluster organizations in Slovakia in terms of age, we find that they are much older in the European Union than in Slovakia. The first cluster organizations in the European Union began to be established before 1990 (Michálková and Gajdoš, 2015). The diversity of tourism also creates the potential for the diversity of clusters. In the conditions of Slovakia, there are clusters of tourism of a unified nature. In other European countries, platforms focusing on maritime tourism (Scotland and Portugal), the combination of medicine and tourism (Serbia), or rural and spa tourism (Austria and the United Kingdom) can be found. Currently, the largest number of tourism clusters, within the European Union, is located in Hungary and Italy (the European Union, 2020). In terms of employment of inhabitants, in tourism clusters, these are mainly the countries of Western Europe (Great Britain, Spain, Germany, Italy, and France), where tourism clusters employ the most inhabitants. Slovakia also recorded the lowest values in comparison with neighboring countries (the European Commission, 2020).

According to the European Cluster Observatory, the goal of cluster organizations is primarily to build a cluster identity and branding the cluster or region, initiating innovative projects and R&D investments, building a cluster strategy and vision. Other goals include business support, growth and investment, export promotion, value chain development, and more (European Commission, 2012).

Foreign research on regional development (conducted in France, Germany, Sweden, Italy, India, China, Japan, the USA, and Poland) shows that clusters are the primary source of competitiveness (Mikołajczyk, Kurczewska and Fila, 2009). The key to shaping the competitiveness of regions and expressing the level of competitiveness is new innovative services and products, improving them to gain an advantage over other regions in the market and gain as many

consumers, investors, tourists, and last but not least residents (Pichierri, 2002). In this context, Porter (2004) highlights the effects of the functioning of cluster structures and their role in the form of a tool and potential for the development of the region's economy and as a source of its competitive advantages. The competitiveness of a region can generally be determined by indicators that determine the region's ability to compete with other regions (Rehák, 2004). In terms of cluster issues, one of the most commonly used devices is shift-share analysis.

From the various issues of cluster analysis, the identification of clusters using appropriate and complex methods has always been a central theme. As a result of efforts to gain a theoretical and conceptual understanding of cluster mechanisms, there are currently several documents processed by indices on the concentration of economic activities from case studies to empirical work (Allahar, 2015). The available literature compiled by various authors (Bergman and Feser, 1999; Andersen, Bjerre and Hansson, 2006; Pavelková et al., 2009; Brachert, Titze and Kubis, 2011) reveals many different methods of identifying industrial clusters. Successful examples of the application of these indices, in the context of cluster identification, are found mainly in the international literature. The authors Klein, Kies and Schulte (2009), Reveiu and Dârdala (2011), Maťátková and Stejskal (2012), Havierníková (2013), and Titova, Pervuhin and Baturin (2017) applied quantitative methods of cluster identification (localization coefficient and shift-share analysis) in their studies. In connection with tourism clusters in the conditions of the Slovak Republic, the authors Michálková and Gajdoš (2015) carried out a survey which mapped the then situation of clustering in tourism across Slovak regions. Some studies have mapped a potential cluster using a location coefficient and shift-share analysis in selected tourist regions (Gáll and Strežo, 2019) or applying the Ellison-Glaeser Index to analyse the concentration of tourism in the sectoral structure of the Upper Považie region (Gáll, 2019). As the issue of cluster research is not processed in the environment of tourism, the presented study will bring new findings and conclusions.

## **2. Methodological Framework**

We formulate two research questions to fulfill the intention and goal of the paragraph.

*Research question No. 1*

*Are natural tourism clusters in Slovakia covered by cluster organizations?*

*Research question No. 2*

*Is the regional competitiveness of tourism the most important factor in the region's growth in the regions in which the tourism cluster organization operates?*

In the context of the research question and the methodological apparatus used, the growth factor of a region is a combination of the effects of three basic components – national growth, growth in individual sectors, and growth caused by regional factors. The regional component, as the most important component in our research, points to progress, resp. stagnation of the sector in the region. Positive values of the regional component are presented as a comparative advantage of the region over the national level and vice versa (Quintero, 2007). The starting point of the research is the mapping of existing cluster tourism organizations and the sectoral tourism concentration in the tourist regions of the Slovak Republic.

Since there is no database of cluster tourism organizations (Union of Slovak Clusters (2020) records only member subjects, Slovak Innovation and Energy Agency (2020) – Ministry of Economy of the Slovak Republic records only 5 tourism clusters) the search was based on databases of the Ministry of Interior of the Slovak Republic and various organizational and legal forms of associations whose records are kept. Using the data obtained, it was possible to create a map of cluster tourism organizations with their membership and seat location in a statistical software R (R Core Team, 2020).

The spatial tourism concentration in various tourist regions of the Slovak Republic is examined through location quotient regarding tourist regions (tourist regions in the Slovak Republic do not overlap with administrative regions). Porter (1998) used the work of the authors Kim (1995) and Hoover (1936), who in their works proposed to calculate the location unit as the share of industry in employment in the region compared to the total employment of industry in the aggregated location unit. He expressed this relationship as follows:

$$LQ = \frac{local_i / local}{SR_i / SR} \quad (1)$$

where

- $LQ$  – location quotient,
- $local_i$  – number of employees in the sector  $i$  in the region,
- $local$  – total number of employees in the region,
- $SR_i$  – number of employees in the sector  $i$  at a higher level,
- $SR$  – total number of employees at a higher level.

The calculations are based on employment data, from the DATAcube database by the Statistical Office of the Slovak Republic – Employees by economic activity collected through workplace method regarding the NACE I section (2019a,b). The survey was carried out for the year 2018 as well as the year 2007.



The year 2007 was a year in which the support of clusters from national and regional sources has not been implemented and no cluster organization has operated in the Slovak Republic (the support of clusters was first identified as one of the measures in the strategic and development documents of Slovak Republic in the programming period of European Structural and Investment Funds 2007 – 2013). The tourism concentration in the regions was not influenced by the action of cluster organization and the support of clustering from public resources. The reached outputs of the index will determine the level of sectoral concentration and on its basis will be identified natural tourism clusters in tourist regions of the Slovak Republic.

To better identify the situation in tourist regions in connection with the calculations of the sectoral tourism concentration, we examine the actual development of tourism employment in various regions and explain it through shift-share analysis.

The purpose of this instrument is to analyse changes in economic production or employment by sector by evaluating their performance, including sectoral employment growth in the region compared to the national level. The shift-share analysis is based on the assumption that regional economic growth is influenced by a combination of the effects of three basic components – national growth, growth in individual sectors, and growth that is caused by regional factors (Primont and Domazlicky, 2008).

The national component measures how much total employment in the region has increased due to the growth of the national economy during the period analysed. The industrial component identifies fast-growing or slow-growing industries in the region based on the national growth rates for each sector. The effect of regional competitiveness is the most important component of the shift-share analysis, as it explains how much of the change in a particular industry results in the unambiguous competitive advantage that the region has. The detailed analysis of the individual components of shift-share analysis and their mathematical expression is based on the work of Sambidi (2008):

$$NS = local_i^{t-1} x \left( \frac{SR^t}{SR^{t-1}} - 1 \right) \quad (2)$$

$$IM = local_i^{t-1} x \left[ \left( \frac{SR_i^t}{SR_i^{t-1}} - \frac{SR^t}{SR^{t-1}} \right) \right] \quad (3)$$

$$RS = local_i^{t-1} x \left[ \left( \frac{local_i^t}{local_i^{t-1}} - \frac{SR_i^t}{SR_i^{t-1}} \right) \right] \quad (4)$$

where

- $NS$  – national share component,
- $IM$  – industrial mix component,
- $RS$  – regional shift component,
- $local_i^{t-1}$  – regional employment in sector  $i$  in the original year  $t-1$ ,
- $local_i^t$  – regional employment in sector  $i$  in the actual year  $t$ ,
- $SR^{t-1}$  – national employment in the original year  $t-1$ ,
- $SR^t$  – national employment in the actual year  $t$ ,
- $SR_i^{t-1}$  – national employment in sector  $i$  in the original year  $t-1$ ,
- $SR_i^t$  – national employment in sector  $i$  in the actual year  $t$ .

The total change in employment in the region represents the sum of all three of the above components:

$$TEC = NS + IM + RS \quad (5)$$

Again, we compare the starting year 2007 with the year 2018. Based on this research, it is possible to present the outcome about the impact of regional competitiveness in tourism on regional growth and the profiling of regional specialization on tourism.

### 3. Results and Discussion

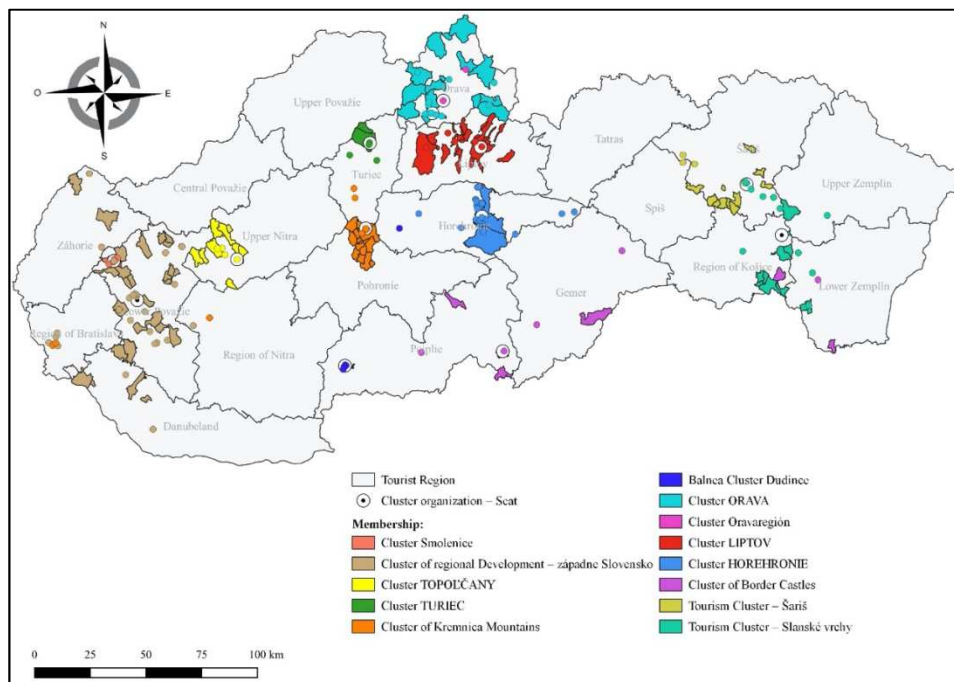
Although cluster tourism organizations have been a long-term issue in the Slovak Republic, they still do not have a sufficiently certain position and importance, as in the case of foreign countries. The evidence of the lack of attention to this phenomenon is the absence of a cluster concept, strategy, or cluster policy. Despite this fact, cluster tourism organizations were set up during the EU budget for the period 2007 – 2013. Based on the searched cluster tourism organizations and the information obtained (Table 1), we created a map of these organizations, in which we capture the current state of their membership base as well as the location of their seat within the Slovak Republic (Figure 1).

The results of the location quotient of geographical concentration in tourist regions (Table 2) show that in 2018 of all 21 regions, tourism was above-average concentrated in twelve tourist regions – Liptov, Orava, Spiš, Tatras, Upper Nitra, Turiec, Horehronie, Šariš, Pohronie, Záhorie, region of Bratislava and Lower Považie. At the same time, only in the tourist region of Liptov, with a large distance in the region of Orava, Spiš, and Tatras, the level of regional specialization (the location quotient values above 1.2) has been reached. These popular and long-term search destinations in the Slovak Republic are not only statistically most visited regions (the Statistical Office of the Slovak Republic, 2018), but

also have high-quality localization and implementation prerequisites for tourism development (Ministry of Economy of the Slovak Republic, 2005). Below the value of the location quotient 1.0, there is long-term (in terms of tourism) mainly less-developed tourist regions of the southern and eastern Slovak Republic areas.

Figure 1

**Location of Cluster Tourism Organizations in the Slovak Republic and Their Membership (2018)**



Source: processed by the authors using statistical program R according to data by Register of the Interest Groups of Legal Persons and Evidence of Civic Associations, the Ministry of Interior of the Slovak Republic (2020).

Even in 2007, when clustering was not yet supported from public resources (starting EU budget period), the level of regional specialization in tourism reached the region of Spiš, Tatras, Liptov, and the region of Bratislava. The location quotient values of the region of Bratislava during the period decreased to the current level of only slightly/slightly above-average sectoral concentration. Since the region did not operate or currently operate the cluster tourism organization, the support of clustering from public resources, flowing through functional cluster organizations has not been used. The opposite is the tourist region of Orava, who is the location quotient value increased significantly during the period, transforming from below-average tourism concentration to the second-highest level of specialization (after the region of Liptov). There are up to two cluster

tourism organizations in this area, one formed at the beginning of the clustering support as one of the first cluster tourism organizations in 2009 and the second up to in 2015.

Table 2

**Cluster Tourism Organizations in the Slovak Republic**

Tourist Region	Location Quotient	
	2007	2018
Region of Bratislava	1.48	1.05
Danubeland	0.60	0.48
Záhorie	0.54	1.06
Lower Považie	0.80	1.01
Central Považie	0.90	0.99
Region of Nitra	0.78	0.81
Upper Nitra	0.98	1.17
Upper Považie	0.60	0.90
Turiec	1.14	1.19
Orava	0.83	1.61
Liptov	1.52	2.16
Poľpie	0.36	0.33
Gemer	0.37	0.35
Horehronie	1.15	1.13
Pohronie	0.63	1.08
Tatras	2.01	1.23
Spiš	2.25	1.51
Region of Košice	0.98	0.84
Šariš	0.92	1.13
Upper Zemplín	0.54	0.49
Lower Zemplín	0.72	0.78

Source: Processed by the authors according to database Employees by economic activity collected through workplace method, the Statistical Office of the Slovak Republic (2019a,b).

By comparing the location quotient values in 2018 compared to the starting 2007, the highest growth in the sector's concentration can be observed especially in the regions of Záhorie, Orava, Pohronie, Upper Považie, Liptov. Orava and Liptov belong to the regions which are currently the most specialized tourist regions of the Slovak Republic. Liptov already reached a high level of the location quotient (the third largest value) in the starting 2007 and in 2008 the cluster tourism organization was the first in Slovakia to operate here. Záhorie, which reached the highest growth in the location quotient, is one of the regions without a cluster tourism organization and is also a region with only regional/interregional significance in tourism. An interesting finding is that the greatest decrease of the location quotient values can be observed in the Tatras, Spiš, and the already mentioned region of Bratislava. Neither of these regions is and does not operate a cluster organization.

Based on the above, it can be said that in the Slovak Republic there are cluster organizations in regions where the specialization in tourism is high as well as in regions that are significantly below-average in the sectoral tourism concentration.

This is also the case, in several regions reaching an above-average value of tourism concentration, cluster tourism organizations do not operate. Cluster organizations operate in regions that are rated in terms of tourism as the most significant (I. category) with international significance (Liptov, Horehronie, in the long-term also Orava and Turiec), but also operate in regions that belong to the least significant (e.g. Poiplie). However, it can be said that they operate mainly in major regions in terms of tourism in the Slovak Republic. At the same time, several tourist regions, I. category, with international significance have no cluster organizations (Tatras, Upper Považie, the region of Bratislava, Spiš in the long-term) and the least significant regions (Záhorie, Upper Zemplín, Lower Zemplín).

It is not even a matter of course that in the regions where the cluster tourism organizations operate, there is an increase in the tourism concentration during the period. This statement is valid for regions that are less significant in tourism of Slovak Republic (Poiplie with two cluster tourism organizations, the first cluster organization was established here in 2008, as well as the region of Košice or Šariš, where the cluster organizations have been active since 2014) as well as for significant regions (Liptov, Horehronie). Orava, Lower Považie, and Poiplie have two cluster organizations. These organizations partially operate in the same territory (Orava, Lower Považie), newer organizations have profiled rather than the competition of an existing organization and are typically small in membership (Orava) or are profiled interregional (Lower Považie extending into the Danubeland and Záhorie) or have very a specific character with a narrowly different focus (Poiplie – a cluster focused on the spa and a cluster focused on border castles).

Based on the capture of the sectoral tourism concentration in the regions of the Slovak Republic on the following map (Figure 2), the cluster organizations operating in tourism do not copy the sectoral tourism concentration in territories.

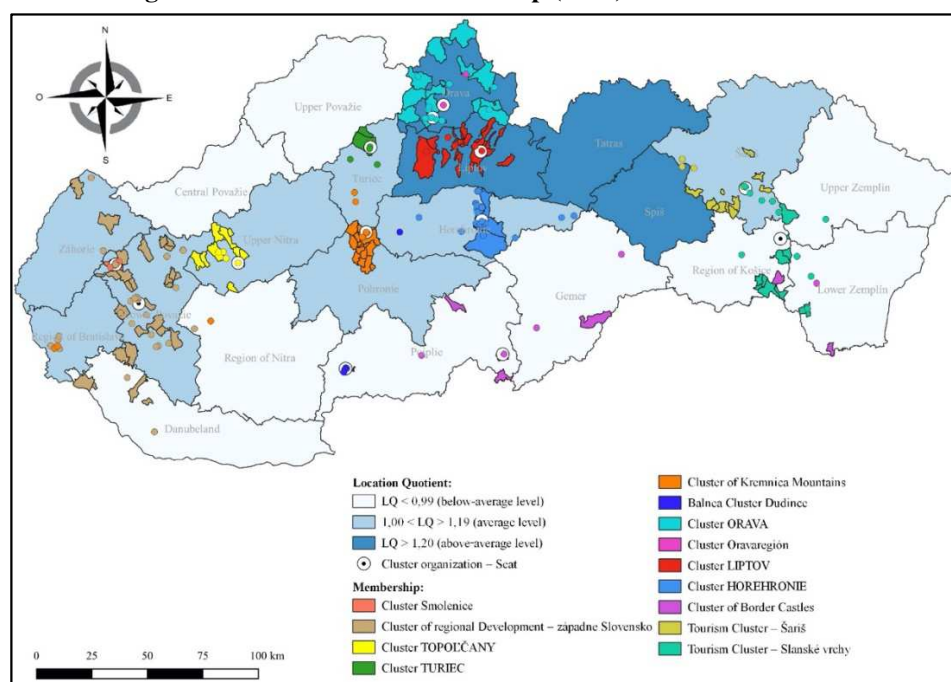
We will explain the situation in the tourist regions based on a shift-share analysis, and again we compare the starting year 2007 with the year 2018. The survey is to reveal the factors of employment change in the tourist regions.

The most significant increase in the number of employees in tourism from all tourist regions has been recorded in the region of Bratislava, with a significant distance in Upper Považie, Záhorie (followed by Lower Považie and Šariš). Neither of these regions reaches the level of regional specialization in tourism, the values of tourism concentration (the location quotient) are around the average level. Upper Považie is a region whose employment growth can be clearly explained mainly due to its competitiveness – a regional shift component (the cluster tourism organization does not operate in the region), to a much lower extent this applies to Lower Považie (two cluster organizations are active here). Conversely, in the region of Bratislava, the regional shift component is a negative

item, employment growth must be attributed roughly to the growth of the national economy as well as to the growth of tourism in the country (there is no cluster tourism organization in the region).

Figure 2

**Sectoral Tourism Concentration in Tourist Regions Compared to Existing Cluster Tourism Organizations and Their Membership (2018)**



Source: Processed by the authors using statistical program R according to data by Register of the Interest Groups of Legal Persons and Evidence of Civic Associations, the Ministry of Interior of the Slovak Republic (2020) and database Employees by economic activity collected through workplace method, the Statistical Office of the Slovak Republic (2019a,b).

The only regions that have experienced a decline in tourism employment are precisely two of the tourist regions in which a regional specialization in tourism is reached (the location quotient values above 1.2). These are the Tatras and Spiš, where the competitiveness of both regions plays a negative role (a high negative regional shift component) and the employment creation can be explained roughly evenly by the national share component and industrial mix component. Neither of these regions has a cluster tourism organization. The other two regions with a regional specialization in tourism – Orava, and Liptov – reached positive values of changes in tourism employment. The employment of Orava was most significantly contributed to by the competitiveness of the region in tourism, and a much less significant factor was the influence of the national share component

and the growth of the tourism sector (roughly equal). In Liptov, all three factors – the national share, industrial mix, and regional shift components – share the same growth in tourism employment. In both regions, cluster tourism organizations operate.

The highest growth in regional tourism concentration (the location quotient) has reached the regions – Záhorie, Orava, Pohronie, Upper Považie, Liptov. In all these regions, the growth is attributable to the competitiveness of the region in tourism, the other components play a small role (except for Liptov, where all factors have a roughly equal impact). At the same time, Záhorie and Upper Považie do not have a cluster tourism organization.

Table 3

**Results of the Shift-share Analysis of Tourist Regions in the Slovak Republic (2007/2018)**

Tourist Region	National share component	Industrial mix component	Regional shift component	Tourism Quotient
Region of Bratislava	1.529	1.779	<b>-1.127</b>	2.182
Danubeland	0.109	0.127	<b>-0.147</b>	0.090
Záhorie	0.098	0.114	1.086	1.298
Lower Považie	0.333	0.387	0.308	1.028
Central Považie	0.285	0.331	<b>-0.061</b>	0.555
Region of Nitra	0.354	0.412	0.031	0.797
Upper Nitra	0.290	0.337	0.198	0.824
Upper Považie	0.260	0.302	0.949	1.511
Turieč	0.145	0.169	<b>-0.079</b>	0.235
Orava	0.092	0.107	0.258	0.457
Liptov	0.211	0.246	0.232	0.689
Poľpie	0.044	0.051	<b>-0.061</b>	0.034
Gemer	0.051	0.059	<b>-0.072</b>	0.038
Horehronie	0.242	0.282	<b>-0.061</b>	0.464
Pohronie	0.125	0.146	0.421	0.692
Tatras	0.388	0.451	<b>-0.900</b>	<b>-0.061</b>
Spiš	0.268	0.312	<b>-0.766</b>	<b>-0.185</b>
Region of Košice	0.399	0.464	<b>-0.429</b>	0.435
Šariš	0.237	0.276	0.463	0.976
Upper Zemplín	0.078	0.090	<b>-0.105</b>	0.063
Lower Zemplín	0.137	0.159	<b>-0.141</b>	0.155

Source: Processed by the authors according to database Employees by economic activity collected through workplace method, the Statistical Office of the Slovak Republic (2019a,b).

Regarding the significance of the regional shift component across the tourist regions, the most significant positive impact has resulted in Záhorie, followed by Upper Považie, Šariš, and Pohronie. In addition to Šariš, these are the regions already mentioned with the highest growth in the regional tourism concentration. Šariš is also reaching a significant increase in the tourism concentration and its value in 2018 is approaching the lower limit of regional specialization. There is one cluster tourism organization and the regional shift component of the shift-share analysis is roughly as significant as the national share component and

industrial mix component together, while also overall it is the fourth in the regions of the Slovak Republic in the growth of jobs in tourism (behind Lower Považie). The negative impact on the change in tourism employment in the regions had the regional shift component in many tourist regions of the Slovak Republic, which was particularly significant in the already mentioned region of Bratislava, with a strong separation between the region of Košice, Danubeland, and Lower Zemplín, all but thanks to the national share component and industrial mix component have reached overall positive development of employment.

## Conclusion

Not in all-natural tourism clusters, which are characterized by an above-average tourism concentration and sectoral specialization, a cluster tourism organization operates (*Research question No. 1 – Are natural tourism clusters in Slovakia covered by cluster organizations?*). Of twelve tourist regions with above-average tourism concentration (Liptov, Orava, Spiš, Tatras, Upper Nitra, Turiec, Horehronie, Šariš, Pohronie, Záhorie, the region of Bratislava, Lower Považie), just eight tourist regions have a cluster organization. The above-average sectoral concentration had already been half of these regions in 2007 (without the support of public resources). Among these twelve regions are the regions with the highest concentration growth as well as the decrease in concentration compared to 2007, including the most significant regions of I. category, but also the least significant regions. The regions that currently reach the level of tourism regional specialization – Liptov, Orava, Spiš, and Tatras are all significant tourist regions and, except Orava, have been in the starting year reaching a level of sectoral specialization in tourism. Two of them (Liptov and Orava) have a cluster organization and they are the ones that have reached a significant increase in the sector's concentration compared to 2007. Given the level of regional specialization in tourism and its development achieved, these regions are the most dependent on tourism in terms of employment. At the same time, they are also most sensitive to restrictions on travel and demand for tourism services in the recent period due to global health risks. The other two regions (Spiš and Tatras) have seen a decrease in the tourism concentration in their territory, natural clusters in these regions operate without a coordinator (without a cluster organization) and thus also the flow of supporting public resources through this channel. Overall, in seven tourist regions of the ten in which the cluster organization operates, the growth in tourism concentration has been reached during the period.

Cluster organizations are in regions with a high specialization of tourism as well as in regions with a highly below-average industry concentration in tourism.



The rationale for the existence of cluster tourism organizations in regions without a sectoral concentration in tourism should be to formulate economic and regional policy intentions in support of clustering. If such cluster organizations are to raise public resources to support clustering, are they potential clusters in tourism built on a "top-down" principle? Only in the three regions in which the cluster organization operates is the regional competitiveness of tourism the most important growth factor of the region – Šariš, Orava, and Liptov. (*Research question No. 2 – Is the regional competitiveness of tourism the most important factor in the region's growth in the regions in which the tourism cluster organization operates?*). All these regions reach above-average levels of industry concentration, Orava and Liptov also a level of regional specialization in tourism. In the four regions in which the cluster organization operates, the regional component even plays a negative role (region of Košice, Horehronie, Poiplie, Turiec), in one region it has roughly the same influence (Lower Považie) and in one region it has the lowest influence (Upper Nitra). The question is, what is the significance of a cluster organization in these regions? In regions with an above-average sectoral concentration in tourism and whose employment change is mainly attributable to the competitiveness of the region in tourism – Záhorie, Orava, Pohronie and Šariš, except Záhorie, cluster tourism organizations operate (the activities of Lower Považie partially affect the region of Záhorie). The above findings confirm the significance of the existence of cluster tourism organizations in these regions. However, this also includes findings from regions that have a cluster organization, but there is no positive growth in employment or sectoral tourism concentration and no significant impact of the regional shift component (especially region of Košice and Poiplie). Conversely, it is also necessary to give examples of regions in which cluster organizations do not operate and nevertheless reach above-average tourism concentration, but with a negative factor of the regional shift component (Tatras, Spiš) whether they reach a high concentration with the highest influence of the regional shift component of all regions (Záhorie and Upper Považie). It is questionable that in regions such as Gemer, Danubeland, Lower Zemplín, Upper Zemplín with low competitiveness and low sectoral concentration, the impact of a cluster tourism organization could be beneficial. In the regions of Upper Považie and the region of Nitra, where the sectoral concentration is growing, a cluster organization could increase the current minimum's regional competitiveness in tourism.

Cluster organizations operating in tourism do not copy the sectoral tourism concentration in the territories. It cannot be clearly said that in the regions where they operate, the regional competitiveness which they are to promote is an essential factor in the growth of tourism employment. The operation of cluster organizations in the regions does not correspond to the "bottom-up" principle of

cluster building and, in the absence of a clear cluster policy, their operation is not purposefully regulated by the application of the "top-down" principle. The cluster policy in the Slovak Republic and tourism policy at the national, as well as regional level, should give a clear direction of the use of public resources in the field of clustering, analyse the natural clusters in the sector, identify potential clusters and in this context to consider and justify their operation as cluster organizations in our regions. If cluster policy and regional tourism policy recognizes and justifies the activities of these organizations in support of tourism clustering, they must also set up their functioning and systemic support. If not, they should be seen more as regional tourism associations focused on marketing and product support of tourism in regions with other financial resources and flows. Not every entity that identifies itself as a cluster organization is truly a cluster organization.

The article examines the sectoral concentration in tourism as well as the importance of regional competitiveness in tourism based on tourism employment data in NACE sections – I 55 and 56 without incorporating the multisectoral nature of tourism. The inclusion of employment in other sectors of tourism (characteristic tourism sectors) is problematic, it would require regional employment data according to these sectors, which are linked to consumption in tourism, Slovak Republic does not have these data. A certain limitation is an examination only based on quantitative employment data. The authors do not examine the qualitative characteristics of employment in tourism, which may be the subject of further interesting research in this area. In fulfilling the goal of this article, we start from the location quotient and shift-share analysis. The authors dealing with this issue agree that the choice of a suitable method and the course of the identification study is a very demanding research task (Cortright, 2006). Depending on the purpose of the research and the availability of data, other methods could be used, such as input-output analysis, Ellison-Glaeser Index, expert opinion, surveys – questionnaire or depth interview, snowball method, competitive advantage analysis, Spider diagram or OECD's method of interaction (Stejskal, 2011; Pavelková et al., 2009; OECD, 1997).

In parallel with the cluster tourism organizations, there are now also the destination management organizations (Ministry of Transport and Construction of the Slovak Republic, 2019), whose creation has stimulated a legislative measure characterized as a modern tourism management system – the Act No. 91/2010 Coll. on Support of Tourism (Ministry of Transport and Construction of the Slovak Republic, 2010). This fact and the results obtained by us create a space for discussion and future research focused not only on the current position and significance of cluster organizations in comparison with the destination management organizations in the tourist regions of the Slovak Republic but also on the possible penetration between them.

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