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The present issue of the Journal of Tourism and Services contains scientific papers written by authors from Slovakia and Turkey.

The paper of Andrea Bencsik, Silvia Tóbiás Kosár, Renáta Machová deals with corporate culture in service companies that support knowledge sharing. The authors are focusing primarily on the analysis of knowledge creation of businesses providing services in different cultures. They have analyzed the corporate culture of knowledge-based organizations, as well as the corporate practice of knowledge supporting organizations in the Slovak-Hungarian border applying univariate, two-and multivariate analyses. The results of primary research confirm that companies are creative and open to change, but there is a constant competition between the employees. Based on secondary data, the authors found that knowledge sharing is not always conscious and is realized through different channels.

Tourism intensity in the NUTS III regions of Slovakia is the topic of the paper of Róbert Štefko, Petra Vašaničová, Eva Litavcová, Sylvia Jenčová. The paper aimed to assess and visualize the tourism intensity in the NUTS III regions of Slovakia by applying different indicators such as Defert index, tourism intensity rate, Charvat index, index of the territorial density of tourism, tourist density rate, an index of land use. The results of the research show that there has been a positive change in the development of almost all tourism indicators during the period from 2001 to 2016; however, Slovakia still has the opportunity for further developing the tourism sector in the regions.

Oğuz Türkay, Abdulmenaf Korkutata, and Özer Yılmaz asking a question in their paper related to animation services and their importance for the perceived quality of a hotel resort and visitors´ satisfaction. The authors measured the perceived quality of animation services by the behavior of workers, the sufficiency of service's content, knowledge and experiences of workers, and the factors of the program in resort hotels in Antalya, Turkey. The authors found that the perceived quality of animation services significantly affected the perception of the quality of the hotel even though it is lesser than the perceived quality of other departments. The perception of the quality puts forward a significant amount of overall customer satisfaction. The results were analyzed in customer satisfaction theory and experiential marketing fields.

Last but not least I would like to wish to all members of the Editorial Board, present and future authors, supporters, colleagues, and readers a sunny and relaxed summer holidays!

Alžbeta Kiráľová
Chair of the Editorial Board

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Corporate Culture in Service Companies that Support Knowledge Sharing

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Abstract

The corporate significance of knowledge has already been proven on the basis of several research findings. Manufacturing companies play an important role in development of knowledge-based society. The added value provided by service companies is essential in knowledge creation. The success of knowledge sharing is influenced by many internal and external factors. The quality of services also depends on knowledge strategy of the company. We have focused primarily on the analysis of knowledge creation of businesses providing services in different cultures (sometimes with similar cultural features). We have analysed the corporate culture of knowledge-based organizations, as well as the corporate practice of knowledge supporting organizations in the Slovak-Hungarian border.

Keywords: knowledge sharing, corporate culture, knowledge, knowledge management

JEL Classification: D83, J53, M12, M54

1. Introduction

At the beginning of the 21st century with the emergence of new paradigms of knowledge, the examination of knowledge has become widespread not only on theoretical, but practical level as well. According to Boisot, the emergence of economic systems is expected, where knowledge does not only act as a medium of exchange, but will become an essential element of the system (Bakacsi, 2000). The theory also supports the fact that the main focus of effective economic growth is the growth of knowledge-intensive sectors, especially the service sector (Moerel, 2008). This tendency can be detected not only in the countries of Western Europe, but in different sectors of the Central and Eastern European economies. This fact is supported by the results of the research conducted in Slovakia in 2010. The main objective of this research was to map the possibilities of knowledge creation and spreading of knowledge among different types of regions. The importance of knowledge exchange is supported by an intensive cooperation of local organizations and research institutions, as well as the corporate co-operations aimed at gaining and sharing knowledge about the industrial production (Buček, 2010).

The processes related to knowledge as a production factor have reshaped and are still forming the functioning of the economy (Lengyel, 2010). A factor of production known as Knowledge-intensive service (KIS) activity contains a high level knowledge component. On the other hand, the knowledge-intensive business services KI(B)S, a subcategory of KIS, as described by Strambach (2008) is a process of cumulative learning, which is created by in-

depth interactions between market participants, and a process of problem solving to adopt knowledge to the needs of clients (Máté-Kun-Fenyvesi, 2016). The goal of globalization is to develop a knowledge-based economy, as well as get closer the isolated places and different parts of the country with the help of communication (Dobrotková, 2008). The knowledge-based economy is an economic structure, where production, distribution and utilization of knowledge-intensive products and services are crucial. It is also a segment of the market environment in which the majority of added value is formed by knowledge (Báger, 2008). The purpose of knowledge management is to map, collect, organize and utilize the knowledge accumulated in the organization.

1.1 Knowledge

No matter knowledge is recognized as a basic resource by entrepreneurs and individuals, the importance and dissemination of knowledge has not always been recognized. Many researchers have highlighted the spill-over effect of knowledge (Dőry, 2005), but dissemination and ensuring knowledge requires a complex approach. The complete or partial processes related to knowledge as an enhanced production factor have reshaped and are currently shaping the economy (Lengyel, 2010).

The representatives of organizational sciences describe the importance of knowledge as a tool of problem solving. According to Drucker, knowledge is a set of solution-oriented information (Drucker, 1993; Yi-Chun – Yen-Chun, 2009). It is a valuable resource for organizations and the society to acquire further necessary goods (Tomka, 2009). According to other representatives, knowledge is a personal skill, which can help the individual to complete tasks efficiently. Knowledge is not only an ability of an individual, but a result of interactions as well (Wilkesmann-Rascher, 2004).

As organizations are in continuous interaction with their environment, the economic and quantitative approach essential. We disagree with the work of authors, who question the understanding of knowledge in terms of corporate indicators. Knowledge is an essential resource of the organization beside work, capital and natural resources. It involves the necessary skills, knowledge, experience, emotions, values and intuition essential to achieve success. It is an intangible asset, and the value of it is increasing by sharing and dissemination, as well its importance can be evaluated only later (Lucko-Trauner, 2005). When analysing knowledge as an economic asset, its microeconomic explanation becomes necessary. In microeconomic terms it plays a role in the relationship between the seller and consumer, as we assume that there is relevant information behind their decision making. We can say that the players of the economy use their knowledge rationally (Lundwall, 2004). If we think about knowledge as an asset, it will appear in form of a competence in production process or the supply chain. Knowledge can also become a medium of exchange (Rehák, 2009). Knowledge-sharing is often implemented through community services between the companies and consumers, because the joint use of tools and services cannot be realized without an exchange of information related to them.

1.2 Organizational culture and the knowledge-based organization

According to Csath (2008), the management of organizational knowledge becomes effective when it is integrated into the processes, traditions and habits (corporate culture) of the organization. In this interpretation, an important feature of culture is that it applies not

only to individuals but the whole community. The cohesive force between the organizational players and the organization is formed with the help of knowledge. It is difficult to change and shape (Csath, 2008).

According to Schultz (1995), the organizational culture can be interpreted as a view on the organization. Three types of organizational culture can be differentiated: rationalist, functionalist and the symbolism. According to *rationalist* view, culture is an effective tool to reach objectives, while it can be interpreted as a community system by the *functionalist* approach. According to *symbolism*, the culture can be considered as a system of people. It is examining the relationship between the employees and the organization. The purpose of learning and culture is primarily to secure the survival of the company (Schultz, 1995). The elements of culture can be considered all those things the employees get in contact with in everyday process e.g. traditions, behavioural norms, thinking, knowledge, language and objects (Drjenovszky I., 2005).

Schein described organizational culture as a series of layers: objects, values, norms and convictions. The objects are associated with external manifestation of culture. These can be easily observed, described but easily influenced. The values and norms are partly conscious, but can be partially changed by leadership. Convictions/Constipations are the deepest level of culture, they involve the unconscious. For representatives of culture they can be interpreted as opinion and thoughts. They are difficult to be defined by the management. The arrows in figure point to influence of different levels of culture on each other (Schein, 1992; Lukášová, 2010) (Seres-Huszárik, Józsa, Tóth, Zs.,2017).

There are several models examining the organizational culture, which examine not only the company features, but the development opportunities of the organization as well. We consider the Quinn model (1988) as a basic model of organizational culture that contributes to the success of knowledge management processes. Quinn studied the culture values that explain the efficiency of the organization, and analysed them in relation to two dimensions. The focus of the organization can be inward or outward; regarding the management control it can be flexible and strictly controlled. Quinn refers to this model as a model of competing values, because he examined not only the most important values of leadership, but also efficiency as a characteristic feature as well. The organization focusing inwards concentrates on internal processes and the players in the organization. The organization with an outward focus concentrates on adapting to the external environment. The flexible organization provides more flexibility and freedom in decision making, while strict control means strict regulations. We can differentiate four basic types of culture (Bakacsi, 2010), (Mura, Ključnikov, Tvaronavičiene, Androniceanu, 2017):

1. **Supportive culture** – mutual trust and responsibility, participation and cooperation are important. The co-operative behaviour and team spirit is important, the opportunity for individual development and self-realization are essential. The focus is on the development of human resources. The communication is informal, and the members of the organization are committed to goals and processes.
2. **Rule-oriented culture –** respect for formal positions, rationality and formality of processes. Stability and balance in focus; characterized by hierarchical company structure. There is mainly written form of communication in these types of organizations.
3. **Target-oriented culture –** the main characteristics are the rational planning, focus on performance, limited access to information and the central role of the leader. Mainly oral communication is practiced in the organization.

4. **Innovation-oriented culture** – characterized by constant focus on the external environment; there is continuous innovation, experimentation and risk taking is in the focus of the organization. The key elements are: growth, access to environmental resources and flexibility. The dynamism of the organization is ensured by creative problem solving, competitive spirit, focus on future, free and unrestricted flow of information, continuous training and learning.

2. Problem Formulation

How culture of the organization will support the knowledge management? First we should characterize the relationship between the actors of culture, knowledge sharing and management of knowledge. In our opinion the key player of knowledge supporting organizational culture is the individual, who possesses knowledge in the organization. The primary task of the leader and the management is hiring and retaining employees, who will support the knowledge-based organizational culture. It is also necessary to manage and deal with knowledge in system. This can be achieved by increasing the level of qualification of company employees. The leaders have to develop a business environment, where employees will be motivated to acquire new knowledge. The single elements of culture, as well as the objectives of individual and the organization should be considered. The employees should be motivated to share the acquired knowledge (Mesároš, 2005).

The leaders have no easy task to develop a knowledge-based organizational structure. Both national and the organizational cultural knowledge will influence the thoughts, actions, perception and feelings of individuals and groups in the process of knowledge transfer. In the appropriate organizational culture the individuals will share their knowledge not because they are forced to do that, but they have the appropriate work environment and can act in accordance of their beliefs. The focus on knowledge processes will change the nature of organizational culture. It is necessary to develop an efficient knowledge management system, where sharing, preservation and development of knowledge will become a natural phenomenon. On the other hand, it is necessary to manage the behavioural patterns and habits that underpin the existing cultural aspects. (Müller – Nessler, 2011, Bencsik- Stifter – Sólyom, 2012).

2.1 Methodology

The target group of questionnaire survey were the organizations with registered office or headquarters in towns and villages of the examined Slovak-Hungarian border region. The target area of research were Győr-Moson-Sopron and Komárom-Esztergom counties, while in Slovakia it was represented by districts of Dunajská Streda, Komárno and Nové Zámky. The business register of countries and databases of statistical office were used to collect the sample data.

We applied random sampling technique, the method of stratified sampling. We considered this method as advantageous as it contains a multi-stage process, which can be used to select the sample elements from target group according to expectations we set. Sampling was a two-step process. We divided the group (companies registered in the border region of Hungary and Slovakia) into subgroups. These subgroups were formed by various neighbouring administrative units. With the help of the layering variable (towns and villages of the targeted research area), the sample elements were selected by a random sampling

method. Only those companies that are registered in the targeted area could enter the questionnaire survey sample. To conduct relevant survey, the sole-proprietors were not included in the sample. The sample is formed by 630 companies; 300 of them operating in Hungary, 330 operate in Slovakia.

2.2 Statistical methods of data analysis

We applied univariate, two-and multivariate analyses in our research. Univariate analyses are the starting point for statistical research, where the variables are analysed independently. The aim of two-variable analysis is to provide a concise, quantitative analysis of the relationship between the data and criteria. Multivariate analyses focus on examining dependencies between the variables, and determine the strength and nature of this relationship (Bálint, 2009). The summary of methods we applied is the following (Malhotra, 2002):

1. Average – it is used in case of data collected by interval and ratio scales; it shows the arithmetic mean of data,
2. Deviation – a measure of difference between the observed value of a variable and some other value, often that variable's mean,
3. Cluster analysis – is a dimension-reducing process by which data blocks - observation units - can be classified into relatively homogeneous groups. Its aim is to show that there are groups that are more similar to each other than members of other groups,
4. Analysis of variance – analyses the difference between the averages of two or more variables. It belongs to a group of explanatory models, which is examining the impact of an independent group on dependent variables. Its objective is to group the observed units into a relatively homogeneous group.
5. Cross-panel analysis – examines the relationship between two or more variables. The contingency table is based on the frequency distribution of variables. As a result of the investigation it is possible to say whether there is a correlation between two nominal or ordinal variables.

3. The practical analysis of knowledge sharing

According to Quinn, the organizations are divided into four groups based on their flexibility, stability and their external vs internal orientation. Dynamic, internally-oriented companies are part of the supporting culture, characterized by a friendly environment. This company builds on trust, tradition and loyalty, where teamwork is essential. Its main objective is the organizational development. The dynamic, externally-oriented companies fall into a category of innovation-oriented culture, which is designed to create new resources and promote growth. These organizations are motivated by dynamism, creativity and entrepreneurial spirit. They are characterized by risk-taking, openness to new opportunities and challenges. Its tools are innovation and experimentation. The culture supporting knowledge transfer requires people-centred approach, as well as requires openness to new challenges and innovative solutions.

The questionnaire survey examined the characteristics of the organizational culture, where the respondents had to rank the listed options, where 1= the most characteristic and 4=the least characteristic option. The average of the respondents and the standard deviation is presented in the following table.

Table 1

The average and deviation of answers based on Quinn description of cultures

Variable	Average	Deviation
Family atmosphere	2,89	1,235
Dynamic, competing place	2,19	,912
Result orientation	2,83	,942
Formal culture and leadership	2,07	1,103
Supporting leadership	2,22	1,179
Result-oriented, aggressive leadership	2,22	,888
Leadership supporting risk-taking, innovation and competition	2,55	1,162
Managing, organizing and efficient leadership	2,99	1,045
Managing employees via teamwork, consensus and involvement	2,61	1,205
Managing employees based on independence, risk-taking, innovation and uniqueness	2,45	1,054
Managing employees based on competition, high expectations and performance	2,25	1,075
Managing of employees based on work safety, conformity, predictability and permanent relationships	2,68	1,087
The unity of the organization is supported by loyalty, mutual trust and the commitment to organization	2,59	1,243
The unity of organization is supported by commitment to innovation and development	2,33	,923
The unity of organization is supported by results and target orientation	2,95	,943
The unity of organization is supported by formal rules and regulations	2,13	1,155
The organizational strategy is characterized by promoting personal development, trust, openness and involvement	2,38	1,185
The organizational strategy is characterized by innovation, access to new resources and defining challenges	2,34	,967
The organizational strategy is characterized by competition and performance orientation	2,45	1,116
The organizational strategy is characterized by stability, efficiency, coordination and trouble-free operation	2,84	1,147

Source: Authors´ processing

Based on the data above it can be assumed that most of the companies are characterized by family atmosphere, efficient leadership, conformity in employee management, result and target orientation, and the company strategy is efficient. The responses cannot be considered homogeneous according to high values of standard deviation.

A number of researchers are studying the cultural elements of different countries. Hofstede's findings distinguish 6 cultural elements. These are the following: power gap, individualism-collectivism, masculinity-femininity, avoidance of uncertainty, permissiveness-restriction. Examining the Slovak and Hungarian data, the following differences can be observed (Hofstede, 2016, online):

- The power gap in Slovakia is higher (100) than in Hungary (46), where the distance between subordinates and leaders is high. The organizations are characterized by autocratic or oligarchic leadership, the employees accept the power of leaders;
- In Hungary (80), members of the organization act more like individuals. This value is in the middle of the scale in Slovakia (52), so employees neither work as individuals, nor we can say they work as a member of a team;
- The results of both countries (Hungary-88, Slovakia–100) reflect that organizations are more characterized by masculine features e.g. performance and success

orientation, as well as continuous competition. Money and career are considered to be dominant values;

- In Slovakia (51) the value of avoiding insecurity is lower than in Hungary (82). The written rules and regulations play an important role in Hungarian organizations; low is the level of risk-taking and high is the level of avoiding conflict.
- The values of future orientation are high in Slovakia (77) and Hungary (58), so reliance on past data is essential; short-term thinking and focus on current issues is present in the organizations. The organizations in Slovakia are more economical and characterized by persistent work,
- According to collected data, Slovakia (28) and Hungary (31) have limited cultural values, where the ambitions and desire of employees are not met, and compliance with standards is extremely important for them.

According to Hofstede, differences can be observed in the organizations of the surveyed countries. The results of primary research show similar values in organizations of the studied countries. The organizations can be characterized by family atmosphere. Their main goal is to achieve good results. The management is efficient and result-oriented; conformity, safety and predictability gain high importance. Permanent relationships are important in the organization. The business strategy focuses on stability, efficient work and problem-free operation. The organizations operating in borderline region are influenced by the characteristics of both countries. As the respondents have set up nearly the same ranking of cultural features, the analysis was completed for both the surveyed countries.

Following the examination of cultural features, well-defined groups were created, and cluster analysis was applied. The Ward method was used to determine the number of clusters, because the variables were measured on a metric scale. The most favourable solution was the creation of four clusters. The respondents were grouped into different clusters by applying a middle-square method. The clusters created on the basis of clusters centres can be characterized as the following:

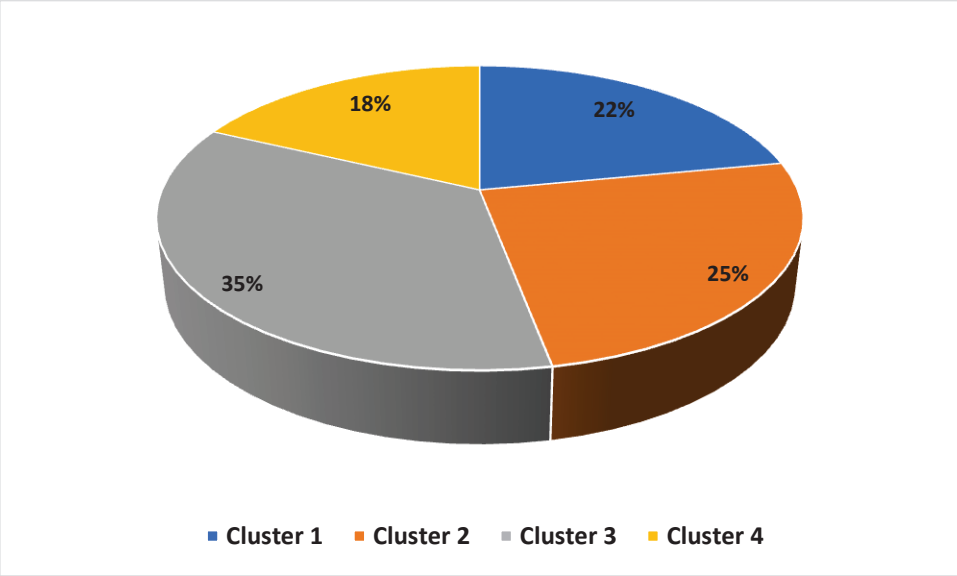
- **Cluster 1** – the organizations in this cluster are result-oriented. They are characterized by effective management, which is supporting the innovation, competition and risk-taking. The employees are both result and target-oriented, they prefer teamwork. The company processes are based on mutual trust and employee dedication. The organizational strategy is performance oriented and characterized by competition.
- **Cluster 2** – the respondents in this group are result-oriented, the leadership style and the organizational structure is formal. The innovation and competition is supported by the company management, but it is important to have constant supervision of processes. Formal rules and regulations were set to ensure work safety and predictability. The employees have to meet high performance expectations. The organizational strategy focuses on stability, efficiency, coordination and problem-free operation. Leaders support the personal development of employees.
- **Cluster 3** – friendly environment is a typical organizational feature. The management expects employees to be predictable and build strong relationships, but prefers supportive and teaching attitude. Tasks and problem-solving are realized in teams, where active participation and consensus are essential features. The companies support personal development and prefer relationships based on mutual trust. They expect high performance from their employees. The processes are result-oriented; employees are loyal and committed to company objectives. Problem-free, efficient operation with the support of employees and openness of the company is the main objective of the company strategy.

- **Cluster 4 –** achieving good results is a primary goal of these companies. They have formal company structure, but they are characterized by efficient leadership. Risk-taking, innovation and competition are supported by the leaders. They appreciate risk-taking ability and independence of their employees, but also expect openness to novelties and uniqueness. The processes are target-oriented, based on teamwork and consensus. The employees are open to challenges and innovation. The company strategy is performance-oriented.

Based on the results of cluster analysis and the characteristics of cultural elements of groups, knowledge-sharing is mostly supported by the organizations in clusters 3 and 4. The respondents of Cluster 3 favour the elements of supportive culture, while the respondents of Cluster 4 feel closer to characteristic features of innovation-oriented culture. It is important to mention that companies in Cluster 1 and 2 also contribute to efficiency of knowledge-sharing with the following: company environment based on trust, being open to innovation, supporting personal development of employees, as well as supporting problem-solution in teams. The distribution of sample elements into clusters is illustrated below in Graph 1.

Graph 1

Division of respondents in clusters according to elements of corporate culture



Source: Authors‘ processing

We have also examined, whether the clusters differ in terms of knowledge sharing characteristics. The respondents had to indicate their opinion about knowledge sharing on the Likert Scale (1-the least characteristic, 5- the most characteristic). The variables did not prove normal distribution neither in Kolmogorov-Smirnov nor the Shapiro-Wilk tests. As they have shown a skewed distribution, they had no relevant impact on F-statistics, so the analysis was possible to be conducted. The variance homogeneity was verified by the Levene-test. To analyse the relationship we applied a variance analysis. The results of the analysis are summarized in the following table.

Table 2

The variance analysis of knowledge sharing characteristics of cultural clusters

Specificities of organizations related to knowledge sharing	Levene-test		ANOVA	
	Leven statistics	Sig.	F -test	Sig.
Knowledge sharing plays an important role in the corporate strategy	0,616	,605	6,293	,000
There is active knowledge transfer in the organization	0,76	,517	8,568	,000
The organization possesses tools supporting knowledge sharing	2,101	,099	4,820	,003
Knowledge sharing is stimulated in the organization	2,723	,074	7,789	7,789

Source: Authors´processing

Note: Significance p < 0,05

The Table 2 shows that significant differences can be detected between the clusters in corporate strategy supporting knowledge sharing, active knowledge transfer and the tools supporting knowledge sharing.

Following the different knowledge sharing behaviour of the clusters, we have analysed the characteristics of clusters considering their knowledge-sharing features. To simplify the presentation, the values of 5-point Likert scale have been summarized into three categories:

- the answers „no and less typical" fall into category „No";
- the „neutral" values fall into category „Indifferent";
- the answers „rather" and „very typical" fall into category „Yes".

Based on this categorization a contingency table analysis was conducted, the results of which are shown below in Table 3.

Table 3

Characteristics of knowledge sharing in cultural clusters

Knowledge sharing	Cluster	No	Indifferent	Yes	Chi-Square	Sig.	Crammer´ V
Part of the strategy	Cluster 1	24	42	72	15,69	0,016	0,113
		17,39%	30,43%	52,17%			
	Cluster 2	30	42	84			
		19,23%	26,92%	53,85%			
	Cluster 3	27	39	153			
		12,33%	17,81%	69,86%			
	Cluster 4	18	27	60			
		17,14%	25,71%	57,14%			
Active knowledge transfer	Cluster 1	33	39	66	38,22	0	0,175
		23,91%	28,26%	47,83%			
	Cluster 2	12	69	75			
		7,69%	44,23%	48,08%			
	Cluster 3	24	51	147			
		10,81%	22,97%	66,22%			
	Cluster 4	18	33	54			

		17,14%	31,43%	51,43%			
Tools supporting knowledge sharing	Cluster 1	78	27	33	12,749	0,047	0,102
		56,52%	19,57%	23,91%			
	Cluster 2	69	42	45			
		44,23%	26,92%	28,85%			
	Cluster 3	87	60	75			
		39,19%	27,03%	33,78%			
	Cluster 4	39	27	36			
		38,24%	26,47%	35,29%			
Stimulation of knowledge sharing	Cluster 1	45	45	48	28,67	0	0,152
		32,61%	32,61%	34,78%			
	Cluster 2	42	54	39			
		26,92%	34,62%	25,00%			
	Cluster 3	45	48	129			
		20,27%	21,62%	58,11%			
	Cluster 4	36	30	60			
		34,29%	28,57%	57,14%			

Source: Authors´processing

The results show that there is a significant positive but weak correlation between clusters created on the basis of organizational features associated with knowledge-sharing and Quinn's cultural elements. The results obtained by contingency table analysis also support the fact that knowledge transfer is best supported by companies classified in clusters 3 and 4.

Knowledge management and sharing is the most effective in corporate cultures where the innovation-oriented and supportive elements of Quinn can be detected in large proportion. Based on the presented results, the hypothesis can be approved. However, we cannot ignore the fact that companies falling into other clusters are in small proportion, but they also carry the factors increasing the knowledge transfer efficiency.

4. Conclusion

Knowledge transfer is the most effective in those organizations, where innovation-oriented and supportive elements can be detected. The results of primary research confirm the conclusions of our analysis (2013), and emphasize that companies are creative and open to change, but there is a constant competition between the employees. Based on secondary data, knowledge sharing is not always conscious and is realized through different channels. The primary results show that the signs of knowledge transfer can be clearly detected in the organizations.

The success of knowledge transfer is supported by corporate culture that is based on mutual trust and cooperation, is in constant contact with the external environmental factors, teamwork is important and the possibility for individual development is ensured. The focus of this kind of organization shifts from profit on the individual. The latter can be mainly implemented in international organizations, as most of the organizations are oriented at profit maximization. To make their knowledge exchange effective, it would be necessary to look at their employees as a priority issue. This can be achieved by training employees, creative methods of problem solution in team, ensuring constant access to information (supported by different IT solutions).

6. References

Bágер, G. (2008). *A tudásalapú gazdaság és társadalom.* Budapest: Állami Számvevőszék Fejlesztési és Módszertani Intézet. 295 p. ISBN 978-963- 87779-7-3

Bakacsi, Gy. & Bokor, A. & Császár, Cs. & Gelei, A. & Kováts, K. & Takács, S. (2000). *Stratégiai emberi erőforrás menedzsment*. Budapest: KJK-KERSZÖV Jogi és Üzleti Kiadó Kft. 357 p. ISBN 63-224-543-1

Bencsik, A. & Stifter, V. & Sólyom, A. (2012). A tacit tudás átadásának kihívásai a Duna két partján. In *Beszteri-Majoros: Változó világ: társadalmi és gazdasági útkeresés*. MTA VAEB, Veszprém. 53-61 o. ISBN 978-963-7159-44-2.

Buček, M. (2010). *Regionálna ekonómia a politika*. Bratislava: Iura Edition. 269 p. ISBN 978-80-8078-362-4

Csath, M. (2010). *Versenyképesség-menedzsment.* Budapest: Nemzeti Könyvkiadó. 336 p. ISBN 978-963-1968-45-3

Dobrotková, L. (2008). Znalostná ekonomika v podmienkach globalizácie. In: *Medzinárodná vedecká konferencia, Globalizácia a jej sociálno-ekonomické dôsledky*. Žilina: Žilinská Univerzita v Žiline, Fakulta prevádzky a ekonomiky dopravy a spojov, pp. 93-97. ISBN 979-80-969745-1-0

Dőry, T. (2005). *Regionális innováció-politika: Kihívások az Európai Unióban és Magyarországon*. Budapest-Pécs: Dialóg Campus Kiadó. 261 p. ISBN 963-9542-60- 1

Drjenovszky, Zs. (2005). A szervezeti kultúra és a tanuló szervezet kapcsolata I.. In *Munkaügyi Szemle*. 2005 június. 19-23 pp. ISSN 0541-3559.

Drucker, P. F. (1993). *Post-Capitalist Society*. New York: HerperCollins Publishers. 232 p. ISBN 0887306209.

Lengyel, I. (2010). *Regionális gazdaságfejlesztés: Versenyképesség, klaszterek és alulról szerveződő stratégiák.* Budapest: Akadémia Kiadó. 388 p. ISBN 978-963-05- 8837-9

Lucko, S. & Trauner, B. (2005). *Wissensmanagement. 7 Bausteine für die Umsetzung in der Paxis.* München: Hanser Fachbuchverlag,. ISBN 978-3446400405

Lukášová, R. (2010) *Organizační kultura a její změna*. Praha: Grada. Publishing. 238 p. ISBN 978-80-247-2951-0.

Lundvall B. Å (2004) The Economics of Knowledge and Learning. In *Christensen, J., L., Lundvall, B., A. (2004): Product Inovation, Interactive Learning and Economic Performance*. Emerald Group Publishing Limited. ISBN: 0-7623-1156- 8

Makó Cs. & Moerel, H. & Illésy, M. & Csizmadia, P. (2008). A munkafolyamat és a foglalkoztatási viszonyok átalakítása: A tanuló gazdaság kihívásai. In *Makó Csaba et. al. (szerk.): Az új utak lehetőségei a tanuló gazdaságba:. A rugalmasság és biztonság átalakuló jelentései.* COMPETITIO, Center-Print Kft, Debrecen. 213 p. ISBN 963-472-796-4

Máté, D. & Kun A. I. & Fenyves V. (2016) The Impacts Of Trademarks And Patents On Labour Productivity In *The Knowledge-Intensive Business Service Sectors AMFITEATRU ECONOMIC* 18:(41) pp. 104-119. (2016)

Mesaroš, P. (2007). Vytváranie znalostnej kultúry podniku. In *Ekonomika firiem 2007. Medzinárodná vedecká konferencia – Zbrojník*. SEMAFOR. Ekonomická univerzita v Bratislave, Podnikovohospodárska fakulta, Košice. ISBN 978-80-225- 2482-7. s. 521-532.

Mura, L. & Ključnikov, A. & Tvaronavičiene, M., Androniceanu, A. (2017). Development Trends in Human Resource Management in Small and Medium Enterprises in the Visegrad Group. In *Acta Polytechnica Hungarica*, Vol. 14, No. 7, pp. 105 – 122. ISSN 1785-8860

Müller, J. & Nessler, C. (2011): Einblicke in den interaktiv en Zusammenhang zwischen Wissensmanagement und Unternehmenskultur. In *6th Conference on Professional Knowledge Management: From Knowledge to Action, February 21-23, 2011 in Innsbruck, Austria*. Lecture Notes in Informatics (Editor Ronald Maier) Vol. P-182,Gesellschaft für Informatik, Bonn, Germany, 2011,ISBN 978-3-88579-276-5, pp. 262-272.

Quinn, R.E. (1988). *Beyond Rational Management: Mastering the Paradoxes and Competing Demands of High Performance*. San Francisco: Jossey-Bass

Rehák, Š. (2009). Ekonómia znalostí v priestore a čase. Teoretický prehľad. In *Region direct: the international scientific journal.* Medzinárodný vedecký časopis. Banská Bystrica. Roč. 2, č. 1, s. 12-32. ISSN 1337-8473

Seres-Huszárik, E. – Józsa, L. – Tóth, Zs. (2017) Factors Determining the Development of Business Relationships in the Advertising Market. Acta polytechnica Hungarica. 2017, 14(8), 65-82. ISSN 1785-8860.

Schein, E. H. (1985, 1992). *Organizational Culture and Leadership.* USA: Jossey-Bass Publishers. ISBN 0-7879-6845-5.

Schultz, M. (1995) *On Studying Organizational Cultures. Diagnosis and Understanding*. Berlin: Walter de Gruyter. ISBN 3-11-014137-X. 196 p.

Tomka,, J. (2009) *A megosztott tudás hatalom*. Budapest: Harmat Kiadó Alapítvány. 284 p. ISBN 978-963-288-006-8.

Wilkesmann, U. & Rascher, I. (2004). Lässt sich Wissen durch Datenbanken managen? Motivationale und organisationale Voraussetzungen beim Einsatz elektronischer Datenbanken. In *Edeling Thomas, Jann Werner, Wagner Dieter (Hrsg.) (2004): Wissensmanagement in Politik und Verwaltung*. VS Verlag für Sozialwissenschaften, Wiesbaden. 256 o. (113-129 o.) ISBN 978-3-8100-3538-7

Yi-Chun Huang & Yen-Chun Jim Wu (2009). Intellectual Capital and Knowledge Productivity: The Taiwan Biotech Industry. In *1st Global Peter Drucker Forum,* Vienna, Austria. 19-20 November 2009. 28 p. Retrieved from: < http://druckersociety.at/repository/191109/Arthur_Krupp_Saal/1400-30/Huang_knowledge_productivity.pdf>

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Does Animation Services Really Matter? Place of Animation Services in the Perceived Quality–Overall Satisfaction Model

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Abstract

In this study, the effect of the quality of the animation service to the perceived quality of a resort hotel and, thus, overall customer satisfaction within hotel service departments is addressed comparatively. The perceived quality of animation services (PQAS) has been measured by the behaviour of workers, the sufficiency of service's content, knowledge and experiences of workers, and the factors of the program. Surveys were used by quota sampling to tourists who were in resort hotels in Antalya, Turkey, wherein 1189 usable feedbacks were obtained. The model, which was tested using SmartPLS, was found significant. It has been determined that the PQAS significantly affected the perception of the quality of the hotel even though it is lesser than the perceived quality of other departments. The perception of the quality puts forward a significant amount of overall customer satisfaction. The results were analyzed in customer satisfaction theory and experiential marketing fields.

Key words: Animation services, service quality, overall customer satisfaction, resort hotels

JEL Classifications: L83, M31, Z33

1. Introduction

The importance of animation services in resort hotels shows interdependency between industrialization and increasing strength of sejour tourism, which depends on relaxation and fun. Animation services are embraced as activities that heat up the resort hotel and destination and create an emotional encouragement and a charming atmosphere (Sotiriadis, 2014). With that, the presence, the quality, and the suitability to the customers of animation services can be crucial for resort hotels as it can be an important charm, designate the level of satisfaction of a customer, and influence the possibility of re-visitation of the resort (Mikulic & Prebezac, 2011). Correspondingly, it is obvious that considering the animation services as a competition advantage, trying to develop these services is extensively important for the success of hotels and destinations (Meng et al., 2008). For that, the features of an animation program that charms the tourist and its reflections to perceived quality and overall satisfactions are showing up as subjects to be researched. Despite its importance, attention should be drawn into the rarity of pieces of work that states the significance of animation works for resort hotels

(Mikulic & Prebezac, 2011).

PQAS was exclusively approached in sea–sun–sand hotels because the accommodation period is longer, and thus, the animation activities are presented as an additional service. The roots of animation services stand to the practices of the hotels, which are situated in Spain's and France's Mediterranean shores, and it is considered as a widespread set of activities in resort hotels even today. The contents of these activities may differ in terms of different areas or enterprises. The enterprises shape their presentations by the preferences of their customers and in order to ensure a positive perception of service quality and strong customer satisfaction. According to the current studies in customer satisfaction theory, it was needed to identify the more important attributes so that managers may invest resources to these, and customer satisfaction may be increased (Busacca & Padula, 2005). As a unique resource of customer satisfaction, the quality of animation services must be tested and how the perception on the quality level of offered animation services were plays a role in customer satisfaction.

The perception of quality and the satisfaction of customers are crucial because customer satisfaction leads to increase of income, customer loyalty, and thereby leads to long-term profit and advantage among the rivals (Kandampully & Suhartanto, 2000). The subject of customer satisfaction is more crucial for resort hotels because these kinds of hotels are deeply affected by the factors that they cannot control such as climate and economic inconsistency (Knutson et al., 2004). This converts the resort hotel business to become a very competitive environment, and this competitiveness leads to profit margin to be deleted, sensitivity against the customer to be depleted, profits to be negatively affected, and the bonding with customers to be broken down. Knutson et al. (2004) also point out the fact that studies on customer satisfaction are insufficient in resort hotels. On the other hand, the works show that senses of quality about some specific services are the elements of creating customer satisfaction. However, the fact that these elements are dependent on time should not be forgotten. There is no sufficient survey about the contribution of new vacation options and animation services as additional services of hotels to the customer satisfaction (Albayrak et al., 2016).

Customer satisfaction was discussed frequently by the effects of SERVQUAL dimensions. Mattila & O'Neill (2003) went beyond SERVQUAL dimensions even though it was traditionally accepted and spread, testing room prices and the occupancy rates, which shows that room price is a significant factor in detecting customer satisfaction. That is why there is no clearance about the factors on the subjects of some matters that are accepted as the determinants of final satisfactions or the perceived quality. Also, there is already an uncertainty that depends on the results of various studies about expectations that state the satisfaction (Yuksel & Yuksel, 2001). This uncertainty necessitates thinking broadly and caring about possible effects of all service options while questioning the factors of customer satisfactions. For this instance, it would be fair to handle the animation service whose importance is gradually growing as a factor that should be graded in instances of the quality of the resort hotel and studies about customer satisfaction.

In this study, instead of questioning psychological, physical, and social elements in a broad aspect, as determiners of the quality of services and customer satisfaction in resort hotels, the PQAS is approached directly, and the role of this perception in perceived quality–overall satisfaction model is measured by comparing it with traditional services.

2. Literature Review

2.1. The role of animation quality in hotel experiences

The products of animation as leisure activities are the activities that make the time left from eating, drinking, and planned tour activities meaningful. These activities shape with the principle of volunteerism, provide the participants one-on-one interactions, can depend on physical action and mental efforts, and put forward the effects of renewal, refreshment, and support to self-confidence for a person. Most importantly, they give birth to the rhythm of having fun, relaxation, and easing while creating the socialization process. Animation, states the leisure and recreation activities, is a hotel service especially found and spread in Europe's resort hotels, which contain entertainment activities, leisure time activities, sports, and fitness. Hotels maintain animation services free of charge and with the aim of pleasing the customers more. Costa et al. (2004) state that the recreation and animation activities are mainly composed of sport games, dancing and walking activities, cultural activities, adventure sports, and outdoor events. These activities develop feelings of creativity, social connection, physical dynamism, adventure, and self-exploration. Such positive contributions to oneself show that it should be understood as these activities are perceived positively for the hotels as well.

2.2. The Interaction between PQAS–Perceived hotel quality–Overall customer satisfactions

Some various examples can be given as a proof on the subject of animation being effective to perception of hotel's quality. Uysal (2003) draws the attention to the possibility of a more positive perception for all vacation processes, while animation services create an actualization effect. Knutson et al. (2004) emphasized that the family activities such as golf courses, outdoor activities, and weekend events were crucial satisfaction factors even though it might be a business trip. According to Sotiriadis (2014), the quality of the animation services is an important factor for explaining the general satisfaction because (a) the participation level of tourists is very high, (b) the participation to animation widens the portfolio of customers, (c) it increases the number of repeat guests, (d) it increases the dependence of customers, and (e) it increases the suggestions from mouth to mouth.

The quality of a hotel is taken as a conclusion that has been found by comparing the expectations of customers and the performance that they receive at the end of the vacation (Caruana, 2002). In relation to this, Weiermair & Fuchs (1999) handled the effects of animation services as factors whose importance came into being with the extents of varying customer preferences and anticipations. Whereas Costa et al. (2004) state that these services are the most powerful factors that produce inner motivation intended for hotels. Johann & Anastassova (2014) claim that animation events and entertainment organizations are regarded as important determiners of quality and satisfaction by the eyes of Polish customers in Bulgarian hotels; with these events, the hotel would be received as of high quality, and without them, the complaints from customers would increase. Demir & Demir (2015) empirically revealed that the animation strengthens the bond between a customer and the hotel and draws a great amount of charm to families with children especially. This importance is constituted by a bond between the PQAS and the perceived service quality taken by the hotel's overall services.

Hypothesis 1: *The PQAS affects the level of perceived quality of the hotel positively.*

Even though it is limited, current literature refers to a specific relationship between PQAS and hotel's perceived quality. But this relationship should be considered in comparison with the effects of other departments. It can be expected that Front Office, Housekeeping, and Food & Beverage, which are the operational departments, would deeply affect the perceived quality and satisfaction in hotels. Front Office takes the role of a bridge between the customer and the rest of the hotel or the role of a brain and designates the image of the hotel in the customers' eyes (Hai-yan & Baum, 2006). Housekeeping is seen as the most important department for the tourists and the most effective on satisfaction of customers according to Kandampully & Suhartanto's (2003) findings. On the other hand, the department of Food & Beverage is proven and stated to have an effect on customers (Pizam & Ellis, 1999; Kandampully & Suhartanto, 2003).

> ***Hypothesis 2:*** *The perceived quality of other departments affects the level of perceived quality of the hotel positively.*

Customer satisfaction as an output, which is reached after consuming the service process (Fallon & Schofield, 2004), is embraced as comparison between a customer's anticipated service and received performance and as a final judgment when in the state of meeting the expectations (Oliver, 1980). The perception of quality or performance in some fields in which a customer created anticipation can be approached as a premise to customer satisfaction at hotels. Sureshchandar et al. (2002) state that quality and customer satisfaction are connected closely to each other, yet separate. It can be said that there is a wide field of inspection in literature about quality and factors of satisfaction. Many works, which are in content of expectation–disconfirmation theory, testing physical features, empathy, responsiveness, and trust, which are the pioneers of customer satisfaction, on grounds of Parasuraman et al.'s (1985) SERVQUAL dimensions. Oh (1999), in his work about hotel consumers, proves that service quality affects the consumer's satisfaction.

> ***Hypothesis 3:*** *The perceived quality of the hotel affects the level of overall satisfaction positively.*

3. Methodology

In this study, it is aimed to clarify the role of PQAS in terms of the perceived quality of the hotel and creating customer satisfaction in five-star resort hotels. With this aim, the model, which is established for determining the effects of the PQAS and the perceived quality of services about the other departments (Front Office, Housekeeping, and F&B) to the perceived quality of hotel services and the effects of perceived quality of hotel services to overall satisfaction, is being questioned in the context of SEM.

3.1. Measures

Some important determiners for PQAS should be ranked. Animators play a key role to meet the expectations of tourists from animation services (Sotiriadis, 2014). For the efficiency of recreational activities, there is a need for qualified personnel for directing, training, and controlling the tourist in nearby places such as sport fields, pools, saunas, gym, and fitness fields. In addition, the content of animation activities and which of these contents was liked

more by the tourists is the key dimension for understanding the effect of the animation services on tourists (Shportko, 2012). Facilities, equipment, and atmosphere (surrounding, participants, and location) are some other options that their suitability may determine the level of PQAS (Sotiriadis, 2014). In this study, instead of the quality determiners that are handled by the broad perspective, the subject is being reviewed on a scale that covers a measureable scope. According to that, the elements that identify the quality that perceived from the animation services can be inspected in five titles: (a) the manners of the workers, (b) the sufficiency of the content of services, (c) the sufficiency of the materials and surroundings, (d) the knowledge and experience of the workers, and (e) the extent of the program. Items have been developed from the studies of Taylor et al. (1993) that has questioned recreation service quality by focusing on leisure activity firms; Mikulic & Prebezac (2011) that processed the subject by measuring the variety of programs, facility, and equipment, number of participants, staff competence, and staff politeness.

The rate of "being satisfied" is questioned for measuring the perception of quality on other departments. The expressions such as "I am satisfied with the Front-Office services", "I am satisfied with the Housekeeping services", and "I am satisfied with the Food & Beverage services" have been used. A similar way has been used for measuring the general perception of quality of hotel services. For this, the way of directly voting the lower dimensions of SERVQUAL scales has been followed. The expressions such as, "The physical features are sufficient.", "I feel safe.", and "The staff is always ready and willing.", "The staff is able to understand and answer the customer's needs.", "The promised services and the presented services are consistent" have been used.

Measuring overall satisfaction, the logic behind the relation between the values of satisfaction measurement and the perception of hotel's quality should be perfectly understood. It is accepted by many researchers that the measurement of service quality does not represent the final satisfaction (Costa et al., 2004; Parasuraman et al. 1988). It is indicated that there is a difference between overall satisfaction and the satisfaction about the features does explain the total but is not the ultimate premise (Petrick & Backman, 2002). While measuring the subject, its suitability to the satisfaction of the customer and judgmental values should be taken into consideration (Noe & Uysal, 1997). In overall satisfaction measurement, the ability to measure with only one expression has been put forward by studies (Cronin and Taylor, 1992). Sivadas & Baker-Prewitt (2000) measured the quality of service with SERVQUAL and the satisfaction of customer with single expression scales such as "Which is your general degree of satisfaction?". With a similar method, Caruana et al. (2000) measure the overall satisfaction with three items. In this study, the overall satisfaction is measured by these two expressions; "I think I have made a correct decision coming here" and "I am overall content with the quality of services". All expressions scaled in ways such as (1) strongly disagree–(5) strongly agree.

3.2. Sample and procedure

For stating the sample, an approach based on the aim and quota sampling methods are followed. Firstly, because the study would only include resort hotels, it was thought to limit it to only Antalya City. Antalya is the most popular coastal destination of Turkey. 14.7 million tourists in 2014 and 14.5 million tourists in 2015 stayed in tourism facilities in Antalya. Those numbers compose the 36% in 2014 and the 33% in 2015 of the overall tourism in Turkey. The percentages become 51% for 2014 and 48% for 2015 when only the foreign tourists are taken

into consideration (MCT, 2016). It can be observed that Antalya is treated as an example in works that study the animation services in resort hotels (Albayrak et al., 2016).

On the other hand, it was decided to make the research in four-star or five-star hotels because these kinds of facilities are shining out as the groups of facilities, which are presenting a broad service of animation with a specific standard and quality. By year 2014, 305 five-star and 237 four-star hotels are present in Antalya (APDCT, 2015).

In this research, because it was based upon understanding the perception of the tourist, it was desired to exclude some unwanted effects. For this, some effects have been neutralized, such as (a) effects based on a specific hotel by reaching others who are staying in different hotels, (b) effects based on surroundings by reaching out to other hotels in different places, and (c) effects based on nationalities by reaching other tourists who are from various countries. With stated contents, for Antalya, samples from Kemer, Belek and Alanya have been chosen in which there are many great accommodation facilities. The facilities have been chosen randomly with the help of the list of settled hotels in those places, and they have been called to help by taking an appointment. Another random choice has been added to the list, instead of the ones that did not agree to work with this project. The subject of reaching the determined nationalities was taken into consideration while choosing the facilities. It has especially been tried to reach the tourists that are German, Russian, English, and Turkish because German, Russian, and English markets are the first three markets in the scene (MCT, 2016). With these limitations, the data from 1189 tourists, which can be analyzed, are obtained.

To translate the scale into given languages, help has been sought from faculty members who are professionals in their fields and giving language courses. With the translate–retranslate technique, it has been shaped to its final form after the control of faculty members who are studying in the field of business management.

4. Results and Discussion

4.1. Characteristics of respondents

Table 1 shows features of participants; 56.9% of the participants are women. When observed through the age factor, 22.1% of the participants are 25 years or younger, 37% are between the ages of 26 and 34, 22.3% are between 35 and 44, 12.4% are between 45 and 54, and finally, 6.2% are them are 55 or older. When it is observed by their status of education, it can be seen that 8.7% are graduates from primary school, 32.5% are from high school or equal, 27.9% are from upper secondary education, 25.9% have a bachelor's degree, and 5.4% are graduates with post-graduate or master's degree. The features that are indicated are compatible for the structure of the demand for resort hotels.

Table 1

Defining Variables

Variable	*Frequency*	*(%)*	*Variable*	*Frequency*	*(%)*
Gender			Re-visitation status		
Male	513	43.1	Yes	384	32.3

Female	676	56.9	No	805	67.7
Age			Who the person came with		
25 and under	263	22.1	Alone	245	20.6
26–34	440	37.0	With wife-/-husband	218	18.3
35–44	265	22.3	With family	361	30.4
45–54	147	12.4	With friend(s)	282	23.7
55 and over	74	6.2	Other	83	7.0
Graduation			Duration of stay		
Primary school	104	8.7	Between 1 and 7 days	423	35.6
High school	387	32.5	8–14 days	590	49.6
Upper secondary	326	27.4	15–21 days	144	12.1
Bachelor's	308	25.9	22–30 days	26	2.2
Post-graduate & Master's	64	5.4	31 days and over	6	.5
Nationality			Purpose of visit		
Turkish	279	23.5	Entertainment	736	61.9
German	339	28.5	Health	195	16.4
English	315	26.5	Sport	157	13.2
Russian	251	21.1	Adventure	277	23.3
Other	5	.4	Culture	153	12.9
			Business	49	4.1
			Visitation of friends	42	3.5
			Other	26	2.2

Source: Authors

The nationality of the participants is 28.5% German, 26.5% English, 23.5% Turkish, 21.1% Russian, and the remaining 0.4% of the participants are citizens from any other country. When re-visitation status is observed, 32.3% of the customers went to the exact same facility before and 67.7% of them did not. When the subject of who the customer came with is taken into consideration, it is seen that 20.6% of them came alone, 18.3% came with their wives or husbands, 30.4% of them came with their families (wife/husband and kids), 23.7% came with their friends, and 7% came with the others. Duration of visit is spread around participants as follows; 35.6% are between 1 and 7 days, 49.6% are between 8 and 14 days, 12.1% are between 15 and 21 days, 2.2% are between 22 and 30 days, and the remaining 0.5% are more than 30 days. The purpose of visitation is ranked as follows; 61.9% of the participants visited the facilities for entertainment, 23.3% for adventure, 16.4% for health, 13.2% for sports, 12.9% for cultural activities, 4.1% for business, 3.5% for visitation of friends, and 2.2% for other reasons.

4.2. Preliminary analyses

The data were screened for univariate outliers. It showed that 33 data (% 0.056) are empty. Also three out-of-range values, due to administrative errors, were identified and recoded as missing data. The missing data were estimated with the expectation–maximization (EM) algorithm. The EM algorithm estimates the parameters of a model iteratively, starting from some initial guess. Each iteration consists of an expectation (E) step, which finds the distribution for the unobserved variables, given the known values of the observed variables and the current estimate of the parameters, and a maximization (M) step, which re-estimates the parameters to those with maximum likelihood, under the assumption that the distribution found in the R step is correct (Neal & Hinton, 1998).

The study hypotheses were tested using the structural equation modeling (SEM). Despite the assumption that measurement of the observed variables of other analysis techniques does not involve errors, SEM also calculates and incorporates measurement errors into the model test. In addition, the SEM provides a set of model fit indexes to determine whether the causal relationships covered by the proposed structural model are supported by the data (Park et al., 2014).

To select the estimation method of SEM, first, the normality was tested. The test was performed using the mean score regarding the structures. It has been seen that all variables have non-normal distribution (Table 2). For this reason, the partial least square algorithm (PLS) was used to test the model. PLS is a modelling approach to SEM with no assumptions about distribution (Esposito Vinzi et al. 2010). In spite of some limitations, PLS is a useful SEM applied research project especially when the data are limited participants and that the data distribution is skewed (Wong, 2013).

Table 2

Normality Tests of Items

Structure	Mean	Standard Deviation	Skewness	Kurtosis	*P* value of Kolmogorov –Smirnov	*P* value of Shapiro–Wilk
Materials and Surroundings	4.39	0.63	-1.087	1.601	0.000	0.000
Staff Politeness	4.57	0.49	-1.376	3.516	0.000	0.000
Program	4.48	0.55	-1.068	1.734	0.000	0.000
Knowledge and Experience of Staff	4.44	0.56	-0.859	0.459	0.000	0.000
Content of Services	4.46	0.59	-1.117	1.512	0.000	0.000
Perceived Quality of Other Departments	4.26	0.79	-1.259	1.612	0.000	0.000
Perceived Quality of Hotel	4.48	0.47	-1.212	3.106	0.000	0.000
Overall Satisfaction	4.42	0.58	-1.301	2.378	0.000	0.000

Source: Authors

Following the two-step approach, we first interpreted the items loadings and proposed the relationships between items and latent constructs. According to the theoretical model, "perceived quality of animation facilities" has five dimensions. The other constructs are composed of a single dimension. The convergent validity of the test was measured with AVE (*Average Variance Extracted*) scores. According to Fornell & Larcker (1981), 0.50 or greater values of AVE can be accepted for the convergent validity.

The reliability of the analysis was measured with "composite reliability". Traditionally, "Cronbach's alpha" is used to measure internal consistency reliability in social science researches, but it tends to provide a conservative measurement in PLS-SEM. Prior literature has suggested the use of "Composite Reliability" as a replacement (Wong, 2013). Composite reliability should be 0.7 or higher (Bagozzi & Yi, 1988). The factor loadings, reliability, and validity scores of the constructs of the analysis (using Smart PLS 2.0) are shown in Table 3.

According to Hulland (1999), items loading value 0.70 or higher are preferred but 0.4 or higher is acceptable in exploratory research. As seen in the Table 3, all items' loadings are above 0.7 except for one item. These loadings are indicated that all latent constructs are compatible with theoretical background. Also, all items' Composite Reliability, AVE, and

Alpha scores are adequate to perform the PLS-SEM modeling.

Table 3

Factor Loadings, Reliability, and Validity Scores of Constructs

Construct	Item	Loading	AVE	Composite Reliability	Cronbach's Alpha
Materials and Surroundings	Sufficiency of equipment	0.819	0.7244	0.9291	0.9039
	Visual attractiveness of stage	0.889			
	Plushness of stage	0.897			
	Suitability of spaces	0.872			
	Suitability of building	0.772			
Staff Politeness	Visual cleanness	0.786	0.6642	0.9326	0.9157
	Responsiveness	0.834			
	Customers' recommendations consideration	0.809			
	Courteousness	0.830			
	Amiableness	0.840			
	Patience	0.814			
	Special attention to customers	0.791			
Program	To be customer driven	0.839	0.6472	0.9007	0.8608
	Consideration to the participants	0.868			
	Beginning into the announced time	0.837			
	Suitability to time it has showed	0.827			
	Possibility for active participation	0.628			
Knowledge and Experience of Staff	Professionalism	0.840	.7267	0.9300	0.9058
	To cope with problems	0.874			
	Sufficiency of knowledge on the facility	0.882			
	Readiness to help the customers	0.842			
	Do the duty well	0.823			
Content of Services	Quality of content	0.851	0.7665	0.9425	0.9237
	Sufficiency of presentation	0.888			
	Variety	0.898			
	Visuality	0.884			
	Suitability to the expectations	0.856			
PQAS (second order)	Materials and Surroundings	0.798	0.5110	0.9600	0.9564
	Staff Politeness	0.856			
	Program	0.845			
	Knowledge and Experience of Staff	0.848			
	Content of Services	0.828			
Perceived Quality of Other Dept.	F/O services	0.857	0.7816	0.9148	0.8601
	H/K services	0.910			
	F&B services	0.884			
Perceived Quality of Hotel	Physical features	0.795	0.6972	0.9415	0.9274
	To feel in trust	0.833			
	Responsiveness of hotel employee	0.852			

	Readiness of hotel employee	0.863			
	To get in return for paid	0.856			
	Satisfactory services	0.847			
	Consistent services	0.797			
Overall Satisfaction	Think that gave the right decision	0.932	0.8688	0.9298	0.8489
	Satisfaction from overall services	0.932			

Source: Authors
Notes: Weighting Scheme: Factor Loading Scheme, Iteration: 4; AVE: *Average Variance* Extracted.

The structural model was tested using SmartPLS 2.0. The path coefficients, t values and R square results of the analysis are shown in Table 4.

Table 4

Path Coefficients, *t* Values and R^2 Results of the Model

Paths	Coefficients	*t* value	R^2
PQAS → Perceived Quality of Hotel	0.222*	2.338	0.630
Per. Q. of Other Dept. → Perceived Quality of Hotel	0.665**	8.038	
Perceived Quality of Hotel→ Overall Satisfaction	0.557**	5.668	0.311

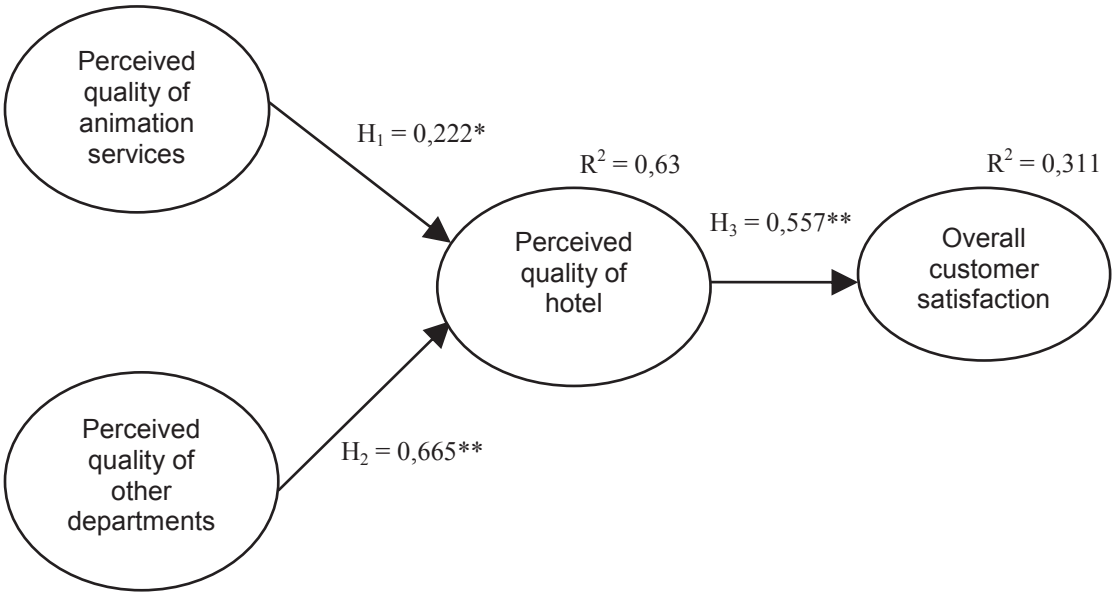
Source: Authors
Notes: Path Weighting Scheme, Bootstrapping samples: 1000, cases: 100; * indicates $p<0.05$, ** indicates $p<0.01$.

The estimated coefficients and *t* values given in Table 4 show that all three paths of the model are statistically significant. The first hypothesis of the study is concerning a positive relationship between PQAS and perceived quality of hotel. This hypothesis was supported as PQAS was significantly related to the perceived quality of the hotel ($\beta = 0.22$, $t = 2.338$, $p < 0.05$). The second hypothesis predicts a positive relationship between perceived quality of other departments and perceived quality of hotel was also supported ($\beta = 0.665$, $t = 8.038$, $p < 0.01$). Additionally, it has been seen that 63% changes occurring of perceived quality of hotel was explained by PQAS and perceived quality of other departments.

Hypothesis 3 states a positive relationship between the perceived quality of the hotel and overall satisfaction. This hypothesis was also accepted according to the test results ($\beta = 0.557$, $t = 5.668$, $p < 0.01$). The overall satisfaction was significantly affected by the perceived quality of the hotel. Also, 31% changes of the overall satisfaction were explained by the perceived quality of the hotel. The results of hypothesis tests are summarized in Figure 1.

Figure 1

Model Summary



Source: Authors
Notes: * indicates p < 0.05, ** indicates *p* < 0.01

4.3. Discussion

Animation is a component of the tourism and hotel products that consist of an unknown percentage of experiential dimensions and technical and functional dimensions of services. Those services are included in the vacation package and do not allow for a 'value-for-price' evaluation process. Researchers agree that tourism is a totality of experiences rather than a set of services. Animation in resort hotels can be expected in this fashion as a component of the total travel experience, which creates the proper socio-psychological environment (Costa et al., 2004).

To measure the perceived quality of animation services, validation and reliability of related elements, which has been talked about before, are put forward: (a) the politeness of the staff, (b) the sufficiency of activity's content, (c) the sufficiency of material and surroundings, (d) the knowledge and experience of the staff, and (e) the perception of the program's dimensions. PQAS can be measured with this extent in the studies, which were made on the subject of quality of the increasing demand (Glinia et al., 2004) to animation services. This statement means as a solution to the problem, which Albayrak et al. (2016) stated before, that there was not any scale present to measure the quality of animations in hotels.

Significant effects of animation services on perceived quality and on customer satisfaction indirectly were detected when reviewed both independent from and in comparison

with the other departments, though not as much. In fact, when conventional departments are reviewed as a whole, importance of animation decreases with the tested scope scoring satisfaction from three separate departments, the effect of the PQAS on the perceived quality of the hotel obtained must not be underestimated. These findings support previous studies that emphasize the importance of animation services. The presentation, quality, and the perception of quality for animation services must always be considered in researches on service quality and customer satisfaction in resort hotels. This matter affects the success conditions of hotel animation that is presented as a new product, which is an answer to increasing competition and the hotel's performance (Albayrak et al., 2016).

The finding about the effects of conventional departments on the perceived quality of the hotel shows consistency to previous studies. It is determined that for hotels, satisfaction with the performance of housekeeping, reception, and food & beverage shows correlation to customer satisfaction and loyalty (Kandampully & Suhartanto, 2000). Researchers state that the satisfaction from housekeeping is more effective than the other departments and the price, and link this to, the room being the main presentation for the hotels.

The anticipated result for the relation between the perceived quality of the hotel and the overall satisfaction materialized in an important level for resort hotels. Even in facilities based on the mass production model and where the sensitivity against the customers is not as much as a city hotel, the importance of the customer perception is put forward. Actually, Hung et al. (2010) point out that the prices of resort hotels in Taiwan are much higher than the city hotels and express this fact due to the availability of more leisure amenities and scenic surroundings, which resort hotels offer. Nevertheless, the number of hotels in popular destinations like Antalya and resort tourism to be influenced by the conjuncture left this field of facilities to cheaper options and high competition.

5. Conclusion and implications

The effects of animation services were percept enough as it was an area that created offerings for satisfying customer needs in parallel with the customer satisfaction theory. Correspondingly, even though the scale of effect of the animation events to overall hotel satisfaction can be understood, it might not be appreciated enough. This study shows what kind of place animation holds in the overall perception of accommodation. The results may be generalized to the resort hotels from diverse mass tourism regions and especially from the Mediterranean.

The effect of the animation services to quality and satisfaction is essential to these services to be presented actively. That is why it is essential for managers to design a sufficient animation program of high quality; these programs need to be designed properly on grounds of time and place for tourists, the materials that are used to be sufficient and eligible, the crew of animation services to have adequate knowledge, experience, and a manner that is kind and affectionate toward the customers. In this regard, (a) animation should be stressed among the overall hotel presentations and (b) the adequacy of animation services should be provided. In resort hotels, generally, animation services are given to a specific core team, and many activities are being outsourced (Bolat & Yılmaz, 2009). This shows that a visual such as the resort hotels does not care about animation services that much. If there is no sufficient number and quality source for animation workers, it is made essential to deal with the issues of features, people relations, entertaining, and channeling talents of the animation personnel. In

regard to this, these managerial implications should be present based on the conclusions of this study:

1) The managers should put the animation services in the center of marketing activities, putting this forward in design and presentation by focusing animation as well as classic presentations. It seems probable to pass possible competitors with both handling animation as a differentiating element and presenting a high-quality animation. It also seems possible for resort hotels to convert to animation and entertainment hotels.
2) The importance of animation services can lead the hotels to develop the activities of animation. In this occasion, the hotels need to show some effort in activities such as water sports, aerobics, gymnastics, etc., field activities such as football and archery, and recreation events as well as demonstrations. It can be expected that new demonstrations that would draw the attention of target market can emerge.
3) From the top to the bottom, all animation personnel should be educated, supported by rewards such as payments, bonuses, etc., motivated, and their relationships with customers should be strengthened.
4) It is a must for general administrations to follow the subject of creating successful animation programs. The development of animation is too big of a subject to leave it to only the animation department.
5) It would also be informative for the destinations that have ongoing developments about resort hotels to enlighten the influence of animation activities to the satisfaction that the customer gets from the hotel. The satisfaction of the customer and its measurement are crucial criteria on grounds of destination benchmarking and are the subjects that are in correlation. Comparison happens with the research on the best practices in industry and the example of their usage (Fuchs & Weiermair, 2004). Antalya is a worldwide destination, and the debates on the subjects of variables that affect the satisfaction of customers would present inputs to development of all resort destinations.

In this study, the quality of animation services is handled within a specific scale and comparatively to the other departments. This content keeps out a view that is more extensive and qualitative. This content can be widened with more qualitative researches. The research, being limited to a certain destination, keeps out the possible effects of tourists with different features and different animation services. With destinations that are elected from different countries, many broader conclusions can be reached. It is a probability that can be used to argue the animation services in city hotels and sport hotels, aside from the resort hotels, to which this study focused on.

References

Albayrak, T., Caber, M., & Öz, E.K. (2017). Assessing recreational activities' service quality in hotels: An examination of animation and spa & wellness services. *Journal of Quality Assurance in Hospitality & Tourism*, *18*(2), 218-234.

APDCT (2015). Statistics. Antalya Provincial Directorate of Culture and Tourism, http://www.antalyakulturturizm.gov.tr/TR,88282/2014-yili.html, Last *accessed in August 18, 2016*.

Bagozzi, R.P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal Of the Academy of Marketing Science, 16*(1), 74-94.

Bolat, T., & Yılmaz, O. (2009). The relationship between outsourcing and organizational performance: Is it myth or reality for the hotel sector. *International Journal of Contemporary Hospitality*

Management, *21*(1), 7-23.

Busacca, B., & Padula, G. (2005). Understanding the relationship between attribute performance and overall satisfaction: Theory, measurement and implications. *Marketing Intelligence & Planning*, *23*(6), 543-561.

Caruana, A., Money, A.H., & Berthon, P.R. (2000). Service quality and satisfaction-the moderating role of value. *European Journal of Marketing*, *34*(11/12), 1338-1353.

Caruana, A. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction, *European Journal of Marketing*, *36*(7/8), 811-828.

Costa, G., Glinia, E., Goudas, M., & Antoniou, P. (2004). Recreational services in resort hotels: Customer satisfaction aspects. *Journal of Sport & Tourism*, *9*(2), 117-126.

Cronin, J.J., & Taylor, S.A. (1992). Measuring service quality: a re-examination and extension. *Journal of Marketing*, *56*, 55-68.

Demir, M., & Demir, Ş.Ş. (2015). The evaluation of hotel animation services from managers and tourists perspective. *International Journal of Social Sciences and Education Research*, *1*(1), 44-61.

Esposito Vinzi, V., Trinchera, L., & Amato, S. (2010). PLS path modeling: From foundations to recent developments and open issues for model assessment and improvement, in: V. Esposito Vinzi, W. Chin, J. Henseler & H. Wang (eds.), Handbook of partial least squares, Springer, 47-82

Fallon, P., & Schofield, P. (2004). Just trying to keep the customer satisfied. *Journal of Quality Assurance in Hospitality & Tourism*, *4*(3-4), 77-96.

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50.

Fuchs, M., & Weiermair, K. (2004). Destination benchmarking: An indicator-system's potential for exploring guest satisfaction. *Journal of Travel Research*, *42*, 212-225.

Glinia, E., Costa, G., & Drakou, A. (2004). Hotel animation and professional perspectives in Greece. *Tourism Today*, *4*, 123-130.

Hai-yan, K., & Baum, T. (2006). Skills and work in the hospitality sector: The case of hotel front office employees in China. *International Journal of Contemporary Hospitality Management*, *18*(6), 509-518.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*, *20*(2), 195–204.

Hung, W., Shang, J., & Wang, F. (2010). Pricing determinants in the hotel industry: Quantile regression analysis. *International Journal of Hospitality Management*, *29*(3), 378-384.

Johann, M., & Anastassova, L. (2014). The perception of tourism product quality and tourist satisfaction: the case of polish tourists visiting Bulgaria. *European Journal of Tourism Research*, *8*, 99-114.

Kandampully, J., & Suhartanto, D. (2003). The role of customer satisfaction and image in gaining customer loyalty in the hotel industry. *Journal of Hospitality and Leisure Marketing*, *10*(1-2), 3-25.

Kandampully, J., & Suhartanto, D. (2000). Customer loyalty in the hotel industry: the role of customer satisfaction and image. *International Journal of Contemporary Hospitality Management*, *12*(6), 346-351.

Knutson, B.J., Beck, J.A., & Yen, H.H. (2004). Marketing the mid-price independently owned resort: A case study with implications for managers. *Journal of Hospitality & Leisure Marketing*, *11*(4), 65-79.

MCT (2016). Statistics. Republic of Turkey, Ministry of Culture and Tourism, http://yigm.kulturturizm.gov.tr/TR,9853/istatistikler.html, (*accessed in August 18, 2016*).

Mattila, A., & O'Neill, J.W. (2003). Relationships between hotel room pricing, occupancy, and guest satisfaction: A longitudinal case of a midscale hotel in the United States. *Journal of Hospitality & Tourism Research*, *27*(3), 328-341.

Meng, F., Tepanon, Y., & Uysal, M. (2008). Measuring tourist satisfaction by attribute and motivation: The case of a nature-based resort. *Journal of Vacation Marketing*, *14*(1), 41-56.

Mikulic, J., & Prebezac, D. (2011). Evaluating hotel animation programs at Mediterranean sun-and-sea resorts: An impact-asymmetry analysis. *Tourism Management*, *32*(3), 688-696.

Neal, R.M., & Hinton, G. (1998). A view of the EM algorithm that justifies incremental and other variants. In M. Jordan (Ed.), Learning in graphical models (pp.355-368). Kluwer Academic Publishers.

Noe, F.P., & Uysal, M. (1997). Evaluation of outdoor recreational settings. A problem of measuring user satisfaction. *Journal of Retailing and Consumer Services*, *4*(4), 223-230.

Oh, H. (1999). Service quality, customer satisfaction, and customer value: A holistic perspective. *Hospitality Management*, *18*, 67-82.

Oliver, R.A. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, *17*(4), 460-469.

Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1985). A conceptual model of service quality and its implications for further research. *Journal of Marketing*, *49*, 41-50.

Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, *64*, 12-40.

Park, J., Kim, H.J., & McCleary, K.W. (2014). The impact of top management's environmental attitudes on hotel companies' environmental management. *Journal of Hospitality & Tourism Research*, *38*(1), 95-115.

Petrick, J.F., & Backman, S.J. (2002). An examination of the construct of perceived value for the prediction of golf travelers' intentions to revisit. *Journal of Travel Research*, *41*, 38-45.

Pizam, A., & Ellis, T. (1999). Customer satisfaction and its measurement in hospitality enterprises. *International Journal of Contemporary Hospitality Management*, *11*(7), 326-339.

Sivadas, E., & Baker-Prewitt, J.L. (2000). An examination of the relationship between service quality, customer satisfaction, and store loyalty. *International Journal of Retail & Distribution Management*, *28*(2), 73-82.

Sotiriadis, M.D. (2014). Management and operational issues of animation services in resort and all-inclusive hotels: Evidence from Greece. *Mediterranean Journal of Social Sciences*, *5*(20), 692-698.

Shportko, A. (2012). The effect of animation services on the guests' perception of a hotel and intention to visit it. Unpublished Master of Science Thesis, Purdue University, Department of Hospitality & Tourism Management, West Lafayette, IN.

Sureshchandar, G.S., Rajendran, C., & Anantharaman, R.N. (2002). The relationship between service quality and customer satisfaction-a factor specific approach. *Journal of Services Marketing*, *16*(4), 363-379.

Taylor, S., Sharland, A., Cronin, J., & Bullard, W. (1993). Recreation service quality in the international setting. *International Journal of Service Industry Management*, *4*(4), 68-86.

Uysal, M. (2003). Satisfaction components in outdoor recreation and tourism settings. *e-Review of Tourism Research*, *1*(3), 35-38.

Weiermair, K., & Fuchs, M. (1999). Measuring tourist judgment on service quality. *Annals of Tourism Research*, *26*(4), 1004-1021.

Wong, K.K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*, 1-32.

Yuksel, A., & Yuksel, F. (2001). The expectancy-disconfirmation paradigm: A critique. *Journal of Hospitality & Tourism Research*, *25*(2), 107-131.

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Educational Tourism in Arboretum – The Case of Borová Hora

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Abstract

Nowadays tourists are increasingly seeking learning and educational experiences while on holidays. This interest has led institutions and organizations that served some years ago predominantly to education purposes to create tourism product with the focus on the general public. These tourism products include learning or education components providing professional information in a way that is acceptable also to non-professional visitors. Arboretums are one of these establishments that provide a wide range of possibilities for the practical teaching of students in primary biological disciplines but also attract visitors because of their natural beauty and relaxing atmosphere. Reflecting versatility of the arboretum, the authors outline primary the forms of educational tourism; they characterize the Arboretum Borová hora (the supply side) and analyze the visitation (demand side) of the arboretum. After reviewing the current state of scientific knowledge in educational tourism, the following research question was formulated: Can guided tours enhance the visitation of the Arboretum? The results of the regression analysis confirmed that the targeted introduction of novelties (or new impetus) for arboretum visitors (guided tours) increased the overall arboretum traffic and awareness of Arboretum Borová hora.

Keywords: education, tourism, arboretum, Technical University in Zvolen

JEL Classification: Q26, Q56, L83

1. Introduction

Tourism as has a positive impact on economic growth and employment in destinations, and it is an essential aspect of the life of people around the world. Tourism helps to raise local awareness of the financial value of natural and cultural sites. It strengthens the preservation and protection of local natural and cultural heritage, stimulates a feeling of pride on nature, culture, and crafts, and strengthens the local community by creating job opportunities.

Nowadays visitors are becoming more experienced, more sophisticated and more demanding; they are continually looking for new experiences, for something more challenging, more exciting. This trend is reflected, among others, for example in demand for short-break intensive vacation in unpolluted destinations with a focus on the new experience, knowledge, rediscovery of traditions (Jarábková et al., 2012).

Due to everyday stressful lifestyle, short-break vacations are expanding global phenomenon. Focus on short vacations is an appropriate competitive strategy of the destinations, given that over the last 20-30 years this market has grown considerably. The

short-break vacation is not planned long in advance, so the internet has become the primary source of information and reservation tool.

Globalization, the growth of tourism, changes in lifestyles, trends towards more flexibility and individualization has led to the development of the number of niches and special interest tourism, including educational tourism (Ritchie et al., 2003; Poon, 2003).

The history of educational tourism dates back to 17th century when it has existed in the form of the 'Grand Tour,' experience in the education of aristocratic males (see, e.g., Feifer, 1985; Gibson, 1998; Holdnak & Holland, 1996; Swarbrooke & Horner, 2007). Despite its history, there is still a gap in research and discussions about educational tourism (Williams, 2010).

Travel for study or acquiring educational services is referred to as educational tourism (Abubaker, et al., 2014). It involves learning experience that requires the active participation of the educational tourists (Pitman, et al., 2010; Packer, 2006).

Educational tourism can vary from a half-day visit to a natural site to a study program undertaken in a foreign country (Poon, 1993).

Bodger (1998, p. 28) argues that educational tourism refers to traveling in groups with "the primary purpose of engaging in a learning experience directly related to the location." Ritchie (2009) states that participants in educational tourism either stays in the destination overnight or undertake an excursion with education and learning as a primary or secondary part of their trip. This statement allows viewing educational tourism not just as a travel arrangement made for scholars, but also for general public. He added that traveling enhanced by the cultural motivation incorporate also learning an element, desire for finding novelty, and education. GWA Training Brokers (2010) characterize educational tourism as a "travel for formal or informal education and lifelong learning in unique natural, historical & multi-cultural environments. It refers to any tourism program or product offering in which participants travel to a location with the primary purpose of engaging in a learning experience. It benefits the local economy and enhances the general population at the same time as educating and enriching the lives of the individuals who participate in these programs." According to Canadian EduTourism Association Cooperative (CETA, 2010) educational tourism is travel undertaken by an individual to a unique location for formal or informal learning in various forms such as work experience, training in a new language, culinary training, medical tourism, cultural tours, and professional development. Sayre and King (2010) add that school and university trips, as well as specialty camps, are also educational travel. Ritchie, Carr, and Cooper (2003) widen the purposes of the educational travel saying that education can be a primary or secondary purpose for the destination visit and include general educational tourism, adult study tours, international and domestic university and school students' travel, language schools, school excursions and exchange programs. Patterson (2006) considers educational tourism as travel with a learning experience.

Ritchie et al. (2003), Pitman, Broomhall and Mcewan (2010, p. 220) state that tourists in educational tourism are motivated by a desire or need to learn; this is typical especially for adults. It refers specifically to "organized recreational tours (usually commercial), aimed at the general public (as distinct from, for example, for-credit study tours for students) which promote an intentional and structured learning experience as a key component. This learning component is explicit, and core, to the delivery of the product."

Ritchie et al. (2003) argue that learning may be either a primary or secondary motivator to travel and learning may occur formally (using an expert or guide), or informally (independently or self-driven).

Universities often promote some form of educational travel for their students with different length of stay aiming to widen the educational experience of the students. Study abroad experiences often enhance the chance of employment of the graduates. Nevertheless, students often travel not only within the chosen country but also to neighboring ones what allows them to gain multicultural skills.

Skill enhancement trip as a part of the educational tourism can cover different skills from learning how to build houses or grew vegetables to how to protect the nature in combination with the travel experience. These trips are also popular because of their de-stressing factor.

Participation in educational tourism is growing every year. It can improve the level of specific as well as the general education and create new economic opportunities for the knowledge acquired to create social value and, also, educational tourism provides knowledge for people without age difference and creates a platform for lifelong learning.

Educational tourists are good educated, have a higher disposable income, and are concerned about the environment and different cultures (Árnason, 2010; Pitman et al., 2010; Richards, 2011). They are wary of the commodification of cultures (Lyons et al., 2012) and seek an authentic experience they can co-create (Richards, 2011; Pitman et al. 2010).

The primary purpose of educational tourism is to obtain knowledge and experience on specific topics, rather than travel itself. Therefore, it is crucial to involve tour guides or experts providing comments and description of the particular topics that can give a tourist a broader perspective on the subject that is being discussed. The role of such guides is particular as beside the knowledge of the topic they must also understand that educational tourism is based around tourists who pay for the information they get, and they do not want to be treated as regular students. The comments and description should engage or captivate the visitors (Moss, 2009); evoke emotions to promote knowledge, awareness, and learning (ibid). Such an education refers to edutainment (ibid). Edutainment include for example museums; art galleries; exhibitions; zoos; aquariums, planetariums, and arboretums.

Arboretums belong to important dendrological objects that provide a wide range of possibilities for the practical teaching of students in basic biological disciplines. The qualified teaching of vocational subjects does not take place at universities and secondary vocational schools of biological, forestry, horticultural and ecological focus without knowledge of a wide range of original (autochthonous) and introduced (allotone) woods. Arboretums are also places to visit by tourists and the general public to learn about nature, its protection and preservation.

In Slovakia, there are four significant arboretums: (1) Arboretum Kysihýbel and botanic garden at the Forestry High School in Banská Štiavnica; (2) Arboretum in Liptovský Hrádok, (3) Arboretum of the Slovak Academy of Science in Mlyňany; and the Arboretum Borová hora in Zvolen (Hrubík, 2000).

The study aims to verify the zero hypotheses that the visitation at the Arboretum Borová hora of the Technical University in Zvolen is unchanged in the time horizon 2008-2017,

specify breakpoints in traffic over the ten-year period, respectively, as well as to assess the impact of climatic factors on the number of visitors.

Material and Methods

Changes or significant breaks in the number of seasonal (March-October) visits were analyzed over the period from 2008 to 2017. The null hypothesis, namely, that the regression coefficient does not change over time and the seasonal visits are stable was tested. A hypothesis was rejected in the case that the breakpoint was detected (based on least squares model parameter estimation). The breakpoint was detected automatically. To test the hypothesis, we estimated two separate linear regression equations; one for the seasonal visit values that are less than or equal to the breakpoint and one for the seasonal visit values that are greater than the breakpoint. Combination of Rosenbrock and Quasi-Newton estimation methods was used to estimate parameters of the Piecewise linear regression model (Hlásny et al., 2014; Shanno & Kettler, 2010; Neter, Wasserman & Kutner, 1990). The significance of the model (correlation coefficient) was tested by t-test.

Residuals of the Piecewise linear regression model to detect the relationship between inter-annual fluctuations in visits and weather were further used. Seasonal March-October precipitation sums were used as the prediction variable and the absolute values of deviations (differences between seasonal visits and the average visits determined by the model in the particular year). The significance of the relationship (correlation coefficient t) was determined by t-test.

To better explain and reveal changes in inter-annual visits we used intra-annual monthly (March-October) visits over the period from 2008 to 2017 as a dependent variable and tested the possible effect of commented excursions and their possible interactions. The effects were tested by using the two-way ANOVA (StatSoft, Inc. (2013).

After reviewing the current state of scientific knowledge in educational tourism, the following research question was formulated: Can guided tours enhance the visitation of the Arboretum?

Visits of Arboretum Borová hora were evaluated over a period of ten years (2008–2017). The number of visitors was recorded monthly, in different categories: K - kindergartens, PS - primary schools, SS - secondary schools, UNI+ADP - universities and associations of physically and mentally disabled young and retired people. The entrance of accompanying staff (e. g., supervisors, and teachers) is free of charge at all group entries.

The category others includes the free entrance for public events during the official opening of the visiting season (Welcome Birds Delegates of Spring), various competitions with other organizations (Discover and Protect, Fairy Forest, Universities of the Tertiary Age, etc.), it also includes accompanying excursions for Technical University in Zvolen (TUZVO) (national and foreign), individual entries of TUZVO employees and students who have free admission during the entire visiting season. The category special comprises researchers who repeatedly visit the arboretum due to work on their research projects (e.g., phenology, forest mensuration, bioclimatology, mycology). The category of visitors with 1 and 2 € ticket reflects the actual number of tickets sold in a given year, the interest of adults, families, retirees, and students in specific months of the visiting season. Besides this, the number of

excursions and their visitors was also recorded, as well as the number of visits during the Days of Rhododendrons and Days of Roses.

Results and Discussions

Arboretum Borová hora is a scientific and educational institution of the Technical University in Zvolen, established in 1965. The arboretum covers nearly 50 hectares (47.84 ha) within the altitudinal range of 291–377 m above sea level and is one of the most extensive arboreta in Europe.

One of the most important missions of Arboretum Borová hora is education. The professional orientation on the original dendroflora with a particular focus on the tree species of Slovakia allow providing a wide range of lecturers for the Faculty of Forestry e. g. Dendrology, Botany, Bioclimatology, Pedology, Integrated Woods Protection as well as for the Faculty of Ecology and Environmental Studies e. g. Landscape Dendrology, Landscape Design, and Landscape Flower Garden. The arboretum also provides a part of the practical training in Morphology and wood structure and provides facilities for monitoring the degradation of wood in model conditions for Woodworking Faculty. In addition to the students of the Technical University, students from other universities, in particular, the Slovak University of Agriculture in Nitra and the Matej Bel University in Banská Bystrica, also use the arboretum complex, and in recent years also some of the Czech and Polish universities.

For the educational and scientific purposes, the arboretum possesses rich collections of tree species and shrubs, roses, cacti, and succulents.

The collection of Tree species and shrubs are the most extensive and the most important collection of the Arboretum. The main idea behind is to present native tree species of central Europe, and Slovakia in their morphological and geographical variability. Essential populations and rare forms of autochthonous tree species and shrubs are acquired by the arboretum´s or mediated collecting of specimens directly in the forests of Slovakia, respectively, in the areas of their natural distribution. Recorded and archived are also protected and endangered species. The purpose of preserving the autochthonous tree species and shrubs of Slovakia is their initial transfer to the same or partially modified conditions of Arboretum Borová hora. Later, their eventual subsequent reintroduction into the native ecosystems may result in the higher ecological stability of the landscape (Lukáčik et al. 2005, Sedmáková et al., 2018). Currently the collections consist of 4 695 taxonomic (registration) units containing one hundred twenty genera, four hundred eighty-seven species (except species of genus Rosa sp.), 1 036 forms and cultivars of trees and shrubs and 1 512 origins (without significant habit deviations - geographical variability), altogether almost 14 000 registered trees and shrubs. It is a case of a very precious plant material of big importance for preserving the gene pool of tree species of Slovakia. Consequently, in year 1981 the Arboretum was proclaimed a protected area as an expression of the collection value.

The initial aim and the main idea behind The Roses collection were to gather and archive primarily resistant landscape shrub roses with the aim of their utilization in the landscape, which was further expanded with the collection of specimens of roses breeds from the Czech Republic, Moravia, and Slovakia; this closely corresponds with the general concept of arboretum development. At present, more than 800 sorts of roses growth in the Arboretum, from which almost 250 sorts come from Czech and Slovak breeders. The most abundant are

old sorts from Czech breeders Jan Böhm and Josef Urban and world-famous rose breeder Rudolf Geschwind. The Roses collection includes the s more than 80 species of botanical roses, together with more than 800 taxonomic units of the genus Rosa sp., with up to 4 000 specimens.

The collection of cacti and succulents is aimed at the botanical family *Cactaceae* and less on succulents. The collection was compiled to show the variability of the species. At present, the collection comprises representatives of seventy-four genera of cacti with 550 taxons and forty-seven genera of succulents with one hundred and fifty taxons. In the arboretum collection, 1500 specimens of xerophilous flora are growing, especially from Mexico, North and South America, with a significant focus on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed plants.

The Arboretum is open to the public on working days from 15 March to 31 October. In the winter season (1 November - 14 March) the arboretum is closed for the public. Entrance fee for the public is different for adults (2 €); children over six years, students, and retired visitors (1 €); children up to 6 years and mentally and physically challenged visitors have free entrance. Additionally, there are following annual public events organized:

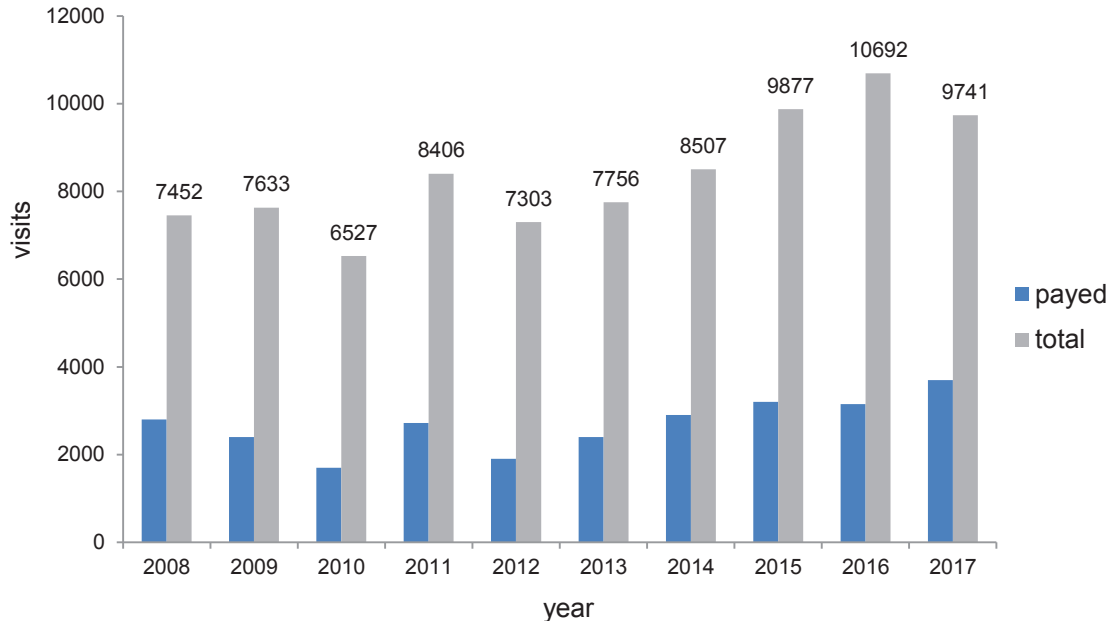
- Welcome Birds - Delegates of Spring (since 2009);
- Days of Rhododendrons (since 2004);
- Days of Roses (since 1994);
- Autumn in the Arboretum (since 2012).

The number of visits of Arboretum Borová Hora was evaluated from several aspects. The basic overview of the number of visitors in the last decade is given in Graph 1.

From the values obtained for the 2008–2017 visiting seasons, it can be seen that the number of paying visitors varies according to the total number of visits. The proportion of paying visitors is ranging from 30% to 34%. The exception is the number of visitors in 2010 and 2012 when the number of paying visitors accounted for only a quarter of the total (26%) and respectively in 2017, where the number of paying visitors reached 38% of the total number. Most visitors (around 70%) come to the Arboretum for research and teaching, or because of beneficial free entrance.

Given the general public interests in visiting the Arboretum, the intra-annual monthly numbers of Arboretum visits (March–October) were analyzed. The findings confirm that the plant collections (tree species, roses) are the most attractive for the public in May and June. This finding is valid for all years under the study. To verify the impact of intra-annual fluctuations in number of visits, a model of two-way analysis of variance were used, where the first influencing factor is the month of the year, and the second factor is commented excursions, which has the highest importance during the two important public events: Rhododendron Days (May) and Roses Days (June).

Number of visits in the seasons 2008–2017 Graph 1



Source: Authors´ Processing

The results of two-way factor analysis (Table 1) confirm the statistically significant importance of the two factors investigated for the impact on Arboretum visits – the calendar month and the commented excursions. The calculated F-test values of the investigated factors and their interaction significantly exceeded the tabular value ($F_{tab0.01(7.64)}$=3.23, (1, 64) $F_{tab0.05(1.64)}$= 3.98) at the significance level α = 0.01 (month, interaction) and α = 0.05 (commented excursions). Therefore, their mean values can be considered to be affected by the calendar month, commented excursions, or by their interaction.

Table 1

The results two-way analysis of variance of Arboretum Borová Hora visits (2008–2017)

characteristic	SS	df	MS	F	p-level
month	39127067	7	5589581	38,0371	**0.000000**
commented excursions	710941	1	710941	4,8371	**0.031473**
interaction (commented excursions* month)	5425121	7	775017	5,2731	**0.000086**
error	9406425	64	146975	-	-

Source: Author´s processing
* SS - Sum of squares, df – degree of freedom, MS - MS Effect, F - values of F-test, p- level, level of significance

The impact of the calendar month as a factor of natural vegetation growth (the majority of tree species in the temperate zone open leaf buds and flowers in May and June) has the

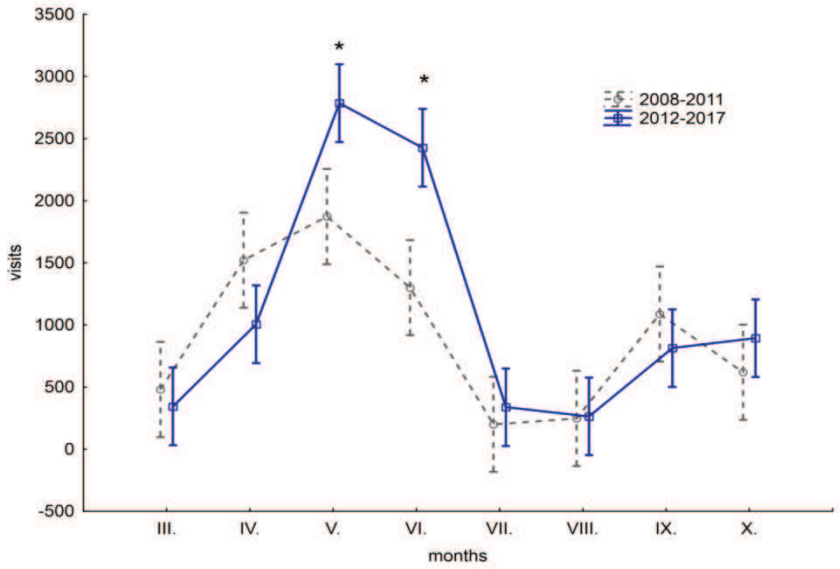
profoundly positive impact in May and June. During the summer months (July and August), the number of visitors is the lowest in comparison to other months in the visiting season (Graph 2). This finding can be explained by the fact that during the holiday season the Arboretum area is not visited by the most numerous groups of visitors such as visitors from kindergartens, primary schools, and universities. An increase in the number of visits is recorded in September, October, which is related to the enrolment of pupils and students back into schools and universities, as well as to the launch of a public event Autumn in the Arboretum.

The number of Arboretum visits is significantly (with 95% probability) influenced by the factor commented excursions, resp. accompanying excursions; this proves that the visitors of the Arboretum do not enter facility only with interest to relax, but also with the aim to educate themselves actively, through experience. With a probability of more than 99%, it can also be claimed that the interaction between factors (calendar month * commented excursions) has a profoundly positive impact on the number of Arboretum visits when the highest demand for accompaniment (commented entries, advising by experts) is in May and June.

To better illustrate the mean values of monthly visits, the 95% confidence interval was used. The monthly numbers of visits in the 10-year period 2008–2017 were divided into the two datasets, 2008–2011 and 2012–2017, with the mean monthly numbers of visits as it is shown in Graph 2.

Graph 2

The effect of starting the expert commented excursions (the season 2011) on the number of visitants.



Source: Authors´ processing

Note: Marked months (May and June) correspond with the commented excursions and reveal significant differences in number of visits between two studied time periods. Error bars represent 95% of confidence intervals.

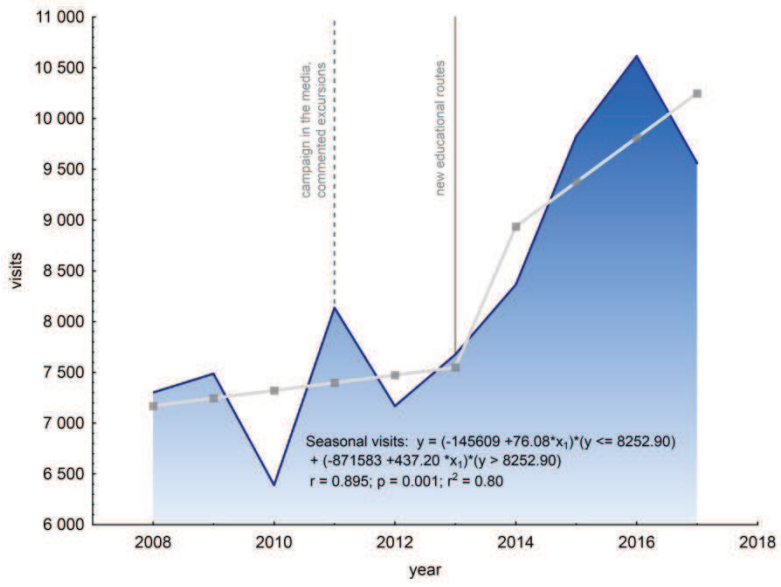
Expression using the confidence intervals of the average monthly number of visits shows highly positive changes in the number of visits, especially in May and June following the launch of commented excursions during Rhododendron Days and Roses Days in 2011 (Graph 2, Table 1). In the period 2012–2017, the number of Arboretum visits in May increased by an

average of 1,000 compared to period 2008–2011 and in June (2012–2017) by an average of 1,500 compared to period 2008–2011.

The results of Piecewise linear regression confirmed the overall increasing trend in the number of visits since 2008 (Graph 3). The abrupt change in the number of Arboretum visits occurred in 2011 when the actual number of visitors exceeded the breakpoint determined by the regression analysis. In that year, a massive campaign to promote two major events organized by Arboretum employees in May and June in mass media (Slovak Radio and Television) were conducted. By e-mail, the tourist information centers of the district towns and the regional cities within 50 km and the spa Sliač, Kováčová and Dudince were notified. In 2011 a novelty was introduced during the Rhododendron Days and Roses Days, which together with the better promotion attracted more visitors. Both events last throughout the whole week when the Arboretum is opened to the public even during the weekends. On Saturdays and Sundays, from 2011, thematically commented excursions with no admission fee two times per day during the Rhododendrons and Roses Days were introduced. Through visiting over rhododendrons (a specially marked rhododendron walkway) and Rosarium, visitors learn about rhododendrons and roses from many points of view (a natural area of distribution, breeding, environmental demands, cultivation, sectioning, diseases, and pests).

Graph 3

Yearly seasonal (March-October) visits with the corresponding breakpoint (vertical full line)



Source: Authors´ processing

Note: The average visits before and after the breakpoints are given by the grey curve. Vertical dashed line, the year of a massive campaign in the media and start of regular expert commented excursions (2011); breakpoint corresponds with an opening of new educational routes (2013).

A similar event aimed at deciduous and coniferous tree species, Autumn in the Arboretum, was introduced in 2012. Since then the Arboretum is opened to the public on second October Saturday with an expert commented excursion free of charge in the afternoon. The content of excursion is focused, among others, on tree species, and also on their cultivars, growth forms, their determination, environmental demands. The breakpoint of the Piecewise linear regression analysis corresponds with the year 2013 when three educational routes were opened to the public in the autumn. According to Graph 3, the predicted number of visits in the year 2014 (gray dot line) slightly exceeds the real number of visits with a deviation of

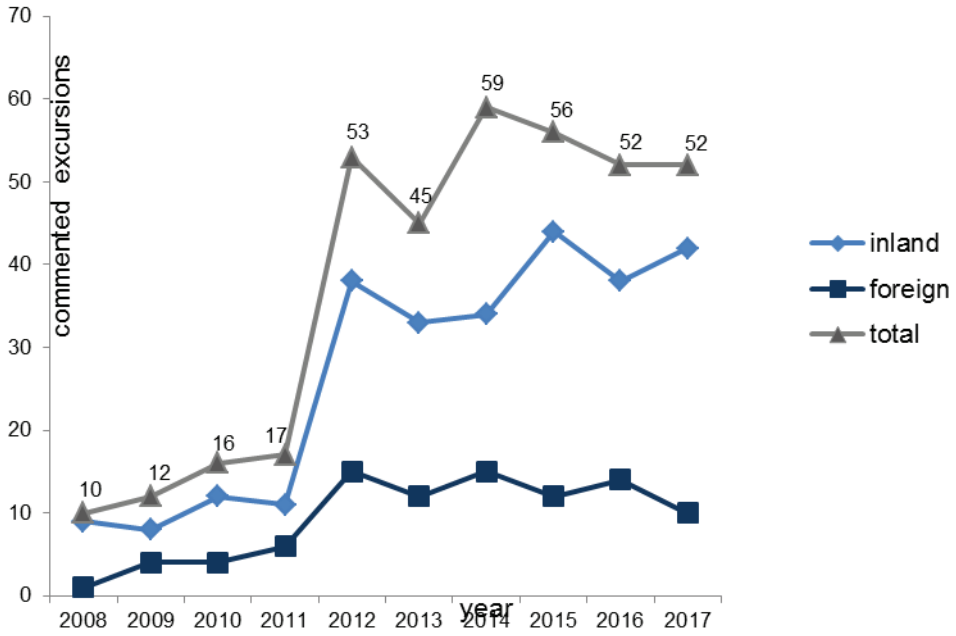
1,100 visitors (blue line). Routes with educational panels devoted to tree species (green route 1.5 km; blue route 2 km) and roses (red route Rosarium 0.5 km) were additionally complemented by yellow route (1.3 km) in 2016. The yellow route is exceptional thanks to the unique natural conditions of the Arboretum, where on a relatively small area, visitors approach two diametrically different exhibitions of tree species associations; namely, trees representing forest steppes (naturally occurring water deficient ecosystems) and trees of floodplain forests (ecosystems with higher groundwater levels).

In 2017, there is a decrease in the actual number of visits, evident from Graph 1 and 3. Based on the primary records this fact can be documented by a lower number of secondary and university students (demographic population decline). At the same time, the number of visitors with purchased tickets (3,700 visitors, Graph 1) has increased which points to increasing awareness of the general public about the enhanced possibilities of education and recreation in the Arboretum Borová hora.

As a result of changes undertaken towards the general public in 2011, there is also an increase in the number of guided excursions, respectively commented entries. The graphical course of the number of guided excursions is illustrated in Graph 4.

Graph 4

Number of experts commented excursions (2008–2017) in Arboretum Borová hora, Technical University in Zvolen



Source: Authors´ processing

The Graph 4 shows that the number of guided excursions for a general public, experts as well as scientifically-oriented attendants increased after 2011. It is necessary to confirm that measures undertaken to increase Arboretum visits were primarily directed towards the population of Slovakia. Number and expert commented excursions organized for foreigners, respectively for the guests of the Technical University in Zvolen can only be considered as being secondarily affected by the above mentioned measures, or that an incentive to visit the

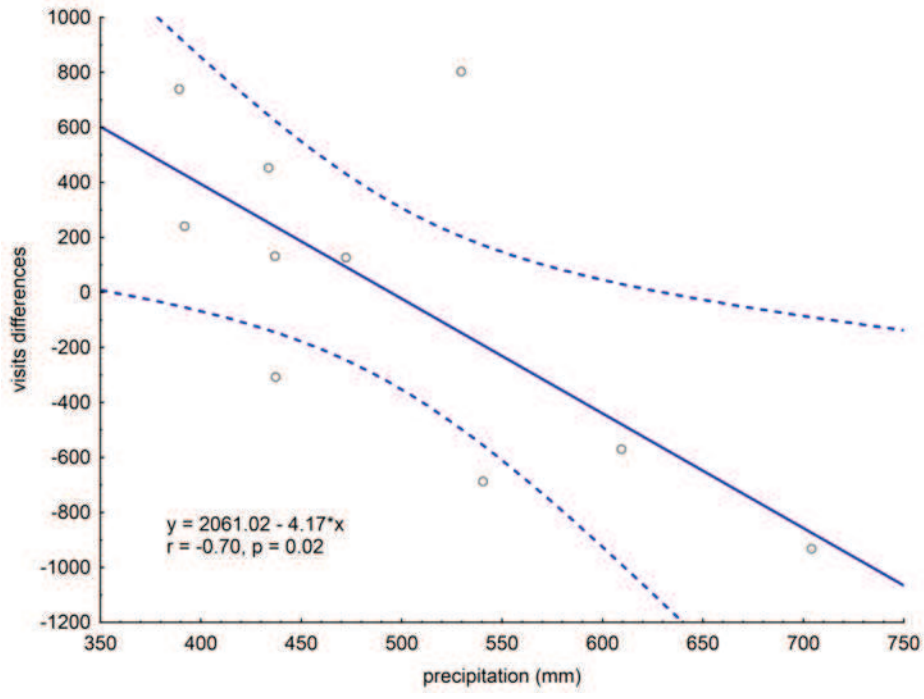
Arboretum has originated abroad. Visits of this kind include multiple excursions organized for Finnish, German, Croatian, Hungarian foresters, German, Finnish and International Dendrology Society, or a World Federation of Roses Societies. A special group represents foreign scientists with a direct or with only informative interest in Arboretum collections. The average number of commented excursions to foreigners for the period 2012–2017 is thirteen, with an average of two hundred twenty-five foreign visitors per year.

The interest in expert commented excursions in the Slovak language ranges from thirty-three to forty-two excursions in the period 2012–2017, and represents on average 38.17 excursions per year, with an average annual number of 1 409 visitors. This is in particular adult lifelong education (forestry organizations), children's university of forestry, biological excursions of primary schools, scholarly excursions of secondary schools, excursions of university students, Universities of the Third Age, excursions for gardening associations, other public organizations or similar.

In spite of the measures that aim to show the visitors of Arboretum Borová hora as much as possible of their collection fund, to clarify the significance and uniqueness of the native tree species and their morphological and geographical variability, the number of Arboretum visits heavily depends on the weather, especially on the number of rainy days (Graph 5).

Graph 5

The impact of weather fluctuations (March–October precipitation sums) on the differences in number of visits



Source: Authors´ processing

Note: Differences are calculated as deviations of visits in the season from the average modeled visits in that season.

For the calculation of the precipitation impact, the data obtained from the meteorological station in Arboretum Borová hora, specifically monthly precipitation sums during the visiting season (March–October) in the studied period 2008–2017 was used. Differences in the

number of visits were calculated as the absolute seasonal deviations in some visits from the average modeled number of visits in a particular season (Graph 3) and were related to the precipitation sums in the studied period (March– October) of the corresponding calendar year. Chart data demonstrates the substantial negative impact of precipitation on the number of Arboretum visits ($r = -0.70$). Positive residuals (deviations) represent the higher number of visits than mean modeled number of visits and the negative deviations (in the bottom right area of Graph 5) lower number of visits.

The number of Arboretum visits was not negatively affected by precipitation in the observed 10-year period when the precipitation in the visiting season varied around the long-term average sum of precipitation in the vegetation period (400 mm). The visible difference in the number of visits was in 2010 and 2012 (Graph 1 and 3) when the precipitation had a profoundly negative impact on the number of Arboretum visits. The year 2010 is among the rainiest seasons from the beginning of the meteorological measurements in the Arboretum (since 1978), when the precipitation sum in March–October exceeded the annual long-term average precipitation sum (704.1 mm, the annual sum in 2010 was 973.4 mm), similarly as it was in 2012. The impact of precipitation was significantly reflected in the number of paying visitors when in 2010 only 1,700 visitors purchased the ticket and similarly 1,900 visitors in 2012.

Conclusion

Educational tourism that is one of the fastest growing areas of the travel and tourism has a wide variety of forms, but all of them have many in common, e. g., self-improvement, learning while having fun, agelessness.

The results of the study give a positive answer to the research question Can guided tours enhance the visitation of the Arboretum? It can be stated that the number of Arboretum visits is significantly influenced by the offer of guided excursions especially in the month of May and June. Substantial negative impact of the precipitation on the visitation could not be approved for the studied period as a whole; however it had negative impact in particular years. The null hypothesis that the regression coefficient does not change over time and the seasonal visits are stable was disproved.

The results of the regression analysis confirmed that the targeted introduction of novelties (or new impetus) for arboretum visitors (commented free excursions during the Rhododendrons and Roses Days weekends commenced in 2011) increased the overall arboretum traffic and awareness of Arboretum Borová hora.

In 2018, the smartphone application “Arborétum Borová hora” was introduced to the experts and public from the beginning of the new visiting season. The visitor learns everything about arboretum collections and educational routes. The advantage of the application is the possibility to use an interactive map and bee cons located directly in the terrain. The application based on a booted Bluetooth connection on the smartphone, points out the current position of the visitor and highlights the plant species, trees and shrubs in that particular place in the Arboretum.

The future studies should include the influence of introduction the smartphone application on Arboretum visitation.

References

Abubaker, A. M., Shneikat, B. H. T. & Oday, A. (2014). Motivational factors for educational tourism: A case study for Northern Cyprus. Tourism Management Perspectives, 11, 58-62.

Árnason, P. (2010). *Thoughts on educational (geo) tourism*, University of Iceland: Hornafjörður Rural Research Centre, Háskóli Islands.

Bodger, D. (1998). Leisure, learning, and travel, Journal of Physical Education, Recreation & Dance, 69(4), 28-31.

Feifer, M. (1985). *Going Places: The Ways of the Tourist From Imperial Rome to the Present Day*, London: Macmillan.

Gibson, H. (1998). The educational tourist. In: Journal of Physical Education. Recreation and Dance, 69(4), 32-34.

Hlásny, T., Barcza, Z., Barka, I., Merganičová, K., Sedmák, R., Kern, A., Pajtík, J., Balázs, B., Fabrika, M., Churkina, G. (2014). Future carbon cycle in mountain spruce forests of Central Europe : Modelling framework and ecological inferences. *Forest Ecology and Management*, 328, 55–68.

Holdnak, A., Holland, S. (1996). Edutourism: vacationing to learn, Parks and Recreation, 31(9), 72-75.

Hrubík, P. (2000). Arboréta a ich význam pri výučbe sadovníckej dendrológie. J. Lipták & I. Lukáčik, I. (eds.), pp. 137-142, *Arboréta, premenlivosť a introdukcia drevín*, Zvolen: Lesnícky výskumný ústav.

Jarábková, J. & Hamada, M. (2012). Creativity and Rural Tourism, *Creative and Knowledge Society*, 2(2), 5-15.

Lukáčik I., Čížová M., Ježovič V. & Škvareninová J. (2005). Arboretum Borová hora 1965-2005. Zvolen: Technical University in Zvolen Press.

Lyons, K., Hanley, J., Wearing, S. & Neil, J. (2012). Gap year volunteer tourism: myths of global citizenship? *Annals of Tourism Research*, 39(1), 361-378.

Moss, S. (ed) (2009). *The entertainment industry: an introduction*. Wallingford: CABI.

Neter, J., Wasserman, W., Kutner, M. H. (1990). Applied Linear Statistical Models, Burr Ridge: Irwin.

Packer, J. (2006). Learning Fun: The Unique Contribution of Educational Leisure Experiences. The Museum Journal, 49(3), 329-344.

Patterson, I. (2006). Growing Older: Tourism and Leisure Behaviour of Older Adults. India: Cabi.

Poon, A. (1993). Tourism, technology and competitive strategies, Oxon: Cabi International Publication.

Pitman, T., Broomhall, S. & Mcewan, J. (2010). Adult learning in educational tourism, Australian Journal of Adult Learning, 50(2), 219-238.

Richards, G. (2011). Cultural tourism trends in Europe: a context for the development of Cultural Route"s. In K. Khovanova-Rubicondo (Ed.) *Impact of European Cultural Routes on SMEs' innovation and competitiveness,* pp. 21-39, Strasbourg: Council of Europe Publishing.

Ritchie, B. W., Carr, N. & Cooper, Ch. P. (2003). Managing Educational Tourism (Aspects of Tourism), Clavedon: Channel View Publications .

Sayre, S. & King, C. (2010). Entertainment and Society: Influences, Impacts and Innovations. Newyork: Routledge.

Sedmáková, D., Saniga, M., Kucbel, S., Pittner, J., Kýpeťová, M., Jaloviar, P., Bugala, M., Vencurik, J., Lukáčik, I. (2017). Irregular shelterwood cuttings promote viability of European yew population growing in a managed forest: a case study from the Starohorské Mountains, Slovakia. *Forests*, *Special Issue Forest Sustainable Management,* 8(8), 289.

Shanno, D. F. & Kettler, P. C. (1970). Optimal conditioning of quasi-Newton methods, Mathematics of Computation, 24(11), 657-664.

StatSoft, Inc. (2013). STATISTICA (data analysis software system), version 12. www.statsoft.com.

Swarbrooke, J. & Horner, S. (2007). Consumer behaviour in tourism, Oxford: Butterworth-Heinemann.

Williams, P. (2010). Educational tourism: Understanding the concept, recognising the value. Tourism Insights, January, unpaginated.

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Tourism Intensity in the NUTS III Regions of Slovakia

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Abstract

Although Slovakia is not yet well known on the international tourism market, regional specificity and variability predetermine the Slovak area for the development of tourism, which has become increasingly popular in recent years. The aim of this paper is to assess and visualize the tourism intensity in the NUTS III regions of Slovakia. Therefore, we calculate indicators such as Defert index, tourism intensity rate, Charvat index, index of territorial density of tourism, tourist density rate, and index of land use. Results show that Bratislava Region had the biggest volume of tourism intensity; the second position occupied the Zilina Region; and the Presov Region ranked third. We found out that there has been a positive change in the development of almost all tourism intensity indicators during the period from 2001 to 2016. Based on the values of the calculated indicators, it seems that Slovakia still has the opportunity to develop tourism sector in all regions.

Key words: Tourism, Slovakia, NUTS III regions, Tourism intensity

JEL Classification: Z32

1. Introduction

Tourism is often considered a global phenomenon. Its significance is evident what results from its penetration into society, politics, culture, and especially into the economy. Tourism destination is a natural entity that has unique characteristics different from other destinations in terms of conditions of tourism development (Kiráľová, & Straka, 2013, p. 9; Kiráľová, & Pavlíčeka, 2015, p. 358). From the point of view of international tourism, the entire country, some region or city may be considered to be the destination (Pásková, & Zelenka, 2002 in Kiráľová, & Straka, 2013).

Slovakia is a country with great potential for tourism. Thanks to its central position in Europe, Slovakia has become a crossroads of trade and cultural routes and political interests,

which has also been reflected in its cultural wealth (Gregorová, 2014). In many regions of Slovakia, tourism is considered to be a key sector that should ensure the development of the region. A great part of the Slovak territory has good natural, cultural and historical conditions for tourism development, which includes natural and protected areas, national parks, mountains, lakes, waterfalls, valleys, caves, gorges, thermal and mineral swimming pools, castles, mansions, chateaus, or water reservoirs (Fiľarská, Vozárová, & Kotulič, 2017). Also the religious tourism and notably pilgrimage tourism started to play a significant role in regional development in Slovakia (Štefko, Kiráľová, & Mudrík, 2015, p. 428). Regional specificity and variability predetermine the Slovak area for the development of tourism, which has become increasingly popular in recent years. However, there are differences between the regions in terms of the material and technical basis, which is a precondition for the tourism development.

Slovakia is a relatively new independent state, which is not very well known in the international tourism market. Therefore, domestic tourism plays the crucial role in the Slovak tourism development form the long-term perspective (Gajdošíková, Gajdošík, Kučerová, & Magátová, 2016). "Geography is the ideal discipline for studying the global tourism industry. Given the inherently spatial aspects of tourism, geographers have contributed significantly to academic tourism studies" (Che, 2017). According to the Eurostat database, in 2017, the population of Slovakia was estimated to be 5,442.79 thousand. Its area is 49,035 km^2 with a population density of approximately 110 inhabitants per km^2. In order to maintain Slovakia's position as the tourism destination, it is necessary to continuously improve the quality of its services; to realize a wide range of communication and promotional activities. Performing mentioned activities effectively requires recognition of the importance of tourism in the given country.

At present, the issue of tourism development is linked to the sustainable tourism, which is defined by the UNWTO (UNWTO, 2005, p.11-12) as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities". Specific features and selected factors of consumer behaviour in tourism must be taken into account too (Hroncova, Birknerova, & Janovska, et al., 2012). The concept of the sustainable tourism is connected with the term of tourism carrying capacity that is defined as "the maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic, socio-cultural environment and an unacceptable decrease in the quality of visitors" (UNWTO, 1981, p. 4). It follows that it is important to focus on the development and recommendation of the suitable measures and tools for sustainable tourism development with the active participation of all Slovak regions.

To write this article, we were motivated by the publication of General Commission for Sustainable Development (Gauche, 2017) in which were provided measurements of tourism intensity with respect to the impact of demographic changes caused by tourism on the environment in tourist destinations. Despite the fact that much more small municipalities have been evaluated in the above-mentioned publication, the aim of this paper is to assess and visualize the tourism intensity in the eight NUTS III regions of Slovakia.

The remainder of this paper is structured as follows. Section 2 describes Slovak NUTS III regions from the point of view of tourism. In Section 3 are presented the data and the methodology. In Section 4 we discuss results and section 5 concludes.

2. Description of Slovak NUTS III regions from the point of view of tourism

Since 1996 regional level of Slovak governance represents eight self-governing regions – NUTS III (Bucher, & Nováková, 2015), which include Bratislava, Trnava, Trencin, Nitra, Zilina, Banska Bystrica, Presov and Kosice Region. These regions differ from each other; therefore, in Table 1 we present selected indicators from 2016 that are important for regions' comparison in tourism. We can summarize briefly that even though the Bratislava Region has the smallest area; it is the most attractive for tourists (Graph 1). The number of overnight stays is very similar in Zilina and Presov Region, and in Trnava and Trencin Region. In 2016, the lowest number of arrivals was recorded in Nitra Region, but this region nevertheless recorded more overnight stays than Kosice Region which ranked fifth within total arrivals.

Table 1

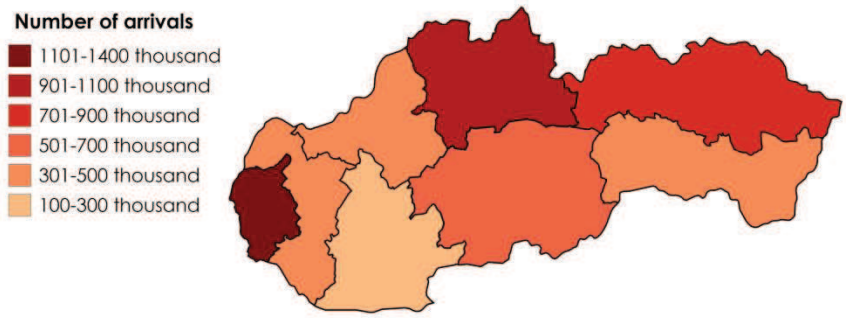
Selected indicators of Slovak NUTS III regions in 2016

Region	Area [km2]	Total population	Population density [per km2]	Total arrivals	Overnight stays	Number of beds
Bratislava	2,052,616	633,288	0.309	1,386,283	3,000,449	27,920
Trnava	4,146,344	559,697	0.135	318,524	1,203,899	15,795
Trencin	4,501,822	589,935	0.131	322,020	1,274,486	15,259
Nitra	6,343,735	682,527	0.108	298,829	828,062	16,190
Zilina	6,808,524	690,434	0.101	975,536	2,777,136	40,057
Banska Bystrica	9,454,003	653,024	0.069	520,895	1,614,400	21,518
Presov	8,972,971	820,697	0.091	854,528	2,713,587	32,291
Kosice	6,754,330	796,650	0.118	347,014	726,401	23,188

Source: Authors processing by using data of Statistical Office of the Slovak Republic

Graph 1

Number of arrivals at tourism accommodation establishments of Slovak NUTS III regions in 2016



Source: Authors processing by using data of Statistical Office of the Slovak Republic

Based on the Slovakia.travel portal (2015), which is the official promotional and information system of Slovak tourism, we describe the basic information on tourism opportunities and places to go within the NUTS III regions of Slovakia. The description shows that Slovakia is indeed a country with a high potential for tourism development.

In Bratislava Region, the capital city Bratislava is situated with the numerous attractions around from which the greatest are cultural and historical monuments, i.e., ruins of Devín Castle, Plavecký Castle, Pajštún Castle, The Red Stone Castle; the Morava Cycling Route; the Danube International Cycling Route; the Gallery of Contemporary Art in Čunovo; the cruises on the River Danube; the Small Carpathians Wine Route; the Sunny Lakes and aqua park in Senec; and the Modra Ceramics. There are performing many activities of creative tourism in this region (Štefko, & Šteffek, 2017).

The metropolis of Trnava Region is the city of Trnava which has the historic core with abundant sacral monuments. In this Region, there are situated spas Piešťany and Smrdáky; castles the Sharp stone, the Korlátka, the Good Water, the Smolenice Castle; the town Skalica with cultural and historical monuments; Basilica of Šaštím; thermal swimming pools in Dunajská Streda, Veľký Meder, Topoľníky; water mills on the river Little Danube; mountain range Small Carpathians.

Trencin Region is known by the Trenčín Castle; the Bojnice Chateau which is the most visited and most beautiful historic monuments in Slovakia; ruins of the Beckov Castle, the Čachtice Castle, the Topoľčany Castle, the Uhrovec Castle; mineral and thermal springs within spas of Trenčianske Teplice, Bojnice, and Nimnica.

Nitra which is the metropolis of the Nitra Region is the oldest town in Slovakia. In the vicinity are ancient churches Dražovce, Kostoľany pod Tribečom; the Gýmeš and the Hrušov Castle; the Manor House Topoľčianky; thermal swimming pools in Štúrovo, Komárno, Patince. Most popular is the exposition area Agrokomplex.

Within the Zilina Region, the town Martin has the most significant cultural and historical monuments. Most beautiful is the Orava Castle; ruins of the medieval Strečno Castle, the Old Castle, the Lietava Castle, the Hričovský Castle, the Súľovský Castle, the Likava Castle, the Liptovský Castle; the UNESCO monument of folk architecture Vlkolínec; wooden churches at Saint Cross, Tvrdošín, Leštiny, Istebné. Spa treatment is provided in Rajecké Teplice, Turčianske Teplice, and Lúčky. There are mountains Small Fatra, Big Fatra, Choč Mountains, West Tatras, Low Tatras with ski centres in Veľká Rača, Vrátna, Zuberec, Ružomberok, and Jasná; caves; reservoirs; and aqua parks Tatralandia, Oravice, Bešeňová.

The region of Banska Bystrica is known for the rich mining history in Banská Bystrica, Banská Štiavnica that is UNESCO monument, and Kremnica. Popular are mountains Low Tatras with ski resorts in Donovaly and Chopok SOUTH; the Čiernohorská forest railway; the Harmanecká Cave and the Bystrianska Cave; castle ruins in Fiľakovo, Divín, Blue Stone, Čabraď; spas in Dudince, Kováčová, Sklené Teplice, and Sliač.

Prešov, the third biggest town of Slovakia, is the metropolis of Presov Region. In this region, High Tatras and within them the Tatra National Park is the most spectacular and most visited area. Well-known is the town Bardejov which is the UNESCO monument and spa Bardejovské kúpele situated near this town. In this region the city marketing plays the significant role with a great impact on tourism and income sources (Štefko, Bačík, & Fedorko, 2017). The Manors Strážky; the Red Monastery, the Kežmarok Castle, the Ľubovňa Castle; the Spiš Castle that is the biggest castle in the Central Europe; the Pieniny National Park with primeval vegetation of the Eastern Carpathian Mountains; the primeval forests of Stružica, Rožok and Havešová in the Bukovec Mountains and the primeval forest of Kyjov in the Vihorlat Mountain belong to the UNESCO list of world natural heritage; the Slovak Paradise;

the town Levoča with the biggest wooden altar in the world; the ecclesiastical town Spišská Kapitula and the Gothic church in Žehra which are also included into the UNESCO monuments; or the Museum of Modern Art of Andy Warhol in Medzilaborce are the greatest attractions in this region.

The second biggest town of Slovakia is Košice that is the metropolis of Kosice Region with many cultural and historical monuments. A city promotion activities became very successful there (Hagyari, Bačík, & Fedorko, 2016). Numerous caves and abysses which are included in the UNESCO monument list belong to the Slovak Karst National Park. There is the Krásna Hôrka Castle; the Betliar Manor House; many churches; the Gothic Route; Tokai area known for the excellent Tokai wine; water reservoir the Zemplínska Šírava; well-known caves such as the Ochtinská Aragonite Cave, the Dobšinská Ice Cave, the Domica Cave, the Jasovská Cave, the Gombasecká Cave; the geyser of Herľany; the Vinianske Lake; the Eye of the Sea; the Košice Zoo in the local city part of Kavečany.

3. Data and Methodology

The tourism-accommodation function of the region, which reflects the level of the network development of accommodation establishments, is evaluated by various quantitative indicators. In this paper, we look into the intensity of tourism in the eight self-governing regions (NUTS III) of Slovakia, which include Bratislava, Trnava, Trencin, Nitra, Zilina, Banska Bystrica, Presov and Kosice Region. Motivated by the study of Dumbrovská, & Fialová (2014) and Kiráľová, & Hamarneh (2016) we use indicators which are functions of the number of tourists, their average length of stay, the size of the local population and the area of the destination (Harrison, 1992). We obtain the required data from the database of the Statistical Office of the Slovak Republic. Our dataset which consists of annual data of the period from 2001 to 2016 we process and analyze in the form of tables, graphs, and chart maps.

The aim of our analysis is to answer the two main questions concerning the development of tourism in the regions of Slovakia. First, we want to prove that regions with a larger number of visitors also have more beds in accommodation establishments, for what we use Pearson's correlation coefficient. Second, we want to find out which three regions of Slovakia have the highest tourism intensity. Third, we want to find out whether there has been a positive change in the development of studied indicators, i.e., whether the values of indicators in the period from 2001 to 2016 have increased. Because of this, the differences between the values of selected indicators in 2016 and 2001 were calculated. In the following subsections, we describe six indicators that we use to describe tourism intensity. It must be noted that all described indicators have limitations resulting from the facts that tourist flows are seasonal; and tourism activity tends to be concentrated in specific geographical areas (Louis, 2004).

3.1. Defert index

As is stated in Marković, Perić, Mijatov, Doljak, & Žolna (2017) and in Potts, & Uysal (1992), in 1967, French geographer Pierre Defert was first who put into practise indicator that takes into account relationship between accommodation capacities and the number of inhabitants of a given destination. Defert function (*DF*) or tourist function index (Sezgin, &

Gumus, 2016) expresses the number of bed places in accommodation establishment in a given region (L) per the number of population (P) of an entire region and is given by

$$DF = \frac{L \cdot 100}{P}. \tag{1}$$

In Table 2, there are described meanings of various values of Defert function. The function assumes a direct correlation between the increase of tourist function and the increase of the residents' hostility towards visitors of the given destination, therefore, it is often called irritation index (Pearce, 1987 in Kiráľová & Straka, 2013, p. 43) which was established by Doxey (1975).

Table 2

Description of different values of Defert function

Values of Defert function	Category	Description
$\langle 0,4 \rangle$	1	Practically no tourist activity
$(4,10\rangle$	2	Negligible tourist activity
$(10,40\rangle$	3	Important but no predominant tourist activity
$(40,100\rangle$	4	Predominant tourist activity
$(100,500\rangle$	5	Major tourist destination
$(500,\infty)$	6	Hypertourist destination

Source: Authors processing by using information from Borzyszkowski, Marczak, & Zarębski (2016); Kiráľová, & Straka (2013)

3.2. Schneider index

Schneider index or tourism intensity rate (*TIR*) (Smith, & Krannich, 1998; Dumbrovská, & Fialová, 2014) measures the number of arrivals at tourist accommodation establishments per 100 regular inhabitants. In case that this index reaches the value of 500 at least, the examined region is well developed (Meyer, Panasiuk, & Sawińska, 2013). The formula is given by

$$TIR = \frac{T \cdot 100}{P} \tag{2}$$

where T is the number of tourists of the region and P is the number of population of the region. Marković, Perić, Mijatov, Doljak, & Žolna (2017, p. 170) stated that "this indicator reflects the intensity of tourist saturation, which refers to the establishment of a balance between the tourist and general spatial planning for the needs of the local community".

3.3. Charvat index

In addition to the two above mentioned indices, to measure the tourism intensity is also used Charvat index, which specifies the number of overnight stays per 100 permanent residents (Skitova, & Żemła, 2015; Kiráľová, & Hamarneh, 2016; Marković, Perić, Mijatov, Doljak, & Žolna, 2017; Rakytova, & Tomcikova, 2017). It is calculated as

$$Tch = \frac{N \cdot 100}{P} \tag{3}$$

where N is the number of nights spent at tourist accommodation establishments and P is the number of population in the given region. Marković, Perić, Mijatov, Doljak, & Žolna (2017, p. 170) stated that "number of overnights might be an excellent economic indicator with the possibility of pointing to the positive and negative impact of tourism on the specific area".

Mariot (2001) stated that in 1972, German author Kulinat divided tourism destinations into four groups according to the value of the tourism intensity measured by the number of overnight stays per one inhabitant. It is actually the Charvat index value that is not multiplied by 100 (Table 3). This dividing is appropriate for presenting the diversity of tourism centres within different territories, regions or states. A cartographic interpretation, which Kulinat has also suggested, makes it possible to get an idea of the distribution of tourism in the studied area and visual information about areas of increased concentration of tourism.

Table 3

Destination division based on the Charvat index values

Number of overnight stays per one inhabitant	Charvat index	Group
$\langle 0,10)$	$\langle 0,0.1)$	1 – Tourism destination of the first level
$\langle 10,50)$	$\langle 0.1,0.5)$	2 – Tourism destination of the second level
$\langle 50,100)$	$\langle 0.5,1.0)$	3 – Tourism destination of the third level
$\langle 100,\infty)$	$\langle 1.0,\infty)$	4 – Tourism destination of the fourth level

Source: Authors processing by using information from Mariot (2001)

3.4. Other indicators of tourism intensity

Dumbrovská, & Fialová (2014) and Kiráľová, & Hamarneh (2016) have used additional indicators which measures tourism intensity, namely index of territorial density of tourism (*ITD*) that is the ratio of the number of bed places in accommodation establishment and number of square kilometre of an entire surface; tourist density rate (*TDR*) which measures how many tourists are approximately in the destination per day per 100 km^2. Besides that, Maggie (2010) used index of land use (*ILU*). These indicators are calculated by using following formulas:

$$ITD = \frac{L \cdot 100}{A} \tag{4}$$

$$TDR = \frac{T \cdot 100}{A \cdot 365} \tag{5}$$

$$ILU = \frac{T + P}{A} \tag{6}$$

where L is number of bed places in accommodation establishment in, A is the area of a given region in km^2, T is the number of arrivals, and P is the number of population in the studied region.

4. Results

Based on our analysis, we obtained several results. First, we studied a correlation between the number of arrivals and the number of bed places. Using Pearson's correlation coefficient and taking into account data from Table 1 we obtained positive correlation (0.75) between mentioned variables and this confirmed the hypothesis that regions with a larger number of visitors also have more beds in accommodation establishments.

Next, we found out which three NUTS III regions of Slovakia have the highest tourism intensity. The results in Table 4 suggest that in 2016, Bratislava Region had the biggest volume of tourism intensity among the surveyed Slovak NUTS III regions. The second position occupied the Zilina region. Within the two regions mentioned above, their position was changed only within the indicator of Defert Function. Calculated values show that there is one extra tourist per inhabitant in the region of Zilina Region than in Bratislava Region. Graph 2 visualizes dividing Slovak NUTS III regions into categories resulting from Table 2. The Presov Region is ranked third within four of the six calculated indicators, but taking into account values of the *ITD* and *ILU* indicators the Trnava region is ranked on this place. The positions of the other regions vary and depend on the indicator we take into account. In general, we can say that the region, in which the capital of Slovakia is located, ranked first. The second and third place occupied the regions with the most famous attractions of Slovakia that are the High and Low Tatras, destinations of summer hiking and winter sports, and spas.

Table 4

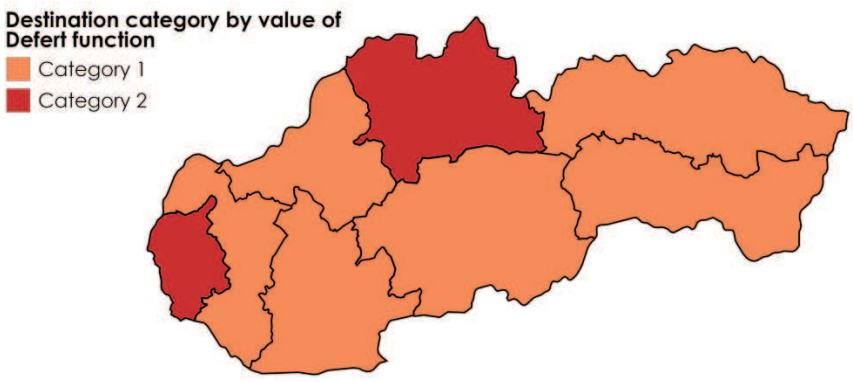
Indicators of tourism intensity in Slovak NUTS III regions in 2016

Region	DF	TIR	Tch	ITD	TDR	ILU
Bratislava Region	4.409	218.902	473.789	1.360	0.185	0.984
Trnava Region	2.822	56.910	215.098	0.381	0.021	0.212
Trencin Region	2.587	54.586	216.038	0.339	0.020	0.203
Nitra Region	2.372	43.783	121.323	0.255	0.013	0.155
Zilina Region	5.802	141.293	402.230	0.588	0.039	0.245
Banska Bystrica Region	3.295	79.767	247.219	0.228	0.015	0.124
Presov Region	3.935	104.122	330.644	0.360	0.026	0.187
Kosice Region	2.911	43.559	91.182	0.343	0.014	0.169

Source: Authors calculations

Graph 2

Dividing Slovak NUTS III regions into categories by the value of Defert function in 2016



Source: Authors processing based on authors calculations

Third, we studied whether there has been a positive change in the development of tourism intensity indicators during the period from 2001 to 2016. Table 5 shows that almost all indicators changed in a positive way. Only Defert function, Charvat index, and index of territorial density of tourism recorded negative changes. Specifically, in Trnava Region the number of nights spent at accommodation establishments has dropped by almost 80,000; in Banska Bystrica Region by 150,000; and in Presov Region by 200,000; and thus these changes negatively affected Charvat index. In Kosice Region, the decrease in the number of bed places by almost 16,000 was negatively signed on the Defert function and on the indicator index of territorial density of tourism. Taking into account the difference between the values of the indicators between the years 2016 and 2001, the greatest increase was recorded in the Bratislava region. Changes in other regions have evolved differently.

Table 5

Changes (2016 – 2001) in the development of indicators of tourism intensity in Slovak NUTS III regions

Region	DF	TIR	Tch	ITD	TDR	ILU
Bratislava Region	1.889	118.442	266.502	0.625	0.105	0.399
Trnava Region	0.612	12.573	-17.744	0.087	0.005	0.020
Trencin Region	0.707	18.348	84.515	0.086	0.006	0.019
Nitra Region	0.425	16.220	41.166	0.036	0.004	0.011
Zilina Region	1.668	63.030	99.339	0.168	0.017	0.063
Banska Bystrica Region	0.016	19.897	-18.586	-0.002	0.004	0.012
Presov Region	0.257	15.949	-37.476	0.037	0.005	0.021
Kosice Region	-2.305	8.994	4.430	-0.248	0.003	0.017

Source: Authors calculations

As we take into account the large regions within surface area, the tourist density rate (*TDR*) says that there was none tourist on average per day per 100 km^2 (Table 4). Therefore, tourism intensity seems to be weak among our studied eight self-governing Slovak regions. For that reason, and taking into account the sustainability criterion, in further research, we will focus on studying smaller municipalities within each NUTS III region.

5. Conclusion

At present, Slovakia is lagging behind its competitors mainly in system solutions, in cooperation with entities, professionalism and quality of service, visiting services as a customer care system, in innovation and education. In the development of the product or marketing, current trends and the state of tourism are not often taking into account. This is mainly a consequence of the attitude of a state that has not attributed significant importance to tourism, and therefore tourism has been poorly systemically supported, for example, in the field of legislation, in the field of support for entrepreneurship of small and medium-sized companies (Kuhn, Tomášová, 2011).

The first step in creating a functioning tourism strategy is to identify the current state of tourism, and into this step, we can also include our analysis. Mentioned step requires the cooperation of the main stakeholders, such as regional tourism organizations, destination tourism organizations, Statistical Office of the Slovak Republic, Institute of Informatics and

Statistics, as well as it is important to take into account research of Slovak Academic Community. The next steps include the determination of measurable goals and concrete activities that will lead to results in a given time horizon. It is also important to optimize the roles of individual entities and important stakeholders in tourism policy at national, regional and local levels. The role of the state is to financially and legally support the above-mentioned organizations and ensure the cooperation between the destinations and the central planning authorities of the development of the tourism sector, which is the Ministry of Transport and Construction of the Slovak Republic.

Regional specificity and variability predetermine the Slovak area for the development of tourism, which has become increasingly popular in recent years. However, there are differences between the regions in terms of the material and technical basis, which is a precondition for the tourism development.

In this paper, we assessed and visualized the tourism intensity in the eight NUTS III regions of Slovakia. We confirmed the hypothesis that regions with a larger number of visitors also have more beds in accommodation establishments. In addition, we have several important findings connected with the surveyed Slovak NUTS III regions resulting from the calculated indicators of tourism intensity, namely from Defert index (*DF*), tourism intensity rate (*TIR*), Charvat index (*Tch*), index of territorial density of tourism (*ITD*), tourist density rate (*TDR*), and index of land use (*ILU*).

First, in 2016, Bratislava Region had the biggest volume of tourism intensity; the second position occupied the Zilina Region; and Presov Region ranked third. It means the most attractive destination for tourists is the region where the capital city of Slovakia is situated, and regions where High and Low Tatras are.

Second, we found out that there has been a positive change in the development of almost all tourism intensity indicators during the period from 2001 to 2016. The greatest increase was recorded in the Bratislava region. Changes in other regions have evolved differently and negative changes were caused mostly by the decline of the number of nights spent at accommodation establishments and of the number of bed places in the surveyed regions. Based on the values of the calculated indicators, it seems that Slovakia still has the opportunity to develop the tourism sector in all regions.

Third, because of the low values of the tourist density rate we should address the description of smaller territorial units within each NUTS III region. In this case, it is also appropriate to focus on the sustainability criterion which "becomes a rather challenging topic for researchers and academics" (Carrillo, & Jorge, 2017, p. 97). Kiráľová, & Hamarneh (2016) state that taking this criterion into account it is possible to avoid potential negative impacts on the destination. The concept of responsible tourism will help improve the quality of life of local people, socio-economic benefits, and holiday experiences; and ensure the protection of natural resources in the chosen destination (Spenceley, et al., 2002, in Mathew, & Sreejesh, 2017).

Finally, we can point out that our analysis can be practically applied in the creation of tourism development strategy, and can be helpful for tourism policy-makers. Very important is also the cooperation of all stakeholders. These recommendations coincide with the proposals of the authors Maggi (2010), Hontus (2015), Kiráľová, & Hamarneh (2016), Bucher, & Nováková (2015), Skitova, & Żemła (2017).

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References

Bucher, S., & Nováková, Š. (2015). Territorial Aspects of Regional Identity and Respondents' Identification with the Region and Place: Case Study of Slovakia1. *Eastern European Countryside*, *21*(1), 81-109.

Carrillo, M., & Jorge, J. M. (2017). Multidimensional analysis of regional tourism sustainability in Spain. *Ecological Economics*, *140*, 89-98.

Che, D. (2017). Tourism Geography. *Oxford bibliographies in geography*. Oxford: Oxford University Press.

Eurostat database. (2018). http://ec.europa.eu/eurostat/data/database

Doxey, G. (1975). A Causation Theory of Visitor-Resident Irritants: Methodology and Research Inferences. *Proceedings of the Travel Research Association Sixth Annual Conference, San Diego*, 195-198.

Dumbrovská, V., & Fialová, D. (2014). Tourist intensity in capital cities in central Europe: Comparative analysis of tourism in Prague, Vienna and Budapest. *Czech Journal of Tourism*, *3*(1), 5-26.

Fiľarská, J., Vozárová, I. K., & Kotulič, R. (2017). Analysis of Tourism in the Slovak Republic in the Period after Accession to the European Monetary Union. *Journal of Environmental Management & Tourism*, *6*(22), 1157-1165.

Gajdošíková, Z., Gajdošík, T., Kučerová, J., & Magátová, I. (2016). Reengineering of tourism organization structure: The case of Slovakia. *Procedia-Social and Behavioral Sciences*, *230*, 405-412.

Gauche, M. (ed.). (2017). Tourism intensity at a local level: environmental pressure or preservation factor? La Défense: General Commission for Sustainable Development. http://www.statistiques.developpement-durable.gouv.fr/fileadmin/documents/Produits_editoriaux/Publications/Datalab/2017/datalab-17-la-fonction-touristique-des-territoires...mars2017-anglais.pdf

Gregorová, B. (2014). BARBORSKÁ CESTA–NOVÝ PRODUKT CESTOVNÉHO RUCHU?. *Geografické informácie*, *1*, 34-43.

Hagyari, P., Bačík, R., & Fedorko, R. (2016). Analysis of the Key Factors of Reputation Management in Conditions of City Marketing. *Polish Journal of Management Studies*, *13*(1), 69-80.

Harrison, D. (1992). *Tourism and the less developed countries*. London: Belhaven Press.

Hontus, A. C. (2015). Analysis of Tourist Traffic in Slanic Prahova to Develop Tourism in the Area. *Analysis*, *15*(3), 159-166

Hroncova, I., Birknerova, Z., & Janovska, A. et al. (2012) Selected Factors of Consumer Behaviour in Slovakia. *Proceedings of the Conference on Management 2012 - Research in Management and Business in the Light of Practical Needs. Presov, Slovakia,* 322-327.

Kiráľová, A., & Hamarneh, I. (2016). Riverside tourism in an urban area – How can it work?. *Geographical Information*, *20*(2), 507-522.

Kiráľová, A., & Straka, I. (2013). *Vliv globalizace na marketing destinace cestovního ruchu*. Praha: Ekopress.

Kiráľová, A., & Pavlíčeka, A. (2015). Development of social media strategies in tourism destination. *Procedia-Social and Behavioral Sciences*, *175*, 358-366.
Kuhn, I., & Tomášová, P. (2011). *Úvod do destinačného manažmentu*. Bratislava: Sekcia cestovného ruchu, Ministerstvo dopravy, výstavby a regionálneho rozvoja SR.
Kulinat, K. (1972). Die Typisierung von Fremdenverkehrsorten. Göttinger *Geographische Abhandlungen*, *60*, 521-538.
Louis, J. M. (2004). *Methodologies and Procedures for Filling Major Gaps in Data: Tourist penetration rate*. http://www.caricomstats.org/Files/Meetings/SocialandCensus/TOURISTPENETRATIONRATE-StLucia.pdf
Maggi, E., & Fredella, F. L. (2010). The carrying capacity of a tourist destination. The case of a coastal Italian city. *50th Congress of the European Regional Science Association: Sustainable Regional Growth and Development in the Creative Knowledge Economy, Sweden*, 1-18.
Mariot, P. (2001). Príspevok k typizácii stredísk cestovného ruchu. *Geografický časopis*, *53*(4), 307-319.
Marković, S., Perić, M., Mijatov, M., Doljak, D., & Žolna, M. (2017). Application of Tourist Function Indicators in Tourism Development. *Journal of the Geographical Institute'Jovan Cvijic'SASA*, *67*(2), 163-178.
Mathew, P. V., & Sreejesh, S. (2017). Impact of responsible tourism on destination sustainability and quality of life of community in tourism destinations. *Journal of Hospitality and Tourism Management*, *31*, 83-89.
Meyer, B., Panasiuk, A., & Sawińska, A. (2013). Analysis of the Service Potential of the Pomeranian Way of St. James (in the Area of the West-Pomeranian Voivodship). *The Pomeranian Way of St James–Culture, Religion and Tourism. Greifswald: Forum für Regional-, Freizeit- und Tourismusforschung an der Universität Greifswald*, 23-39.
Pearce, D. G. (1987). *Tourism today. A geographical analysis*. London: Longman Scientific & Technical.
Pásková, M., & Zelenka, J. (2002). *Výkladový slovník cestovního ruchu.* Praha: Ministerstvo pro místní rozvoj.
Potts, T. D., & Uysal, M. (1992). Tourism intensity as a function of accommodations. *Journal of Travel Research*, *31*(2), 40-43.
Rakytova, I., & Tomcikova, I. (2017). Assessing Sustainability in Mountain Tourism of Demanovska Valley, Slovakia. *European Journal of Geography*, *8*(2), 6-23.
Sezgin, M., & Gumus, M. (2016). The Evaluation of Beysehir Lake National Park (Konya-Turkey) in the Framework Ecotourism. *Forest*, *14*, 16-8.
Skitova, N., & Żemła, M. (2017). The role of tourism in local development strategies on the example of selected tourism comunnities in Malopolska region, Poland. *Current Issues of Tourism Research*, *5*(2), 12-19.
Slovakia.travel portal. (2015). http://slovakia.travel/
Smith, M. D., & Krannich, R. S. (1998). Tourism dependence and resident attitudes. *Annals of tourism research*, *25*(4), 783-802.
Spenceley, A., Relly, P., Keyser, H., Warmeant, P., McKenzie, M., Mataboge, A., ... & Seif, J. (2002). Responsible Tourism Manual for South Africa, Department for Environmental Affairs and Tourism, July 2002. *Responsible Tourism Manual for South Africa*, *2*(3).
Statistical Office of the Slovak Republic database. (2018). http://datacube.statistics.sk/
Štefko, R., Bačík, R., & Fedorko, R. (2017). City Marketing and Its Impact on Income Sources of the Local Government. *Polish Journal of Management Studies, 15*(1), 244-254.
Štefko, R., Kiráľová, A., & Mudrík, M. (2015). Strategic marketing communication in pilgrimage tourism. *Procedia-Social and Behavioral Sciences*, *175*, 423-430.

Štefko, R., & Šteffek, V. (2017). A Study of Creative Industry Entrepreneurial Incubation. *Polish Journal of Management Studies, 15*(2)*,* 250-261.
UNWTO. (2005). *Making Tourism More Sustainable–A Guide for Policy Makers*. New York: UNEP UNWTO.
UNWTO. (1981). *Saturation of Tourist Destinations: Report of the Secretary General*. Madrid: World Tourism Organisation.

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