OPPORTUNITIES FOR THE DEVELOPMENT OF
INNOVATION AMONG HOTELS IN NORTHERN HUNGARY

Béla BENKŐ[*]

Hungarian University of Agriculture and Life Sciences, Doctoral School of Economics and
Regional Sciences, Gödölő, Hungary, e-mail: benko.bela.bb@gmail.com

Lóránt DAVID

Hungarian University of Agriculture and Life Sciences, Institute for Rural Development and
Sustainable Economics, Gödöllő, Hungary, e-mail: dr.david.lorant@gmail.com

Tibor FARKAS

Hungarian University of Agriculture and Life Sciences, Institute for Rural Development and
Sustainable Economics, Gödöllő, Hungary, e-mail: farkas.tibor@uni-mate.hu

Abstract: The aim of the study is to analyse the various infrastructural developments of the tourism sector in Northern Hungary. The study examines the innovation potential and it's obstacles of hotels in the region. The research is based on a survey of hotel managers, using Kruskal – Wallis tests as the main statistical method. The well-developed infrastructure and the effective adaptation and application of innovations are essential for the creation of complex tourism packages based on the tourist attractions of the region and thus contribute to the development of the region. The research confirms that tenders for development are more common in larger and more capital-intensive hotels. The smaller ones are excluded from the tender system partly due to the lack of qualified labour. There is progress in innovation; most people are currently implementing product / service innovation.

Key words: Northern Hungary Region Hotel industry, innovation, tourism development, infrastructure

* * * * * *

INTRODUCTION

The tourist attraction of a given area is determined by its endowments. In addition to natural and cultural values, the existence of quality accommodation can also be a motivating factor in choosing a destination. The infrastructural capacity of the host area and all other factors that affect the economic operation can be crucial. The accommodation is complemented by other services, as the goal is to ensure that guests should not be short of anything, away from home, which is provided by appropriate management, service staff and suppliers. The present research deals with the innovation potential and background of the hotel industry developments within the Northern Hungary region.

Tourism is an important sector embedded in the social environment, as it has an intensive impact on the environment. In addition to the people who serve them, the users of the service are also in daily contact with local social groups, so they also include everyday life. Tourism also has social and environmental consequences as well. However, we have to state that the developments can be started with the help of a capital-strong and innovative person or company, but in order to start development of the given area or destination cooperation is also needed. The most important research question of our study is the extent to which hotels in Northern Hungary can take advantage of the potential of innovation.

LITERATURE REVIEW

After the change of regime, the hotels became privately owned. Units that were previously established along a poorly reasoned strategy sooner or later dropped out of competition and ceased operation. At the same time, new hotels appeared on the market that previously served other functions (resorts, workers' hostels). The beginning of the period was marked by a rapid increase in supply and a lack of quality accommodation. However, since the 2000s, this trend has changed and the focus has shifted from quantity to quality. The expansion of accommodation services and their quality has become increasingly important in order for the units to operate as efficiently as possible, so efforts have been made to increase the average length of stay and to target more solvent guests. As a result, specialization of accommodation has begun and special services have been created, where accommodation or services have already become an attraction in themselves (spa and wellness hotels, wine hotels, golf hotels, etc.), but also units specializing in business tourism must be mentioned as well. The first benefit of the regime change in the field of tourism was that the accommodations were removed from state ownership and replaced by investors. This, in turn, brought the change that certain decisions were based solely on economic interests, so that most of the accommodations that survived and were able to develop, which were in the right location and had some attraction and tourist

---

[*] Corresponding author

infrastructure nearby. An important change is the increased popularity of wellness hotels. As a result of increasing demand, the number of these units tripled in the first few years of the millennium. They provided an experience-rich range of services, even for a stay of 2-3 days, which was quite attractive for guests (Boros et al., 2012). The appearance of Hungaricums also provides additional attractions to the existing offer. Their utilization is possible at the regional level (Kassai - Káposzta et al., 2016).

As Puczkó and Rátz stated, the attraction in the area to be visited is the biggest factor in making a given travel decision (Puczkó and Rátz, 2001). It takes time to experience the attraction when the journey takes place. If this amount of time and the return time required to visit the given place together exceed one day, the need for accommodation arises immediately (Kátay, 2016). However, for an area to be desirable to potential visitors, the mere presence of various attractions is not enough, it must have the infrastructure to meet the needs of their daily lives, especially with regard to basic hygiene and safety. Together, they create a calm background that allows the experience (Michalkó, 1999). From the above, it can be concluded that in order for an area to become a potential target area, tourism infrastructure is required (Kaspar, 1992). According to Tasnádi, the tourist infrastructure is nothing more than a suprastructure based on an existing foundation, which creates the conditions for temporary residence (Tasnádi, 2002). Providers of various accommodation services are connected to this tourist superstructure. Taking into consideration the above stated, it can be said that a hotel operation should only be started with great care, and due to the volume of investment, it will only pay off over a longer period of time, so efficient and effective operation is essential. This is based on choosing the right location. There are a number of external factors to consider here, starting with tourist attractions, but accessibility, the economic environment, geographical location and other characteristics of the destination, such as economic level, level of security, possible political and / or religious tensions, etc., are also important (Bártfai, 2006). Economical operation is facilitated by the design of a hotel of the right size, as the number of staff required for operation and other operating costs (e.g. overheads) and the variety of services available do not increase in proportion to the number of rooms available, which generates revenue beyond room costs, on the other hand, it can increase the average length of stay, which also means extra income (Bártfai, 2006).

In a developed economy, innovation is necessary for competitiveness. In this area, the economy should be significantly improved. A significant number of authors have dealt with innovation and innovation management, analyzing in detail (Iványi and Hoffer, 1999; Jarjabka and Lóránd, 2010; Holló and Marselek, 2017) and (Vajda, 2020). Orfila-Sintes and Mattsson (2006) drew some important conclusions about hotel innovation behavior. Innovation has been associated with service provider and customer competencies, market incentives, and the impact of innovation on performance. According to the authors, decisions about innovation are determined by the extent to which additional (online) services are offered, whether the hotel is part of a hotel chain, and whether the hotel is run by the hotel owner. Besides certain types of innovations governments and tourism industry stakeholders need to consider the costs, risks and impacts of global environmental dangers on travel and tourism. In the twenty-first century, two immense drivers of change to the tourism industry are climate change and global health emergencies (Jamal and Budke, 2020). These two drivers can also lead to the promotion of domestic tourism as a tool by some governments to reduce leakage from the national economy and to bolster regional centres and rural economies. Such a policy focus may have the unintended outcome of creating new sustainable tourism trajectories with positive implications for lower emissions, place-based economic development and travel and tourism practices (Hall et al., 2020).

Hotels in the Northern Hungary Region
Before conducting the research on innovation, it is worth examining the development of accommodation capacity in Northern Hungary. Recent data are most relevant to my research, so I have only focused roughly on the last ten years.

Table 1. Changes in the number of beds in Northern Hungary 2008-2019, (beds) (Source: http://statinfo.ksh.hu/ own editing)

Year	Nógrád County		Borsod-Abaúj-Zemplén County		Heves country		Region	
	Number of beds	Number of rooms	Number of beds	Number of rooms	Number of beds	Number of rooms	Total beds	Room number Total
2008	2 624	786	14 969	4 362	11 276	3 608	28 869	8 755
2009	2 423	806	14 419	4 467	11 293	3 543	28 135	8 816
2010	2 462	758	15 495	4 769	12 372	3 952	30 330	9 479
2011	3 388	964	19 716	5 981	13 250	4 311	36 355	11 256
2012	3 438	968	18 080	5 403	15 380	4 604	36 898	10 975
2013	3 113	879	18 282	5 655	15 533	5 146	36 928	11 680
2014	2 912	917	18 731	5 695	15 323	4 951	36 967	11 563
2015	3 005	942	18 611	5 768	16 396	5 599	38 012	12 309
2016	3 103	984	17 486	5 242	16 437	5 308	37 025	11 533
2017	3 652	1 154	17 235	5 461	14 811	5 015	35 697	11 630
2018	3 822	1 220	17 285	5 005	14 765	4 981	35 872	11 205
2019	3 457	1 136	16 101	4 694	14 487	4 973	34 044	10 803

I collected the data from the KSH website (Table 1). Examining the data of the region, we can state that a significant increase in capacity can be observed from 2010 onwards, and from 2015 onwards there is a decreasing trend in terms of both beds and number of rooms. The region of Northern Hungary consists of three counties. Heves, Nógrád and Borsod-Abaúj-Zemplén counties. In the case of Nógrád County, apart from minor fluctuations, there is a continuous increase in both the number of beds and the number of rooms. Numerically, in 12 years, the number of seats led to an increase of approximately 30%, which in itself is an encouraging result, but it should also be borne in mind that the base number was very low. What is much more encouraging is the change in the number of rooms, where an increase of almost 45% can be

observed, suggesting that several lower-quality accommodation units (e.g. tourist hostels with multi-bed rooms) have been converted into higher-quality double or triple bed bedrooms. The numbers in Heves County also developed positively, until 2016 there was a continuous increase, but then there was a decrease of 12-13%, both in terms of the number of beds and the number of rooms. Thus, the former increased by 28% and the latter by 35% during the period considered. It is also worth noting here that the initial value was also relatively high, so growth is clearly a step forward.

In the case of Borsod-Abaúj-Zemplén County, we can observe an interesting trend: in 2011 there was a bigger jump in the number of beds compared to 2008, while the number of rooms increased by 37%, which is a significant change in three years. However, this positive trend could not be maintained, so that by 2019 both the number of beds and the number of rooms decreased compared to the situation in 2011, however, compared to the starting numbers, both increased by approx. 7.5%. Summarizing the accommodation capacity, it can be said that Heves County is well ahead of the other two counties in terms of both the most developed quantities and the quality of services, while Nógrád County lags far behind in both factors, but Borsod-Abaúj-Zemplén County also has something to catch up with. Based on the data of the CSO, we can state that in 12 years the number of guest nights in Borsod-Abaúj-Zemplén County increased by 35%, in Nógrád by 43%, and in Heves County by more than 50% (Table 2). With this in mind, the increase in accommodation capacity in all counties is understandable. It is interesting that most guest nights were registered in Heves County in 2008, but the capacity was the highest in Borsod-Abaúj-Zemplén County, from which we can conclude that the capacity utilization rate is higher in Heves County. This is also confirmed by the fact that the number of places available in Borsod-Abaúj-Zemplén County is significantly higher. The capacity of Heves County was only 73% of Borsod-Abaúj-Zemplén County's in 2008. The more efficient performance is due to the better quality of the accommodation and the performance of the destinations. In the latter case, Eger and its region represent a huge tourism potential for Heves County, which generates not only national but also cross-border tourism. For this reason, Heves County clearly generates the most efficient tourism in the target area.

Compared to each other, Borsod-Abaúj-Zemplén and Heves Counties have almost the same numbers, which is seven times the numbers of Nógrád County. If we remember, the accommodation capacity of Nógrád County in 2008 was approx. 1/6 of Borsod-Abaúj-Zemplén County. There I pointed out that the amount of accommodation supply in Nógrád County was very low, but these figures show that the demand was even lower. In terms of the economic strength and potential of Nógrád County, it is one of the most disadvantaged areas of the country, the signs of which can also be observed in the supply of basic tourism infrastructure. At the same time, the growing demand for recreational rural areas can be predicted, the sending area of which is mainly the capital and its agglomeration environment. For this reason, the proximity of Nógrád County to the capital may be exploited in terms of tourism, for example with improved transport geography. Recently, the expressway of Route 21 has clearly improved these conditions and has a good chance of playing a significant role in boosting tourism in the area. If we look at 2019, we can see that 25% more guest nights were spent in Heves County than in Borsod-Abaúj-Zemplén County, which is a huge change compared to the previous, almost same numbers.

In Nógrád County, the number of guest nights is slightly less than 1/6 compared to Borsod-Abaúj-Zemplén County, which is an improvement compared to the previous 1/7, but the volume is still very low. Summarizing the supply, it can be stated in one sentence that a steady increase can be observed in all three counties, and in most cases the demand has also increased. Heves County is an example to follow in front of the other two counties in the region, it has undergone spectacular development in the last 12 years, which can be copied by Borsod-Abaúj-Zemplén County and Nógrád County. However, it is not enough to expand the supply of accommodation, it is also necessary to stimulate demand, for which the development of traditional and tourist infrastructure and innovation is also essential.

MATERIAL AND METHOD

Pre-tested questionnaires were used during the survey. During the questionnaire survey we searched almost all hotels in Northern Hungary. It was mainly the hotels above three stars that were authoritative for us. I used the database of Szállás.hu as a starting point. We asked for permission in advance by phone so that I could send them a questionnaire, so we finally got back 64 completed questionnaires. The main analyzed topics were: hotel size, turnover, resources, environmental factors, factors facilitating and hindering innovation activity, funding opportunities, needs, planned investments, hotel development opportunities, economic impact, labor supply opportunities, workforce qualifications, regional infrastructure situation. The questions were mainly closed questions, the use of which was justified by the need for information that could be easily assessed and generalized.

Table 2. Number of hotel guest nights in Northern Hungary (thousand) Source: http://statinfo.ksh.hu/ own editing

Year	Borsod-Abaúj-Zemplén	Heves	Nógrád	Total
2008	452	564	77	1 094
2009	433	509	74	1 016
2010	440	536	86	1 062
2011	468	649	75	1 192
2012	463	769	61	1 293
2013	509	866	75	1 449
2014	592	956	77	1 625
2015	613	1 095	77	1 785
2016	700	1 138	81	1 918
2017	729	1 218	104	2 051
2018	788	1 214	127	2 129
2019	764	1 278	128	2 169

The data recorded in the questionnaires were evaluated during statistical calculations based on scientific methods. The data of the questionnaire were evaluated by statistical analysis in order to support the hypotheses. After data entry, statistical processing was performed using SPSS. The figures and diagrams were created using Microsoft Excel programs.

The Kruskal – Wallis test was used in the study. This belongs to the ranking-based methods, it is a special group of non-parametric tests. These methods proved to be the most suitable for testing my hypotheses. In my studies, I analyze the relationship between variables measured on an ordinal scale using rank correlation. This can be used if the specific values of the given variables are not known, only their order according to some aspect. Such as e.g. the Kruskal - Wallis test,

which has no prerequisites. "If the group-forming criterion is a bivariate Mann-Whitney, if a multivariate Kruskal – Wallis test can be used, it informs the acceptance or rejection of the hypothesis after the rank transformation" (Bácsné, 2006; Bácsné, 2009). The test is a non-parametric statistical procedure. The test is practically an analysis of the variance of the data measured on the ordinal scale, to compare the average of more than two independent samples. The test is suitable for testing three or more independent samples in the studies (Kruskal and Wallis, 1952). It does not require a normal distribution of variables, however, the number of items in each sample must be at least five. Additional conditions are random sampling, which ensures an even distribution of each variable in the presence of H0, for independent samples and variables that can be measured at least on an ordinal scale. It is also called the rank transformation procedure because after the samples are pooled, the rankings have to be determined. During the test, the independent samples are combined, so that the combined, common sample is formed, which is arranged in series (Fidy and Makara, 2005). Sample items are assigned by ranks, and then the ranks of each sample are added and averaged per group (per column). If the sample size is appropriate, i.e. the number of items in each sample is at least five, the value of the test statistic marked H may be calculated.

$$H = \sum \left(T_x^2 \frac{12}{N(N+1)} / n_x \right) - 3(N+1)$$

where: n_x = the size of the xth sample, $N = n_1$ and $n_2 + \ldots n_x$, i.e. the number of all groups examined, T = the sum of the rank data.

$$H = \frac{12}{N(N+1)} \left(\frac{R_1^2}{n_1} + \frac{R_2^2}{n_2} + _{\ldots} + \frac{R_k^2}{n_k} \right) - 3(N+1),$$

where n_x = element number of the xth sample, Rx is the sum of the rankings of the xth sample, N = sum of the number of elements of the samples, i.e. $N = \Sigma n_x$ (Vincze and Varbanova, 1993). In addition to statistical analyzes, we also conducted interviews in 2020.

The interview can be used in the initial phase of the research to refine the research questions, but can also be used in the final phase of the research when the results can be verified.

RESULTS

The questionnaire survey focused on the region of Northern Hungary. Each County was included in the responses according to their importance to tourism. More than third of the hotels surveyed in our research fall into the 114-500 space category. Among enterprises, the employee group of 10-49 people is the most populous. Taking into consideration the number of employees previously examined regarding hotel size, we can conclude that hotels fill the required positions rationally. Heves County has the most serious hotel and tourism capacity; in other Counties the weaker infrastructure limits the use of opportunities. In the most important positions, they work with a specialized degree, but which can be considered as background work, degree is not necessary (bellboy, kitchen assistant, sales clerk, maid, gardener). Education is less important in these areas. Labor turnover is only significant in certain positions (chef, kitchen assistant, waitress, and maid). This is probably due to hard work and low wages. In order to maintain the standard of the hotel, wages should be reconsidered and mechanization in problem areas should be increased. In many cases, it is problematic that it is not possible to employ local / regional labor. Such areas are e.g. sales manager, chef, waitress, and maid. Hiring a local / regional staff means expanding the hotel's opportunities. It is advisable to look for employees who are suitable for the given position and are also willing to take a job. External environmental factors affect the operation of hotels. Here comes the creation of technological or new organizational system for better adaptation. Examined on a scale of 1 to 5, the answer "operating is routine" received an average of 2.9 points. Nowadays, innovation is playing an increasingly important role. Hotels make moderate use of different forms of innovation. Technological innovation, product / service innovation, which requires people with the right qualifications (Figure 1). When judging the different changes, the standard deviations are between 1.2 and 1.4, which is not significant difference.
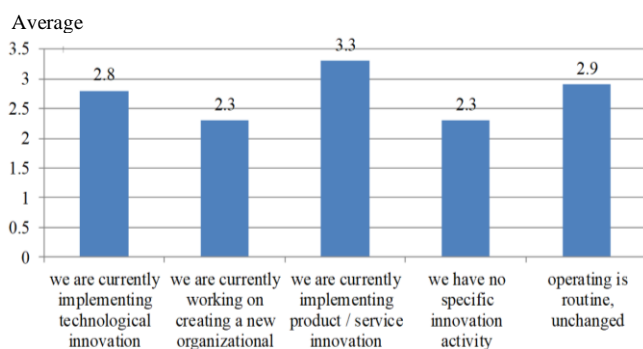
Figure 1. Problems of adapting to external environmental factors (average)(Source: own calculation, 2021)
(1 = not characteristic, 2 = less characteristic, 3 = moderately characteristic, 4 = characteristic, 5 very characteristic)
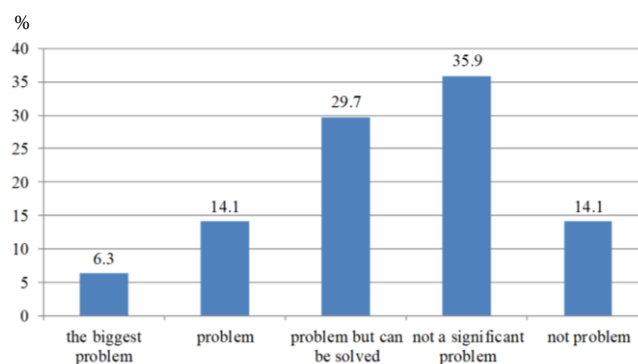
Figure 2. Technological environment (innovation, development (%)(Source: own calculation, 2021)

The development of the technological environment and innovation is less problematic according to the respondents.

Only 6.3% of respondents consider it a problem area. Respondents do not consider the technological environment to be a problem area, which may be due to the fact that hotels generally perform poorly in terms of innovation (Figure 2).

Innovation activities, forms and barriers

Product / service innovation is still considered feasible by the majority of respondents. This form of innovation is considered by many to be the most promising. At present, the implementation of technological innovation has been considered

by few. The obstacles of the implementation of the innovation activity were partly due to financial problems and partly to the risk of return on investment. It should also be added that innovation can only be carried out by suitably qualified people. In the case of inhibitory activity, the variance is quite different. Factors hindering marketing innovation include scarcity of resources, outdated resources and inadequate human resources. If progress could be made in this area, it would be a significant for the hotel industry in the region. The Kruskal - Wallis test examines rank data and can be classified into non - parametric statistical procedures. In fact, analysis of variance of data measured on an ordinal scale. I used the Kruskal - Wallis test to present the possibilities of innovation activity and innovation activity (Table 3). The ranking is presented from 1 to 5, so a higher average value indicates a very characteristic activity for the given V12 responses. It would be ideal if the "worsened" had a low average, the "unchanged" had a higher average, and the "improved" had the highest average.

It can be seen that a significance value of 0.101 is the most favorable for the relationship (i.e., between changes in innovation opportunities and innovation activity). What does value of 0.101 mean (Table 4)? Expressed as a percentage, this means that the probability of the null hypothesis is 10.1%, i.e. there is no relationship between the change in opportunities and the ongoing innovation activity. Below 5 %, we reject the null hypothesis, i.e., there is a relationship, but strictly speaking, 10 %is also remarkable. In the case of other innovation activities, the proof of the connection is even worse, i.e. there is no connection. The probability of the null hypothesis for "no specific innovation activity" - no difference - is 37.2%, which is well above the 5% margin of error, so there is no significance. The respondents are experts from Heves, Borsod-Abaúj-Zemplén and Nógrád Counties (Table 5). There is a significant value of "return on investment risk" exceeding 5% with 6.8 %, but the correlation is still significant (Table 6).

Table 3. Changing the innovation potential of an organization and comparing innovation activity (Source: own calculation)

V11. How have the organization's innovation opportunities changed in the last 5 years?		N	Ranking averages
V 12.1. we are currently implementing technological innovation	The situation has improved	28	38.86
	The situation has worsened	5	27.60
	Unchanged	22	26.95
	I cannot judge	9	29.00
	Total	64	
V 12.2. we are currently working on creating a new organizational system	The situation has improved	28	34.73
	The situation has worsened	5	40.30
	Unchanged	22	27.68
	I cannot judge	9	33.00
	Total	64	
V 12.3. we are currently implementing product / service innovation	The situation has improved	28	37.34
	The situation has worsened	5	33.70
	Unchanged	22	26.05
	I cannot judge	9	32,56
	Total	64	
V 12.4. we have no specific innovation activity	The situation has improved	28	30.18
	The situation has worsened	5	23.90
	Unchanged	22	34.95
	I cannot judge	9	38.50
	Total	64	
V 12.5. operating is routine, unchanged	The situation has improved	28	31.73
	The situation has worsened	5	23,20
	Unchanged	22	33.32
	I cannot judge	9	38.06
	Total	64	

Table 4. Significance values * (Source: own calculation)

Test Statistics[a,b]					
	V 12.1. we are currently implementing technological innovation	V 12.2. we are currently working on creating a new organizational system	V 12.3. we are currently implementing product / service innovation	V 12.4. we have no specific innovation activity	V 12.5. operating is routine, unchanged
Kruskal-Wallis H	6.219	2.986	4.776	3.127	2.268
df	3	3	3	3	3
Asymp. Sig.	0.101	0.394	0.189	0.372	0.519

a. Kruskal Wallis Test
b. Grouping Variable: V11. How have the organization's innovation opportunities changed in the last 5 years? df: degree of freedom; Asymp. Sig: significance level; Grouping Variable: grouping variable; Mean Rank: Rank averages

Table 6. Significance table (Source: own calculation)

Test Statistics[a,b]					
	V 13.1. financial problems	V 13.2. tax environment - state	V 13.3. tax environment - local government	V 13.4. lack of grants and tender opportunities	V 13.5. return on investment risk
Kruskal-Wallis H	0.033	1.498	0.746	0.748	5.371
df	2	2	2	2	2
Asymp. Sig.	0.983	0.473	0.689	0.688	0.068

a. Kruskal - Wallis Test;
b. b. Grouping Variable: V2. For which County do you provide your answers

Table 5. Barriers to innovation and the role of the County Source: own calculation

V2. For which County do you provide your answers?		N	Ranking averages
V 13.1. financial problems	Heves	34	32.26
	Borsod-Abaúj-Zemplén	21	32.45
	Nógrád	9	33.50
	Total	64	
V 13.2. tax environment - state	Heves	34	31.59
	Borsod-Abaúj-Zemplén	21	31.07
	Nógrád	9	39.28
	Total	64	
V 13.3. tax environment - local government	Heves	34	32.26
	Borsod-Abaúj-Zemplén	21	34.60
	Nógrád	9	28.50
	Total	64	
V 13.4. lack of grants and tender opportunities	Heves	34	30.81
	Borsod-Abaúj-Zemplén	21	35.17
	Nógrád	9	32.67
	Total	64	
V 13.5. return on investment risk	Heves	34	28.22
	Borsod-Abaúj-Zemplén	21	34.95
	Nógrád	9	42.94
	Total	64	

The other deterrents are not significant. Regarding the ranking values, it can be considered that the situation has improved, the deterioration can only be registered during the production of the promotional film. The study focused on whether there is a significant difference between innovation opportunities in terms of influencing factors. In three cases, there area significant difference i.e. "introduction and renewal of a website", "preparation of a brochure" and "organization of events, participation in an exhibition" (Table 7).

Table 7. Relationship between innovation opportunities and influencing factors (Source: own calculation)

V11. How have the organization's innovation opportunities changed in the last 5 years?		N	Ranking averages
V 15.1. introduction and renewal of a website	The situation has improved	28	39.45
	The situation has worsened	5	21.60
	Unchanged	22	29.02
	I cannot judge	9	25.44
	Total	64	
V 15.2. creating a blog	The situation has improved	28	32.32
	The situation has worsened	5	38.20
	Unchanged	22	32.59
	I cannot judge	9	29.67
	Total	64	
V 15.3. advertising (newspaper, radio, tv)	The situation has improved	28	32.05
	The situation has worsened	5	22.90
	Unchanged	22	34.41
	I cannot judge	9	34.56
	Total	64	
V 15.4. preparation of a brochure	The situation has improved	28	36.25
	The situation has worsened	5	16.70
	Unchanged	22	26.73
	I cannot judge	9	43.72
	Total	64	
V 15.5. organization of events, participation in an exhibition	The situation has improved	28	35.21
	The situation has worsened	5	21,90
	Unchanged	22	27.02
	I cannot judge	9	43.33
	Total	64	
V 15.6. making a promotional film	The situation has improved	28	35.14
	The situation has worsened	5	36.20
	Unchanged	22	27.36
	I cannot judge	9	34.78
	Total	64	
V 15.7. professional meetings, conferences	The situation has improved	28	34.07
	The situation has worsened	5	22.50
	Unchanged	22	30.39
	I cannot judge	9	38.33
	Total	64	
V 15.8. Pr articles, press releases	The situation has improved	28	36.04
	The situation has worsened	5	19.10
	Unchanged	22	29.66
	I cannot judge	9	35.89
	Total	64	

Table 8. Significance values (Source: own calculation)

Test Statistics[a,b]								
	V 15.1. introduction and renewal of a website	**V 15.2. creating a blog**	**V 15.3. advertising (newspaper, radio, tv)**	**V 15.4. preparation of a brochure**	**V 15.5. organization of events, participation in an exhibition**	**V 15.6. making a promotional film**	**V 15.7. professional meetings, conferences**	**V 15.8. Pr articles news releases**
Kruskal-Wallis H	11.424	0.849	1.770	10.653	7.526	2.780	2.934	4.640
df	3	3	3	3	3	3	3	3
Asymp. Sig.	0.010	0.838	0.622	0.014	0.057	0.427	0.402	0.200

a. Kruskal Wallis Test;
b. Grouping Variable: V11. How have the organization's innovation opportunities changed in the last 5 years?

CONCLUSION

Questionnaire surveys, the results of secondary research, and in-depth interviews also confirm that tenders for development are more common in larger and more capital-intensive hotels. The smaller ones are excluded from the tender system partly due to the lack of qualified labor. There is progress in innovation; most people are currently

implementing product / service innovation. More than half of the respondents who completed the questionnaire considered this to be typical. However, the obstacles to innovation activity are significant, e.g. financial problems, lack of grants, renders, risk of return on investment, etc. this needs to be changed.

Recognizing the need for change is also a result (Table 8). The region of Northern Hungary belongs to the less developed regions in terms of its position in the regional ranking. Relatively poor conditions pose dangers, e.g. qualified catering professionals are migrating, efficient businesses cannot find their calculation, the existing network of institutions and infrastructure is becoming unsustainable. The economic effects of the hotel developments implemented in the Northern Hungary region are positive and significant, their impact on the long-term economic development of the settlement is decisive, and it also greatly improves the opportunities for local employment.

Due to the serious positive effects, the use of central resources can also be expected to a greater extent than at present. Central support can generate profitable development, which can also foster innovation.

REFERENCES

Bácsné, B.É. (2006). Methodological procedures for examining the role of the time factor in management and organizational processes. *Agricultural Science Publications*. 20th special issue, 20-32.

Bácsné, B.É. (2009). The role of the time factor in the effectiveness of the operation of the leader and the organization. *PhD dissertation*. Debrecen. 190.

Bártfai, E. (2006). Hotel basics. Budapest College of Economics, Faculty of Commerce, *Hospitality and Tourism*, Budapest. 207.

Boros, S., Mondok, A., & Várhelyi, T. (2012). *Health tourism services and management*. College of Szolnok, Szolnok. 386.

Fidy, J., & Makara, G. (2005). *Biostatistics*. Informed 2002, Ltd., Budapest. 219.

Hall, M.C., Scott, D., & Gössling, S. (2020). Pandemics, transformations and tourism: be careful what you wish for. *Tourism Geographies*. 22:3, 577-598. https://doi.org/10.1080/14616688.2020.1759131

Holló, E., & Marselek, S. (2017). The situation of SMEs, competitiveness, innovation in the 21st century. *Selection from the studies of the lecturers of the Faculty of Economics and Social Sciences*. Eger, Károly Eszterházy University, 167-182.

Iványi, A.S., & Hoffer, I. (1999). *Innovation in economy*. Aula Publishing House, Budapest. 295.

Jamal, T., & Budke, C. (2020). Tourism in a world with pandemics: local-global responsibility and action. *Journal of Tourism Futures*. 6(2), 181-188.

Jarjabka, Á., & Lóránd, B. (2010). *Basics and areas of innovation*. Pécs. 129.

Kaspar, C. (1992). Basics of tourism. Trade and Tourism Training Ltd., Budapest. 157.

Kassai, Z., Káposzta, J., Ritter, K., Dávid, L., Nagy, H., & Farkas, T. (2016). The territorial significance of food Hungaricums. The case of pálinka. *Romanian Journal of Regional Science*. 10. 2 pp. 64-84., 21.

Kátay, Á. (2016). Investigation of the spatial and temporal expansion of the hotel industry in Hungary. *PhD dissertation*. University of Pécs, Faculty of Science, Pécs. 229.

Kruskal, W.H., & Wallis, W.A. (1952). *Use of ranks in one-criterion variance analysis*. J. Amer, Stat, Ass. 47, 1952, 583-621.

Michalkó, G. (1999). *Theory and practice of urban tourism*. Geographical Research Institute of the Hungarian Academy of Sciences. Budapest, 168.

Orfila-Sintes, F., & Mattsson, J. (2009). Innovation behavior in the hotel industry. *Omega*. 37(2), 380-394, ISSN 0305-0483, https://doi.org/10.1016/j.omega.2007.04.002. https://www.sciencedirect.com/science/article/pii/S0305048307000746

Puczkó, L., & Rátz, T. (2001). *The effects of tourism*. Aula Publishing House, Budapest. 482.

Tasnádi, J. (2002). *The system of tourism*. Aula Publishing House, Budapest. 280.

Vajda, A. (2020). Competitiveness and innovation, the role of SMEs in increasing competitiveness. *Acta Carolus Robertus* Gyöngyös. 2, 209-220.

Vincze, I., & Varbanova, M. (1993). *Non-parametric mathematical statistics*. Academy Publishing House, Budapest. 211.