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MEDICAL WATER BASED SPA TOWN DEVELOPMENT
POSSIBILITES

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1. Research background and objectives

1.1. Preliminary research

The globalization of the world economy increasingly focuses on the importance of absolute and comparative advantages on regional, territories, municipalities and in corporate strategy making, therefore the topic I have chosen is current to this statement (Lengyel, 2010; Porter, 2011; Csomós & Kulesár, 2012). Medical tourism development and regional development has a versatile and dialectical relationship therefore to exploit the potential opportunities of health tourism it is an essential requirement to implement the infrastructural prerequisites (Lengyel, 1997; Michalkó, 2001; Chew, 2010).

Within the medical tourism infrastructure the spa service is an extremely complex activity because through the use of this service the guests benefit from other businesses' offers which are loosely or non-related to health tourism. Consequently, bath tourism has a strong impact on the development of settlements and the regional socio-economic environment. This multiplicative and strengthening impact improves businesses and promotes job creation (Mundruczó & Szennyessy, 2005).

Hungary may have an outstanding role in the medical tourism service industry by the utilization of its thermal water base due to the growing appreciation of health within the globalized tourism portfolio (Szabó, 2015). This opportunity can only be seized if the attitudes of decision-makers in settlements with well-known spas are clear in regards of spa development and the behaviors of natives in regards of Hungarian spa usages are exposed as well.
1.2. Research objectives

The thesis aims to scientifically analyze how system approach and decision-making methods can help the development of spa based medical tourism. The first part of the analysis (C₁) aims to explore the standpoint of decision-makers in settlements with well-known spas in regards of spa development, while part two (C₂) researches the behaviors of natives in regards of Hungarian spa usages.

Hypotheses:

**H₁a:** The decision-makers of spa towns consider health tourism an enhancer of local economic development.

**H₁b:** The decision-makers of spa towns consider spa services as an important factor in terms of local population living conditions.

**H₂:** The decision-makers of spa towns consider that the existence of a thermal baths contribute significantly to the improvement of the spa cities.

**H₃:** The decision-makers of spa towns perceive the inhibiting factors within the development of spa based tourism.

**H₄:** Spa cities lack a long-term plan for the future after medicinal water diminishes.

**H₅:** Hungarian consumers can be characteristically categorized in different groups in regards of spa based tourism attitudes.

**H₆:** Spa related consumer behavior can be described by the customers’ socio-demographic characteristics and attitudes.
2. **Materials and methods used in the research**

The primary research includes the decision-makers of spa cities and customers within spa based tourism. Within the decision-makers, mayors have the most insight and greatest lobby powers. The primary consumers within the Hungarian spa tourism are in the broad sense domestic middle-aged middle class citizens (Koch et al., 2010).

Quantitative data collection has been used from mayors of spa towns. Self-administered questionnaires have been filled out by the mayors themselves of which a huge advantage that respondents answered more honestly as they wrote the answers alone. 36 rural spa town have been chosen with a simple random sampling method from the 47 members of the Hungarian Spas Association. The traditional paper-based questionnaires have been sent by post to the members. Even though the questionnaires were voluntary all participating mayors completed them and returned them back through post.

The information on consumers of spa tourism has also been implemented by quantitative data collection. The selection criteria was that the respondents should be Hungarians living in cities with age of 40 and over. It was also important that only one person fill out the questionnaire in a family. The survey covered all regions of Hungary, which were selected by a randomized sampling method. The traditional paper-based questionnaires reached the respondents through intermediaries. The intermediaries carried the papers to the respondents’ homes where they filled out the form themselves. The questionnaires were then later collected at a pre-agreed future date. The intermediary personally collected these questionnaires and sent them to me, of which 2151 pieces were filled out appreciable.
After computerizing the questionnaires I have used several statistical analysis methods -taking into account the characteristics of the data- in order to achieve the research objectives. From the statistical methods in addition to the simple descriptive statistics I have used complex multivariate methods for processing data. For the statistical analysis of data, I have used the SPSS 19.0 Windows software package. The actual consumer behavior, intended behavior, attitudes and the relationship between the environment and constraints were analyzed with the help of the Fishbein-Ajzen method. The factors affecting the belonging to various groups were analyzed by the CHAID method with the usage of artificial intelligence which approaches things through the usage of structural equation systems.

3. Results

3.1. Examination of spa town decision-makers

The majority of mayors have rated positively (3.53) on the impact of medical tourism and spa based health tourism on spa towns. According to their responses, the rate of the acceptance of medical tourism is very high as well as the social support which health tourism as a service benefits of. It is important to note that in the majority of answers (5/6 part) the standard deviation was less than 1, only in seven cases was this number higher. Consequently it is clear that respondents perceive the economic, socio-cultural and environmental impacts of spa based medical tourism which can be prioritized in different impact groups.
According to the mayors of spa towns medical tourism has a very high impact on spa cities as indicated by the high point average of answers and their low standard deviations. Amongst these claims those are more accepted which state that city awareness increase, demand grows for cultural programs and new diverse cultural programs are formed. The least perceived benefit in spa based health tourism is the situation of local transport according to the mayors. Interestingly in relation to certain factors such as that the impact of economic crisis had been lowered through health tourism has not appeared clearly in the answers however local tax revenue growth was indicated. In the Mayors’ opinions medical tourism had the lowest impact on job creation, skill and salary increase for local residents and traffic conditions, however these were over average as well. Thus, it was concluded that in spa towns the spa based medical tourism has a large impact.

According to mayors’ responses I have separated hive main dimensions to clarify the benefits of health tourism. The population-oriented thinking was characterized for such towns where social capital increased because of health tourism. Local residents join forces to develop medical tourism which are mainly done through self-organizations, but this collaboration is also extended to surrounding settlements. In these towns the spa infrastructure quantity development was highlighted. Because of the developments the local people find it important to increase their skills therefore increasing their value in the employment market. Supply-oriented thinking was the main feature of such spa towns where the development of health tourism and the quality related services were in focus which caused an increase in tourist traffic. Additional revenue from increased guest traffic increases the quality of life for the local population. Guest-oriented thinking were specific to those spa towns where the focus was on the guests with increased environmental culture and public safety as well as people-oriented behavior of locals. The economy-oriented spa towns had workplace creation and economic recovery factors in focus.
At these settlement by the development of medical tourism, new jobs are created and the increase of revenue of local workers and businesses can be noticed. By the development of health tourism the impact of the crisis is reduced however the load on the environment increases. The culture-oriented thinking was specific to spa cities where the increased tax revenue from health tourism was devoted to the development of culture.

In the questionnaires filled by the mayors, significant proportion of participants stated that there are insufficient resources - particularly in regards of the tender system - to further exploit the possibilities offered by health tourism. According to respondents, tenders with post-financing do not help the development of spa towns and received a high value (4,33) with a relatively low standard deviation (0,862). This means that the agreement on this point is high. Among the major hindering factors the low domestic salary is remarkable with an average value of 3,42 and standard deviation of 0,994. This means that the profits from domestic tourism is not sufficient to desirably develop spa towns. From the lowest types of obstacles only a few town mayors have marked answers in regards of environment and environmental pollution.

During the investigation of the future of thermal water treasure I have concluded that a high number of settlements can calculate with the presence of such water for at least a lifespan and can plan accordingly.

Some mayors of spa towns (22,2%) consider themselves a supplementary role in the development of thermal waters therefore the decrease in quality and quantity of the water treasure do not cause significant problems in perspective of the future.
On the other hand the second, more dominant part of the participants (55.6%) consider that when the quality and quantity of these waters reduction will be felt the driving forces will appear through which development can take a new path. The third part of respondents (22.2%) have not dealt with this issue and have no ideas on solving the problem. An important independence in my study is that the strategy for long term usages of thermal waters is missing in most cases although the significance of this, in the long run is increasing.

3.2. Examination of consumers

A significant proportion of respondents had a positive opinion on the importance of spa characteristics. Among them, a significant (3.92) portion accepts spa towns, but their opinions were dissimilar.

Among the participants, in addition to quality attributes, the entrance ticket prices (4.54) and in particular the discount ticket prices (4.58) are also important. All this needs to be stressed because it draws the attention the important consistency of spa service quality-price ratio. The provision of a wide range of services by locals in spa towns (3.15), the shopping availabilities in spas (2.82) and the wide range offers of different programs (2.98) are less important for the respondents. Respondents see spas as a place which offers extensive spa services not only to sick people (2.50), but for everyone else on top of the bathing opportunity (2.41).

According to respondents, the opportunities offered by spas are not yet fully exploited therefore to increase bath visitors -especially those who visit them only a few times or not at all- such services should be offered which attract this segment as well. The data revealed that participants who answered
do not like going to spas by themselves. From the answers it is clear that the respondents go or would go to spas for shorter periods of time. More than fifth of the respondents would go everyday (2,9%), but at least once or twice a week (18,2%) would visit the spas. One-third of the participants would spend a couple of weeks in spas quarterly or semi-annually. This pointed out that the respondents are aware of the advantages of the health benefits of longer cycle (several weeks) spa periods and if they had the time, they would participate in such. Despite the economic crisis it was not noticeable among respondents that their habit have changed in terms of actual spa usage and intended usage terms. Within the participants the number of recommendation of spa usage to friends/relatives were relatively high. The vast majority of respondents (96,6%) would advise a person with whom they have a close relationship with to visit spa towns. A large proportion of these respondents would undoubtedly advise their friends/relatives to visit spa towns and only a smaller proportion would advise to do so for health reasons.

The consumers/users who were interviewed have stated that from the spa related information sources the internet (4,00) and word of mouth advertising (3,76) has the greatest importance and the least important type of advertising is the traditional information sources. Thermal waters are still not used for therapeutical reasons consciously as proposed by doctors.

Analyzing the motivation system of the respondents it can be stated that in the eyes of the majority the participation in health tourism is not just an instrument for health preservation but a chance explore Hungarian landscapes and towns as well. It is only natural that the driving force behind this motivation is the aim to take a break from the rushing daily lives and this can be realized by having the highest value of (4,49) with a deviation of 0,822.
According to this there is a large consensus on the fact that the reason behind spa visits today is thanks to the rushing lifestyle and increased unhealthy stresses on the organisms caused by this fast lifestyle. The respondents (3,88) strengthen the fact behind international and national literature which states that the appreciation of health is becoming more in focus and that citizens are trying to maintain and improve their health. In the case of the participants the frequency behind spa visits are narrowed primarily because of the financial situation of the respondents (3,84) which can be attributed to the declining income levels. It is important to emphasize that the participants in the survey prefer connecting spa visits to explore (4,12) Hungarian settlements (3,72) and choose such spa towns where the city and its surrounding area is rich in attractions.

According to participants spas can provide such range of services which do not make spa visits flat (2,34). The consumers believe that time spent in spas are not in vain (2,50), but an opportunity to experience health improvements. It is important to mention however that within the respondents the conscious search for healing waters was not so important (2,55) and neither was the usage by recommendations of doctors (2,28).

Even though Hungary measured in international standards has a very favorable thermal water supply, highly developed medical tourism, provides a high range of medical services and accommodation it still didn’t reach the goal that consumers use these thermal waters consciously because of their therapeutical effect advised by medical personnel.

I have analyzed the consumers’ attitude system in regards of their spa usages through cluster analysis which was prepared by factor analysis through which I have separated three clusters as a result.
### Table 1: The features of spa usage clusters

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<th>cluster</th>
<th>features</th>
<th>denomination</th>
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| 1. cluster | - Health awareness  
- Positive personal experiences  
- Interested in thermal water and spa culture  
- Region exploration | spa lovers |
| 2. cluster | - Spa time = time waster  
- Spa time only by recommendation of a doctor | spa avoiders |
| 3. cluster | - „Objective excuses”  
- Lack of time/money and family restraints | excuse seekers |

Based on the three examined clusters, almost in every case I was able to determine significant difference between the distinctive groups of respondents based on their approach on different attitudes. These underline the fact that the triple grouping which was used during the development of the clusters prevail correctly. The members of the “spa lovers” cluster have a very positive attitude towards the usage of spas. In case of “spa avoiders” the usage of spa towns are either nonexistent or significantly lower than average and this group is less open to the world of thermal water based institutions. The members of the “excuse seekers” cluster try to find excuses based on lack of money or time.

The description of spa visit for health purposes has been analyzed by the Fishbein-Ajzen structural equation system which is a standard on international levels.
Figure 1: Spa related consumer behavior drivers

I have set up the spa visit behavioral model in which the behavior in regards of spa visit is based on five variables, namely: health awareness, spa visit behavior, ethnocentrism, spa avoidance and excuse seeking which is represented by an ellipse in the figure. The drivers of spa visits are dependent on three latent variables: the spa visit behaviors, health awareness and ethnocentrism. Of spa visit variables, spa visit behaviors, health awareness and ethnocentrism are correlated therefore there is a linear relationship between them.
In my research I have further investigated how the different socio-demographic factors influence the respondents in each group classification or in other words I have analyzed the different groups’ socio-demographic composition.

Figure 2: The socio-demographic factors in regards of spa visit behavior
The model clearly shows that the attitudes related to spas are fundamentally affected by health situation. It has been determined that if the respondent has a disease which can be cured by thermal water, it significantly affects the impact on spa visits and relationship to thermal waters. If there is no such a disease, the primary preferred of spas are women. Among “healthy” women with average or above average income levels are the primary spa visitors. For those in need of thermal water treatment the most important differentiating factor was the economic activity. White collar workers and disabled people visit spas a lot more in comparison to blue collar workers. It was interesting to find that the rate of excuse seekers in case of disabled people were the lowest.
4. Conclusions

Based on national survey, with the results of my research I can confirm the $H_{1a}$ hypothesis because a significant number of questionnaire respondents consider the growth of tax revue, job creation, income growth and the increase in hotel and hospitality revenue highly important. I recommend that in spa towns, beyond spa development the modification of local economy components, the revitalization and involvement of new components in order to improve and develop the local economy further.

The $H_{1b}$ hypothesis has not been sufficiently substantiated as during the research it has been confirmed that the decision-makers of spa towns who were participating in the questionnaires only accounted a minor importance to the growth and development of spa tourism in regards of the local population’s living conditions therefore in the case of the determination of perspectives of spa tourism the matters should be addressed carefully.

Based on the results of the study the $H_2$ hypothesis has been extremely well confirmed meaning that town awareness increases. In addition, the local cultural programs and tourist attractions are growing and becoming more diversified which characterize the specific town and by so new opportunities arise in the perspectives of spa town development.

Based on the examination the $H_3$ hypothesis has been clearly proved, which is that the decision-makers of spa towns perceive the inhibiting factors within the development of spa based tourism. On the basis of the results I suggest a cross-government term development strategy its practical implementation based on the consensus of Hungarian society, dominant economical forces and interest groups.

I found that the decision-makers of spa cities understand the importance of thermal water stock levels. It is very important for them to rationally manage
these levels in order to establish the towns’ future. However in one part of thermal waters (22, 2%) almost totally while in another part (22,2%) there is a total lack of long-range planning in regards of these levels. Hence, I was able to only partially prove the H₄ hypotheses which states that spa cities lack a long-term plan for the future after medicinal water diminishes. I suggest the establishment of such a monetary fund where longer-term, but not necessarily only thermal water based investments could be financed, in municipalities with stocks of thermal waters.

Through the extensive research I have discovered the spa usage habits and mentality of middle-aged, middle-class citizens living in rural areas. The formed segments in regards of attitudes towards health tourism are: “spa lovers”, “spa avoiders” and “excuse seekers”. On the basis of these individual segments, Hungarian consumers can be characteristically categorized in different groups in regards of spa based tourism attitudes which justifies the H₅ hypothesis. From the examination of health tourism related attitudes we can state that the spa lover consumers wish to use other tourism related services in a growing rate. Therefore I propose the establishment of clusters between businesses and focus on horizontal economic cooperation as well. Firstly the conscious development of management organizations in tourist destinations should be addressed. For the “spa avoider” type consumers it would be advisable to convert the images of spas. In case of the “excuse seeker” type consumers it should be made clear that the usage of spas is accessible to citizens with average (or below average) income levels.

Though further results of my investigation I was able to develop a model which shows an acceptable level of relationship between the consumers’ socio-demographic characteristics and attitudes therefore which justifies my H₆ hypothesis. I suggest the greater emphasization of the close relationship between healthy lifestyle and spa usages plus it should also be pointed out that
this type of tourism is available to large groups so that it is presented to the widest possible audience. Based on the research results it is suggested that significant increase in the effectiveness of communication efforts could be achieved by a more conscious marketing activity primarily building on the medical benefits of thermal water usage and with a focused communication on women.
5. New scientific results

T₁: Based on national survey, it was firstly proven in Hungary that the decision-makers in spa towns consider health tourism as an enhancer of local economic development.

T₂: It was not confirmed that the decision-makers of spa towns consider spa services as an important factor in terms of local population living conditions therefore I do not consider this statement proven.

T₃: Based on national survey, Hungary was the first to prove that the existence of a thermal baths contribute significantly to the fame of spa cities.

T₄: Based on national survey, it was first proven in Hungary that the decision-makers of spa towns perceive the inhibiting factors within the development of spa based tourism.

T₅: It was partly confirmed therefore it is not a proven assumption that the decision-makers of spa cities lack a long-term plan for the future after medicinal water diminishes.

T₆: It was confirmed firstly that Hungarian consumers can be characteristically categorized in different groups in regards of spa based tourism attitudes.

T₇: It was first proven in Hungary that spa related consumer behavior can be described by the customers’ socio-demographic characteristics and attitudes.
6. Advises for the usage of results

The theoretical significance of my thesis is that it adds theoretical value which fits and contributes to thermal water based health tourism based researches and expands literatures focused on the matter. The test results and their evaluation helps to understand spa town developments and give an overall picture of Hungary in the sense of spa water based medical tourism. The results provide an up-to-date referable reading to organizations involved in the development and operations of spa towns (government agencies, municipalities, professional and labor organizations, management organizations on tourism destinations), tourism businesses (hotels, hospitality, travel agencies) as well as to individuals (mayors, tourism professionals, investors). The results are a good starting point for tourism projects and products planning as well as for tourism-, urban- and regional marketing concepts, plans and tenders.

The methodological significance behind my doctoral thesis is that is based on mixed (hybrid) research methods which allowed the complex, multi-layered analysis of the topic which suits international literature recommendations as well.

This has a decisive practical importance in the spa usage related consumer behavior model and spa visit related socio-demographic behavioral model which can be interpreted not only domestically, but internationally as well.

Based on the researched outcomes I recommend further studies on the matter and the evaluation of those results in regards of change.
7. References


8. Publications related to the dissertation

8.1. Full length publications in foreign languages


8.2. Full length publications in Hungarian


8.3. Other publications in foreign languages


8.4. Other publications in Hungarian


