



The Tourism Observatory
for Health, Wellness and Spa

Hot Springs, Tourism & Economic Impacts



The Case of Hévíz (Hungary)

Executive Summary

TOHWS, 2014

Impact Modelling

Tourism is a complex social phenomenon. The tourism system - which comprises the tourists (and source regions) who represent the demand and the tourism sector (and tourism destinations) which embodies the supply - is changing dynamically and as an open system, it interacts with elements of the social, cultural, political, economic, natural and technological environment.

It is essential for the tourism destination management organizations (hereinafter referred to as: DMO) and for every stakeholder, to collect data and information about the role and impacts of tourism in the DMO area.

The Destination Impact Model (DIM) is a tool that collects information about and monitor the following factors:

- economic role of tourism, as many areas of economy are related to tourism;
- social role of tourism, as a significant part of the permanent population may come into a direct relationship with tourists and tourism and residents are impacted by tourism indirectly.

With this application of the Destination Impact Model (DIM)² that was developed by the professional team of the Tourism Observatory for Health, Wellness and Spa and Xellum Ltd., we intend to present the complexity of the economic impacts of destination as a tourism system.

The DIM required the analysis of a large amount of local and national data, as indeed tourism is extremely complex and connected to many other industries which had to be taken into account in the modeling. Understanding this data is important because a major part of the annual funds available to the local government (Hévíz) are allocated from the central budget as a rebate of the taxes “produced” in the towns.

This means that the local tourism tax (LTT) itself shows nothing of the role and importance of tourism: we can derive significantly more information from the data which defines the extent of other related taxes (e.g. VAT, local business tax, income taxes, profit tax).

Applying the DIM to Hévíz as a tourist destination is unique because the major tourist products at this destination place are quite concentrated i.e. the basis for the tourism offer of Hévíz are therapeutic medical and wellness services which are based on the natural factor, ie healing hot springs. Therefore in this case, DIM will essentially model the health tourism impacts.

Because of the multiplicative effects, the impacts to be accounted are multilevel in a destination as a tourism system. These impacts are quite complex and have several ways in which we can and should analyse the. The number of guest nights is the most frequently applied and referenced factor. The tax revenue levied on every guest night still can only show and illustrate a fraction of this complex system of impacts.

Impacts of Tourism at Destination Level

Impacts can be favourable and unfavourable at the same time. Positive impacts can be considered as revenues, employment or infrastructure development. Significant negative impacts can be seen in the form of environmental harms caused by increased traffic (e.g. increased noise and air pollution, dirt, pollution of environmentally protected areas); at the same time, these impacts can be prevented through conscious visitor management tools which must be applied by the DMO organization.

In the DIM every type of impact generation was considered:

- direct impacts: tourist expenditure at the tourism service providers and attraction facility operators;

- indirect impacts: tourist expenditure at other economic organizations of the destination (e.g. clothing industry, post) and turnover of the suppliers to the destination's tourism service providers;
- induced impacts: every other impact coming from the multiplying impact i.e. expenditure of business partners and organizations who share the indirect impacts.

The local/destination-wise impacts of tourism can be modelled best through expenditure, because tourism cannot be interpreted without tourist expenditure (either locally or otherwise). Naturally, the more the visitors stay within the destination, the higher the extent of the impacts which appear as a result of their expenditure (further costs and income) within the catchment area. Thus, many tourism and non-tourism services, service providers and organization (can) benefit from tourist expenditure, such as:

- accommodation service providers,
- catering places,
- retailers (food and gifts),
- leisure activities,
- transport businesses (for Hévíz, we should point out the regional airport), and
- operators of attraction facilities (such as bath and spa services, museums).

DMOs and local governments can obtain information about the economic impacts of tourism also through other, typically indirect (derived) information, such as:

- local governmental tax revenues (e.g. local tourism tax and the related governmental supplement or local business tax rate),
- the number of employees employed by the related businesses, etc.

The DIM is capable of modelling the tourism impacts at destination level as a result of very complex and diverse statistical analyses. The modelling was conducted using the following steps:

- selection of towns with notable tourism (in Hungary)
- establishment of an equation and functional system (definition of various explanatory and background variables about the impacts of tourism)
- analysis of Hévíz data based on underlying variables and explanation of the causes of differences,
- macroeconomic modelling to assess the multiplying effects.

DIM tested more than 160 variables from which we selected the explanatory variables.

Treasures of Hévíz

Health tourism is the one and only industry in Hévíz. The Thermal Lake of Hévíz is the world's largest biologically active natural thermal lake. It is located in a unique setting, a mere 6 km from the Lake Balaton, 198 km from Vienna and 193 km from Budapest. The lake's formation goes back to ancient times. The first signs of volcanic activity were the heat sources, as was the eruption of Ancient 'hévíz' (i.e. 'hot water/source'). Two systems of dikes were formed by the movement of the Earth crust in which precipitation was collected. This is how



Lake Balaton was formed 22 thousand years ago, the time that marked the beginning of the Hévíz thermal lake's history. The heat coming from the deeper layers of the Earth crust heats the waters locked inside the underground deposits, which means that the lake is also heated by geometric energies.

The 4,4 ha water surface lake's source rich in minerals can be found 38 m deep in the cave, where tens of thousands of years old warm and cool karst waters are mixed. Hévíz bathers have experienced that the water's depth varies between 150 and 200 cm. You can stand up around the edges and sink thigh-deep into the softened and healing turf mud. The thermal lake of Hévíz is a special formation regardless of its medicinal effects, since the majority of warm water lakes are placed in clay or cliff bottoms, and this one has a turf bottom. The lake's warmth and medicinal effect are protected by 33,9 acre of woods from the harms of the external environment (wind, dust and noise). The lake is covered in light steam in the winter and early spring and cool autumn mornings, the significance of which lies in preventing the water from cooling down (which is also prevented by the plants covering the surface). This enables guests to bathe even in the winter months. The lake produced 410 l/sec., which means that water is changed every three days. Its temperature does not go below 22 C and may reach 38 C in the summer. The indifferent temperature water does not exhaust the guests wishing to relax and heal, on the contrary it has a relaxing and refreshing effect. The steady and constant water flow has a beneficial effect on the body as it keeps bathers lightly massaged during the whole time they spend in the lake.



The therapeutic effect of Hévíz thermal lake enables a wide range of uses both in terms of prevention and cure. The basis of complex balneotherapy is thermal water, which is equally rich in dissolved and gas components thereby combining the favourable characters of

carbonate, sulphur, calcium, magnesium, hydrogen carbonate and light radon emanation thermal water. The medicinal suggestions of the therapy covers a wide range of locomotor diseases: it has beneficial effects on rheumatic locomotor diseases, osteoporosis, degenerative spinal/joint diseases, Bechterew syndrome, inflammation diseases of the joint in their chronic phases, post treatment of injuries and locomotor operations as well as tender tissue rheum, secondary diseases of the joints, chronic, peripheral, nervous, mechanical-related complaints, pre- and post treatment of operations on the joints and discs as well as chronic and gynaecological conditions.

The healing city of Hévíz attracts some 220,000 guests every year who spend 1M guest nights at the destination. There is a roughly 10,000 accommodation capacity in town. There are roughly 300 retail outlets and 150 catering places in town, as well as a total number of 23 hotel accommodation facilities. Many of the hotels are either wellness or medical hotels (note, that in Hungary there is special legislation for medical hotels by law and industry self-regulation is for wellness hotels!).

Evolution of tourist traffic in commercial and other types of accommodation places in Hévíz

Indicator	2009	2010	2011	2012
Number of guests	201,026	207,824	224,407	224,645
of which foreigners	94,299	96,622	109,466	113,802
Number of guest nights	960,690	990,369	1,060,776	1,074,468
of which foreigners	616,728	628,396	686,476	713,119
Average stay (night)	4.8	4.8	4.7	4.8
of which foreigners (night)	6.5	6.5	6.3	6.3
Accommodation capacity	10,506	10,562	10,164	9,334

Source: Hungarian Central Statistical Office

The main purpose of modelling was to assess how much direct expenditure in billions of HUF (1BN HUF is app. 4.2 M USD) was generated from tourism (and hospitality) in Hévíz. This includes the expenses of domestic and foreign tourists at the accommodation place and other expenses.

DIM collected data and information from guests staying in Hévíz, as well as from accommodation and retail operators. The key input for the DIM is the spending, and the structure of spending in particular. We separated the information about spending regarding the mode of transport travelling to Hévíz.

Expense type	Expenditure structure,%
Accommodation place	44
Meals on site	10
Transport	3
Fuel	1
Food, beverages	11
Other commodities	15
Therapy	9
Culture, sport, other recreation	7
Total	100

The DIM resulted in the following data which can describe the contribution of Hévíz tourism (i.e. some **225,000 health tourists**) to the town's (and national) economy:

- Total **direct** spending of tourists are realized, which means the generation of GDP of USD 30.6 million (number of visitors multiplied by the spending value meaning some 0.03% of national GDP).
- The **total spending** generated (i.e. spending generated by people arriving to the destination) of USD 49.6 million
- Thanks to the multiplier effects (suppliers, suppliers of suppliers, etc.), this spending means a **total output** of USD 127 million in the country (total products and services produced by tourism for other units besides productive and service provider economic units and for own end consumption).
- The **multiplier effect** is 1.89% i.e. a direct expense of HUF 1 generates a total production of HUF 1.89.
- **Tax revenues** for the central budget realized in connection with Hévíz tourism amount to USD 19.7 million in total (local taxes mean the taxes of hotels, catering places, retail units, but only the part which is generated as a direct impact of tourism).

- The total value of local business tax relating to tourism and local tourism tax could amount to USD 2.3 million, which is an important piece of information because in lack of this modelling, only the local tourism tax could be quantified for the local government. The local business tax value presented in our model is based on the fact that several service providers have a connection with tourism activities only indirectly or partially, therefore they are not included in local business tax totals, but the DIM can present their role.
- Number of employees engaged directly or indirectly in tourism can be estimated to be 2,459 people (note, that the total population of Hévíz is 4,663 persons!)

Results of the Destination Impact Model regarding Hévíz, 2013

Factors	DIM	National impact of one guest night (USD)
Guest night (thousand)	1,075	1
Total spending (HUF million)	49.6	46
Import (USD million)	4.95	4.6
Hungary-sourced spending (USD million)	44.56	41.25
Total output generated (USD million)	127.4	86.4
Gross domestic product generated (USD million)	30.67	28.4
Number of employees (person)	2,459	n. a.
Multiplier (%)	1.89	n. a.
VAT (USD million, net)	3.7	3.46
Excise duty (USD million)	1.2	1.14
PIT and other wage contribution (USD million)	12.7	11.83
Profit tax (USD million)	1.8	1.67
Sectorial taxes (USD million)	0.2	0.2
Total central tax revenue (USD million)	19.7	18.3
Local business and tourism tax (USD million)	2.3	1.95

Source: TOHWS & Xellum, 2013

Tourism is present and becomes increasingly important in the lives of many cities. So is the case for cities with hot or thermal springs! Leaders, residents and businesses of such cities are typically proud of being visited by domestic and/or foreign tourists who will remember the town and its services and residents while being enriched with pleasant memories.

However, this becomes a mere utopic picture if the local government of the city, the businesses and other organizations do not cooperate to achieve this common goal. The idealistic picture often can be nuanced by many factors, such as:

- Local governments are generally unaware of their duties in tourism, therefore they cannot meet the expectations raised either by the visitors, the businesses or the residents (this is not the case in Hévíz as presented in this case study!).
- Tourism creates conflict situations in the life of the cities which, in lack of cooperation, are answered with delay and only partially.

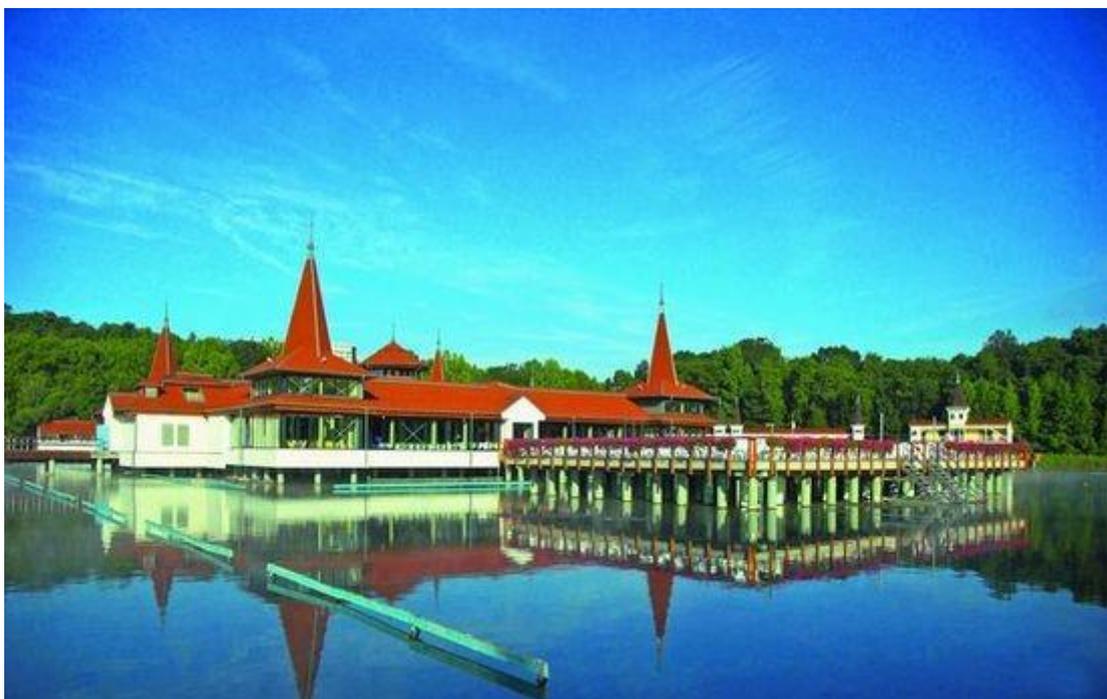
- Service providers in the cities are not prepared for offering an appropriate level of service to their guests, such as health-savvy tourists.
- Destination and city management does not have up to date and quantified data, therefore tourism (and everything related to it) can suffer disadvantages from political and economic point of view.

The application of the DIM to Hévíz as a health tourism destination highlights that every destination has different characteristics; therefore this model needs to be adapted according to the local characteristics in each destination.

Data defined by the DIM offered both the city and destination's management and their partners data and information which supported not only the strategic planning, but also the development and cooperative work with professional arguments and facts.

The DIM-type modelling can only offer more accurate/reliable data about the economic impacts of the destination tourism if the primary data collection is pursued and supplemented with data collection which allows the acquisition of detailed information about visitor spending.

Should you wish to learn more about the methodology, feel free to contact **Laszlo Puczko** @ The Tourism Observatory for Health, Wellness and Spa (www.thetourismobservatory.org, lpuczko@xellum.hu) or **Orsolya Horváth** (horvath.orsolya@hevizmarketing.hu).



All photos are courtesy of www.heviz.hu