Smart tourism destinations? The case of Slovakia

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Abstract
Strong competitiveness on tourism market force destinations to adopt new management concepts. Thanks to the current development in information technologies, the concept of smart tourism destinations is emerging, leading to fruitful discussions among theory and practice. The application of modern information technologies in destination management is considered as a “hard smartness”, however, if a destination wants to become really smart, it needs to focus also on “soft smartness”. The aim of the article is to analyse the utilization of information technologies, sharing the knowledge and information, promotion of collaboration and leadership in tourism destinations in Slovakia and thus to evaluate their contribution to the development of smart tourism destinations. The article presents the current state of using the hard and soft smartness in 36 tourism destinations in Slovakia and concludes that there is still a long way for Slovak destinations to become really smart.

Key words: Destination management organization, Information technologies, Tourism destination, Smart city, Visitor.

JEL Classification: L83, M15.

1 Introduction
The concept of smart tourism destinations is nowadays a well discussed topic in the scientific literature (Xiang, Tussyadiah, Buhalis, 2015). The emergence of new information technologies, as well as the change in the buying behaviour of tourists force destination management organizations to reengineer their processes, leading to better fulfillment of all stakeholders’ needs. The challenge is to provide real-time personal services to visitors and interconnect all stakeholders in order to share information and knowledge.

The idea of smart tourism destination is derived from the concept of smart city, where smartness is incorporated in mobility, living, people, governance, economy and environment (Giffinger et al. 2007). The word “smart” includes various features as technological and inter-connected, but also sustainable, comfortable, attractive and safe (Borsekova, Vanova, Vitalisova, 2016).

Implementing the smart concept in a tourism destination has been crucial since the connected, better informed and engaged tourist is dynamically interacting with the destination leading to the need of co-creating tourism product and adding value for all tourism stakeholders (Neuhofer et al. 2012).

The ultimate goal of smart tourism destination is to increase the competitiveness and enhance quality of life of all stakeholders, including residents and tourists (Buhalis and Amaranggana, 2014).
Despite the fact that smartness is viewed mainly as focusing on new information technologies, it can be affirmed that technology is necessary condition, but not sufficient to create smart tourism destination. It is also important to stress the ability to share knowledge and innovation within destination stakeholders.

Boes, Buhalis, Inversini (2016) claim that the use of information technologies in destination is defined as “hard smartness”. Interoperability and ubiquitous computing ensure that everybody is interconnected and processes are integrated towards generating value, through dynamic co-creation, sustainable resources and dynamic personalisation. Destination should take advantage of the Internet of Things, Cloud computing and End-user Internet service systems (Zhang et al., 2012), in order to stimulate information sharing, automation, control and connectivity. Moreover, destination should also perform hard smartness by implementing appropriate tourism applications and tools. They can include destination apps, augmented reality, sensors, NFC, QR codes or Wifi (Buhalis, Amaranggana, 2013, Smith, 2015). Information technologies should enhance tourist experience by giving all the related real-time information about the destination and its services in the planning phase, enhance access to real-time information to assist tourists in exploring the destinations during the trip and prolong the engagement to relive the experience by providing the descent feedback after the trip (Buhalis, Amaranggana, 2015).

Destinations cannot simply use information technologies and believe that they are smart. The soft aspect of smartness is also needed so the right decisions can be made based on the data gained. This “soft smartness” is fostered by open innovation, supported by investments in human and social capital, and sustained by participatory governance in order to develop the collective competitiveness of destinations to enhance social, economic and environmental prosperity for all stakeholders (Boes, Buhalis, Inversini, 2016). Therefore the important role is to involve and engage all relevant stakeholders in the destination governance processes. It is also important to make knowledge and information accessible to all stakeholders in a systematic and efficient way and to make available mechanisms that allow them to participate as much as possible in the innovation process (Del Chiappa, Baggio, 2015). The leading role of destination management organization is therefore inevitable.

2 Aim and material

The aim of the article is to analyze the utilization of information technologies, sharing the knowledge and information, promotion of collaboration and leadership in tourism destinations in Slovakia and thus to evaluate their contribution to the development of smart tourism destinations.

The article uses primary and secondary material. The questionnaire survey focusing on soft smartness was done among destination management organizations (DMOs) in Slovakia. All 36 organizations were asked to fill in online questionnaire. The results were obtained from 17 DMOs leading to the 47.22 % return rate. In order to evaluate the hard smartness, secondary material was used. It includes the official web pages of all 36 DMOs, their annual reports, brochures and internal materials.

3 Results and discussion

Since 2012, thanks to the Tourism Support Act no. 91/2010 Coll., destination management organizations have started to develop in Slovakia. This situation has led to the application of destination management concept in tourism destinations. Comparing to the countries with developed tourism (e.g. Austria, Switzerland) the concept of destination management in Slovakia is still in its beginnings.
However, the European tourism market is very competitive and force “young” Slovak DMOs to overcome these challenges. The application of the concept of smart tourism destinations can strengthen the position of Slovak destination on tourism market and lead to better satisfaction of tourists' needs.

3.1 The use of information technologies in tourism destinations in Slovakia

In order to examine the hard smartness of tourism destinations in Slovakia, the use of information technologies are divided into three phases: (1) planning and reservation, (2) during trip, (3) after trip, which respects the whole buying behavior of a tourist.

In the planning and reservation phase (graph 1), the most important tool is a web page of a destination. It is estimated that 65% of internet search starts on mobile devices, therefore it is necessary that the destination web page is adapted to these devices. Responsive design allows the web page to be adapted according to the resolution (size/number of pixels) and orientation (vertical or horizontal) of the screen. Only 53% of examined Slovak destinations has the web page with responsive design, although it does not require much financial resources.

Moreover only 42% of examined destinations implemented the interactive maps to their web page. These maps allow potential visitors to explore the attractions in the destination, support better orientation in destination and enable the creation of personalized map, which can be used during the trip. Most of interactive maps use the web-based geographic information system – Google maps, which can be modified by application programming interface (API).

The image of the destination before the trip can be created by using videos and animations about the destination, which show all the possibilities that can be done in the destination. It is also the marketing communication tool that can motivate the potential visitor to visit the destination. Based on the analysis of the web pages, 34% of the destinations uses this kind of interactive presentation. When examining the virtual tours, 17% of destinations have created virtual tour in the destination or in some attractions.

As the current tourist require real-time information about the availability of services and their prices, the reservation system in destination is very important. From the technological point of view the real-time booking in a destination can be done by either by the integration of internet distribution systems (IDS)/online travel agencies (OTA) to the web page of a destination, or to use the reservation system powered by destination management system (DMS). The real-time booking provide only 20% of Slovak tourism destinations.

Graph 1 Information technologies supporting planning and reservation phase

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsive design of web page</td>
<td>53%</td>
</tr>
<tr>
<td>Interactive maps</td>
<td>42%</td>
</tr>
<tr>
<td>Video and animations about dest.</td>
<td>34%</td>
</tr>
<tr>
<td>Real-time bookings</td>
<td>20%</td>
</tr>
<tr>
<td>Virtual tours</td>
<td>17%</td>
</tr>
</tbody>
</table>

Source: Own elaboration, 2017.
During the trip (graph 2) visitors appreciate the presence of wireless internet connection (WiFi) in the public places in destination. Such connection allows a visitor to access the Internet without having to use mobile data. This technology is appreciated especially by foreign visitors who would otherwise have to pay for data roaming. In Slovakia, 40% of destinations offers free WiFi. The majority of these destinations are urban destinations, where the WiFi is most often available in the area of town squares and shopping centers. In mountain resorts, visitors can also join the WiFi in the stations of cable cars and in après ski bars.

Smart tourism destinations also use mobile applications that have multiple features. The main one is to provide visitors with information about the tourist attractions and the destination. More than 22% of Slovak destinations have created such application. Mobile apps act as digital tour guides and can be used in several languages. Applications allow sharing information on social networks and on Internet communities. They also provide user information (age, language, movement, places visited) that can be used in marketing research. Localization features can be used to send alerts when a user gets to a location and the application also communicates with other devices.

Location based services include geolocation that displays visitor location and is used to display position, search for objects, and navigate within the destination. Visitors use mobile devices and destination applications that have an integrated digital map. With location based services, their location and movement are displayed on the map, allowing easier orientation in space and navigation to the specified object. DMO can track the visitors’ movement in a destination and thus better know their behavior.

Slovak destination also use QR codes to provide better access to information on tourism attractions. QR codes are two-dimensional codes that allow to store text, a web link, an email contact, an SMS, or a phone number. QR codes can be read using special devices or applications on mobile phones. In foreign destinations, QR codes are part of the tourism attraction and provide additional information, for example about cultural monuments.

Less than 20% of Slovak destinations use information kiosks that fulfill the function of an external tourist information center. Visitors can find information on sights, trips to the surrounding area, program of events, accommodation packages, a list of accommodation and catering facilities, as well as the transport schedules, current date, time and weather.

The last examined phase is after the trip (graph 3). In this phase it is important for tourist to share their memories, which is nowadays done via social media. More than 80% of Slovak destinations presents itself via social media. The majority (77%) uses social network Facebook,
14 % uses Google+ and the same ratio has its own Youtube channel. Only 11 % share their photos via Instagram and 5 % tweets its news on Twitter.

Destination profile in the social media can reach potential visitors and serve as a way to exchange information, experiences, photos and videos from the stay at the destination. It is the inexpensive word of mouth promotion that the destination management organization should use. In the sphere of social media, UGC - User Generated Content is also important. Currently the most popular site is TripAdvisor, which allows visitors to rate the services at the destination, and gives feedback to the management organization with an instant response capability. In order to remind the stay in the destination, DMOs can use newsletters, where 34 % of Slovak destinations interact in this way with their visitors.

![Graph 3 Information technologies used after the trip](Source: Own elaboration, 2017.)

The application of hard smartness in Slovak destinations has many shortcomings. Many destinations do not have a high quality web page that can attract tourists. The content of the web page is many times not in line with the newest trends (real-time booking, virtual tours). Moreover the offer of mobile application that can facilitate the orientation of visitor in a destination and provide useful information for DMO is insufficient. Many Slovak destinations interact with their customers via social media by providing actual information about the products in destination.

3.2 Application of soft smartness in tourism destinations in Slovakia

While “hard smartness” emphasizes the role of information technologies in destination development, their usage in does not imply, that the destination is smart enough. Therefore it is important to apply also “soft smartness” to ensure the destination is smart already. In order to examine “soft smartness” the papers analyses sharing the knowledge and information, the promotion of collaboration and leadership in Slovak destinations.

Destination stakeholders embedded in the destination network should share their knowledge and information in order to promote destination competitiveness and sustainability. The information gained from information technologies should be available as open data for all destination stakeholders. Destination management system facilitates the transfer of information among the stakeholders. Tourism stakeholders can via extranet exchange qualitative and quantitative data. Only 12 % of Slovak destinations use such information system.

Moreover it is important that destination management organizations publishes documents relevant to tourism development in the destination, so the stakeholders have up-to-date information about the situation in a destination. These documents includes annual reports, plans and strategies, financial reports, meeting entries, management policy or orders (graph 4). The majority of destinations (53 %) publishes their annual reports. However, according to Tourism Support Act 91/2010 Coll. every DMO should make its annual report available. The share of
DMOs that publish the plans and strategies (29 %), as well as financial reports (18 %), management policy (6 %) and meeting entries (6 %) is also very low.

Graph 4 Publishing of documents by destination management organizations

![Graph showing the publishing of documents by destination management organizations]

Source: Own elaboration, 2017.

To share the knowledge and information, it is also important to organize meetings with stakeholders. DMOs should frequently communicate and interact with their stakeholders. It is very important that stakeholders, especially local inhabitants, are supportive of tourism and are fully aware of its contribution to the development of a destination. Almost half of examined Slovak destinations organize meetings with their stakeholders every quarter. However we find also organizations that organize such meetings semiannually (12 %) or even occasionally (12 %), which can be considered as insufficient. It is recommended to use the online streaming from the meetings together with online poll system so everybody, including local inhabitants, can express their opinion on tourism development in the destination.

Graph 5 Organization of meetings with stakeholders by DMOs

![Graph showing the organization of meetings with stakeholders by DMOs]

Source: Own elaboration, 2017.

It is also important that the competition between stakeholders in smart destination is eliminated. Instead of it the co-opetition should took place here. Coopetition is a form of cooperation that connect competitors in a territory, but in order to maintain the long-term competitiveness, these subjects are pushed to cooperate. Destinations cooperate with stakeholders mainly in product development and managing organized events (graph 6). In the product development, the cooperation is mostly evident within the visitors’ cards. These cards should offer discounts for
sport and recreational facilities, cultural and catering facilities as well as free transport by public transport.

Globally, the level of cooperation within stakeholders in Slovak destination is compared with the countries with developed tourism low (Gajdosik, 2015). Cooperative behavior in Slovak destinations is underdeveloped which influence the competitiveness of destinations.

Within the concept of smart tourism destinations, leadership should ensure the development of innovative-fostering environment where all stakeholders have access to big data and agility to develop their competitiveness (Boes, Buhalis, Inversini, 2016). Destination management organizations should therefore be leaders of destination development and cooperation, in order to enhance innovation and competitiveness. According to the questionnaire survey, 58% of DMOs claims that there are only partial leaders of destination development. It could be documented also on the selected sample of mountain and urban destinations, where the three leading stakeholders were identified (table 1).

<table>
<thead>
<tr>
<th>Destination</th>
<th>Leaders in destination development</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Tatras</td>
<td>Tourism Association, DMO Region High Tatras, Tatry Mountain Resorts, Inc.</td>
</tr>
<tr>
<td>Liptov</td>
<td>Cluster Liptov, Tatry Mountain Resorts, Inc., DMO Region Liptov</td>
</tr>
<tr>
<td>Central Slovakia</td>
<td>DMO Central Slovakia, Visit BB, City Banská Bystrica</td>
</tr>
<tr>
<td>Trnava</td>
<td>DMO Trnava Tourism, Congres Centrum of Slovak academy of sciences, Apimed</td>
</tr>
<tr>
<td>Trenčín</td>
<td>City Trenčín, Museum of Trenčín, Gallery of Bazovsky</td>
</tr>
<tr>
<td>Košice</td>
<td>DMO Košice Tourism, Eastern Slovakia Museum, Slovak Technical Museum</td>
</tr>
</tbody>
</table>

Source: Own elaboration, 2017.

Since the DMOs started their existence in 2012, many times they are not strong enough to be real leaders in cooperative networks and thus they are not able to promote the innovations in destinations. Many times the innovators are core tourism businesses, which do not focus on the sustainable tourism development, but prefer their own financial aims.
The analysis of the application of soft smartness reveals that the knowledge sharing, collaboration and leadership in Slovak DMOs is not on a high level. DMOs in Slovakia do not use destination management systems that would facilitate the knowledge sharing. Moreover the cooperation in destination is not sufficient, which many times leads to the creation of non-competitive product. DMOs are now not strong enough to become leaders and to lead the application of innovations in destinations.

4 Conclusion

Nowadays destination management organizations should better fulfill the expectations of visitors by providing personalized products and the smart concept gives new challenges to destination management organizations to collect data and to create more competitive product. Moreover, the quality of life of stakeholders should be taken into account. All tourism stakeholders should be involved in knowledge exchange, collaboration and value creation to form a smart tourism environment. The combination of information technologies together with informed cooperative stakeholders led by innovation oriented DMO can enhance the potential of tourism destination and lead to the creation of competitive advantage.

The presented study examined the current state of smartness applied in Slovak tourism destinations. It revealed shortcoming in application both hard and soft smartness in Slovak destinations. It provides a good starting point in examining this concept further with the lenses of more disciplines. It can be stated that smart tourism destinations are a new concept in tourism and that it is necessary to integrate knowledge from various disciplines, in particular from information systems, management and marketing, spatial planning, destination management as well as quantitative and qualitative data analysis.

To take the full advantage of the “smart concept” Slovak destination managers should focus more on implementation of information technologies and their interconnectivity, as well as in knowledge sharing, collaboration and leadership. Slovak DMOs should collect information on visitors. They can include qualitative data from reviews published in social medias, quantitative data from web pages, newsletters or mobile applications (e.g. number of unique visitors, frequency of use, time spent, content clickstreams or bookings/conversions) or data from sensors (e.g. traffic, overcrowding, energy consumption). These data should be provided to stakeholders in order to be used in destination development.

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References


