MANIPULATING SOCIAL MONITORING DATA FOR TOURISM STRATEGIES

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Abstract
Predictability is one of the most sought-after goals to be attained by entrepreneurs and tourism and hospitality industry is no exception. Service predictability is being pursued to streamline activities and minimize losses. However, life in the world we currently live in is far from being predictable. When predictability is low, there is a growing need for people and businesses to control the factors that may influence their affairs and lives. The enormous amounts of information available on Internet and, especially, on social media platforms, makes difficult understanding markets and people, hardening the business decisional processes. People leave traces of their activity and of their personality in the online environment. With the support of social monitoring applications, companies may analyze and understand users' behavior. As such, the current paper aims to discuss about the perspectives of manipulating online data for tourism development strategies. The results of the qualitative research based on a social monitoring experiment reveal that monitoring applications need to be used together in order to obtain relevant and complex information about users' behaviors and opinions.

Keywords: Data manipulation, Monitoring applications, Consumer behavior, Business, Tourism 2.0, Social Media

JEL Classification: L83, L86, M30

Introduction

The growing immersion in digital environments and dependence on digital devices imply that people's behaviors, communication, geographical location, and even physiological states can be easily recorded, producing large samples of digital footprints (Kosinski et al, 2016). Such footprints include web browsing logs, records of transactions from online and offline marketplaces, photos and videos, global positioning system location logs, media playlists, voice and video call logs, language used in Tweets or e-mails, and much more.

The Internet has evolved from a standard to send marketing information to one in which data sharing and dissemination of information has become a norm (O'Connor, 2010). There is, of course, another side. While personalized advertising might be viewed as beneficial to both users and advertisers, tipping the balance of power towards the industry might enable

manipulation of customers. Predictability of certain traits may even prove dangerous for individuals. It is already possible for a user's sexual orientation or religion to be exposed, compromising their safety - and not just in less liberal countries (Kosinski, 2013). In the industries of tourism and hospitality, the Internet has become an essential tool for users in their decision-making processes (Law, Leung and Buhalis, 2009), allowing them to search for information on products and services, compare and evaluate the alternatives, and finally make reservations online. Thus, the Internet promotes consumer uniqueness (Niininen, Buhalis and March, 2007), allowing individuals to select and customize their products and, therefore, their experiences.

1. Influencing customers through Tourism 2.0

Nowadays, there is a tendency among individuals to share their experiences with other people through publishing their recommendations, opinions, photos, or videos (so called "user-generated content") about a tourist destination or a tourism service on the Internet (Buhalis and Law, 2008).

Web 2.0 technologies and applications can be considered as the tools of mass collaboration, since they empower Internet users to actively participate and simultaneously collaborate with other Internet users for producing, consuming and diffusing tourism related information and knowledge. In social media, tourists share not only knowledge, but also experiences (Munar and Jacobsen, 2014). López and Sicilia (2011) have confirmed a positive effect of social network credibility on user perceived influence. Similarly, Ayeh, Au and Law (2013) and Sabou, Nistoreanu and Vlad (2014) state that the perceptions of user-generated content credibility influences consumer behavior during the travel planning process. Specifically in tourism, Huang, Chou and Lin (2010) confirmed that the influence of social media on behavior is determined by the value of the content published in those media, focusing on accuracy, timeliness and objectivity. Gretzel and Yoo (2008) reported that women travelers rely more on reviews than men travelers and people aged 65 years or over are less likely to read other travelers' reviews, whilst younger travelers find reviews more important in deciding where to stay. McCarthy, Stock and Verma (2010) showed that the influence of User Generated Content varies with the type of travelling and argued that recommendations of friends and colleagues are less important to business travelers than they are to leisure travelers. (Del Chiappa et al., 2015). First-time visitors to a destination posted more information and photos online, as compared to those who had previously visited the site. (Simms, 2012). Web 2.0 tools, that brought the Tourism 2.0, exploit the full potential of the genuine concept and role of the Internet (i.e. the network of the networks which is created and exists for its users. (Sigala, 2007).

2. Social monitoring applications

The information available online is a very valuable asset. Monitoring can be accomplished by a carefully tracking the communications and users behaviors when visiting social network pages, when bookmarking relevant sites and when subscribing to RSS - Rich Site Summary feeds (Mangold & Smith, 2012).

An example of such monitoring solution is Google Alerts which is a free and easy-to-use service that marketers often employ to monitor communications relating to their products, brands, or company.

Tweetdeck allows users to monitor conversations across a variety of social media platforms including Twitter, Facebook, LinkedIn, and MySpace. Similarly, Social Mention has the

ability to track and aggregate product-related conversations occurring in more than 100 social media venues.

Google Analytics can provide insight regarding which review sites are driving traffic to the company website. It can also specify the amount of time customers are spending there and how many purchases these customers are making. Changes over time can be tracked; plus, performance patterns can be correlated with various marketing activities. Many monitoring solutions are free, while others are fee-based. (Mangold & Smith, 2012).

Another category of big data tools we identified focus on data extraction and monitoring. With the rise of social media, customer review forums, blogs and wikis, more and more companies are using these web 2.0 platforms to provide services and interact with customers. Businesses can monitor, analyze and assess the competitive landscape for a given industry using data mining, text mining and concept level sentiment analysis, thus gaining insights from vast amounts of user-generated content. Software such as SocialMention, Technorati, and Radian6, are designed to interpret a company's reputation in real time, in order to react swiftly as a socially engaged enterprise (Frizzo-Barker et al., 2016). These applications focus on the semantic analysis of text and images, allowing the association of conceptual and affective online information with natural language opinions. There are public monitoring applications, but also private ones, developed by private companies to better scan, understand and control the online environment that may influence their business.

3. Research methodology and analysis of results

In order to assess the possibilities of using and manipulating data with the help of social monitoring applications, a qualitative research has been performed in February 2017, using the experiment as means for understanding the phenomenon and it implications. Our analysis focused on 5 monitoring applications, which were identically tested. These applications are: SocialMention, Social Searcher, Keyhole,Talkwalker, Buzzsumo. The assigned task was to retrieve information from social media about "Bucharest" - the Romanian capital, as tourism strategies should take into consideration the rich data generated by online social traffic (see figure no.1). The current paper presents partial results, concentrating on the capabilities of the monitoring applications as premises for future development of tourism in Bucharest region.
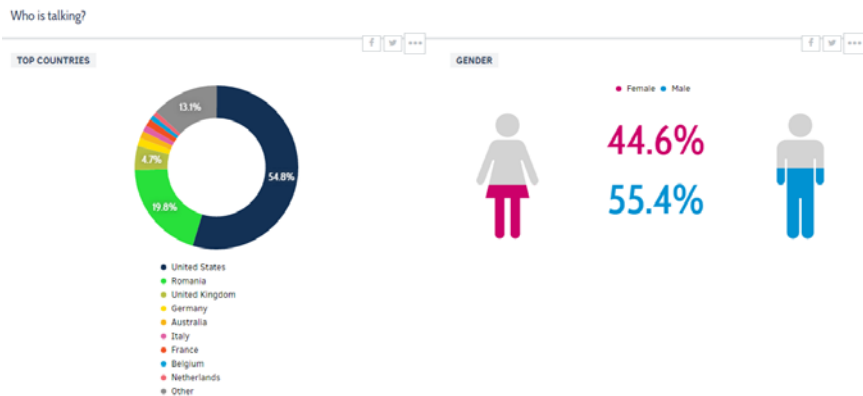

Figure no.1: Monitoring results of people mentioning in social media the word "Bucharest", according to Talkwalker platform

As it can be seen in figure no.1, the application searches throughout social media and retrieves the profile of people discussing about the issue of interest. Talkwalker's results indicate the fact that, in a specific period of time social media users, coming from the USA – 54.8%, Romania – 19.8%, UK – 4.7 % and out of which 55.4% are men, have discussed issues about Bucharest, giving thus information about location and gender.

As not all 5 applications are identically constructed we analyzed the characteristics of each individual one, the results being centralized in table no.1.

Table no.1:Characteristics of social media monitoring applications, as resulted from the experiment

Characteristics	SocialMention	Social Searcher	Keyhole	Talkwalker	Buzzsumo
Posts	▲	▲	▲	▲	▲
Feeling analysis	▲	▲	▲	▲	-
Influence level	▲	-	▲	▲	-
Intensity	▲	-	-	-	-
Frequency per user	▲	-	-	-	-
Top key words	▲	▲	▲	-	▲
Top users	▲	▲	▲	-	-
Top hashtags	▲	-	▲	▲	-
Export CSV	▲	▲	-	▲	▲
Email alerts	▲	▲	-	-	▲
Top links	-	▲	-	-	▲
Top Internet domains	▲	▲	▲	-	▲
Top object types	-	▲	-	▲	▲
Commitment	-	-	-	▲	▲
Top countries	-	-	▲	▲	-
Top used devices	-	-	▲	-	-
Gender (M/F)	-	-	-	▲	-
Top opinion makers	-	▲	▲	▲	▲
Total number of shares	▲	-	▲	-	▲

Note: The symbol "▲" represents information that can be retrieved using the social monitoring application or certain functionalities and the symbol "-" indicates the lack of functionality.

The functionalities synthesized in table no.1 refer to:
- Posts – number of posts containing the tracked word, which in this case is "Bucharest"
- Feeling analysis – the ratio between positive and negative posts that contain the tracked word
- Influence level – the number of unique authors referring to the tracked word reported to the total number of posts
- Intensity – the density of the tracked word in the social media posts
- Frequency per user – the probability that people using the tracked word repeat it in the same message.
- Top key words – the number of overall top key words of the messages

- Top users – users that frequently write the tracked key word.
- Top hashtags – the most frequently used hashtags inside posts containing the track word
- Top Internet domains – the main Internet sources (domains) included in the tracking process
- Top links – the hyperlinks included in the tracking process and the number of the resulting articles
- Export CSV – the possibility of exporting tracking results in Excel CSV format for further analysis.
- Email alerts – the possibility of receiving email alerts about ongoing issues related to the tracked word
- Top types of objects – the types of objects included in the search and the number of results
- Top opinion makers – the most influent users according to the number of their posts "likes" or "dislikes"
- Commitment – the manner an individual uses social networks (a committed user or an occasional contributor to the social media
- Top countries – the location of the posters in what concerns the tracked word.
- Top used devices – the most used devices for writing or reading posts that contain the tracked word.
- Total number of shares – the percentage of redistributed posts with the tracked word..

As it can be seen in table no.1, SocialMention has two functionalities that none of the other 4 analyzed monitoring tools have: Intensity and Frequency per user. On the other hand, Keyhole offers information about the devices used for the respective posts, while Talkwalker extracts the information of gender associated to post writers. Overall, SocialMention has more than 60% of the functionalities specific to these monitoring instruments used in the current experiment. However, a more comprehensive analysis, will require the convergent use of multiple monitoring applications, especially that the mining scripts specific to these monitoring applications may produce variable results. Of course, we can presume that public monitoring instruments are not as complex in providing insights about customers and markets, as the private social monitoring tools are. Nevertheless, they give a reasonable understanding of the social activity related to the subject of interest.

Conclusions

Tourism 2.0 brings on countless possibilities for improvement in tourism, by taking advantage of the rich user generated content present online. Finding the right information that would help companies improve their understanding of people behavior and their reaction in the social media is a difficult task. Monitoring applications are tools that provide insights about the dynamics of the markets and humans. As the current experiment performed on 5 public social monitoring platforms shows, there is very interesting data that could be taken into consideration when manipulating the communication processes with customers and creating business development strategies. The use of one monitoring application may not be enough, since various monitoring applications have various capabilities and the results vary. Hence a triangulation should provide more objective and reliable data to be used in the development strategy. However, these capabilities are the

premises for a deeper understanding of the customers and for building a successful strategy for developing tourism in Bucharest region

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