



Tourism 2016, 26/2

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TRAVEL WEBSITES: A RELEVANT SOURCE OF STATISTICAL INFORMATION?

Abstract: This study explores the two most popular travel websites: *TripAdvisor*, based fully on the Travel 2.0 and UGC application; and *Booking.com*, which has developed as an online travel agency website but has also absorbed a modern UGC approach. Their content concerning accommodation in Wrocław was analysed and compared to the official tourist statistics provided by both the Central Statistical Office of Poland, and the Central Register of Hotels and Similar Establishments published by the Ministry of Sport and Tourism. The article aims at an evaluation of the reliability and completeness of the information provided over the internet: firstly from the point of view of a potential customer, secondly for its value for market research purposes. Although electronic word-of-mouth websites are designed both for consumers and suppliers, from a methodological perspective the article is based on a content analysis of tourism social media. The study also contributes to both academic research and the tourism industry by identifying some gaps in existing work and providing an agenda for the future.

Keywords: tourist social media, online travel agency, UGC, tourist accommodation, Wrocław.

1. INTRODUCTION

The dynamic development of information and communication technologies (ICTs) at the close of the 20th c. has revolutionised the hospitality industry (BUHALIS 2003). The rise of the internet was followed by the growth of social networking and the 'sharing economy' concept. Starting from around 2009-11 this has opened new marketing and distribution opportunities for hospitality managers (*Distribution...* 2012). The advantages of ICTs can be understood twofold: as new distribution channels on the one hand, and new marketing opportunities, especially in providing information, on the other.

As far as the first factor is concerned, online distribution, available from approximately 2001, offered an alternative to traditional booking channels. It was rapidly introduced and as early as 2004 travel and tourism was recognized as the top industry in terms of the volume of online transactions (WERTHNER & RICCI 2004). In recent years the online travel market has

experienced still faster growth than the travel market as a whole (PhoCusWright 2011). Online hotel booking has become the second largest sales item after air travel within the industry in terms of revenue generated (MARCUSSEN 2008). According to Travel CLICK (2009) the majority of hotel reservations (48%) from among thirty international chains were done online. However, the leading role has been taken by online travel agencies (OTAs) which emerged in the 1990s and became 'third-party companies', i.e. intermediaries (INVERSINI & MASIERO 2014, STANGL, INVERSINI & SCHEGG 2016). They offer the advantage of a 'one-stop shop' to book hotel rooms and other tourist products, mostly at a convenient price (LEE, GUILLET & LAW 2013). Their market has strongly consolidated in recent years and now both North America and Europe are dominated by a virtual duopoly: Priceline Group and Expedia (*Hotel Distribution Report* 2015). In Europe 20% of all hotel bookings in

Table 1. Top five most popular travel websites according to the ALEXA ranking

No.	Website	Brief description	Number of monthly visitors (approx.)	Global rank	Home location of visitors by top five countries	Daily page views per visitor	Daily time on site (min)
1	Booking.com	Online Travel Agency for online accommodation booking (OTA)	40 million	97	USA, Italy, Germany, UK, Spain	8.52	12.02
2	TripAdvisor	Reviews from travellers with star ratings on tourist facilities and attractions	38 million	201	USA, China, Japan, Mexico, Germany	5.61	4.38
3	Expedia	Online booking system for all tourist offers (based on Amadeus, Sabre, Worldspan or Pegasus) (OTA)	25 million	520	USA, China, Mexico, India, UK	4.41	7.06
4	Hotels	Worldwide online hotel booking platform	16 million	628	USA, Hong Kong, China, UK, Japan	3.02	6.22
5	Kayak	Fare aggregator and travel meta-search engine	13 million	754	USA, China, Canada, Brazil, Japan	4.91	4.55

Source: author based on ALEXA Internet Inc. statistics (<http://www.alexa.com/> and <http://www.ebizmba.com/>).

hotel organisations which are members of HOTREC, is done online through OTAs, including Priceline (e.g. *Booking.com*, *Agoda*), Expedia (e.g. *hotels.com*, *Venere*) and HRS (e.g. *hotel.de*, *Tiscover*) which together account for nearly 90% of this market, whereas the largest single share is taken by *Booking.com* (SCHEGG 2014). Each day, over 1,200,000 room nights are reserved through this platform, its website is provided in 44 languages, and offers 1,093,311 active properties in 227 countries and territories (www.booking.com). According to research by A. PAWLICZ (2016), who investigated hotels in the twenty largest Polish cities, almost all hotels classified as three, four or five-star were using *Booking.com* as an online distribution channel. According to A. INVERSINI & L. MASIERO (2014) the use of the *Booking.com* platform seems to be demand-driven, as an instrument particularly effective for certain quality categories such as three-star hotels. Information concerning travel is researched on different platforms using a UGC approach, and the two leaders within that category are *Booking.com* and *Tripadvisor* (Table 1).

In 2014, 55% of tourist accommodation by EU residents was booked online and a bit higher for trips abroad (59%) (Fig. 1). There are, however, large discrepancies between different countries. While residents of the Netherlands, France and Luxembourg book hotels online for a majority of trips (69, 68 and 67% respectively), it accounts for fewer than 10% made by residents of Romania and Bulgaria (7 and 9% respectively) (http://ec.europa.eu/eurostat/statisticsexplained/index.php/Statistics_on_ICT_use_in_tourism).

New marketing opportunities by the use of ICTs were strengthened with the introduction of social media and Web 2.0. The term, Web 2.0, introduced in 2005, means the development of digital technologies for content creation and sharing, together with web

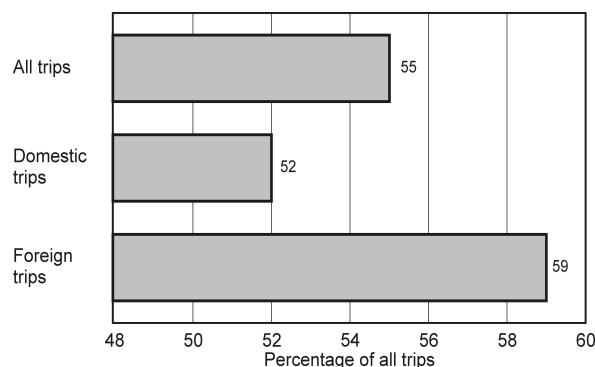


Fig. 1. Online booking for tourist accommodation (% of all trips) by European Union (EU-28), 2014

Source: Eurostat, <http://ec.europa.eu/eurostat/web/tourism/data/other-sources> (25.10.2016)

technologies and applications that enable people to easily participate on the internet (KOCÁK 2015). It is defined as “the philosophy of mutually maximizing collective intelligence and added value for each participant by formalised and dynamic information sharing and creation” (Hoegg *et al.* 2006, p. 13). The term user-generated content (UGC) is used to emphasize the attribute that every user is able to become a participant (CONSTANTINIDES 2009). As a consequence, social media have developed forming a group of internet based applications that exist on the Web 2.0 platform and enable internet users from all over the world to interact, communicate, and share ideas, thoughts and experiences (XIANG & GRETZEL 2010). Their emergence presented an unprecedented opportunity for interaction between hotel proprietors and consumers. Consequently, the hotel industry has altered into a social force where users’ travel plans, such as where to stay, are largely shaped by the collective experiences and opinions of others (CHUA &

BANERJEE 2013). So, generally, UGC or so-called electronic word-of-mouth (eWOM), is considered by travellers as trustworthy and credible and strongly influences their purchasing decisions (KOCÁK 2015). In relation to that, Web 2.0 applications have been named, Travel 2.0 applications (KOCÁK 2015). Among sites belonging to this category, *TripAdvisor* stands out most in terms of usage and content (GRETZEL & YOO 2008). *TripAdvisor* makes up one of the largest travel communities in the world operating in 48 markets worldwide, reaching 38 million individual visitors monthly with 385 million reviews and opinions covering 6.6 million accommodation, restaurants, and attractions at 135,000 destinations. The content is available in 28 languages and provides easy access worldwide to leading online travel agencies including Expedia, Orbitz, Travelocity, hotels.com, Priceline, Booking.com (TripAdvisor 2016). A.Y.K. CHUA & S. BANERJEE (2013) have proved, based on a Singapore hotels case study, that reviews in *TripAdvisor* are largely reliable. Since the UGC approach has prevailed in the field of gathering information, traditional OTAs such as *Booking.com* have added the opportunity to share opinions on their websites.

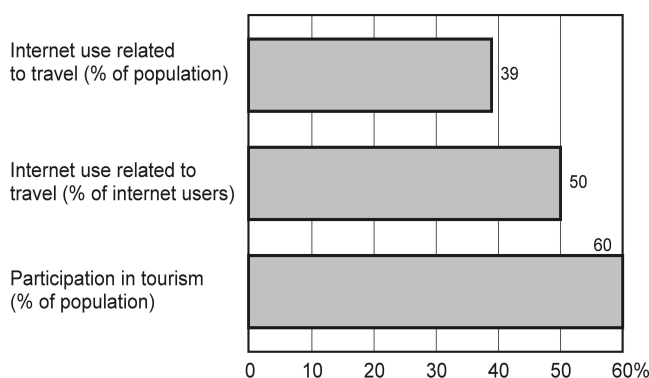


Fig. 2. Internet use related to travel in European Union (EU-28) (2015)

Source: Eurostat, <http://ec.europa.eu/eurostat/web/tourism/data/other-sources>

With 4 out of 10 Europeans looking online for travel related information, the internet has proved a major communication channel for the tourism sector. According to the 2015 survey on ICT usage in households and by individuals, 39% of the population reported using the internet for purposes related to travel while it was 60% of EU residents (Fig. 2) (<http://ec.europa.eu/eurostat/web/tourism/data/other-sources>). As digitised content can be widely available, it may transform what previously were mainly private social experiences into global databases of consumer information that can be managed and analysed by tourism firms and organizations (MUNAR & JACOBSEN 2013).

2. AIMS AND METHODOLOGY

The aim of the paper is to assess the reliability and completeness of the information provided by social media and OTAs to customers of hotels as well as for market analyses by hotel managers and destination management organisations. For the purpose of the paper, all accommodation establishments in Wrocław that featured on both *TripAdvisor* and *Booking.com* were taken into consideration. The data items retrieved include:

- name, type of accommodation and star rating in the case of hotels;
- additional facilities such as for conferences, sport and recreation, those with reduced mobility, and also information on the range of services offered, etc.

In order to evaluate the reliability and completeness provided on both websites they were compared to official sources. First to information provided by the Central Statistical Office of Poland (*Główny Urząd Statystyczny* – GUS) organized according to administrative area, while the second was the Central Register of Hotels and Similar Establishments (*Centralny Wykaz Obiektów Hotelarskich* – CWOH).

The content of both *TripAdvisor* and *Booking.com* as well as CWOH were analysed for October 2016 and compared to data from 31st July 2016 from GUS and Eurostat sources, as these are currently available.

3. INFORMATION ABOUT THE NUMBER OF TOURIST ACCOMMODATION ESTABLISHMENTS

One of the difficulties in comparing accommodation establishments are their typologies which vary depending on the source of information. The typology according to GUS is very elaborate and consists of 20 types, over twice as many as the European average. For the needs of EU statistics, GUS matched the NACE REV.2 classification (Section I, Division 55) as follows (EUROSTAT 2016):

- Class 55.1 – Hotels and similar accommodation;
- Class 55.2 – Holiday and other short-stay accommodation;
- Class 55.3 – Camping grounds, recreational vehicle parks and trailer parks.

GUS transmits the data to Eurostat, which publishes it according to these classes, spatially divided according to NUTS2 regions, in some cases even NUTS3 (Wrocław – PL514).

Ustawa o usługach turystycznych 1997 (The Tourist Services Act 1997) distinguishes eight types of tourist accommodation which are required to be registered

Table 2. Comparison of the number of accommodation establishments in Wrocław based on GUS, CWOH, Booking.com and TripAdvisor, 2016

EUROSTAT		Central Statistical Office of Poland (GUS)			CWOH		Booking.com		TripAdvisor		
Property type accommodation											
Type to Eurostat	number	type to GUS	Star rating	number	type to CWOH	number	type to Booking.com	number	type to TripAdvisor	number	
Hotels and similar accommodation	58	Hotels	5*	6	Hotels	7	Hotels	7	Hotels (and similar accommodation)	7	
			4*	12		11		14		16	
			3*	23		30		29		26	
			2*	4		4		4		3	
			1*	4		5		3		3	
			not ranged	0		5		2		3	
		Motels	1	Motels	0	Motels	1	21			
		Boarding houses	1	Boarding houses	2	Boarding houses	11				
		Other hotel facilities	7	nda	nda	nda	nda				
		Holiday and other short-stay accommodation ¹	24	Hostels	14	nda	nda	Hostels	42	Speciality lodging	112
Private rooms for rent	2			nda	nda	Apartments	223	Vacation rentals	67		
				nda	nda	Private accommodation	6				
Youth hostels	3			Youth hostels	3	nda	nda	nda	nda		
Training recreational centers	2			nda	nda	nda	nda	nda	nda		
Other tourist accom. establ.	3	nda	nda	nda	nda	nda	nda				
Camping grounds, recreational vehicle and trailer parks ²	1	Camping sites	1	Camping sites	1	nda	nda	nda	nda		

^{a)} Types of facilities which are not found in Wrocław were not included in the table. From among the category: *Holiday and other short-stay accommodation* these were: excursion hotels, shelters, youth hostels, school youth centers, training-recreational centers, creative centers, complexes of tourist cottages, tent camp sites, health establishments, private rooms for rent, agrotourism lodgings.

^{b)} From within this the category: tent camping sites do not exist in Wrocław.

nda – no data available.

Source: authors based on: www.stat.gov.pl, <https://turystyka.gov.pl>, <http://www.booking.com>, <http://ec.europa.eu/eurostat/web/tourism/data/database>, <https://www.tripadvisor.com>.

through provincial authorities to the CWOH. The features compared were the number of establishments by type and star rating (the latter only for hotels) and also:

- conference facilities, sport and recreation facilities, etc.;
- facilities for those with reduced mobility;
- additional information (e.g. the range of services offered, building under protection).

However, both the social tourist media and online booking websites use a different system for types of

facilities simplified for marketing purposes and better adapted to customer needs and expectations. They seem to be accurate only for numbers of hotels showing the smallest differences between particular information sources. There is a correlation of data reliability to the star rating system: the higher the star rating – the greater the similarity. *TripAdvisor* does not distinguish between one-star hotels, motels and boarding houses, all are classified as ‘hotels’, in GUS and Eurostat terms ‘hotels and similar accommodation’. The tourists, who have created the website, seem to

attach importance to type and star rating for expensive and high-ranked accommodation establishments, whereas the main purpose for choosing those of low rank is price and in such case neither the type nor star rating are so important, treated as secondary or not at all. *Booking.com* is more precise about lower-cost accommodation establishments. Maybe the reason is that these are the suppliers who are responsible for displaying and updating information, rates, availability and other information. Differences in typology show differences in the number of particular types and categories of accommodation being evaluated (Table 2).

The next reason for differences in results is the time of data gathering - for GUS it was 31st July 2016, whereas for the CWOH, *Booking.com* and *TripAdvisor* it was November 2016. Therefore GUS does not include Double Tree Hotel by Hilton, opened only on 10th of August 2016.

The other reason for discrepancies is the imprecise classification of facilities in the case of *TripAdvisor*, within the administrative territory of Wrocław - some facilities located outside the municipal boundaries were presented as being in Wrocław.

Differences in the legal frameworks of data collection and classification constitute another reason. The 'holiday and other short-stay accommodation' category reveals the greatest divergence depending on the source of information. Two dynamic groups, hostels and private rooms and apartments for rent, formerly not used, are incorporated in GUS statistics due to their growing importance and have been distinguished since 2009. Another change was brought about by the necessity to adjust the data collection process to new EU legislation - Regulation (EU) No. 692/2011 concerning European statistics on tourism which resulted in all (collective and individual) accommodation facilities with 10 or more bed places being obliged to send monthly KT-1 statistical reports to GUS. However, the statistics (except an annual pilot sample survey) for accommodation establishments with less than 10 bed places is still not available and this could lead to false conclusions in comparison to the actual market situation (Table 2).

4. INFORMATION ON FACILITIES IN TOURIST ACCOMMODATION ESTABLISHMENTS

GUS collects statistical data concerning facilities in tourist accommodation establishments, however the research is not conducted on an annual basis - the one prior to 2016 was in 2013. The following are involved: catering units; conference facilities (e.g. conference

rooms, slide projector, video-speaker, etc.); facilities for those with reduced mobility (e.g. adapted elevator, ramps, adapted rooms/bathroom, etc.); sport and recreation facilities (e.g. swimming pool, SPA treatment, tennis court, etc.). The weakest point is availability, only total figures for a specific service are provided (for instance only the total number of hotels equipped with conference rooms) which eliminates an opportunity for data analysis per particular accommodation establishment.

However for the majority there is still a lack of detailed data. There are trials to provide that kind of information on CWOH, including location in a registered monument, facilities for those with reduced mobility and the range of services.

For facilities in tourist accommodation establishments *TripAdvisor* and *Booking.com* are the best sources of specific information. There is a lot of detailed information corresponding to GUS statistical data: catering units; conference (business) facilities; facilities for those with reduced mobility; sport and recreation facilities. Moreover, there is additional information concerning the neighbourhood (e.g. city centre, Wrocław Zoo, etc.); hotel style (e.g. budget, luxury, trendy, etc.); airport transportation; pets; parking; wi-fi; free cancellation, etc. Their greatest value however lies in their overall review scores by tourists and detailed information on exact location, room information, cleanliness, value for money etc., additionally subdivided by traveller-type, time of visit and language spoken. The general rule seems to be: the more opinions the more accurate the data. Some hotel chains in Wrocław, such as Ibis (2814), PURO (2543), Radisson Blue (1382) on *Booking.com*, and Sofitel (1137 reviews), PURO (969) and Mercure (767) on *TripAdvisor*, get an impressive number of reviews.

5. CONCLUSIONS

Main aim of the article has been to evaluate the reliability and completeness of the tourist information provided by travel websites. The study explores the two most popular travel websites: one based fully on the Travel 2.0 and UGC application (*TripAdvisor*), and a second which developed as online travel agency website but has also absorbed a modern UGC approach (*Booking.com*). Their content concerning accommodation establishments in Wrocław was analysed and compared to the official tourist statistics provided by both the Central Statistical Office of Poland (GUS) and the Central Register of Hotels and Similar Establishments (CWOH) published by Ministry of Sport and Tourism. The contents of all sources of data were analysed regarding accommodation establishments in Wrocław for November 2016.

The data provided by the new Travel 2.0 technology tools proves to be generally reliable and complete especially for hotels and similar establishments. However, the degree of accuracy grows with the standard of hotel, and the most full and reliable information is for 3-star and higher classes. The situation is much more complicated when lower standard establishments are involved, since for boarding houses more are displayed on social media websites than actually can be found in official statistics so doubt arises about the standard offered by these establishments. Similar concerns can be identified when hostels and 'speciality lodgings' are concerned. There are also differences between types of accommodation officially recognized by law and the more simplified ones used on websites based on Travel 2.0 technology, especially concerning holiday and other short-stay accommodation. Moreover, accommodation of less than 10 beds is not counted by official statistics so here comparison and evaluation of the reliability of social media and OTA websites cannot be conducted. Still, if we take into consideration the fact that all the information provided with the use of UGC applications is later verified by other participants it can be assumed that it will finally be as accurate as possible.

Nevertheless, when the value of information provided by the use of Travel 2.0 technology for market research needs is evaluated, the results seem to be even more promising. For higher standard hotels it is almost 100 per cent reliable, whereas the range of the data concerning smaller and establishments (not statistically recognized) is much greater than official ones, which makes it a very interesting source of market information. Moreover, a detailed description of facilities, reliable for market analyses, is delivered by UGC, whereas official websites provide too general or incomplete data.

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Article received:
11 November 2016
Accepted:
2 December 2016
