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Ways and effectiveness of social media utilization by airlines

Abstract

This research was motivated by growing significance of social media in airline marketing. The basic research question was to determine the role of social media in the marketing of the world's top airlines. The social media selected for the analysis include Facebook, YouTube, Twitter, Flickr, Instagram, Pinterest, Google +, LinkedIn and Sina Weibo. The criteria used for social media selection included their nature, degree of utilization in travel and tourism according to published studies, a global ranking based on a number of users, and their dynamic development in the last two years. The analyses were based on publicly accessible data published on the selected airlines' websites and their official social media. Airlines' social media groups were assessed by means of various quantitative metrics – total viewer ratings, number of contributions by airlines, number of responses by subscribers, the year when the group was established, the interconnectedness of the social media groups to the corresponding airline website. Management of these groups was assessed as well as the content of airline communication in its social media groups. The most significant findings, which should be verified on a more representative sample, include the fact that all the selected airlines wield groups on Facebook, YouTube, Twitter, Instagram and LinkedIn.

Key words: social media; airlines; YouTube; Facebook; Instagram; viral marketing

Introduction

Dynamic implementation of new technologies (in particular ICT) is currently typical for air passenger transport in order to increase the quality and safety of provided services. The number of passengers is growing fast and marketing is worked out in detail. The advent of Low-Cost Carriers (LCC) is of great significance, as they have become the fastest growing segment of air passenger transport. Recently, according to Bachwich and Wittman (2017) mainly the USA witnesses a growth of Ultra Low-Cost Carriers (ULCC), which strive to decrease their operating expense dramatically. There are therefore present on the air passenger market Full-Service Carriers (FSC), LCCs and in the USA also ULCCs.

FSC marketing is, besides linking up with other providers of travel services (hotel chains, car hire companies, etc.) in loyalty programmes, typical of using ICT as a communication and distribution channel. There are also present, except for the well-known search and reservation systems like CRS, GDS, IDS, and websites of both airlines and their alliances, mobile applications and social media (SM). FSC marketing strategy is based on yield management, which uses not only overbooking the aircraft capacity but also the knowledge of client behaviour, combining different channels of communication with customers, various distribution channels, structuring the flight segments into 'hub and spokes', sharing flight codes and cooperation of airlines within alliances, (Grauberger & Kimms, 2016; Yimga, 2017; Zou & Chen, 2017). The key parameters for choosing a particular FSC are the safety, flight schedule, flight cabin interior, and check-in speed (Kim & Park, 2017).

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The starting point of LCC marketing is a low price of the product. LCC expansion and their growing focus on customer satisfaction have been changing their marketing strategy, though. They have been moving from regional airports to the main ones (Dobruszkes, Givoni & Vowles, 2017) and started to utilize passenger relationship management in order to improve passengers' loyalty (Akamavi et al., 2015). The key parameters for choosing a particular LCC are the price, flight safety, easy flight ticket purchase and other fees (Kim & Park, 2017).

Both FSCs and LCCs are typical of wide ICT utilization, including social media. Among features of social media belong the speed of change, immediate communication, and an instant response to users' questions and needs. Social media is suitable for marketing both types of airlines for their high level of personalization of communication. Social media can, therefore, help airlines to fulfil particularly the following needs: getting to know preferences, behaviour, and segments of potential clients; mediating personalized communication about services and current offer or support for building a relationship with the airline and strengthening its image and brand loyalty. This contribution, therefore, aimed to find out how airlines are currently using the potential of social media and to create a method how to do research into the ways of using this potential.

Theoretical basis

According to many an author (e.g. Xiang & Gretzel, 2010; Pan & Crofts, 2012; Law, Buhalis & Cobanoglu, 2014; Khan & Vong, 2014; Zeng & Gerritsen, 2014; Kiráľová & Pavlíčka, 2015; Nezakati et al., 2015), social media have been changing the way in which information in tourism is created, shared, searched, compared, achieved and otherwise used. Additionally, social media have been changing how the journey is experienced as social media and other means of communication with relatives evoke a feeling of tourism participants as if they were on the way and at home at the same time (White & White, 2007). As Urry (2012) maintains, social media influence the tourist's social relationships and tourism generates changes of relationships on social media. Travel and review websites based on social media have an ever-increasing influence on decision-making concerning the selection of travel services and destinations (Bilgihan, Barreda, Okumus & Nusair, 2016; Xiang, Du, Ma & Fan, 2017) and social media may serve as the source of data for personalized travel planning (Cenamor, de la Rosa, Núñez & Borrajo, 2017).

Leung, Law, van Hoof and Buhalis (2013) label social media as megatrend of tourism for their dynamic qualitative and quantitative development and for their influence on changes in tourism. Hays, Page and Buhalis (2013), Lily, Yuan and Lifeng (2013) and Kiráľová and Pavlíčka (2015) agree that social media change current tourism marketing significantly. Social media and their potential utilization cause marketing managers to face new challenges (Hofacker & Belanche, 2016) and the fact that social media are analysed and utilized as a marketing tool testifies to their place in tourism marketing (Kiráľová & Pavlíčka, 2015). Efficient utilization of social media in tourism marketing increases competitiveness (Kiráľová & Pavlíčka, 2015). As e.g. Mariani, Di Felice and Mura (2016) show for Facebook and Hay (2010) for Twitter, individual social media can be analysed and utilized as a marketing tool.

Viral marketing, a spontaneous way of spreading (desirable) communication, feeling or emotional view, is another significant part of social media utilization. While doing a research whose part was a causal model of viral dynamics, Camarero and José (2011) reached a conclusion that the way the individual is integrated into a social network, their relationships within the network and their relation to the shared content are basic determinants causing communication becoming viral.

Besides viral marketing, social media influence, particularly by means of travel and review websites and electronic word-of-mouth, decision-making of potential tourists (Jalilvand, Esfahani & Samiei, 2011; Sotiriadis & van Zyl, 2013). Litvin, Goldsmith and Pan (2008) emphasize that social media are significant in tourism, as the customer cannot get to know the product beforehand. Social media in tourism consists of user-generated content and that created by tourism service providers and mediators, as well as destination management and other interested parties. Tourism participants are strongly motivated to share information on social media. Munar and Jacobsen (2014) emphasize as motivation factors for sharing particularly altruism and the relation to local inhabitants as well as differences among various types of tourism participants. This research focuses on finding out whether and to what extent social media users prefer user-generated content to that created by other parties, mainly travel service providers, destination agencies, and travel service mediators. Hautz et al. (2014) show in their research the extent and conditions of the preference for the user-generated content of social media. As for destination videos located on social media, these authors gave evidence that social network users do not prefer user-generated videos (UGVs) to agency-generated videos (AGVs). At the same time, however, they showed that the quality of the video is significant as in case of high-quality videos the difference in users' preferences is minor whereas in case of low-quality videos users' prefer UGVs. Consequently, videos located on social media by tourism professionals should be of high quality. Results of ensuing studies done for selected social media show the motivation of users for using these particular types of social media.

Facebook (FB), together with YouTube is the most widely used social medium (Alexa, 2017), as Dwivedi, Yadav and Venkatesh (2012) maintain for NTO. Its significance for the increase in tourism destination of Atlantic Canada was documented by Crofton and Parker (2012). According to Bulencea and Egger (2014), Facebook is vital for information search and provides enough information about tourist attractions, albeit insufficient information when it comes to the selection of basic travel services - transportation and accommodation. On the other hand, Enter and Michopoulou (2013) play its importance down and rather emphasize its utilization in sharing travel experiences. There is an ongoing discussion about the credibility and accuracy of information on Facebook. According to Parra-López et al. (2011), it is more important to trust the whole Facebook community than individual sources of information. The same authors concluded that Facebook users utilize Facebook in a different way than other sources. Being on Facebook and sharing information is more important than the intention to use the information for planning and arranging the travel.

YouTube (YT) is the most frequently used network for sharing and watching videos. As Khan (2017) showed, the most important motivation of passive YouTube users is relaxation, entertainment and reading other users' comments. According to Reino and Hay (2011), videos can mediate destination experience without the user having to travel. YouTube can also present complex services of airlines, hotel chains (Chan & Guillet, 2011) and cruise ship companies.

Twitter (TW) is based on two-way and instantaneous communication and can, therefore, be viewed as the most interactive social medium. Shortly after it was established in 2006, Hay (2010) looked into its significance for destination management marketing and to visitors.

As for hotels, Hay (2010) presumes its significance for holding competitions, publishing special offers (as Chan & Guillet, 2011 confirm it), advertising, brand loyalty, viral marketing and offering free stays (positive reference within a virtual community). Although semantic analysis (based on ontologies) is in case of Twitter with its short communications considered more difficult than that of other social media (compare e.g. Flickr metadata analysis), it has been being developed (e.g. Kontopoulos et al., 2013).

Flickr (FL) combines graphic content (photographs, videos) with others options, like that to caption uploaded photographs with metadata (tags, comments, geodata), or share comments between users, and create groups (Spyrou & Mylonas, 2016a). These features generate many applications for tourism. Geodata linked to individually uploaded photographs on Flickr can be mined in order to trace past and forecast future time-space behaviour of individual people (Birmingham & Lee, 2014), which can be applied in various ways to marketing as well as sustainable tourism. According to Van Canneyt, Schockaert and Dhoedt (2016), the semantic analysis of metadata linked to photographs can be used to detect various types of events (e.g. problems with the quality of services in tourism, tourist perception of a destination). Spyrou and Mylonas (2016b) present more outputs of semantic analysis (popular content, interesting locations in geographical space, popular events). It is advisable to compare user-generated content with that generated by tourism and destination agencies in order to assess marketing effectiveness, which was done for Flickr and Peru as early as in 2006 by Stepchenkova and Morrison (2006). The content analysis of photographs on Flickr combined with a cluster analysis can help identify visitor segments (Donaire, Camprubí & Galí, 2014).

Instagram (IM) has recently become a potentially interesting social medium for tourism marketing in relation to its newly introduced functionalities (e.g. Instagram Direct in 2015). Like Flickr, it enables tagging, creating groups, uploading geodata, commenting and assessing photographs and its user-friendliness offers according to Fatanti and Suyadnya (2015) a huge potential for destination presentation.

Methodology

This research focused on the role of social media in shaping marketing strategies in the airline industry. It also concentrated on the way in which top airlines use social media as well as on finding reasons why the airline presentation in social media is successful and how to measure this success. The main question was: What is the role of social media in top airlines' marketing? The answer to this question was based on research structured by further questions:

- How are social media used in top airlines' marketing?
- How are social media interconnected with the top airlines' websites?
- What is the content of top airlines' social media communication?
- What social media are preferred in airline marketing and why?

In order to answer these questions, following research methods were applied: the selection of the research sample of ten biggest airlines according to IATA statistics, classification of ways of social media utilization by airlines, qualitative research of the sample airlines' social media contents and their interconnectedness with web presentation of these airlines, and comparative analysis of social media utilization by these airlines.

The analysed social media include Facebook, YouTube, Twitter, Flickr, Instagram, Pinterest, Google +, LinkedIn, and Sina Weibo. These social media were selected based on their character, the extent to which they are - according to published studies - utilized in tourism, their global ranking based on the number of users ("GP"; Alexa, 2017) and their dynamic development in the last two years. Reasons for their selection and their ranking according to the number of users are summarized in Table 1.

Table 1

Basic features of social media selected and reasons for selecting them (on 31 July 2017)

Social medium	Basic characteristics	GP	Reasons for selecting this social medium for tourism marketing analysis
FB	Personal or company presentation	3	Dominant social network, cheap promotion targeted at millions of users, brand building. It is often used on websites of various tourism companies.
YT	Video sharing	2	Promotion of company quality, customer satisfaction, high preference of this SM (entertainment).
TW	Short text message sharing	12	Fast communication by means of short messages.
FL	Photo and video sharing	322	The complexity of content (photographs, videos, geodata, etc.), big potential for tourism.
IM	Photo and video sharing	18	Fast photo and video sharing among millions of users. Easy building of a user base. Effective social network. Brand building.
PR	Photo and video sharing	61	Fast development in recent years, it is possible to make notice boards divided by destinations. In comparison with Instagram, there are accessible various formats of photos, including photo stories.
G+	Geosocial network	5	One of the most significant geosocial networks, big potential for tourism, particularly location-based services (LBS).
LN	Professional social medium	25	The biggest professional network, search for quality employees, competition analysis.
WB	Combines features of Facebook and Twitter	21	SM specific for China used to compare the utilization of airlines from China and those other countries.

Source: Alexa (2017).

The analysis of social media utilization was carried out for ten selected airlines (American Airlines, Delta Airlines, United Airlines, Emirates, China Southern Airlines, Southwest Airlines, Lufthansa, British Airways, Air France, and Ryanair). Two of them belong among LCCs (Southwest Airlines and Ryanair). The main selection criterion was the total performance, represented by the number of passenger-kilometres in 2016 according to IATA (2016). Analyses were based on data publicly accessible on websites and official social media (with the attributes of the company logo, the corresponding concept of the content of the social media, the authorship of contributions entirely or predominantly by the airline) of the selected airlines. The analysis of the airlines' social media focused on the content and topic of individual contributions as well as the overall account, then on cooperation of the airline with social media users by providing user-generated content (usually photographs, or videos), on the speed of responding to the user's questions, on the history of the social medium and the dynamics of its changes, and on its basic quantitative traits. The criterion of the mentioned interconnectedness between the mentioned social medium and the airline website was a clear reference to the social medium on the homepage, usually represented by its icon. In order to find out this information, the authors collected and analysed information publicly accessible on the selected social networks.

Results

Basic metrics

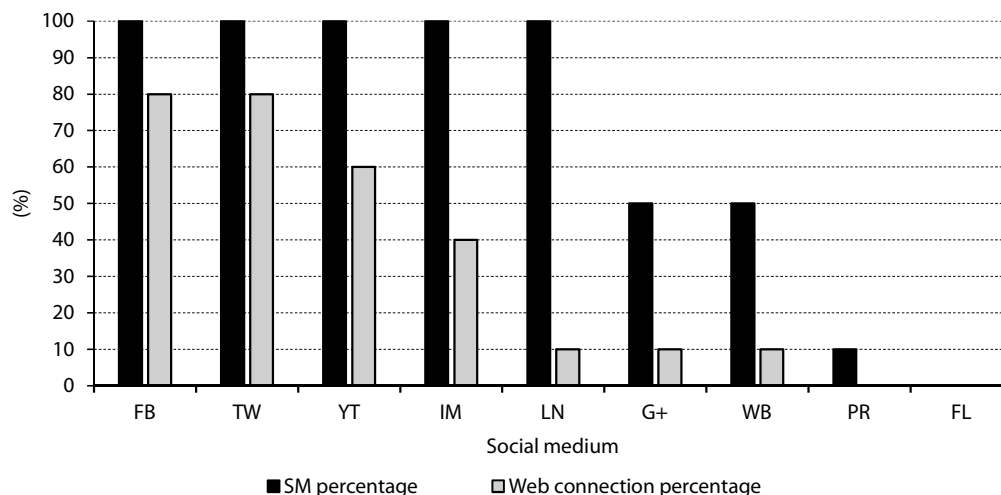
A basic overview of official social media utilization by ten selected airlines (the existence of a social medium and its clear link to the airline website) is shown in Table 2. The overall rate of utilization of individual social media and the extent of their interconnectedness with the airline website is visualized in Figure 1.

Table 2
Social media utilization by airlines

Airline	Social medium									
	FB	YT	TW	IM	PR	FL	G+	LN	WB	
American Airlines	1/1	1/1	1/1	1/0	0	0	1/0	1/0	1/0	
Southwest Airlines	1/1	1/1	1/1	1/1	1/0	0	1/0	1/0	0	
Delta Airlines	1/1	1/0	1/1	1/0	0	0	1/0	1/0	0	
China Southern Airlines	1/0	1/0	1/0	1/0	0	0	0	1/0	1/0	
Ryanair	1/1	1/1	1/1	1/1	0	0	0	1/0	0	
United Airlines	1/1	1/1	1/1	1/1	0	0	0	1/1	0	
China Eastern Airlines	1/0	1/0	1/0	1/0	0	0	E/N	1/0	1/0	
EasyJet	1/1	1/1	1/1	1/0	0	0	E/N	1/0	0	
Turkish Airlines	1/1	1/1	1/1	1/1	0	0	1/1	1/0	1/0	
Air China	1/1	1/0	1/1	1/0	0	0	E/N	1/0	1/1	

The meaning of abbreviations:
 1/1 uses SM and links them to the airline website;
 1/0 uses SM but does not link them to the airline website;
 E/N has an established group on the social medium but does not use it;
 0 no official group on the social medium found.

Figure 1
Percentage of utilization, i.e. that of linking the SM to the airline website



The comparison of the number of airline fans on social networks shown in Table 3 brings some interesting insights. It is the result not only of the development of airline groups on social media but also of the nature of individual social media (see the discussion below), especially the degree of their interactivity and the quality of their management. Tables for Flickr, Pinterest, Google+, LinkedIn, and Sina Weibo are not included because airlines generally do not have here such large fan bases like on other selected social media. There are, however, exceptions like American Airlines, Delta Airlines, and Turkish Airlines, which have about two million users on Google+ and between 200,000 and 300,000 fans and followers on LinkedIn.

Metrics of the quality of such management are, in addition to the clarity and method of sorting the social media content, the extent and speed of response to users' contributions, as it is shown in Tables four to seven.

Table 3
Number of airline fans on social media as of 19 August 2017

Airline	Social medium			
	FB	TW	IM	YT
Turkish Airlines	9,547,585	1,590,000	825,000	180,243
Southwest Airlines	5,514,178	2,140,000	360,000	50,746
Ryanair	2,329,792	315,000	144,000	20,940
American Airlines	2,308,668	1,460,000	627,000	46,205
Delta Airlines	1,986,976	1,370,000	557,000	60,869
EasyJet	1,399,221	419,000	176,000	8,288
United Airlines	1,070,046	938,000	457,000	26,971
China Southern Airlines	860,014	3,762	10,100	425
China Eastern Airlines	609,313	1,567	505	530
Air China	516,955	6,563	5,930	636

Analysis of social media utilization

Facebook

When analysing selected companies on Facebook, it is clear that all companies hold the rule that activity and consistency are important factors of success. The vast majority of analysed airlines are active on Facebook with several posts a day. Airline companies present on Facebook, as well as on YouTube, their destinations, emphasize the quality of their services, including airplane comfort, by posting photographs with comments and videos, focusing on feeling-good impression videos. They often use famous celebrities, especially actors and sports stars for endorsement. In addition to their own posts, they also use the content created by users if they are good and positive. If any unexpected situation occurs, social networks, above all Facebook and Twitter, serve to inform that some flights are cancelled, or moved. Airlines also use Facebook to connect to other channels of communication (their own website, phone applications) and to present their high-quality staff as part of promoting service quality, safety and trust in the airline. When a company participates in some charity events, it is as a rule also documented on Facebook. Some airlines (such as Southwest Airlines) promote the quality of their services (typically new equipment or service improvements) in a live broadcast.

Though airlines have millions of content users, the 'I like it' reaction occurs in hundreds of instances and sharing and comments in tens. The reason behind this is the Facebook system of how to promote non-commercial posts, as this post shows on the wall of only a certain number of the group members. Only based on reactions, the Facebook algorithm decides who will then see the ensuing posts. Ad-supported posts are shown to a larger number of users (targeted exactly to whom the company wants to reach), resulting in more 'I like it' responses, shares, and comments. The companies with the greatest number of followers have their content in English and, exceptionally, in another language.

Despite their big fan base, airlines respond to users' messages very quickly and respond to most of their fan's messages (Table 4 – 'Response Rate' shows percentage of responses to fans' messages).

Table 4
Airline group management on Facebook, as of 19 August 2017

Company	Response rate	Usually respond within	Click to website	Do they provide a phone number?
Turkish Airlines	96%	1 hour	Yes	Yes
Southwest Airlines	76%	Several hours	Yes	Yes
Ryanair	Unstated	Unstated	Yes	No
American Airlines	Unstated	Immediately	Yes	Yes
Delta Airlines	Unstated	Several hours	Yes	No
EasyJet	86%	Immediately	Yes	No
United Airlines	77%	1 hour	Yes	No
China Southern Airlines	100%	1 hour	Yes	Yes
China Eastern Airlines	Unstated	1 day	Yes	Yes
Air China	Unstated	Unstated	Yes	Yes

Twitter

All surveyed airlines also have their Twitter account (Table 5), the content of which is often only a copy of the content shared on Facebook. This can be explained by the fact that Facebook is not so widespread in some countries, so if airlines copy their Facebook content to Twitter, they reach out to other users with little effort. On Twitter, just like on Facebook, most posts have only dozens of user feedbacks.

Table 5
Basic airline group metrics on Twitter as of 19 August 2017

Airline	Established in	Total number of tweets	Average number of tweets per year	Number of photos or videos
Turkish Airlines	2009	5,536	692	2,786
Southwest Airlines	2007	481,000	48,100	unknown
Ryanair	2013	167,000	41,750	7,381
American Airlines	2009	1,720,000	215,000	1,759
Delta Airlines	2007	524,000	52,400	1,664
EasyJet	2009	285,000	35,625	1,406
United Airlines	2011	834,000	139,000	1,708
China Southern	2014	1,582	527	455
China Eastern	2011	2	0.3	0
Air China	2014	1,415	472	1,204

Instagram

Instagram is a social medium based solely on image sharing. As a rule, the images that the selected airlines post on Facebook and Twitter also appear on Instagram. Shared images in these groups are of very good quality, and their focus (airplane comfort, travel destinations and travellers experience) is to create a good feeling of travelling. Compared to airline groups in other social media, their content on Instagram varies considerably with some airlines. For example, American Airlines regularly displays photos of their staff (pilots, flight attendants and technicians) showing their name and position; EasyJet shares user photos and inserts there a thank-you to everyone who has provided the photo; and China Southern offers almost exclusively airplane photos. In comparison to other mentioned social media, on Instagram, users much more often assess each contribution. Almost every photo added to Instagram has thousands of tens of thousands of I like it designations (on average about 10,000).

Table 6
Basic airline group metrics on Instagram as of 19 August 2017

Airline	Number of contributions	Linking to their website	State their own tag	Established in
Turkish Airlines	1,157	Yes	Yes	2013
Southwest Airlines	1,060	Yes	Yes	2011
Ryanair	625	No***	Yes	2015
American Airlines	031	Yes	No	2011
Delta Airlines	741	Yes	Yes	2012
EasyJet	493	Yes	Yes	2011
United Airlines	607	Yes	No	2012
China Southern	373	Yes	No	2014
China Eastern	208	Yes	No	2017
Air China	143	Yes	No	2014

YouTube

Airline communication on YouTube is typically aimed at creating an emotional awareness of the airline including its reliability and traditions, destinations linked to it, the way of delivery and quality of services offered, its loyalty programs, travellers' experiences in destinations and passengers' experiences. For promotion, the airlines use television and sports stars (e.g. Morgan Freeman, Lionel Messi).

Table 7
Airline group basic metrics on YouTube 19 August 2017

Airline	Total number of videos	Number of videos a year	Total number of views	YouTube channel established in
Turkish Airlines	324	29	519,583,759	2006
Southwest Airlines	578	58	9,238,683	2007
Ryanair	477	95	12,237,746	2012
American Airlines	414	38	13,961,901	2006
Delta Airlines	126	11	2,416,067	2006
EasyJet	101	9	3,628,276	2006
United Airlines	173	16	9,936,441	2006
China Southern	15	5	9,864	2014
China Eastern	11	4	33,294	2014
Air China	18	5	65,627	2013

YouTube has significantly fewer fans than Facebook, Twitter, and Instagram (Table 3). The total view count for some videos is tens of millions, but the number of subscribers to the airlines surveyed is only tens of thousands. This is probably due to the fact, that the groups on YouTube do not sufficiently support building a fan base and do not sufficiently motivate users to confirm the subscription. Users watch interesting videos but are not motivated to confirm they want to get other information and videos. For effective promotion on YouTube, activity, and regularity (especially the number of regular videos) are not key. As the interest in particular videos suggests, it is much more important to create high quality content.

Conclusions

Social media are, which is consistent with the findings of a number of authors (Hays et al., 2013; Lily et al., 2013; Királová & Pavlíčka, 2015) intensively used in airline marketing. The dominant social media for airline marketing are Facebook, Twitter, Instagram, YouTube, and all ten major airlines have been using them for a long time. LinkedIn is also used by all ten airlines as part of HR management. This is based on the nature of these social media and their ranking in the popularity of websites (Table 1). Half of the analysed airlines use Google+ and Sina Weibo. Social media are a very important and successful part of marketing for Turkish Airlines, as its number of fans (Table 3) on Facebook (almost ten million), Twitter (almost two million), Instagram (one million) and YouTube (200 thousand) show. The content of airline groups on Facebook and Twitter is often almost identical, which seems to be related to the lesser use of Facebook in some countries, and to increasing the efficiency of social media management and reducing the cost of this managerial approach. With YouTube and Instagram, besides the partial similarity of their content and concepts (such as emotional videos presenting the airline on YouTube), there are more significant differences in content, including the already mentioned monothematic presentations of some airlines on Instagram. The type of medium, which is in case of the surveyed airlines well illustrated by YouTube, which is the most watched social medium, primarily determines the number of airline group fans on the social media. Despite its vast audience, the number of YouTube airline group subscribers is up to two orders lower than in case of Facebook, Twitter, and Instagram groups. The nature of social medium also affects the number of user responses. Although the analysed airlines are active on their Facebook and Twitter groups almost daily, manifold more responses from users reach Instagram (on average 10,000 responses per post).

The analysis of social media utilization by the ten largest airlines confirmed their strong emphasis on using social media in their marketing, which also applies to both surveyed LCCs, Southwest Airlines, and Ryanair. This is consistent with the findings in the theoretical part on the importance of social media for tourism marketing. The overall divergent approach to marketing by FSCs and LCCs manifests itself rather in the content of social media in comparison to their level of utilization. This conclusion should be examined on a substantially larger sample of airlines. In addition to Facebook, Instagram seems to have great potential for systematic airline marketing. Facebook can quickly generate a large fan base but spread the post is restricted by Facebook rules, as posts are only shown to some fans. On the other hand, Instagram shows the post to all subscribers. The result is that for the airlines analysed, even though the number of Instagram subscribers is roughly 10 times smaller than that of Facebook, the number of responses for Instagram is much higher. YouTube offers airlines a high total number of viewers of their groups, but it could be a matter of further research, what influence (if any) this number of views has on users' preferring the services of a particular airline.

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References

- Akamavi, R. K., Mohamed, E., Pellmann, K. & Yue, X. (2015). Key determinants of passenger loyalty in the low-cost airline business. *Tourism Management*, 46, 528-545.
- Alexa (2017). *The top 500 sites on the web*. Retrieved August 1, 2017, from <http://www.alexa.com/topsites>.
- Bachwich, A. R. & Wittman, M. D. (2017). The emergence and effects of the ultra-low cost carrier (ULCC) business model in the U.S. airline industry. *Journal of Air Transport Management*, 62, 155-164.

- Birmingham, L. & Lee, I. (2014). Spatio-temporal Sequential Pattern Mining for Tourism Sciences. *Procedia Computer Science*, 29, 379-389.
- Bilgihan, A., Barreda, A., Okumus, F. & Nusair, K. (2016). Consumer perception of knowledge-sharing in travel-related Online Social Networks. *Tourism Management*, 52, 287-296.
- Bulencea, P. & Egger, R. (2014). Facebook it: Evaluation of Facebook's Search Engine for Travel Related Information Retrieval. In Z. Xiang & I. Tussyadiah (eds) *Information and Communication Technologies in Tourism* (pp. 467-480). Cham: Springer.
- Camarero, C. & José, R. S. (2011). Social and attitudinal determinants of viral marketing dynamics. *Computers in Human Behavior*, 27(6), 2292-2300.
- Cenamor, I., de la Rosa, T., Núñez, S. & Borrajo, D. (2017). Planning for tourism routes using social networks. *Expert Systems with Applications*, 69, 1-9.
- Crofton, S. O. & Parker, R. D. (2012). Do Twitter and Facebook Matter? Examining the Economic Impact of Social Media Marketing in Tourism Websites of Atlantic Canada. *Journal of Tourism Research & Hospitality*, 1(4), 1-9.
- Dobruszkes, F., Givoni, M. & Vowles, T. (2017). Hello major airports, goodbye regional airports? Recent changes in European and US low-cost airline airport choice. *Journal of Air Transport Management*, 59, 50-62.
- Donaire, J. A., Camprubí, R. & Galí, N. (2014). Tourist clusters from Flickr travel photography. *Tourism Management Perspectives*, 11, 26-33.
- Dwivedi, M., Yadav, A. & Venkatesh, U. (2012). Use of social media by national tourism organizations: a preliminary analysis. *Information Technology and Tourism*, 13(2), 93-103.
- Enter, N. & Michopoulou, E. (2013). An investigation on the Acceptance of Facebook by Travellers for Travel Planning, *e-Review of Tourism Research (e-RTR)*, 4.
- Fatanti, M. N. & Suyadnya, W. (2015). Beyond User Gaze: How Instagram Creates Tourism Destination Brand? *Procedia - Social and Behavioral Sciences*, 211, 1089-1095.
- Grauberger, W. & Kimms, A. (2016). Revenue management under horizontal and vertical competition within airline alliances. *Omega*, 59(Part B), 228-237.
- Hautz, J., Füller, J., Hutter, K. & Thürridl, C. (2014). Let Users Generate Your Video Ads? The Impact of Video Source and Quality on Consumers' Perceptions and Intended Behaviors. *Journal of Interactive Marketing*, 28(1), 1-15.
- Hay, B. (2010). Twitter Twitter – But who is listening? a review of the current and potential use of Twittering as a tourism marketing tool. In *CAUTHE 2010 20th International Research Conference: 'Challenge the Limits'*, February 2010, University of Tasmania.
- Hays, S., Page, S. J. & Buhalis, D. (2013). Social media as a destination marketing tool: its use by national tourism organisations. *Current Issues in Tourism*, 16(3), 211-239.
- Hofacker, C. F. & Belanche, D. (2016). Eight social media challenges for marketing managers. *Spanish Journal of Marketing - ESIC*, 20(2), 73-80.
- Chan, N. L. & Guillet, B. D. (2011). Investigation of Social Media Marketing: How Does the Hotel Industry in Hong Kong Perform in Marketing on Social Media Websites? *Journal of Travel & Tourism Marketing*, 28, 345-368.
- IATA (2016). *WATS 2016*. Retrieved August 1, 2017, from http://www.iata.org/docx/WATS_2016-infographic.pdf.
- Jalilvand, M. R., Esfahani, S. S. & Samiei, N. (2011). Electronic word-of-mouth: Challenges and opportunities, *Procedia Computer Science*, 3, 42-46.
- Khan, G. F. & Vong, S. (2014). Virality over YouTube: an empirical analysis". *Internet Research*, 24(5), 629-647.
- Khan, M. L. (2017). Social media engagement: What motivates user participation and consumption on YouTube? *Computers in Human Behavior*, 66, 236-247.
- Kim, S.-B. & Park, J.-W. (2017). A study on the importance of airline selection attributes by airline type: An emphasis on the difference of opinion in between Korean and overseas aviation experts. *Journal of Air Transport Management*, 60, 76-83.
- Kiráľová, A. & Pavlíčka, A. (2015). Development of Social Media Strategies in Tourism Destination. *Procedia - Social and Behavioral Sciences*, 175, 358-366.

- Kontopoulos, E., Berberidis, Ch., Dergiades, T. & Bassiliades, N. (2013). Ontology-based sentiment analysis of twitter posts. *Expert Systems with Applications*, 40(10), 4065-4074.
- Law, R., Buhalis, D., & Cobanoglu, C. (2014). Progress on information and communication technologies in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 26(5), 727 – 750.
- Leung, D., Law, R., van Hoof, H. & Buhalis, D. (2013). Social Media in Tourism and Hospitality: a Literature Review. *Journal of Travel & Tourism Marketing*, 30, 3-22.
- Lily, L., Yuan, W. & Lifeng, H. (2013). Marketing via social media: a case study. *Library Hi Tech*, 31(3), 455-466.
- Mariani, M. M., Di Felice, M. & Mura, M. (2016). Facebook as a destination marketing tool: Evidence from Italian regional Destination Management Organizations. *Tourism Management*, 54, 321-343.
- Munar, A. M. & Jacobsen, J. K. S. (2014). Motivations for sharing tourism experiences through social media. *Tourism Management*, 43, 46-54.
- Nezakati, H., Amidi, A., Jusoh, Y. Y., Moghadas, S., Aziz, Y. A. & Sohrabinezhadtalemi, R. (2015). Review of Social Media Potential on Knowledge Sharing and Collaboration in Tourism Industry. *Procedia - Social and Behavioral Sciences*, 172, 120-125.
- Pan, B. & Crotts, J. (2012). Theoretical models of social media, marketing implications, and future research directions. In M. Sigala, E. Christou & U. Gretzel (eds.), *Social Media in Travel, Tourism and Hospitality: Theory, Practice and Cases* (pp. 73-86). Surrey, UK: Ashgate.
- Parra-López, E., Bulchand-Giduma, J., Gutiérrez-Taño, D. & Díaz-Armas, R. (2011). Intentions to use social media in organising and taking vacation trips. *Computers in Human Behaviour*. 27(2), 640-654.
- Reino, S. & Hay, B. (2011). The Use of YouTube as a Tourism Marketing Tool. In *Proceedings of the 4th Annual Travel & Tourism Research Association Conference*. London, Ontario, Canada, 42.
- Sotiriadis, M. D. & van Zyl, C. (2013). Electronic word-of-mouth and online reviews in tourism services: the use of twitter by tourists. *Electron. Commer. Res.*, 13(1), 103-124.
- Spyrou, E. & Mylonas, P. (2016a). A survey on Flickr multimedia research challenges. *Engineering Applications of Artificial Intelligence*, 51, 71-91.
- Spyrou, E. & Mylonas, P. (2016b). Analyzing Flickr metadata to extract location-based information and semantically organize its photo content. *Neurocomputing*, 172, 114-133.
- Stepchenkova, S. & Morrison, A. M. (2006). The destination image of Russia: From the online induced perspective. *Tourism Management*, 27(5), 943-956.
- Urry, J. (2012). Social networks, mobile lives and social inequalities. *Journal of Transport Geography*, 21, 24-30.
- Van Canneyt, S., Schockaert, S. & Dhoedt, B. (2016). Categorizing events using spatio-temporal and user features from Flickr. *Information Sciences*, 328, 76-96.
- White, N. R. & White, P. B. (2007). Home and away: Tourists in a Connected World. *Annals of Tourism Research*, 34(1), 88-104.
- Xiang, Z., Du, Q., Ma, Y. & Fan, W. (2017). A comparative analysis of major online review platforms: Implications for social media analytics in hospitality and tourism. *Tourism Management*, 58, 51-65.
- Xiang, Z. & Gretzel, U. (2010). Role of social media in online travel information search. *Tourism Management*, 31(2), 179-188.
- Yimga, J. O. (2017). Airline code-sharing and its effects on on-time performance. *Journal of Air Transport Management*, 58, 76-90.
- Zeng, B. & Gerritsen, R. (2014). What do we know about social media in tourism? A review. *Tourism Management Perspectives*, 10, 27-36.
- Zou, L. & Chen, X. (2017). The effect of code-sharing alliances on airline profitability. *Journal of Air Transport Management*, 58, 50-57.

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