Original Scientific Article

Utilization Analysis of Slovenian Hotel Websites

Mitja Petelin
Vocational College of Hospitality and Tourism Maribor, Slovenia
mitja.petelin@vsgt-mb.si

Dejan Križaj
University of Primorska, Faculty of Tourism Studies Turistica, Slovenia
dejan.krizaj@fts.upr.si

The purpose of the article is to get an insight into the content of the websites of Slovenian four- and five-star hotels and, based on the set criteria, to determine which websites are more utilized than others. We defined the utilization criteria and analysed all four and five-star hotels in Slovenia using data clustering analysis. The content of the websites, analysed in 2017, at the first glance seems diverse, but when comparing their content, we concluded that there are no major statistical differences. An important discovery of the research falls on the security of most of the analysed websites – it is very flawed and sometimes misleading. The potential for interactivity and gamification remains untapped despite the various recommendations of experts and academics.

Keywords: website, hotel, Slovenian hotel websites, security

 https://doi.org/10.26493/2335-4194.13.193-200

Introduction

The consumer decision-making process in hotel selection is compromised by many different factors; one of them is how the consumer receives information (Zabukovec & Čivre, 2012). The latter remains a great challenge for the hospitality industry and we can perceive it as a hotel website among other things.

Website research is widespread and there are several different approaches focusing on hotel characteristics and utilization, benchmarks of website design and marketing, conceptualising website quality, developing a performance indicator of hotel websites, usability and evaluation, etc.

Website characteristics as an important factor of measurement and development of appropriate instruments (leveraging structural equation modelling) were discussed in detail by Schmidt et al. (2008). More revealing was an article of Jeong et al. (2003) which came to the conclusion (data was collected using electronic surveys) that the website quality is an important antecedent of information satisfaction. The research results suggested that hoteliers should adopt a more strategic approach to the Internet, preparing the ground for direct contact with customers. Understanding hotel websites via strategies pursued by hotel websites in correlation of the hotel size and the website proved that significant relationships were not identified (Escobar-Rodríguez & Carvajal-Trujillo, 2013).

Focusing on performance among the luxurious, mid-priced, and budget hotel websites revealed significant differences among them (Chung & Law, 2003), which was further supported with research in website attribute utilization and effectiveness for hotels of various class levels (using the Star Rating system approach) (Musante et al., 2009).

Research with a focus on marketing showed that hotels are not utilizing the internet to its full potential and effectively e-marketing their hotels regardless of

the hotel type (Baloglu & Peckan, 2006). Approaching the problem via benchmarking and analyzation (over 200 different websites criteria) revealed significant differences in website tools across hotel category and size, but no differences across geographic or linguistic region (Schegg et al., 2002). The geographical aspect could be further discussed since Ping-Ho et al. (2013) used content analysis and the eMica model, realising that hotels in Asia had more features than those on other continents.

Usability as a very important factor of a hotel website was researched using a heuristic technique and showed no significant difference among luxury, mid-priced, and economy hotels (Yeung & Law, 2006), but this does not mean that mid-priced and economy hotels are more informative than luxury ones, since class cluster analysis, bivariate analysis and the Chi-Square methodological approach proved otherwise (Díaz and Koutra, 2013).

Establishing a link between quality and profitability of websites was established by Yang et al. (2014) via two stage DEA (CCR and BCC) methodology, but it was concluded that it is difficult to obtain detailed financial information from individual companies, therefore such a research approach should be reserved to organisations that have direct access to financial data.

The presented theoretical and practical insights have enabled us to consider an appropriate model and taxonomy for evaluating websites of Slovenian four and five-star hotels. Our goal was to get insights into the websites and to determine which websites are more utilized than others on the basis of the set criteria. We were also looking for research outcomes that would give useful insights for practitioners. For achieving those goals, we had to:

- create the utilization taxonomy,
- collect information about all Slovenian four- and five-stars hotels and their websites,
- try to determine which Slovenian hotels have the most utilized websites.

Methodology

We decided to use and adapt a methodological approach developed by Križaj et al. (2014) as a part of the scientific article 'A Tool for Measurement of Innovation Newness and Adoption and Tourism Firms,' combining a quantitative and qualitative methodological approach. The model combines three research problems, (1) measuring newness levels and the adoption of tourism innovations, (2) developing taxonomy allowing the calculation of correct innovation newness levels and (3) statistical analysis of innovation adoption in tourism destinations. The advantage of the model is its flexibility and architecture, which enables the addition of various elements of a tourist company, in our example, of a website.

Their basic mechanism originates from the introduction of all the necessary descriptive attributes of innovation in tourism companies. They created a database of the adopted innovations and classified and calculated similarities between companies through a data clustering approach. Clusters were represented by a dendrogram in which individual companies stood out based on their more innovative products and processes. The authors collected the data of 351 tourist companies in Slovenia in the two most widely spread daily Slovenian newspapers, the most widely read weekly business newspaper, five professional tourism journals, three portals managed by the Slovenian Tourist Board, and the national TV web portal. Data collection covered publications from 1 January 2007 to 1 June 2010. The first step in the processing of data was (1) an appropriate description of the tourist companies' adopted innovations, by means of which (2) the differences between the companies were defined, followed by (3) calculating, displaying and analysing the differences.

Taxonomy was an important part of the research model since it is the key to the correct calculation of the differences between the adopted innovations in tourism companies. The flexible development of the research information input interface allowed ongoing reorganisation or reclassification of the innovation attributes they have used and eventually changed during the taxonomy scheme optimisation process and data entry. The data, organised with the help of the developed taxonomy, enabled the statistical analysis of the introduction of innovations in tourist companies.

The presented approach was reused in our paper in

Table 1 Website Utilization Taxonomy

Category	Subcategory	Further subcategories
Experience	Fulfilment	On-line booking, sliding photos, high quality photos, hotel video, 3D panoramic view, brochure, website search, etc.
	Personalisation	Changing the colour of the website, costumisation of the website.
	Gamification	Games, sweepstakes, quiz, etc.
Information	Feedback and support for users	Confirmation messages, calendar of hotel activities, faq, live chat, check-in and check-out information, web forums, history of the hotel, newsletter, etc.
	Contact information	E-mail, telephone, location, fax, contact form, Google Maps or similar, Skype
	Security	Safe payment systems (https).
	Multimedia and interactivity	Attractive graphics, sounds, videos, gifs, animations, smart devices applications, etc.
	Multilingualism	EN, DE, RU, IT, HR, etc.
Marketing	Advertising	'Best Price' guarantee, Green Globe Certificate, Congress Star, Zlati sejalec 2010, Trip Advisor Travelers Choice 2015, special hotel offers and packages, etc.
	Social media	Share page option, Facebook, Youtube, Twitter, Pinterest, blog, etc.
	Loyalty programmes	Kempinski discovery, ihg rewards club, le club accord hotels, best western awards, etc.
	OTA's	Booking.com, Tripadvisor, Expedia, Agoda, Hotels.com, etc.
Destination	Weather	Weather forecast, temperature, extraordinary weather conditions
	Events	Festivals, conferences, symposium, visits of important persons, calendar of local events, etc.
	Transport	Road conditions, public transport, nearby airports, taxi, other forms of transport
	Sights	History and or description of destinations, attractions, natural and cultural specialties
	Local products	Gastronomic local specialties, special crafts, special products and services

order to determine which websites of Slovenian four- and five-stars hotels are more utilized than others. The main difference in our case is the different content we were analysing: adoption of different types of websites' content. As in the case of Križaj et al. (2014), we also used a cluster analysis technique (Ferligoj, 1988). Cluster analysis is a task of grouping a set of objects in such a way that objects in the same group are more similar to those in other groups (Gan et al., 2007).

Our taxonomy consists of nominal variables or utilization categories, which we defined in Table 1. We merged some of them into groups based on similarity. Each category can have several levels of subcategories. We have chosen the ones that we can objectively measure. In solving the problem of grouping we also had to use intuition to narrow down the possible choices and options as recommended by Ferligoj (1988).

We used a hierarchical joining method in order to present the groups in the dendrogram (Ferligoj, 1988), created based on the Jaccard index matrix of differences between the websites. The Jaccard's index (sometimes called the Jaccard similarity coefficient) compares the similarity and variety of data sets (in our case, tree leaves, since every website is presented as a tree of its utilization categories and subcategories). Jaccard's index is the ratio of the number of common tree leaves divided by the number of all common leaves and all the different leaves on two trees (Jaccard, 1912). By calculating the distances between all pairs of hotel websites, we got a matrix of distances (a comparison

of sequences) that shows the levels of similarities between the trees.

To determine the taxonomy for website utilization categories and subcategories, we have largely used the article 'A hybrid multi-criteria decision-making model to evaluate the hotel website' of the authors Akincilar and Dagdeviren from 2014. They created an advisory board composed of academics, businessmen and experts to determine categories. The purpose of the board was to identify and evaluate categories collected from various publications that affect the quality of the website. Academics were selected from a variety of disciplines such as tourism, engineering, management, and the economy, and experts from successful hotels were added to the mix.

Akincilar and Dagdeviren (2014) identified categories focusing on (A) user, (B) technology, (C) marketing, (D) security, and (E) other, where they included everything they could not include in the categories A–D. After reviewing Akincilar and Dagdeviren's categories for the purpose of our research, we have made some modifications to reflect the actual website content in our study dataset.

The categories in Table 1, representing our website utilization taxonomy approach, are based on the MBSC ('modified balanced scorecard') scheme and Akincilar and Dagdeviren's (2014) categories, enhanced with insights and findings from Yeung and Law (2004), Ping-Ho et al. (2013), Yang et al. (2014), Díaz and Koutra (2013) and Bastida and Huan (2014).

The category experience is based on how the user experiences the hotel website and consists of three subcategories (fulfilment, personalisation and gamification). Fulfilment is seen as the option of online booking, sliding photos and their quality, panoramic and 3D views, brochure, website search features and other similar aspects.

The information category is directed towards how hotel information is presented and how detailed it actually is (does it include feedback and support, contact information, security in terms of online payment and HTTPS protocol, language support and interactivity).

The marketing category compromises features that could be described as advertising (different certificates, recognitions, special offers and packages), social media presence, different loyalty programmes and presence on different Online Travel Agencies (booking.com, hotels.com, etc.).

The destination category is more focused on the destination itself including weather, events, transport, sightseeing opportunities and local products.

Results

We obtained a list of 346 Slovenian hotels, as available on June 4, 2017, from the eCategorization web registry (www.slovenia.info). Out of 130 four- and five-star hotels we found in the list we excluded four hotels that were closed or their website was not working on the selected day. The survey sample therefore covers 126 hotels (n = 126), of which 116 are four-star hotels and 10 are five-star hotels.

A more in-depth presentation of the sample is as follows:

- Number of hotels in each of the Slovenian statistical regions: 23 Gorenjska, 5 Goriška, 10 South-East Slovenia, 1 Koroška, 23 Obalno-Kraška, 16 Osrednjeslovenska, 10 Podravska, 8 Pomurska, 4 Posavska, 2 Primorsko-Notranjska, 24 Savinjska.
- Superior: 32 yes, 93 no.
- Hotel type: 20 mountain, 7 castle/mansion/estate, 6 gaming, 1 cave, 10 lake, 29 city, 20 seaside, 34 spa/thermal.
- Hotel chains: 3 Best Western Premier, 2 Eurotas hoteli, 1 Marriott Four Points by Sheraton, 7 HIT/HIT Alpinea, 1 Hotel Lek, 2 Hotel Sava Rogaška, 3 Hoteli Bernardin, 1 IHG/Intercontinental Hotels & Resorts, 6 Istrabenz turizem, 3 JGZ Brdo, 2 Relais & Châteaux, 2 Remisens Hotels & Villas, 3 Rimske terme, 9 Sava turizem, 2 Terme Dobrna, 9 Terme Krka, 5 Terme Maribor, 2 Terme Olimia, 2 Thermana, 4 Union hoteli, 4 Unior.

After categorisation of all 126 hotels and running data clustering analysis we got one statistically significant cluster and two trees that do not belong to it. These two websites had the least characteristics or features that we have categorised (Hotel 002 had 20 and hotel 054 had 9 characteristics. The average of characteristics of all hotels is 30.7). Despite the high level of

similarity of all other hotels in the statistically significant cluster, we looked more closely into the five most diverse sub-clusters 1–5.

Cluster 1

The cluster 1 websites are Grand Hotel Toplice Bled, Hotel Park, Hotel Golf, Grand Hotel Primus, Hotel Izvir, Hotel Radin, Hotel Livada Prestige, Hotel Ajda and Hotel Termal. All hotels are owned by the company Sava Turizem, d. d., which has a general website template for all of their hotels. There are no significant differences between these websites, only minor alterations (for example a special offer or a prize/recognition that a hotel in the chain has, and not others), which is no surprise.

Cluster 2

The websites of cluster 2 are Hotel Krka, Hotel Šmarjeta, Hotel Svoboda, Hotel Kristal, Hotel Vital, Hotel Sport, Hotel Balnea and Hotel Vitarium. All of the hotels are owned by the company Terme Krka, which, similar to Sava Turizem, d. d., has a general website for all of their hotels except Grand Hotel Otočec, which has its own website structure and content. Nevertheless, the calculated difference was small.

Cluster 3

Cluster 3 sites belong to three different hotel chains:

- Hotel Sava Rogaška (Hotel Zagreb, Grand Hotel Sava),
- Rimske terme (Hotel Zdraviliški dvor, Hotel Rimski dvor, Hotel Natura, Hotel Sofijin dvor),
- Unior (Hotel Vital, Hotel Atrij, Hotel Planja).

The reason is the considerable generic characteristic of their chosen websites' structure.

Cluster 4

Cluster 4 sites belong to two hotel chains:

- HIT/HIT Alpinea (Hotel Kompas, Ramada Hotel & Suites, Ramada Resort),
- Terme Maribor (Hotel Piramida, Hotel Habakuk, Hotel Bolfenk, Hotel Arena, Hotel Bellevue).

There is also no major difference between the above-mentioned hotel websites. It again seems that hotel websites are very similar in spite of their diverse ownership.

Cluster 5

Cluster 5 sites belong to two hotel chains:

- Istrabenz Turizem (Hotel Apollo, Mind Hotel Slovenia, Hotel Mirna, Hotel Neptun, Grand Hotel Portorož, Hotel Riviera),
- Terme Olimia (Hotel Breza, Hotel Sotelia).

Again, there are no major differences between them. It is more than obvious that hotel chains have standardised websites when it comes to content.

Discussion

We have selected a set of criteria that define the utilization of hotel websites through various sources and literature and prepared an extensive list of four- and five-star Slovenian hotels and their websites, and processed data using developed taxonomy and existing data clustering methodology, which, at the end, provided us with relatively generic data. Hotel websites seem much different at first, but after comprehensive research and in-depth analysis, we can draw a conclusion that they are very similar. There are no major and statistically significant differences between the analysed websites. The presented research was extensive since taxonomy development and categorisation of 126 hotels was time-consuming.

Although the initial quest gave no other statistically significant answer than that the hotels' website utilization in Slovenia is very uniform, several other findings were gathered through the analysis and categorisation of the used (and missing) websites' functions divided into three areas: security, gamification, and interactivity and multimedia.

Security

The biggest and most interesting conclusion is the challenging security of Slovenian four- and five-star hotel websites. Security is a big part of tourism and must be upheld on all levels, not to mention the sensitivity of the relationship between security, human rights, pleasure, discretion, and integrity (Mekinc & Bončina, 2006, p. 14).

When booking a room, tourists submit a lot of personal information (name, surname, contact, address, phone number, gender, bank details, etc.). The HTTPS URL address gives us much more security than HTTP. Our research showed that, in the time window of our research from 26 June 2017 to 2 October 2017, 62 hotels (49% of all analysed hotels) did not use the HTTPS protocol. The situation is serious and one would expect that this kind of security malfunction would be spotted in smaller private hotels. But it is the opposite. Smaller hotels often use booking systems for online travel agencies (for example, booking.com) that are installed as plug-ins on the site and have state-of-the-art security protocols. Bigger Slovenian hotel chains, that were mostly included in our research, develop their own booking engines that, as shown, lacked appropriate security in almost half of the cases in 2018.

On the positive side and due to the European Data Protection Regulation (GDPR), effective from 25 May 2018, and the Slovenian Personal Data Protection Act (Jadek & Pensa, 2019), the security situation has changed a few months after our research. On 14 April 2018, we re-checked most of the analysed hotel websites and foundthat they have changed their booking sites to HTTPS, confirming the need for systematic and regularly updated safety and security legislation in highly digitalised tourism.

Reviewing the security of hotel website booking systems showed that on 29 May 2020 the vast majority of the analysed websites were using HTTPS protocol when making a reservation but approximately 18% of the hotel websites landing pages (some of the websites are not accessible any more) are still using the vulnerable and outdated HTTP protocol.

Gamification

Gamification can be understood as an activity that combines the mechanisms of games and prizes in order to motivate users and thus increase the customers' interest in the hotel and consequent loyalty (Lucassen & Jansen, 2014). A good example is Starwood Hotels and Resorts, which linked its loyalty programme with Foursquare. In this way, the guests collected points that could be redeemed for special services. Additionally, the 'ambassador' ('the SPG Mayor') was selected on a monthly basis, encouraging them to share their experience and advice, thereby increasing their virality (Mashable, 2011). In 2011, the InterContinental Hotels Group (IHG) introduced the gamification approach with the 'Win It in a Minute' incentive, allowing users to compete for free points for IHG's Priority Club. In the first two weeks, users played the game 100,000 times and earned more than 100 million points. In the game, there were five questions related to travel, which had to be answered in a limited time (InterContinental Hotels Group, 2011). Both presented examples are considered to be very successful, as they have achieved very good results and have increased brand loyalty and visibility.

Gamification features on Slovenian four- and five-star hotel websites were totally ignored during the time of the presented research. Even the simple features such as sweepstakes were rare, not to mention more elaborate approaches. There were only 36 four- and five-star hotel websites (28.5%) that had some sort of sweepstakes. We must emphasise that these were very simple approaches that can be understood as a very simple gamification process (for example: send an email address and participate in a prize game). Perhaps we can connect the lack of the gamification functions in the analysed hotel websites with the smaller size of the Slovenian hospitality market.

Interactivity and Multimedia

The definition of interactivity can be understood as the extent to which users can participate in changing the shape and content in real time (Steuer, 1992). Important elements of interactivity are two-way communication, simultaneity and control (Mollen & Wilson, 2010). The consistency refers primarily to the ability of the site to quickly provide response or feedback (Yoo et al., 2010). The possibility of control is understood as the possibility that the user can choose the time, content and sequence of communication (Dholakia et al., 2000). In addition to the above-mentioned basic features of interactivity, there is also a possibility of sociability, which allows users to connect with other people (chat channels, blogs, online social networks, etc.) (Macias, 2003).

Our taxonomy categories covered the usage of mul-

timedia and interactivity of Slovenian four- and five-star hotel websites. We found that most hotel websites have plug-ins for various online social networks (some more, others less), and some also used blogs, which largely acted as marketing announcements of various campaigns. We analysed which websites have attractive graphics, sounds, videos, GIFS, animations, web applications for mobile devices and videos. We found that only a few websites included sounds or music, and attractive animation. 21 hotels had a virtual tour of the premises and only one had a bird's eye perspective of the whole property facilities allowing visitors interactivity (Pule Estate). GIFS and animations were not found on any hotel website, and only 7 hotels had videos portraying more than just the hotel's property.

The development of applications for hotel mobile devices demands a high level of experience personalisation, conducting effective dialogue and providing sufficient resources to customers in order to facilitate their value creation process (Lei et al., 2019). Such a process could be a very expensive endeavour, so it is understandable that only hotels of major international chains can usually afford it, which was confirmed in the study (only one hotel in Ljubljana had it). Another special feature found in our dataset was a hotel with their own application informing guests about the ski slopes situation in the vicinity. With all the presented Interactivity and Multimedia findings we can conclude that the area of interactivity of the hotel website in Slovenia has a lot of development potential.

Conclusion

Our research provides an overview of Slovenian four and five-star hotels' characteristics and contents of their websites for the year 2017. The methodology and sample of 126 hotel websites provided us with little statistically significant differences, but revealed a lack of interactivity and multimedia, gamification leverages and, foremost, weak protection of user personal data. The latter seems to be the biggest revelation. Results of this study are therefore a valuable resource of information for Slovenian hoteliers in order to review the most common weakness and opportunities. Further research could reassess the condition of the sample in order to see if hoteliers acted accordingly with the GDPR (General Data Protection Regulation) requirements. Another research opportunity could be more detailed analysis of website interactivity.

Further recommendations to the Slovenian hotel industry would be to focus more on digital transformation (blending physical and digital), mobile applications and data driven customer experience. The latter could be described as a transformation trend and unavoidable future of the hotel industry and customer experience.

References

Akincilar, A., & Dagdeviren, M. (2014). A hybrid multi-criteria decision making model to evaluate hotel website. *International Journal of Hospitality Management, 36,* 263–271.

Baloglu, S., in Peckan, Y. A. (2006). The website design and internet site marketing practices of upscale and luxury hotels in Turkey. *Tourism Management, 27*(1), 171–176.

Bastida, U., & Huan, T. C., (2014). Performance evaluation of tourism websites information quality of four global destinations brands: Beijing, Hong Kong, Shanghai and Taipei. *Journal of Business Research, 67*(2), 167–170.

Chung, T., & Law, R. (2003). Developing a performance indicator for hotel websites. *International Journal of Hospitality Management, 22*(1), 199–125.

Dholakia, R. R., Zhao, M., Dholakia, N., & Fortin, D. (2000). *Interactivity and revisits to websites: A theoretical framework* (Working Paper). Research Institute for Telecommunication and Internet Marketing.

Díaz, E., & Koutra, C. (2014). Evaluation of the persuasive features of hotel chains websites: A latent class segmentation analysis. *International Journal of Hospitality Management, 34*(1), 338–347.

Escobar-Rodríguez, T., & Carvajal-Trujillo, E. (2013) An evaluation of Spanish hotel websites: Informational vs. relational strategies. *International Journal of Hospitality Management, 33,* 228–239.

Ferligoj, A. (1988). *Razvrščanje v skupine: teorija in uporaba v družboslovju.* Fakulteta za sociologijo, politične vede in novinarstvo.

Gan, A., Ma, C., & Wu, J. (2007). *Data clustering: Theory, algorithms, and applications.* Society for Industrial and Applied Mathematics.

InterContinental Hotels Group. (2011, 2 February). IHG launches online rewards game. https://www.meetingstoday.com/Magazines/ArticleDetails/RegionID/0/ArticleID/15242

Jaccard, P. (1912). The distribution of the flora in the alpine zone. *New Phytologist, 11*(2), 37–50.

Jadek & Pensa. (2019). Slovenian personal data protection Act (ZVOP-2) proposal – overstepping the GDPR boundaries? https://www.jadek-pensa.si/en/the-slovenian-personal-data-protection-act-zvop-2-proposal-overstepping-the-gdpr-boundaries

Jeong, M., Oh, H., & Gregoire, M. (2003). Conceptualizing web site quality and its consequences in the lodging industry. *Hospitality Management, 22*(2), 161–175.

Križaj, D., Brodnik, A., & Bukovec, B. (2014). A tool for measurement of innovation newness and adoption in tourism firms. *International Journal of Tourism Research, 16*(2), 113–125.

Lei, L. S., Wang, D., & Law, R. (2019). Perceived technology affordance and value of hotel mobile apps: A comparison of hoteliers and customers. *Journal of Hospitality and Tourism Management, 39,* 201–211.

Lucassen, G., & Jansen, S. (2014). Gamification in consumer marketing: Future or fallacy? *Procedia: Social and Behavioral Sciences,* 148, 194–202.

Macias, W. (2003). A preliminary structural equation model of comprehension and persuasion of interactive advertising brand web sites. *Journal of Interactive Advertising, 3*(2), 36–48.

Mashable. (2011). Starwood Hotels adds Foursquare to loyalty program. https://mashable.com/2011/05/10/starwood-and-foursquare/?europe=true

Mekinc, J., & Bončina, I. (2006). Safety and security in space tourism. *Academica Turistica, 9*(2), 13–24.

Mollen, A., & Wilson, H. (2010). Engagement, telepresence and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of Business Research, 63*(9/10), 919–925.

Musante, M. D., Bojanic, D. C., & Zhang, J. (2009). An evaluation of hotel website attribute utilization and effectiveness by hotel class. *Journal of Vacation Marketing, 15*(3), 203–215.

Ping-Ho, T., Shu-Tai, W., Dong-Yih, B. & Miai-Lingl C. (2013). Website evaluation of the top 100 hotels using advanced content analysis and EMICA model. *Cornell Hospitality Quarterly, 54*(3), 284–293.

Schegg, R., Steiner, T., Frey, S., & Murphey, J. (2002). Benchmarks of website design and marketing by Swiss Hotels. *Information Technology & Tourism, 5*(1), 73–89.

Schmidt. S., Cantallops, A. S., & Dos Santos, C. P. (2008). The characteristics of hotel websites and their implications for website effectiveness. *International Journal of Hospitality Management, 27*(4), 504–516.

Steuer, J. (1992). Defining virtual reality: Dimensions determining telepresence. *Journal of Communication, 42*(4), 73–93.

Yang, Z. F., Shi, Y. Wang, B., in Yan, H. (2014) Website quality and profitability evaluation in ecommerce firms using two-stage DEA. In *Procedia Computer Science, 30,* 4–13.

Yeung, T., & Law, R. (2004). Extending the modified heuristic usability evaluation technique to chain and independent hotel websites. *International Journal of Hospitality Management, 23*(3), 307–313.

Yeung, T., in Law, R. (2006). Evaluation of usability: A study of hotel web sites in Hong Kong. *Journal of Hospitality & Tourism Research, 30*(4), 452–479.

Yoo, W.-S., Lee, Y., & Park, J. (2010). The role of interactivity in e-tailing: Creating value and increasing satisfaction. *Journal of Retailing and Consumer Services, 17*(2), 89–96.

Zabukovec, P., & Čivre, Ž. (2012). How do guests choose a hotel? *Academica Turistica, 5*(1), 75–84.