User-based website design in tourism with a special focus on web 2.0 websites

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Goal and objectives of the dissertation

Information systems literature calls for websites providing a site architecture that is as close as possible to the mental model of the user. To assure that users will be satisfied, website designers need to be aware that users interpret elements offered on a website based on their physiological and psychological factors. Creating a compelling online experience for diverse groups of e-customers is a challenge and of utmost importance for a website's success. However, in the field of tourism, literature that discriminates between requirements based on motivational or cognitive aspects of certain user-groups is scarce. Therefore, the hypothesis examined in this dissertation is that there are differences between a priori defined user-groups regarding their satisfaction with web 2.0 websites. Further, this research is aimed at not only taking the demand side into account but also the supply side by asking whether the supply side is aware of the increasing importance of web

2.0 content and its potential for information presentation and market research. To bring the project into a coherent framework three more aspects are dealt with. First, due to the fact that there is no existing typology for travel blogs this dissertation tries to fill this gap by means of a qualitative approach. Second, an alternative, more parsimonious measurement approach for website performance is proposed. Finally, a study on measuring emotional mental models, a topic which seems to be neglected in information systems literature as well as in the field of tourism, is included.

Methodology

The approaches used include online surveys, content analysis, and quasi-experimental design. For data analysis methods such as Partial Least Squares Structural Equation Modeling, Covariance Based Structural Equation Modeling, Artificial Neural Network Analysis, Principal Component Analysis,

Conjoint Analysis, or Hierarchical Cluster Analysis are applied.

Results

The results indicate that there are differences between a priori defined user groups regarding their satisfaction with web 2.0 websites. For instance, the influence of motivational factors on the importance of website features differs between travelers who seek relaxation and those who seek adventure. Moreover, the main drivers for value and satisfaction for a goal-directed search are content quality followed by usefulness. These effects are attenuated for the experiential search. The study focusing on communication modes suggests that for verbalizers content is most essential while for visualizers the most important aspect is design. A further study, investigating the influence of hotel guest reviews on customer hotel preferences, reveals that in certain instances the subjects' willingness to pay is significantly higher than their reference price. Additionally, the findings indicate that people who read consumer reviews online do not belong to only one homogeneous group but perceive the importance of review categories differently. Pertaining to the supply side findings show that managers in Austria, Germany, and Switzerland assess user generated content as highly important and that managers have a rather positive attitude towards negative reviews. However, there is evidence that hotels and museums are not seizing opportunities the Internet provides in terms of information presentation. Concerning the formative measurement developed for website performance cross validation proved that the index works well. The last study sheds light on measuring emotional mental models and gives insights into changes of users' emotional mental models before and after their visitation of a virtual world.

Theoretical conclusions

Theoretical conclusions can be drawn from each study. Generally, studies from the perspective of the demand side show that research discriminating between requirements based on motivational or cognitive aspects of certain user-groups are

essential because there are differences between a priori defined user-groups (e.g. relaxation vs. adventure seekers, verbalizer vs. visualizer, goal-oriented- vs. experiential searcher) regarding their satisfaction with web 2.0 websites. Pertaining to the supply side scientists should focus on how the industry deals with the increasing importance of web 2.0 content and its potential for information presentation and market research in order to be able to provide knowledge based on sound empirical studies. Concerning performance measurement, more in depth discussion between formative and reflective measurement is appreciated. The measurement of emotional mental models also needs further exploration applying quantitative as well as qualitative approaches.

Practical application of the dissertation

The results of the nine studies comprised in this project also hold managerial implications regarding how to differentiate travel blogs, catering for travellers' design needs, segmentation aspects, and measurement issues. More precisely, implications are drawn about information presentation, website features, impact of information search behaviour, and cognitive aspects such as recommendations concerning the preferred mode of communication.

Content of the dissertation

Abstract of chapter one

This chapter defines the scope of the term web 2.0, introduces the research problem of the dissertation at hand and gives a brief summary of user-based website design in tourism. Afterwards, the aim of the project is presented and the objectives of each of the nine studies are outlined (Table 1).

Abstract of chapter two

This chapter investigates, if the categorization by Herring *et al.* (2005), which is currently the most comprehensive categorization available for blogs, can be applied to travel blogs. Based on the systematic description of these categories this chapter examines 68 travel blog sites. By applying a content analysis it is revealed that there is a need for adaptation. Although there is some degree of

Table 1. *Four parts of the dissertation and the respective chapters*

Parts	Chapters
I. Defining and categorizing blogs	2. Taxonomy for travel blogs based on existing genres
II. Demand Side: Insights into travelers' design needs	3. The relationship between motivation and website features 4. Differences between goal-directed and experiential information search 5. How communication modes determine website satisfaction 6. Segmenting travelers based on preferences for hotel review categories
III. Supply side: Seizing opportunities of the Internet	7. Monitoring Web 2.0 – User Generated Content in the Hospitality Industry 8. A systematic inventory of 3D applications in the tourism industry
IV. Measurement: Website performance /emotional mental models	9. Tourism website performance: A formative measurement approach 10. Measuring emotional mental models

Note: Chapters 1 and 11 are the Introductory and Conclusion chapters building the framework of the thesis

overlap categories called news, rating, guide, and community are introduced in order to cater to the needs of travel blogs. Furthermore, a sample of travel blogs is assigned to the adapted categorization. Then, it is revealed that differences between travel blog categories exist based on technical features offered on the sites analyzed. Finally, benefits of the derived categorization such as determining whether already published research based on specific blog sites is comparable or not and making search engines more accurate, are discussed.

Abstract of chapter three

In this chapter the Partial Least Square Method (PLS–SEM) is used to assess the relationship between the importance of website features and motivational factors for reading blog entries, including the factors: reduce risk, save time, reliable information, authentic information, trip and preparation tools, and fun and social contact. Results indicate that only a few motivational factors are essential antecedents for the perceived importance of certain website features. Moreover, it has been shown that the influence of motivational factors on the importance of website features differs

between travelers who seek relaxation and those who seek adventure.

Abstract of chapter four

Travelers use the Internet as a source of information, which has been subject of extensive research in the past. While the information search process has been investigated, the influence of the actual search goal on the search behavior has been neglected. Travelers' interaction with a website may depend on whether they search for precise factual information or rather stimulus driven and unplanned. The paper shows how searchers who are browsing a website just for fun or search factual information differ in their perception. Theories on online service quality and technology acceptance are critically reflected and extended to gain insights into drivers of value. Multiple group analysis is applied. Results indicate that the main drivers for value and satisfaction for a goal-directed search are content quality followed by usefulness. These effects are attenuated for the experiential search. Further, ease of use is only significant for the first group while enjoyment only exhibits effects for experiential searchers.

Abstract of chapter five

This chapter focuses on the influence of users' preferred communication modes to get an understanding of drivers of website satisfaction. The research model extends known theories from the technology acceptance literature and tests the influence of communication mode through the evaluation of a website. The model is tested employing structural equation modeling. Multiple group analysis exhibits differences between people who prefer text over visual based communication modes. The results reveal major differences between the two preferred communication modes. The main driver for verbalizers is content while the main driver of satisfaction for visualizers is design. These results indicate that website designers need to take the preferred mode of communication into account to facilitate online information search.

Abstract of chapter six

This chapter investigates the influence of hotel guest reviews on customer hotel preferences in the context of booking hotels online applying a conjoint design. The empirical research shows that the subjects' willingness to pay is significantly higher than their reference price for hotels. In addition to that, the results of this study indicate that reviews on the hotel in general and on the hotel's rooms are perceived as the most useful for consumers reading reviews. Applying a cluster analysis, seven different segments are identified. The findings indicate that users of consumer reviews do not belong to only one homogeneous group but perceive the importance of review categories differently.

Abstract of chapter seven

On the supply side the increased importance of User Generated Content (UGC) forces hotel managers to place greater emphasis on monitoring their online reputation. The study at hand investigates the hospitality industry's attitude towards UGC as well as if and how the industry monitors online reviews of tourists. Data collected from an online survey conducted in German-speaking countries in Europe (Austria, Germany, and Switzerland)

are analyzed. The analysis of 693 completed questionnaires revealed that managers in all three countries assess the evaluation UGC as highly important. This is also reflected in a high percentage of managers monitoring their hotels' reputation themselves and by not delegating the task to employees. Further, managers have a rather positive attitude towards negative reviews. However, only a minority uses social media for advertising purposes.

Abstract of chapter eight

The Internet allows for the presentation of services and products in various creative ways. The present chapter investigates if the tourism industry taps the possibilities of the Internet to its full potential. By applying a content analysis, the websites of hotels, as well as museums of 20 different European cities are examined. Results show that differences exist between cities, which account for the most overnight stays, and cities which account for the smallest number of overnight stays in Europe. Furthermore, differences between hotel and museum websites are revealed concerning the use of 3D applications.

Abstract of chapter nine

Increased use of the Internet to access information and as a booking tool has greatly impacted the tourism industry while simultaneously calling attention to research on website performance and evaluation. However, almost all multi-item measures being used to evaluate different aspects of website performance are conceptualized as reflective models. After a thorough review of the literature and an in-depth discussion on measurement, a theory-based alternative, formative approach for website performance is suggested. The scope of the construct comprises eight dimensions: system availability, ease of use, usefulness, navigational challenge, website design, content quality, trust, and enjoyment. In order to test the model empirically it is linked to outcome measures commonly examined in this context (satisfaction, value, and loyalty). Information from 445 questionnaires completed by travelers show that the

formative index works well. Findings are confirmed through cross-validation. The aim of the study is to develop a sound measure, which allows for shorter questionnaires as well as easy comparisons across websites.

Abstract of chapter ten

The present chapter first defines emotional mental models, which are one part of people's mental models. Compared to cognitive models emotional mental models are fairly neglected in the field of information systems as well as in tourism and e-tourism respectively. The second part of this chapter aims at demonstrating the practical relevance of the concept of emotional mental models and shows one way of empirically capturing it in an online environment. A quasi-experimental design is used. Based on a two-point measuring approach differences between mental models before the visitation

of a virtual world and after the actual experience are revealed. In doing so different emotional mental models concerning product and service presentations are examined.

Results reveal that there are differences in some basic emotions. However, there is no clear direction if emotional mental models change towards a more positive or a more negative picture.

Abstract of chapter eleven

The last chapter of this thesis provides conclusions, which can be drawn from the nine studies conducted. Therefore, to begin with, a synopsis of the research objective is presented. Then, theoretical, methodological, and managerial implications are discussed followed by limitations regarding the whole project. The final section provides perspectives for future research.