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Consumer Behaviour in e-Tourism

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Abstract

During the last decades Tourism as an information intensive business has been strongly affected by the rapid changes in technology, especially the Internet. One of the major results is the changing in traveller's behaviour. Therefore the challenge of identifying, attracting and retaining customers in the online market as well as the issue of understanding consumer's perceptions is becoming a critical success factor. The aim of this paper is to identify the determinants that influence potential travellers to use the Internet for travel planning and to show their interrelations. A major result of these findings is a causal model of e-tourism usage. Constructs such as Internet affinity, attitudes and self-efficacy prove to have a major impact on the actual use of the Internet for travel planning, whereas moderating variables such as gender or customer involvement prove to be important as well.

Keywords: e-tourism; online travel planning; consumer behaviour; travel websites.

1 Introduction

Travel and Tourism as one of the world's highest priority industries has an important economic impact on the global as well as on the local level (Werthner & Klein, 1999). Information is the crucial factor for tourists while planning, booking and being on vacation as well as after their trips. The nature of tourism and its products makes tourism an information intensive business (Werthner & Klein, 1999). These issues lead to the insight that tourism belongs to the industries most affected by the rapid changes in technology during the last decades. The role of information explains the importance of Information Technology (IT) applications in tourism. The Internet can be seen as one of the most influential technologies that change traveller's behaviour. While the number of Internet users increases and is reported to have reached 957 million (IWS, 2005), the diffusion of IT has improved the travel service supply in efficiency, quality and flexibility (Jung & Baker, 1998; Werthner & Klein, 1999). According to these facts, the European Online Travel Market is estimated to generate € 41 bn in 2006, and 15-20% of all travel expenses are forecasted to be made via the Internet in 2006 (PhoCusWright, 2004). Even though the Internet is an important tool for information search and purchase of products, most consumers are using multiple channels in their decision making process. 60% of online information searchers are finally buying offline (Fittkau & Maass, 2005). And in the travel industry 68% of online travel buyers are not only purchasing via the Internet, but use multiple channels for purchasing their travel products (PhoCusWright, 2005).

The aim of this study is to identify the determinants that influence potential travellers to use the Internet for travel planning and to show their interrelationships. The result of these findings is a causal model of e-tourism usage (e-tourism within this context is defined as the process of potential travellers using the Internet for travel planning). Special focus is also on differences in model structure for exclusive information searching travellers compared to online booking travellers as well as business versus private travellers. Based on the results from the e-Tourism Usage Model, the study is also going to identify current barriers and problems of potential travellers in using the Internet for travel planning.

The paper is starting with presenting theoretical considerations and the literature background for developing the research model. The literature overview is followed by the presentation of the theoretically derived "e-Tourism Usage Model". Furthermore, the applied methodology as well as empirical results concerning the overall model structure and the moderating effects of the e-Tourism Usage Model are introduced and discussed.

2 Theoretical Background and the e-Tourism Usage Model

Starting with a theoretical evaluation of determinants influencing the use of the Internet for travel planning, the e-Tourism Usage Model was derived on the basis of previous models concerning relevant fields of research. The following three fields of research proved to be interesting and relevant for deriving the model: i) theories of consumer behaviour, ii) models of decision making in tourism and iii) theories of e-shopping acceptance including the subject of website evaluation. In the following a short overview of existing theories within these fields of interest will be provided. Based upon these theoretical considerations the "e-Tourism Usage Model" will be introduced.

Theories in consumer behaviour are generally developed to better understand and explain consumer decisions and behaviour. These studies aim to find principles in consumer behaviour to be able to derive practical implications and advices to predict and to influence consumer decisions (Kroeber-Riel & Weinberg, 1999; Gröppel-Klein, 2001). The consumer behaviour research shows two different views in looking at the consumer decision process: the behaviouristic and the neobehaviouristic view of research. While behaviourists are focusing on the observable constructs of stimulating aspects and responses within the consumer decision process, neobehaviourists expand their research on the theoretical and hypothetical constructs interceding between stimuli and responses (Kroeber-Riel, 1996). The present study is following the neobehaviouristic research tradition in building upon a three-step structure of consumer behaviour (Freter, 1983). This structure was also adopted from (Middleton, 1994; Swarbrooke & Horner, 1999) to explain tourists' behaviour during the decision making process. Stimuli within this context consist of endogenous and exogenous factors showing decision relevant characteristics of the consumer. These include consumer's usage of new technologies as well as variables describing his social and economic environment. The responses show the consumer's reaction on

these stimuli, meaning purchase of a special product or brand, choice of distribution channel or intensity of usage. Following the neobehaviouristic research tradition, the process of stimuli leading to responses is explained by viewing the constructs in between. Those interceding constructs appear as cognitive, activating and combined aspects. Cognitive aspects can be described as buying intention and preferences, activating constructs include emotions, attitudes and motivations. Combining those aspects involvement and trust are also seen as interceding constructs.

Tourism research mainly views travel planning as a complex and multi-faceted decision making process (Fesenmaier & Jeng, 2000). Therefore, **theories of decision making in tourism** commonly focus on identifying the various aspects of a tourist's decision. While (Swarbrooke & Horner, 1999; Wahab, Crompton, & Rothfield, 1976) developed the first research papers and models of decision making in tourism in the 70ies, researchers like (Mathieson & Wall, 1982; Moutinho, 1987; Swarbrooke & Horner, 1999) enhanced their findings in formulating further theories in identifying determinants and describing phases of the decision making process. Those classical theories of decision making in tourism were facing some criticism in having difficulties in meeting fast moving changes within the tourism as well as the communication and technology industry. Therefore, current theories describing tourist's behaviour within the age of new technology and Internet environment also needed to be reviewed and considered for deriving a model of decision making in e-tourism. (Woodside & MacDonald, 1994) published their "Tourism Service Decision Process Model" by describing the tourist's decision making process determined by eight aspects contributing to the final decision. Situational factors like traveller's characteristics as well as marketing activities affect the individual information search behaviour within this research. (Fesenmaier & Jeng, 2000) also build their "Decision Net Model" on the assumption of viewing the tourist's decision as a complex decision consisting of various sub-decisions. The decision process is described as having a hierarchical overall structure, where some decisions are contingent upon other decisions that have already been made. Forming a net structure based on the assumption that every aspect of each decision affects and is being affected by other sub-decisions, the final travel decision is hypothesised to consist of core, secondary, and en route sub-decisions.

Consumer's use of the Internet at any stage of the decision making process has become a major subject within the consumer behaviour research during the last decade (**e-shopping acceptance**). The present study will contribute to research in the field of tourists' behaviour by looking at their behaviour while using the Internet as information and/or booking channel. Therefore, theories describing the acceptance of technology and satisfaction of consumers with using the Internet were an interesting subject in deriving the "Model of e-Tourism Usage". Most common theories in explaining the acceptance of new technologies are the "Innovation Diffusion Theory" (IDT), "Theory of Reasoned Action" (TRA), "Theory of Planned Behaviour" (TPB) and the "Technology Acceptance Model" (TAM). The IDT describes the process of technology acceptance by five characteristics of the technology influencing the consumer's attitude leading to adopting or refusing the technology (Rogers, 1995). These crucial characteristics include relative advantage, compatibility, complexity, trialability and observability. The TRA points at the attitude as a critical construct

towards adopting or refusing the use of a certain technology. While individual attitudes and subjective norms form a person's behavioural intention, an individual's actual behaviour is the natural consequence (Fishbein & Ajzen, 1975). Introducing perceived behavioural control as an additional determinant of behavioural intention, the TPB was built upon the TRA (Ajzen & Madden, 1986). The most common and most adopted theory of accepting a new technology is the TAM (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). The TAM states attitude as the central construct influencing the behavioural intention and thereby the actual use or non-adoption of the technology. This theory explains a person's attitude towards using a certain technology by three determinants: perceived ease of use, perceived usefulness and perceived enjoyment.

Theories addressing the issue of accepting the Internet as information and/or booking channel focus rather on the consumer's evaluation of the system than on the process of adoption. Highly acquainted and effective in this field of research was the "Information System Success Model" (IS Success Model) introduced by (DeLone & McLean, 2003). The theory introduces six constructs to quantify the success of an information system in the e-commerce environment: system quality, information quality, service quality, usage, user's satisfaction and net benefits. Assigning these theories to the subject of tourism a couple of highly useful empirically proved models have been published focusing on travel website quality (Mills & Morrison, 2003; Sigala & Sakellariadis, 2004; DeLone & McLean, 2003) and usability (Essawy, 2005; DeLone & McLean, 2004; Kao, Louvieris, Powell-Perry, & Buhalis, 2005). Based upon these theoretical considerations the "e-Tourism Usage Model" (eTUM) was derived. Fig 1. shows the simplified version of the determinants hypothetically contributing to the attitude towards using and actual use of the Internet for travel planning.

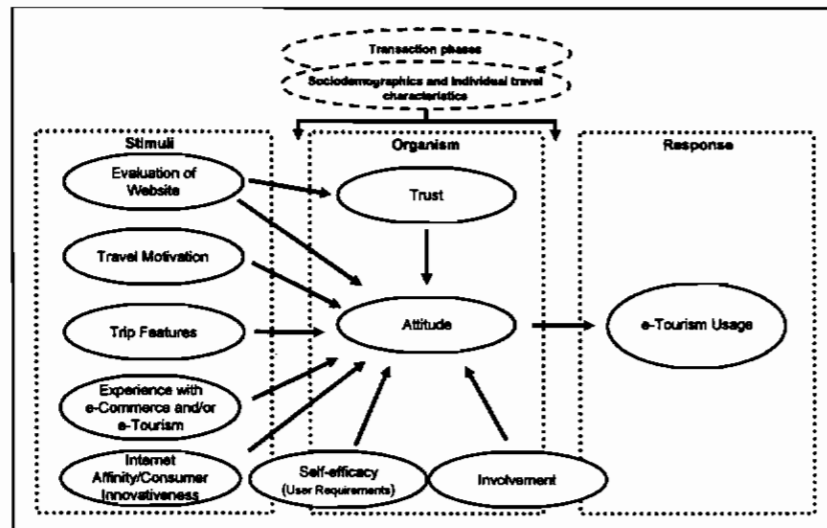


Fig. 1. The e-Tourism Usage Model (eTUM)

The objective of the eTUM is to identify determinants of using the Internet for travel planning, to elaborate the model structure as well as to quantify the effects between the identified determinants. By showing quantitative differences in the model structure between different types of travellers the model is contributing to identifying problems and barriers in using the Internet for travel planning.

The e-Tourism Usage Model is built upon a three-step structure of consumer behaviour classifying the hypothesised constructs as being stimulating, interceding, responding and moderating. The discovered constructs influencing consumer's choice to use the Internet as travel planning channel are as follows: evaluation of the website, travel motivation, trip features, experience with e-commerce and/or e-tourism, Internet affinity, self-efficacy, involvement and trust. The attitude towards using the Internet for travel planning is hypothesised to be the central concept in affecting the decision to actually use the Internet as information and/or booking channel. The attitude therefore is a central interceding – combining active and cognitive aspects – determinant of the actual use of online travel planning (Davis, 1989; Davis et al., 1989; Delago-Ballester, 2003; DeLone & McLean, 2004; Fishbein & Ajzen, 1975; Heinemann, 1974; Jung & Butler, 2000; Kuß & Tomczak, 2000; Nieschlag, Dichtl, & Hörschgen, 2002; Schramm-Klein, 2005; Wolff, 2005). The exogenous and endogenous determinants are indirectly influencing the actual use via having a direct impact on the attitude toward using the Internet. Exogenous and endogenous stimuli within this context are represented by evaluation of the website, travel motivation, trip features, experience and Internet affinity. The traveller's reaction to these stimuli within his channel choice process is defined as the actual use of the Internet for travel planning. In contrast to stimuli and reaction the interceding determinants are not observable. The formulated interceding constructs are trust, self-efficacy, involvement and attitude. Moderating influences are expected from the stage of transaction process as well as travel specific and demographic characteristics of the potential tourist. These moderating variables are hypothesised to influence the interrelations between the introduced constructs but not to have a determining impact on the constructs itself.

3 Methodology

3.1 Study Design

To validate the theoretical model described above an online questionnaire for potential travellers was designed. The data were collected on four different travel websites, which were selected by their range of supply and the available transaction phases they offer with their services. The websites should on the one hand be able to offer all phases of the customer buying process from information gathering to buying the travel product online. On the other hand they should represent different supply ranges from offering only individual travel products to offering individual products as well as complete travel packages. The Tiscover AG, Thomas Cook Touristik GmbH, Travel Scout 24 and Nix-wie-weg.de supported the study by placing a link to the questionnaire on their website and/or in their newsletter(s). The questionnaire was formulated in German, so only German-speaking travellers were addressed to take part in the study. The questionnaire was placed on the website of the Institute of Information Systems/Department for e-Tourism at the University of Innsbruck. To

encourage persons who were visiting these websites, to take part in the study, travel vouchers were promised to be raffled as incentives for participants.

3.2 Sample Characteristics

1,458 users took part in the study by filling out the online questionnaire. The gender distribution was nearly equal. 53% of the participants were female and 47% male. With more than one third the survey's age peak was between 41 and 50 years. Rather surprising is that 25% of all respondents announced to be older than 50 years. All groups of income were represented in the study. On average the interviewed persons are traveling three times a year. Most of these people mainly travel for private purpose, but there are still 21% that are doing at least a quarter of their journeys for business reason. And 71% of these potential travellers declared to have already booked a travel product online. The people that were interviewed while surfing on one of the four travel websites showed to be rather Internet affine. More than one third has seven or more years of Internet experience and over 50% of the interviewed persons use the Internet at least 10 hours per week. The sample was dominated by travellers searching for information on the homepage of Tiscover. 79% of the participants took part in the survey via Tiscover, 14% via Travel Scout 24 while 24,5% were generated by nix-wie-weg.de and 2% by Thomas Cook.

3.3 Constructs Used and their Reliability

Eight determinants were theoretically hypothesised to have an influence on the attitude towards using the Internet for travel planning as well as on the actual choice to use the online channel for gathering travel information and/or booking. Demographics as well as individual traveller's characteristics and the actual transaction phase were hypothesised to be moderating variables. As mentioned above the theoretical determinants were evaluation of the website, trip features, experience, Internet affinity, self-efficacy, involvement and trust. These determinants were operationalised by using single statements. The items used for operationalising the constructs were adopted from established and reliability proved scales (Bieger, Beritelli, Weinert, & Wittmer, 2005; DeLone & McLean, 2004; Fesenmaier & Johnson, 1989; Fishbein & Ajzen, 1975; Gretzel, Mitsche, Hwang, Fesenmaier, 2004; Gursoy & McCleary 2004; Jung & Butler, 2000; Kroeber-Riel & Weinberg 1996; Li & Buhalis, 2005; Luo, Feng, Cai, 2004; Mills & Morrison, 2003a; Morrison, Jing, O'Leary, & Lipping, 2001; Scharlet al., 2004; Schmidt, Schögel, & Tomczak, 2003; Sigala & Sakellariadis, 2004; Schramm-Klein, 2003; Wolff, 2005). All of these measurement items were subject to a 6-point Likert-Scale (if not specified otherwise). Those items were tested for reliability and optimised by indicator and factor reliability criteria as well as using confirmatory factor analysis. In cases with less than three items remaining the Cronbachs alpha was regarded as the final decision criteria. Table 1 shows the number of items remaining and the fulfillment of reliability criteria for each of the hypothesised constructs.

Table 1. Constructs used and their reliability

Constructs		Nr. of Items	Reliability (Cronbach's Alpha)
Website Evaluation	Ease of Use	3	0.90
	Usefulness	3	0.86
Trip Features		2	0.74
Experience		2	0.87
Internet Affinity/DSI		2	0.62
Self-efficacy	Information Search	2	0.79
	Online Booking	3	0.79
Involvement		2	0.62
Trust		3	0.80
Attitude	Information Search	2	0.69
	Booking	3	0.88
Usage	Intensity	2	0.70
	Loyalty	2	0.78

4 Explaining e-Tourism Usage

4.1 Overall Structural Model

After performing the analysis of missing values 533 completed questionnaires were evaluated to be representative for the sample. With this sample of 533 cases it was aimed to fit a model using structural equation techniques with latent variables (using AMOS 5.0-Software). The exogenously influencing as well as the endogenous constructs and their operationalisation were described in the previous chapter. After some modifications the e-Tourism Usage Model was accepted with the following parameters: $df = 228$, $Cmin/df = 2.164$, $SRMR = .043$, $GFI = .931$, $AGFI = .909$, $CFI = .956$, $RMSEA = .047$. Fig 1. shows the validated model displaying solely arrows with significant causal correlations. The standardized direct effects are illustrated in the figure.

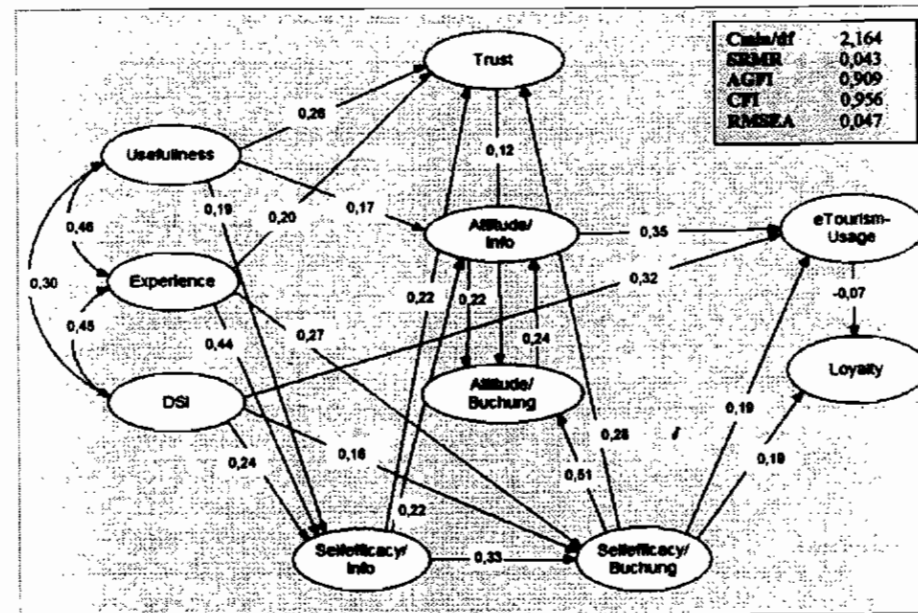


Fig. 2. Validated structural model for explaining e-tourism usage

To quantify the influences the total effects were considered. Total effects result as the sum of direct and indirect causal effects one latent construct has on another construct. Indirect effects are obtained if a construct influences another construct via intermediary constructs. While analysing and modifying the theoretically derived model the constructs ease of use of the website, trip features, motivation and involvement did not prove to have any significant causal interdependencies with the other mentioned constructs. Involvement still showed significant correlations with all other constructs so this latent variable was later on analysed for having a moderating impact on the model. The actual use of the Internet for travel planning is mainly driven by the traveller's Internet-affinity (tot.eff = .40). The more someone is Internet literate the more he is likely to use the Internet when planning a journey. Following psychological-behavioural theories, the attitude towards using the Internet for travel-information search plays also a major role for the actual use of e-tourism (tot.eff. = .37). The importance of someone's attitude towards performing a behaviour for the actual behaviour has been discussed in many empirical studies and is also confirmed in this study. Rather surprising is the finding that in this study the attitude towards booking a travel product online does not have a direct impact on the actual use of e-tourism (tot.eff. = .09). This cognition leads to the insight that a positive attitude towards using the Internet as an information channel is a precedent condition for the traveller's consideration to increase his usage of the Internet as a booking channel as well. The potential traveller's self-efficacy towards booking a travel product online is the last of the three constructs having a direct impact on the actual use of e-tourism (tot.eff. = .23). The more a person is confident in knowing how to book a travel

product online the more he will consider the Internet as a useful channel for planning the journey.

After showing its importance for the actual use of e-tourism it is interesting to look at the determinants of someone's attitude towards using the Internet for travel planning. The attitude towards using the Internet for travel information search is mainly driven by someone's self-efficacy (tot.eff. = .28). Similar impact on the attitude towards using the Internet for travel information gathering shows the attitude towards booking as well as the evaluation of the website's usefulness (both tot.eff. = .25). The two facets of attitude, information search and booking, are influencing each other by showing significant positive causal correlations in between them (tot.eff. = .25/ .23). Experience and self-efficacy towards booking online have rather little and only indirect influence on the attitude towards information search (tot.eff. = .17/ .14). Attitude towards booking a travel product online is mainly dependent on the self-efficacy towards booking online (tot.eff. = .58). The potential traveller's attitude towards booking is thus the more positive the more the person feels capable of proceeding with the online booking transaction. Experience and self-efficacy towards information search are also pushing the attitude towards booking a travel product online (tot.eff. = .30/ .27). The construct of trust plays surprisingly a rather small role within the e-tourism usage model but is having its main impact on the attitude towards booking (tot.eff. = .13). Trust itself is mainly causally influenced by experience (tot.eff. = .42). Self-efficacy towards booking and the evaluation of the website's usefulness are also strengthening a potential traveller's trust (tot.eff. = .28/ .32). Interesting is also the finding that loyalty towards a travel website is mainly driven by the self-efficacy towards the capability of booking a travel product at the specific travel website. The more a person is confident of his own abilities to proceed with the online booking process the rather he will be loyal and using the same website again for the next travel planning. The more a potential traveller is using the Internet for travel planning the less he is loyal to a specific website. This negative impact of actual e-tourism usage on loyalty is rather minor (tot.eff. = -.07). As also shown by the descriptive analysis the online travel brand loyalty seems to be rather low. The large variety of travel offerings all over the World Wide Web seems to cause a rather small emotional commitment to specific websites of travellers planning their journey online.

4.2 Moderating Variables

After analysing the overall model structures, the additional variables that were hypothesised to have a moderating effect on the interdependencies between the analysed constructs were examined. Gender, individual traveller's characteristics, transaction phase and involvement were hypothesised to be moderating variables for the structural model. Focusing on the most interesting effects resulting from the construct of involvement, its moderating effects will be discussed in detail as follows. The construct of involvement was former hypothesised to be one of the determinants having direct influence on the attitude and actual use of e-tourism but analysing the structural model showed no causal influences of involvement. Nevertheless, involvement proved to have significant correlations with the other determinants, so this construct was tested to have a moderating impact. People with low involvement

seem to be far more influenced by the website's perceived usefulness than highly involved people. Low-involved people also perceive the usefulness of the website and ease of use significantly less positive than people with high involvement. While highly involved people have a more positive attitude towards using the Internet for travel planning, low-involved people show significant less trust into travel websites. They also have less experience and seem to be less Internet-affine than people being highly involved in their travel plans. Recapitulating the hypotheses about the variables gender, type of traveller, online booking experience and involvement having moderating influences on the validated structural model could be corroborated.

5 Discussion and Implications

The aim of this study was to develop an empirically validated model of e-tourism usage that identifies the relevant factors influencing customer's choice of using the Internet for travel planning. The model analyses the weight of each factor on the attitude of using the online channel. The research furthermore shows differences in model structure (i.e. different weighting of individual influencing factors) for different types of travellers. The empirical analysis of the study has brought up the following findings. The actual use of the Internet for travel planning is mainly influenced by the attitude towards using the Internet as an information gathering channel, Internet familiarity and self-efficacy towards booking the travel product online. Moreover, regarding the potential traveller's attitude it is obviously determining to differentiate between attitude towards using the Internet for information search and towards using it as a booking channel. These aspects have to be viewed separately for these constructs show clearly different profiles concerning their impacts, although they are strongly affecting each other. While attitude towards using the Internet as an information channel is mainly influenced by evaluating the website's usefulness, attitude towards using the Internet as a booking channel strongly depends on the traveller's self-efficacy mainly regarding online booking but as well information searching. Also important for the traveller's attitude towards online booking are experiences the traveller has made with travel websites and e-commerce in the past as well as his trust into travel websites in general and the Internet affinity of the user. Trust on the other hand strongly depends on the users' past experiences with using the Internet. But also usefulness of the website and self-efficacy towards information search and booking via the Internet have an important impact on the potential traveller's trust. The structural model also proves to be strongly affected by moderating variables. Therefore demographics, type of traveller (business vs. private), online booking experience (booker vs. looker) as well as involvement were validated to have a strongly influencing effect on the causal correlations between the constructs of the empirically proved e-Tourism Usage Model.

While the supply of online travel information sources and booking facilities in the Internet is permanently increasing, the issue of consumer and customer relations is becoming even more important for tourism market players. An enhanced understanding of the customer and his specific needs, perceptions and motives in the decision making process is the critical success factor in providing a successful and profitable online customer relationship. The Internet's key attraction as a marketing tool lies in the level of interactivity that can be developed between suppliers and

consumers. The findings and results of this study show perceptions, motives and barriers of online travelers. Thus, the study intends to contribute to developing advanced effective online marketing strategies to attract tourists to use the online channel for travel planning. The study was constructed on the assumption of addressing only middle European and German-speaking countries. The cultural dimension was hence excluded to be influencing in this context. Therefore the construct of culture is recommended to be included in further analysis.

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Similarities in Information Search of City Break Travelers – A Web Usage Mining Exercise

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Abstract

This paper focuses on understanding the competitive situation in European city tourism based on log file analysis of keywords entered by users on www.visiteuropeancities.info. It applies various text analysis steps in order to extract significant patterns from the queries made by the users. Multi-dimensional scaling (MDS) is used for constructing a map of similarities based on the unaided responses gained from the users' information requests. Multiple regression analysis between the most frequently used terms entered by the users and the geometrical representation generated by the MDS provides additional insights in the semantics defining competitive differences between 32 city break destinations in Europe. Findings comprise information on cities that can be considered as rivals in regard to the information demanded by the users of the web portal. As it becomes clear in which areas cities are perceived as similar, this findings can be used by city (tourism) managers in order to revise their communication plan regarding their own city if desired.

Keywords: Web usage mining, log file analysis, data mining; city tourism; information search behavior; domain specific search portal.

1 Introduction

Competitor identification is a major component of any approach to formulating marketing strategy. Managers who are marketing a tourism region have to take long-range decisions on which products they want to offer to which segments of international tourism demand. Thus, tourism managers must accomplish a planning approach equivalent to product positioning and market segmentation in general consumer marketing. On the simplest level of strategic planning, tourism managers acknowledge the region as a whole as their 'product' and the tourism generating countries as their potential market segments (Gunn, 1994; Mazanec, 1994). Analysis of the competitive situation among several tourism regions is therefore a pre-requisite for many tourism managers before they can start with the actual strategic planning process. This task, which is not a trivial problem, has gained considerable attention in the marketing literature (Heath & Wall, 1992; Kozak, 2003; Kozak & Rimmington, 1999; Ritchie & Crouch, 2000, 2003; Wöber, 2002).

There are many approaches to define competition regarding tourism in general (Ritchie and Crouch, 2000, 2003), and city tourism in particular (Mazanec, 1997). Probably the most intuitive approach is to compare the tourism specific infrastructure