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Predicting online travel purchases: The case of Switzerland

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This paper examines why and under what conditions prospective travelers complete their bookings through online services compared to other methods. The study is based on a representative survey within 1,898 Swiss households. The results show that the likelihood of booking online increases if someone is drawn to a website to gather information in the first place, and if the product sold through the website is transparent and well-understood (either per se or because the customer is familiar with the product), or if any other booking-related communication would impose a financial charge, independent of the socio-demographic background of the prospective traveler.

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Abstract

This paper examines why and under what conditions prospective travelers complete their bookings through online services compared to other methods. The study is based on a representative survey within 1,898 Swiss households. The results show that the likelihood of booking online increases if someone is drawn to a website to gather information in the first place, and if the product sold through the website is transparent and well-understood (either *per se* or because the customer is familiar with the product), or if any other booking-related communication would impose a financial charge, independent of the socio-demographic background of the prospective traveler.

Keywords: *internet, online travel, online booking, information search, look-to-book*

Track: *Tourism Marketing*

1. Introduction

In the past ten years, the internet has become the predominant carrier of all types of information and transactions. Regarding travel decisions, several studies report consistently high usage and importance of internet sources (Bieger and Laesser, 2004; Bonn et al., 1999; Susskind et al., 2003; Cai et al., 2004). The internet has also become an important sales channel for the travel industry, because it is associated with comparably lower distribution and sales costs, but also because it adapts to the high supply and demand dynamics in this industry (Harris and Duckworth, 2005; Schwartz and Zea, 1999). Consequently, the travel and tourism industry tries to increase the internet-specific share of sales volumes.

In Europe, the share of online bookings amounted to only 23 percent in 2007 — ranging from 35 percent in the UK to 5 percent in Italy. That number is still growing, albeit at a considerably slower rate (Bradinathan et al., 2007). Susskind et al. (2003) point out that individuals view online information seeking and online transactions differently. Hence the question arises how to make online “lookers” (considering the high usage of the internet as a source of information) into online “bookers.”

This paper examines why and under what situations and conditions people make their bookings online or by other means, by predicting online bookings as a result of given travel and socio-demographic variables. The case is Switzerland, which can be considered a mature travel market, due to its (1) travel behavior characteristics and (2) travel experience (Bieger and Laesser, 2008). Switzerland has the highest population-to-computer ratio in Europe, and it is also one of the most highly internet-penetrated countries (in terms of use of the WWW on a day-to-day media), with more than 75 percent of the population older than 14 years using the WWW daily (ICT, 2005). In Switzerland, 28 percent of all trips include at least one or multiple travel-related services that are booked online (Bieger and Laesser, 2008).

2. Literature Review

The body of knowledge on online travel purchase behavior can be split into two groups: one investigating system-driven online booking behavior, the other looking at situational characteristics of the traveler.

Regarding system-driven online booking behavior, Klein et al. (2004) point out that the current fragmented market structure, as well as product complexity, are among the major impediments for online bookings. A trip requires a portfolio of decisions on mutually constrained multiple components, consisting of: (1) time allocation (travel dates and duration of travel, as well as travel planning timeframe); (2) choice of members of the travel party; (3) a budget for expenditure; (4) a core leisure pursuit, including travel motivation; (5) choice of destination, which in turn implies more or less information searching; (6) transport and route to the destination; and (7) choice/category of accommodation (Becken and Gnoth, 2004; Tay et al., 1996, Hyde and Laesser, 2009). Those elements are also associated with differences in travel behavior (Woodside and King, 2001; Sirakaya and Woodside, 2005). Additionally, and as Gianforte (2003) and Weber and Roehl (1999) point out, the characteristics of the online source itself determine whether it is used for online bookings or not. Such characteristics include ease of use, availability of support, availability of information, credit card security, evaluation of product quality, and privacy issues — all of which potentially impede customers from purchasing online.

Regarding the situational characteristics of the traveler, a study by Hueng (2003) found that travelers predominantly from Western countries with higher education levels and higher annual household income are more likely to use the internet for purchasing travel services (Hueng, 2003). They are also more likely to have travel (and sometimes destination) expe-

rience, which also makes them amenable to online bookings of travel purchases (Chen and Gursoy, 2000; Jun et al, 2007). Another driver for internet purchases lies in the use of the internet as a tool for information search. Bonn et al. (1999) and Susskind et al. (2003) demonstrate how the use of the internet as an information source increases the likelihood of purchases via that medium too.

From the literature reviewed in this section, we propose that persons buying travel online are: (1) well educated and (2) hold professional positions which generate above-average incomes, which allow them to (3) spend more than average on a trip. They have (4) destination experience and (5) use the internet more than others as a source of information. We further hypothesize that a measurable association exists between the components of the portfolio decision “travel” and the likelihood of purchasing travel online.

3. Data and Methodology

Data Collection and Data Treatment: This study is based on data from an extensive representative survey of travel behavior within the Swiss population (citizens, naturalized and foreign citizens — refer to “Travel Market Switzerland 2007” by Bieger and Laesser, 2008). Data on travel behavior has been continuously collected since 1972. For an extensive technical report see: <http://www.alexandria.unisg.ch/Publikationen/46512>. The unit of analysis is “trip cases;” with these defined as a leisure journey by private persons with at least one overnight stay outside their residence community, away from everyday life. The sample involves 1,898 households, incorporating 4,387 persons undertaking an overall of 10,903 person trips. The main variable of interest in the survey records whether elements of a given trip are booked online or not (that is, binary), with “online” delimited according to whether a package, accommodation or transportation has to be booked online.

Data Analysis: Based on the hypotheses formulated from the literature review, the following variables from the survey characterizing a trip were stepwise binary regressed towards the independent (0/1) variable: choice of destination (scale: four categories); number of previous trips to destination (scale: metric); 19 travel types (scale: four-point relevance scale); number of travel companions from household (scale: metric); 25 travel motivations (scale: four-point importance scale); duration of trip (scale: metric); 28 sources of information (scale: four-point importance scale); means of transportation to destination (scale: 11 categories); decision-booking-departure timeframe (2 variables, metric); and total expenditures per person. The following socio-demographic characteristics were also included in the analysis: household income (scale: metric); age (scale: eight categories); highest completed education (scale: 10 categories); and professional position (scale: 15 categories). Regarding the categorical variables, we used indicator contrasts, taking into account the presence or absence of category membership, compared to a reference category (choice of destination: Switzerland; means of transportation: car; age: younger than five years; highest completed education: compulsory schooling; professional position: home economics/home duties).

4. Results

The data fit the model quite well, with -2 log likelihood amounting to 5138.98 and Nagelkerke R square amounting to .441. Eighty-eight percent of the “no” cases and 60 percent of the “yes” cases were correctly classified. Due to their non-significance, the following variables were excluded from the final model: type of transportation, age, and education.

An analysis of the coefficients gives several insights (c.f. table 1).

(1) The original model estimate of online purchase is represented by the constant. According to its log-odd, the share of online bookings would be underestimated (a cut-off of .5 minus .34 results in .16; compared to the value of .28 revealed by the descriptive analysis — refer to the

introduction section of this paper). Consequently, the majority of coefficients, especially with regard to the professional occupation (refer to the corresponding reference case, which is “home economics”), turns out to be positive.

(2) The closer the destination is to Switzerland, and the larger the number of previous trips, the unlikelier are online purchases to occur. This is also the case with regard to the number of participating members, where a high figure leads to a decrease in online bookings.

(3) With regard to the type of trip, the model coefficients reveal that a number of one-stop trips (city and event trip) increases the likelihood of online bookings; whereas more complex types of trip (such as touring with multiple stops) decrease the likelihood. Several other types of trips were revealed to be non-significant, including, for instance, beach holidays.

(4) Unsurprisingly, the use of all websites except those of tour operators or travel agents leads to a higher likelihood of online purchases than any other sources of information. The prolongation of the planning horizon between the moment of decision making and booking (that is, the time used for consulting sources of information prior to purchase) slightly decreases the likelihood that at the end of this process, components of a trip are booked online.

(5) Individual travel (refer to the reference case for “organisation of trip”) is associated with quite a small propensity to book online (refer to the constant). Single package travel increases this likelihood by 32 percent. In contrast, group package travel (with a guide, at fixed times) diminishes the chance that such trips are booked online by more than 40 percent.

(6) Contrary to the position proposed in previous studies (discussed in the literature review), neither income nor travel expenditures are associated with a substantially higher or lower likelihood of online purchases.

In relation to our propositions, we can draw the following conclusions: persons buying travel online are: (1) very well educated (REJECTED), and (2) hold professional positions which generate above-average incomes (SUPPORTED with regard to professional position; REJECTED with regard to income), which allows them to (3) spend more than average on a trip (REJECTED). They have (4) destination experience (REJECTED), and (5) use the internet more than others as a source of information (SUPPORTED). In addition, a measurable association exists between the components of the portfolio decision “travel” and the likelihood to purchase travel online (SUPPORTED).

5. Discussion and Conclusion

The likelihood of using online booking devices generating transactions in tourism can be reasonably well explained by the model adopted. In a more in-depth analysis of the outcomes of our study, several interesting issues arise.

First, the results of this study contest some of the outcomes of earlier studies in this field. At least in the context of Switzerland (which — as stated earlier — can be considered a mature market), the level of education does not help explain why someone might book online or not. Moreover, income does not matter either, despite the fact that professional occupation (which generates different incomes) contributes to why someone books online or not.

Second, the results lead to the introduction of important new dimensions supporting online booking, including trip specifics such as motivation (the significant items are mostly conversely correlated to online booking) and the complexity of trip (for example, the number of booking elements and stops are mostly inversely correlated to online booking). However, the study also reveals that complexity exists within an individual construct: while city trips or single package tours with no tour guide may easily explain an increased likelihood of online booking for a given customer group, this does not hold true for beach holidays (the coefficient is not significantly different from zero). In contrast, multi-stop touring holidays are complex

enough for all customer groups to decrease their likelihood of being purchased by online bookings.

Third, existing travel experiences with a chosen destination, and thus availability of internal information, are consistently associated (inversely) with online booking. Further, a limited number of media breaks exist in the relationship between looking (information search) and booking: users of brochures as information sources are less likely to book online than users of websites. However, the exception to that rule occurs when someone using a website of a travel agency or tour operator to gather information is less likely to book online than users of any other website. Where significant, oral advice from national tourist offices in Switzerland, as well as rail services, increase the likelihood of online booking (and thus result in a media break), because national tourist offices mostly do not take bookings, and rail services impose a fee on oral communication. However, again, there is one exception to that rule: once customers start to communicate orally with a travel agent to collect information, they are unlikely to go back online to make their bookings (advice from DMOs turned out to be non-significant).

Fourth, and finally, examining of the use of an airline website as source of information reveals the highest likelihood of online booking among all websites. In contrast, no means of transportation (including flights) produces significant model coefficients. In light of the above discussion, this result might be an indicator for the following proposition:

The likelihood of someone booking online increases if they were drawn to a website to gather information in the first place, AND if the product sold through this website is as transparent and well-understood as possible, OR if any other booking communication would incur a financial charge, independent of the socio-demographic background of the prospective traveler.

Further research should therefore include a more in-depth analysis of: (1) specific product characteristics and (2) information sourcing process supporting or hampering online booking. Such studies are of particular importance for the travel industry, which needs to communicate with their target groups as efficiently as possible, and so must make some tough decisions about which channels and media to choose to target each type of customer.

Table 1: Results of the Analysis

	B	S.E.	Wald	df	Sig.	Exp(B)	Log-odds
Destination (reference = Switzerland)			31.760	3	.000		
<i>Neighbouring countries</i>	-1.731	.161	114.928	1	.000	.177	-82.3%
<i>Non-neighbouring European countries</i>	-.693	.145	22.707	1	.000	.500	-5.0%
<i>Overseas</i>	.342	.142	5.766	1	.016	1.408	4.8%
Number of previous trips to destination	-.024	.004	46.892	1	.000	.976	-2.4%
Type of trip							
<i>City trip</i>	.065	.027	5.793	1	.016	1.068	6.8%
<i>Touring with multiple stops</i>	-.085	.031	7.478	1	.006	.919	-8.1%
<i>Events trip</i>	.064	.028	5.278	1	.022	1.066	6.6%
Number of participating members from household	-.220	.047	21.586	1	.000	.802	-19.8%
Overall duration of trip	.029	.007	18.457	1	.000	1.029	2.9%
Travel motivation							
<i>Get away from it all (daily routine)</i>	.116	.030	14.513	1	.000	1.122	12.2%
<i>Experience landscapes and nature</i>	-.059	.030	3.872	1	.049	.943	-5.7%
<i>Enjoy nightlife</i>	.074	.031	5.535	1	.019	1.077	7.7%
<i>Time for oneself</i>	.080	.026	9.763	1	.002	1.083	8.3%
Sources of information							
<i>Brochures of destination (communal level)</i>	-.066	.028	5.505	1	.019	.936	-6.4%
<i>Guide incorporating quite homogeneous destinations</i>	-.167	.036	22.009	1	.000	.846	-15.4%
<i>Brochures of tour operators</i>	-.115	.038	9.048	1	.003	.891	-1.9%
<i>Advice from travel agencies</i>	-.211	.039	29.352	1	.000	.810	-19.0%
<i>Advice from rail service</i>	.105	.037	8.005	1	.005	1.111	11.1%
<i>Advice from NTOs in Switzerland</i>	.137	.038	12.803	1	.000	1.146	14.6%
<i>Website of a destination</i>	.104	.026	16.190	1	.000	1.109	1.9%
<i>Website of a hotel chain</i>	.058	.030	3.854	1	.050	1.060	6.0%
<i>Website of a holiday home chain/ provider</i>	.182	.034	29.414	1	.000	1.200	2.0%
<i>Website of a single accommodation provider</i>	.265	.025	108.182	1	.000	1.303	3.3%
<i>Website of an airline</i>	.304	.031	95.102	1	.000	1.356	35.6%
<i>Website of a transport company (not airline)</i>	.092	.031	9.038	1	.003	1.097	9.7%
<i>Website of a tour operator or travel agency</i>	-.234	.043	29.418	1	.000	.791	-2.9%
<i>Website of a travel portal/consolidator</i>	.155	.038	16.148	1	.000	1.167	16.7%
<i>Ads in newspapers and magazines</i>	-.117	.037	1.138	1	.001	.889	-11.1%
<i>TV text</i>	-.132	.038	11.995	1	.001	.876	-12.4%
Decision making and booking timeframe							
<i>Duration (weeks) between point of decision making and time of booking of any element of trip</i>	-.031	.006	3.829	1	.000	.970	-3.0%
<i>Point of booking of any element of trip (weeks) prior to departure</i>	.016	.004	2.219	1	.000	1.017	1.7%
Organisation of trip (reference = individual travel)			35.547	3	.000		
<i>Single package travel (individual time, no tour guide)</i>	.281	.141	3.999	1	.046	1.325	32.5%
<i>Group package travel</i>	-.641	.215	8.859	1	.003	.527	-43.3%
Travel expenditure and income							
<i>Overall per person</i>	.000	.000	13.809	1	.000	1.000	.0%
<i>Overall per person per day</i>	.001	.000	6.981	1	.008	1.001	.1%
<i>Household income</i>	.000	.000	11.517	1	.001	1.000	.0%
Professional occupation (reference: home economics/home duties)			55.600	13	.000		
<i>Unemployed, looking for a job</i>	.614	.167	13.570	1	.000	1.847	84.7%
<i>In training: vocational education</i>	.809	.320	6.394	1	.011	2.245	124.5%
<i>In training: middle school</i>	.776	.374	4.318	1	.038	2.174	117.4%
<i>In training: student at university or other tertiary education</i>	.685	.191	12.828	1	.000	1.983	98.3%
<i>CEO, top management, chief public servant</i>	1.191	.254	22.031	1	.000	3.291	229.1%
<i>Self-employed in trade and other</i>	1.065	.230	21.387	1	.000	2.900	19.0%
<i>Farmer</i>	.494	.189	6.810	1	.009	1.639	63.9%
<i>Free profession (doctor, lawyer, and so on)</i>	-.242	.970	.062	1	.803	.785	-21.5%
<i>Middle management</i>	.582	.221	6.912	1	.009	1.790	79.0%
<i>General employee, public servant</i>	.797	.135	34.816	1	.000	2.219	121.9%
<i>Worker, craftsman, technician</i>	.739	.120	37.871	1	.000	2.093	109.3%
<i>Retiree</i>	.676	.179	14.210	1	.000	1.967	96.7%
Constant	-.421	.216	3.817	1	.051	.656	-34.4%

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