# Travel Agents vs. Online Booking: Tackling the Shortcomings of Nowadays Online Tourism Portals

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#### **Abstract**

In this paper we present the findings of a study that aims at identifying the reasons that let many people still rely on traditional travel agents instead of booking their trips online. The prime motivation for investigating this issue is that it is impossible to have direct experience with the product prior to consumption in the domain of tourism. The Internet provides a powerful environment for the creation of virtual representations of tourism destinations allowing indirect experience that greatly surpasses the possibilities of traditional travel agents. However, the results of the study show that social interaction with travel agents, their expertise and the possibility to save time on search can be of even higher importance. So, we derived the "best of both sides" and suggest the application of an established methodology in the area of multi-agent systems, namely 3D Electronic Institutions, to the tourism domain in order to satisfy the growing demand on human assistance related to online inquiries and to offer customers cutting-edge visualization facilities.

Keywords: Travel Agents; Online Tourism Portals; User Study; 3D Electronic Institutions.

## 1 Introduction and Motivation

Tourism is a quite unique area of business in a sense that a product cannot be observed or manipulated through direct experience prior to purchase. Instead, customers have to purely rely on indirect or virtual experience. Due to that, appealing presentations of travel destinations have always been an important factor of success in

tourism. Traditional travel agents are being quite successful in their efforts of creating illustrated catalogues that provide potential customers with a significant amount of information jazzed up with highly aesthetic photos, useful tips, maps and much more.

However, it becomes more and more difficult for traditional travel agents to compete with web sites that offer online booking possibilities. One of the main reasons for the increasing number of people booking online is that online experience has much greater potential in visualising travel destinations. 3D interactive tours, for instance, might be used to convey a clear impression of the travel destination and interactive on-demand videos may be shown online without interfering with other (in-store) customers. Daugherty et al. (2005) conducted a usability study comparing indirect experience (form-based web sites), virtual experience (web sites with 3D product presentation) and direct experience (direct product manipulation) in order to better understand consumers reactions on different product presentation methods. The study showed that virtual experience provokes similar impressions as direct experience. Product knowledge and decision quality are both significantly higher when exposed to interactive 3D products than to static products presented in a form-based way. Additionally, Edwards et al. (2001) argue that one of the factors that makes virtual experience even more successful is its novelty since people that have not yet been exposed to 3D product presentations may simply be curious to experience it. Despite the aforementioned advantages, the mistaken idea that using 3D on the Web is far too expensive and too resource consuming greatly inhibited the proliferation of 3D applications in e-Commerce (Hurst, 2000). Nevertheless, recent developments prove that in the future 3D applications may be faster and cheaper to create than quality photographs (Früh et al., 2005). Moreover, the broad availability of broadband Internet access supports this trend.

Besides visualisation, users require support during their decision making process. It must be taken care of user's behaviour and personal preferences, e.g. track past user interactions to determine individual areas of interest, adapt results according to temporal phenomena such as vacation periods or seasons. Aiming at providing extensive support to customers, Fesenmaier et al. (2003) developed a tourism recommendation system DIETORECS, that offers various form-based ways to interact with the system. In particular, users are asked to express their needs by choosing from a fixed set of attributes represented by option sets or dropdown lists. Due to the domain diversity a broad set of attributes is available and, unfortunately, this plethora of options creates confusion for those booking trips and results in a dramatically overloaded interface. As Dittenbach et al., (2003) report in their findings obtained by conducting a field trial on the acceptance of a natural language user interface to tourism information, alternative approaches are needed in order to take away the burdens associated with traditional form-based tourism environments.

With that in mind we conducted a study to get a better understanding of the relationship between online booking systems and traditional travel agents. Its main purpose is to derive clues for improving nowadays online tourism solutions in such a way that these systems profit from the expertise of traditional travel agents without loosing the flexibility and benefits of the Internet. In particular, we try to identify the "best of both sides" and highlight important features of traditional travel agencies such as simplification of decision making, support of impulse travellers, collaborative booking possibility, etc., that are likely to be incorporated into future tourism portals. To this end, we propose the application of 3D Electronic Institutions (Bogdanovych et al., 2005) as the basis for building a system that will provide experienced support from travel agents to online customers. Firstly, this approach facilitates the integration of human operators into tourism portals and, secondly, allows saving human resources using autonomous software agents that expand their knowledge and intelligence through learning from human operators. Finally, we consider 3D visualization of travel destinations as a key feature that enhances the online booking experience and can be conveniently accomplished with 3D Electronic Institutions.

The remainder of the paper is structured as follows. In Section 2 we present the research methodology that grounds the study. The hypotheses are formulated in Section 3. In Section 4, the hypotheses are validated and some interpretations are given. Section 5 summarizes the findings and introduces 3D Electronic Institutions as a possible solution for incorporating the beneficial aspects of traditional travel agents into online tourism portals. Finally, in Section 6 some concluding remarks are given.

# 2 Research Methodology

The research methodology follows qualitative research inquiry. Chowdhury's (2004, p. 494) statement "Customers value, and are willing to pay for the simplification of decision making, the reduction of perceived risk, the optimal configuration of the transaction for their specific usage context, and the enhancement of the in-use experience" summarises the initial position of our research. This statement was confirmed by the majority of subjects we interviewed. The study addresses the research question "Why do people go to travel agents instead of booking online?" To investigate this question we conducted a two stages qualitative inquiry:

<u>Stage 1</u>: Hypothesis formulation. The set of hypotheses aims at answering the research question. They have been formulated based on the literature review and the information obtained through semi-structured interviewing of a carefully selected target sample - 10 PhD students from the Faculty of IT, University of Technology Sydney, Australia. The sample has been composed of people possessing ample expertise in online booking. Moreover, we also considered travel agents' point of view. The results of the publicly available interview (Stewart, 2005) were used for formulating the hypotheses.

<u>Stage 2</u>: Hypothesis validation. The set of hypotheses provided the dimensions for constructing a questionnaire. After testing and refinement, the questionnaire has then been used to collect data that provides evidence in favour or against these hypotheses.

# 3 Hypothesis Formulation

Below we present each hypothesis, the supporting reference in the literature and some relevant quotes to each hypothesis, indicating the gender and age of the respondent.

H0: The majority of people prefer booking their international trips from a travel agent. Domestic trips are usually booked online. [according to the interview results.]

H1: Human expertise is an important convenience factor that is missing in online booking. (Stewart, 2005) [travel agents know dates when flights are cheaper, may give a good advice (visa, insurance, dangers, etc). So there is no need to spend time on searching the web; travel agent will do everything for the client.]

"It's more a lazy decision. Going to a travel agent is like to study with a teacher. It will save my time!" [Male, 25] "Online booking can be real pain if your travel plan is not simple" [Male, 30] "Travel agents have much more knowledge in travel issues than I do. I think the experience comes both from a lot of travelling they do and just from the fact holiday booking is their profession. They can provide me with a valuable suggestion regarding where to go and with some details about the destination." [Male, 45]

<u>H2</u>: <u>Social interaction with a travel agent is the key to a good customer experience</u>. (Prasarnphanich & Gillenson, 2003; Stewart, 2005)

"I just need face-to-face communication to understand all the details! This is very important to me. It is easier to understand each other via face-to-face communication! I work in distance learning... there is clear evidence that distant students perform worse than those who attend the classes." [Male, 44]

H3: <u>Travel agents satisfy impulsive buyers better</u>. (Armata, 1996) [i.e. decision making during planning and purchasing a travel arrangement is not always rational.]

"Sometimes I just don't know where I want to go. I may go to a travel agent and say that I have 500\$ and want to go to a warm place where I can swim in the ocean and enjoy palm trees on the beach. It will take ages if I will go searching the web with such requirements." [Male, 27]

H4: Collaborative booking experience is important. (Brown & Chalmers, 2003)

"We usually go to a travel agent with my partner. But it may be very hard to get together as we work pretty far away from each other. It would be great to be able to meet online with her and the travel agent to discuss everything." [Male, 27]

<u>H5</u>: <u>Security and trust towards humans is higher</u>. (Stewart, 2005) [i.e. people feel more secure interacting with people and have higher trust to them than to web sites, interfaced with forms.]

"Booking in Internet is insecure. I will not book from a web site that I know nothing about". [Male, 35]

H6: Loyalty is rewarded and appreciated. (Koppius et al., 2005; Stewart, 2005) [Customers believe that for their loyalty they will be rewarded with personal care and member discounts]

"I always use the same travel agent. I shop around first to find which one is cheaper. But once I found the travel agent I like, I always book from them, because my loyalty will be rewarded. They know all my preferences, know that I'm an old customer. They will make a discount for me or at least offer me better service." [Male, 25]

H7: Detailed information about a trip is important. (Chu, 2001) [travellers use as many sources to gather the information about the travel destination as possible: Internet, opinions of other travellers and travel agents etc.]

"If I have never been to a place before I need heaps of information. In this case I'm more likely to go to a travel agent". "I use many sources. I take brochures from travel agent, ask my friends and search the web". [Female, 27]

H8: The way package deals are composed now is not satisfactory and can be done better on the Web. (Klein et al., 1999) [i.e. customer or travel agent enters the requirements of the trip and flight companies, hotels etc. make their offers literally bidding for a customer.]

"I'd like to take those cheap packages that they advertise. But my requirements rarely go inline with what they offer there." [Male, 30]

#### 4 Hypothesis Validation

To gather evidence in favour or against these hypotheses we conducted an online survey. The questionnaire of the survey comprised 40 questions. Most of the questions are formulated as multiple-choice statements (e.g. "I believe that loyalty is always rewarded.") with answers on a 5-point Likert-type scale (Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree). The questionnaire was publicly available on the Web. The call for participation was sent to travel enthusiasts via e-mail and travel-related forums. No rewards were offered to the participants, as we believe that voluntary participants will answer the questions more accurately. We focused primarily on people that are experienced computer users, familiar with navigating the World Wide Web. Since this group of people deeply understands the technology and is free to use all available facilities they are expected to possess the

<sup>1</sup> http://www.my3q.com/view/viewSummary.phtml?questid=76535

experience to clearly identify the benefits and drawbacks associated with online tourism portals. More precisely, we are interested in the reasons why such people still prefer to rely on travel agents instead of booking their trips online.

#### 4.1 Sample

Subsequent to posting the call for participation, 132 people from 25 different countries filled in the questionnaires (61% male, 39% female). Figure 1 depicts the distribution of age and location amongst the respondents. As expected, almost all interviewees are heavy computer users except for one person. The respondents spent an average of 12 minutes on completing the questionnaire.

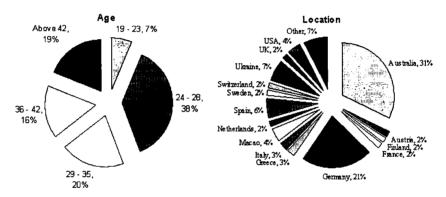


Fig. 1. Age and Location of Participants

## 4.2 Data Analysis

We present the results of the analysis of respondent answers. The presentation structure follows the hypotheses formulated in Section 3.

# 4.2.1 Preferable Way of Booking [validating H0]

For reasons explained above, our research is focused on heavy computer users only. That's why we could not rely on general official statistics for validation of H0. The results of the survey show that 65% prefer to book international trips from travel agents, despite the fact that 50% of the respondents believe it is cheaper to book online and only 3% think that online booking is usually more expensive. Additionally, 30% of the people never book international trips online in contrast to 13% that always book their travel online. In case of domestic trips the picture changes slightly. 54% of respondents tend to book online, which is 12% more than the number of people who book domestic trips from a travel agent. So, hypothesis H0 appears to be correct.

The data analysis also revealed some gender specific patterns. In particular, females tend to visit travel agents more frequently than males. In case of domestic trips 53% of female respondents prefer to go to a travel agent.

# 4.2.2 Convenience and Expertise [validating H1]

On the one hand, about 60% of respondents think that booking from a travel agent is convenient and 13% disagree. On the other hand, 87% of respondents think that booking online is convenient and only less than 10% disagree. This contradiction suggests that there is a strong need for incorporating important aspects from the travel agent experience into online booking systems. Our initial assumption that expertise of the travel agents is an important factor that is missing in nowadays tourism portals is supported by the following statistics: 54% of respondents agreed that talking to a travel agent helps to get a much clearer picture about the destination. 65% of respondents agreed that talking to a travel agent clarifies all details of the offer. 43% travellers agreed that travel agents provide them with important tips that are almost impossible to find online, e.g. insurance, visas, dangers, etc. However, 18% disagreed and 30% felt neutral about this issue.

#### 4.2.3 Social Interaction [validating H2]

78% of respondents answered that social interaction with a travel agent is an important part during the booking experience, indicating that hypothesis H2 is reasonable. However, 20% associate disadvantages to the act of talking to travel agents and state that travel agents may push customers towards more expensive trips or that they may be unpleasant or even rude.

As we expected, females value social interactions with travel agents much more than males do. 45% of females agree or strongly agree that social interaction with a travel agent is important while only 9% disagree. Males are less keen on social interaction, 36% of them agree and 29% disagree.

As part of investigating the social interaction element, we looked at preferable ways of communication. Only 46% of respondents would prefer multiple ways of communication with a travel agent. Among those, face-to-face communication is the most popular one (76%), followed by telephone (43%), E-Mail (34%) and real-time chat (11%). The high percentage of people who prefers to communicate with a travel agent face-to-face highlights the importance of social interaction in trip booking.

#### 4.2.4 Impulse Decisions [validating H3]

Our survey showed that for 56% of responders a very cheap offer can change their travel plans, while only 25% disagreed on that issue. Another interesting aspect is that only 10% of responders are always sure about their destinations. These numbers support hypothesis H3 and show a major demand in an intermediary that assists travellers in selecting travel destination.

## 4.2.5 Collaborative Booking [validating H4]

In case of group trips, about 90% of participants consult with other travellers prior to booking. This shows that introducing the possibility of collaborative online booking may be very much appreciated amongst travellers and provides important evidence in favour of hypothesis H4.

#### 4.2.6 Trust and Security [validating H5]

Security is regarded as a very important issue in any type of business. Despite the fact that all the respondents (except for one) use computers almost every day, 14% believe that booking online is not secure in general. When it comes to unknown online vendors 53% feel not secure. Interestingly, 39% of respondents regard booking at an unknown travel agent as not secure. An immediate interpretation is that these figures are caused by some regional specifics. However, the response distribution does not show any significant outliers with respect to different countries.

Concerning trust issues, 8% of travellers answered that they feel uncomfortable (or don't trust) booking with computers and less than 3% said that they don't trust travel agents, mostly because travel agents tend to fool customers pushing them towards more expensive deals.

The above results show that hypothesis H5 tends to be correct. We expected that towards humans trust and security will be significantly higher than towards computers. Despite the fact that the results confirmed this initial assumption, the difference appeared to be insignificant, which gives us the reason to suggest that trust and security in computer systems are increasing and in the future they may be even higher than in humans.

#### 4.2.7 Loyalty [validating H6]

We expected that convenience is the most important factor for the interviewees, but surprisingly enough, 43% travellers responded that they book their trips from the same travel agent, while only 29% would go to the closest one. 62% of respondents find it important that the travel agent knows their preferences and makes the decisions on the basis of that information. 38% of respondents believe that their loyalty is not rewarded while 33% believe it is. These results demonstrate strong support in favour of hypothesis H6.

# 4.2.8 Learning about the Destination [validating H7]

To validate hypothesis H7 we tried to understand whether people need help with choosing a destination or not. Only 39% of respondents agreed or strongly agreed that they don't need any help, while the majority either agreed or felt neutral about it, showing that it is important for people to gather the information prior to travelling.

If looking at how people learn about their future travel destinations, the results of the survey suggest that only 9% of respondents would use a single source of information. For those travellers this source would always be either a web page or personal experience. 91% of the respondents would use more than one source of information. 79% of travellers believe that personal experience is the best way to learn about the destination. 73% of respondents would rely on opinions of other travellers, while only 38% would rely on an opinion of a travel agent.

The majority (84%) identified a web page as the preferable way for presentation of information about a future travel destination. 54% of interviewees answered that detailed photos are important in helping to make a decision about the destination. Surprisingly, both video and interactive 3D attracted 12% of respondents. We think that such a low response rate is due to the fact that these ways of product presentation are unavailable - not only online but also from a travel agent, and it was hard for respondents to imagine how those can be used.

## 4.2.9 Package Deals [validating H8]

On the one hand, 51% of the travellers said that they prefer packages because packages are usually cheaper; 5% think it will cause less trouble to book everything as a single package and 14% think that packages are cheaper and less problematic. On the other hand, 49% of respondents answered that they never take packages in contrast to 1% that always do. One would suggest that 49% of responders prefer to be flexible all the time, but only 28% identified that being flexible is important. This suggests that hypothesis H8 is correct, and nowadays packaging mechanisms are not optimal. The proliferation of new approaches to packaging such as for instance reverse auctioning which allows customers to set constraints and travel agents making their bids to satisfy these constraints (Klein et al., 1999) might be the future way to satisfy customers' demands.

## 5 Identified Pros and Possible Technological Solution

The study identified a number of features that need to be taken into account in the research and development of Internet-based tourism agencies. Below we have summarised these features in terms of "the best of both sides":

<u>Travel agents pros</u>: The study confirms that many people prefer going to travel agents instead of booking their trips online. In case of international trips the majority of travellers will do so. The respondents value the *expertise of travel agents*, the *possibility to receive help with impulse decisions* and feel a need for *social interaction before making an important decision*. The majority of respondents remain loyal to a single travel agent and appreciate that travel agent knows their preferences.

On-line booking pros: Travellers like the convenience of booking online, where they can enjoy the comfort of their familiar environments, fast responses on travel-related requests and multitasking.

Additionally, the survey identified that the number of impulse travellers and people who enjoy collaborative booking is very high. However, respondents in general trust travel agents more than web sites and feel more secure about booking with people. The results show that this situation may change in the future.

An on-line travel agency needs an *online environment that supports these pros*. In particular, the online booking approach should be extended with mechanisms that support wide range of human-to-human interaction as well as the exchange of information between software agents and humans. One possible way to develop environments, which allow the existence of mixed societies of humans and software agents, is to utilise the recently developed 3D Electronic Institutions methodology and its corresponding technological support (Bogdanovych et al., 2005). The 3D Electronic Institutions methodology combines the strengths of the Electronic Institutions paradigm and the 3D Virtual Worlds technology. This combination resulted in a working methodology, supported by a significant number of tools, for designing highly secure and reliable immersive 3D e-Business solutions. Applying 3D Electronic Institutions methodology requires 3 steps to be accomplished: i) Specification of an Electronic Institution using ISLANDER (Esteva et al, 2002), ii) Annotation of the Electronic Institution specification with 3D Virtual World related elements and iii) automatic generation of the corresponding 3D environment.

The specification phase introduces a dramatic difference to the development of 3D business environments compared to the majority of nowadays agent-based solutions. Instead of focusing on the implementation details of each particular participant (agent-oriented approach) the system-oriented view is taken. It is assumed that participating agents may be heterogeneous and self-interested, and may express deviant behaviour. Therefore the institution is designed as a set of limitations which every participant has to comply with. This assumption permits that participants behave autonomously and take their decisions freely up to the limits imposed by the institution - similar to the way we operate in our society. The limitations include common ontology, set of permitted activities (scenes) that the agents can get involved in, the flow of agents within the institution, and the dialogues that govern the enactment of the different scenes. The ISLANDER tool is a UML-like editor that also performs several verifications on the specified institution (integrity, protocol correctness, and norm correctness).

The actual interaction between humans and software agents happens within a 3D immersive environment. Technologically this environment is generated automatically from the specification of the electronic institution. The scenes and transitions are

transformed into 3D rooms, connections correspond to doors, and the number of participants allowed in a scene determines the size of the room (see Bogdanovych et. al, 2005 for details). In practical terms, the implementation of an online 3D travel agency using this technology will require the preparation of its specification as an electronic institution. The 3D Electronic Institutions infrastructure takes care of the visualisation of the environments and the validity of interactions between immersed participants. The infrastructure also verifies the permissions of participants to access scenes and makes sure that all the institutional norms and obligations are enforced.

In the context of virtual travel agency, one of the most important features of 3D Electronic Institutions is that the architecture offers facilities for implicit training of the autonomous software agents by humans to help those agents to act like humans. In our scenario, initially, only human operators from a travel agent answer customers' requests while corresponding autonomous agents observe their behaviour and learn from them. Eventually, after testing and validation of the behaviours learned by the agents, autonomous agents will start communicating with the customers without human help. In case a customer puts an inquiry that an agent is not trained to deal with, the agent requests help from available human operator. The human replaces the software agent (with or without explicitly notifying the customer about this), which visually appears as a change of the avatar, and answers the non-standard inquiry. The autonomous agent meanwhile observes the human operator and learns how to deal with similar enquires in the future. Such human-computer cooperative behaviour is the way to achieve reasonable efficiency in providing potential travellers with trustful expertise. Hence, we believe that 3D Electronic Institutions offer a simple technological way of implementing "the best of both sides" that we identified in the study. Moreover, saving human resources by using autonomous agents together with the possibility of automatic generation of online tourism portals from an Electronic Institution specification will significantly reduce development and maintenance costs.

# 6 Conclusion

The results of the conducted study highlight the combination of factors from both travel agents and online booking experiences which are important for customers and are likely to influence future online travel portals. We suggest that the convenience of Internet should be combined with the convenience of a simplified decision making and collaborative booking from traditional travel agents. The expertise of travel agents should help online customers to find the best travel option under given constraints and provide efficient support for impulsive decisions. In our opinion, a feasible way to achieve this combination at present is to apply the 3D Electronic Institutions methodology that allows the creation of cutting-edge representations of travel destinations and saving human resources using intelligent software agents.

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