

Connecting Usages with Usability Analysis through the User Experience Risk Assessment Model: A Case Study in the Tourism Domain

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Abstract. Web usability evaluation methods have been traditionally considered as detached from the analysis of the actual usages of a web applications. While the former is typically delegated to web engineers or web designers, the latter seems to be a concern only for online marketing experts. Based on our previous research results, in this paper we present a holistic evaluation model that seamlessly integrates usability and usage analysis in the assessment of the communication quality of a web application. Specifically, we apply this model to the analysis of BravoFly website (a Swiss Online Travel Agent) and we illustrate how the results of this integrated evaluation can shed new light in intelligently prioritizing re-design interventions. Implications for online tourism communication managers and researchers in this area are discussed.

Keywords: usability evaluation, usability inspection, usability testing, usage analysis, log files, design dimensions.

1 Introduction

Tourism is an information-intensive domain [1] which has been completely reshaped by the advent of the Internet [2]. In general, companies in the tourism business are using and exploiting the Internet with two main goals: (1) to market themselves online [3]; and (2) to sell tourism products through the Web [4]. At a closer look, the tourism online domain [5] is composed by different players (such as different online travel agents) trying to compete for the user attention [6] to market and sell tourism products (e.g. flights). In this process, the quality of online communication [7] [8] in terms of usability at each level (from content quality, navigation quality, transaction quality and overall usability) has become a fundamental issue in the field. To complement usability, it is also important to consider the role of usage analysis within the domain: different researches in the last years are trying to devise techniques to make sense out of the huge amount of usages data (e.g. coming from log files) generated by tourism websites [8]. In this respect, there is an increasing effort in focusing on the analysis of

communication issues related to usages and online behavior [9]. Traditional usability and usage analysis, however, are not yet recognized as part of a meaningful and coherent theoretical framework. In our previous research [7] [8] we have laid the foundations for the User Experience Risk Assessment Model, an attempt to connect usability analysis with usage analysis through the unifying notion of risk. On the one hand, usability problems identified through usability methods can be considered significant risk factors for a detrimental user experience. On the other hand, results from usage analysis identify the probability for users to be actually exposed to those usability problems, thus mitigating or worsening the overall risk for negative experiences. Based on this theoretical elaboration, a proper analysis of the user experience risk would inform project managers, communication and web designers in making decisions concerning questions such as: what parts of the application require immediate attention for re-design or improvement? Are my users exposed to potentially negative experiences? How can I optimize the good experiences on my site? Our innovative contribution is the elaboration of few, basic constructs to analyze and characterize such hurdle of risk issues by holistically leveraging current approaches to usability analysis and usage studies. More analytically, our research proposes to see the user experience risk as composed of three main elements: (i) threats as usability problems inherent to the design; (ii) vulnerability as the exposure to usability problems and (iii) resilience as the user's ability to overcome usability problems.

A case study approach has been used to investigate and validate the model. We chose Bravofly.com as a representative case of information-intensive web application in the Tourism domain, and specifically on the online travel/flight business. BravoFly is a Swiss based company which mainly operates as Online Travel Agent in south Europe (7 countries + international version) for low cost flights. BravoFly is strongly devoted to innovation seeking competitive advantages and its unique aspects could be seen in the possibility of combining low cost carriers on different destinations to get price advantages for customers.

2 Related Works

According to Garrett [10], “user experience is not about how a product works on the inside (although that sometimes has a lot of influence), but it is about how it works on the outside, where a person comes into contact with it and has to work with it”. The same author described the website as a “self-service product”, where no instruction manual or seminar is provided: the user faces the website alone, only with her/his experience guiding her/him [10]. Furthermore, Kuniavsky [11] investigated the concept of user experience identifying three main factors that positively affect user experience, namely (i) functionality, which considers the websites' usefulness with regard to the users, (ii) efficiency, which considers the time needed by the users to accomplish specific tasks, and finally (iii) desirability, which considers the users' feelings of surprise and satisfaction with regards to the web application. ISO (International Organization for Standardization) defines usability (ISO 9241) as “the effectiveness, efficiency and satisfaction with which specified users achieve specified goals in particular environments”. The various aspects of this definition are also