

The Nature and Role of User Beliefs Regarding a Website's Design Quality

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ABSTRACT

Researchers and practitioners have long been interested in identifying the criteria that users consider important in assessing whether a system is worth using. However, past research in this domain has not taken into account the characteristics of a system's design and their quality in a systematic and comprehensive manner, which is likely to have limited the development of actionable design guidelines. The article addresses this issue by suggesting a research model that links user beliefs—which have traditionally been used in IT acceptance and success research (i.e., information quality, system quality, usefulness, and ease of use)—to their beliefs regarding the quality of three categories of a system's design (i.e., visual quality, page layout quality, and navigation quality) and testing it in the context of organizational intranets. The analysis of data collected from 159 intranet website users in three organizations supported the model, suggesting that the three categories of design quality beliefs significantly influenced users' assessment of their system's information quality and system quality.

KEYWORDS

Design Quality Beliefs, Human-Computer Interaction, IT Acceptance, Navigation Quality, Page Layout Quality, User Experience, Visual Quality, Web Design

INTRODUCTION

The success (or failure) of organizational information technologies (ITs) is likely to be affected by the perceptions and thinking of employees who use these ITs in their daily work. For example, while users' frustration with a newly implemented IT in an organization can result in its discontinuance and wasted resources, satisfied users can positively influence success (DeLone & McLean, 2003). Given the importance of user judgments regarding the quality of their interaction with an IT, and in order to explain and predict why individuals adopt and use ITs, a substantial amount of research has examined perception-based models that are grounded in social psychology. For example, one of the most well-known of these models, the Technology Acceptance Model (TAM), explains and predicts users' intentions to use an IT based on their beliefs about its ease of use and usefulness (Davis, Bagozzi & Warshaw, 1989).

Since its introduction, a prolific stream of research has validated and extended TAM by identifying antecedents of its key constructs, i.e., usefulness and ease of use, and by providing valuable practical recommendations, such as how to design managerial interventions (e.g., policy, marketing, training) to increase the likelihood of user adoption of a new system—especially by those who would be more inclined to resist it (Venkatesh, Morris, Davis, & Davis, 2003). However, past research in this domain has not systematically examined how a system's design characteristics can facilitate more effective user-system interactions. The presence of this knowledge gap has already been underscored as a

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concern (e.g., Lee, Kozar & Larsen, 2003; Venkatesh & Bala, 2008), as it hinders the development of specific guidelines and identifying different IT design initiatives which can help improve users' evaluations of their organizational ITs (Benbasat & Barki, 2007). In an effort to address this gap, the present paper proposes and empirically examines the influence of design quality beliefs, i.e., users' subjective probability judgments about discriminable design characteristics of a website (Al-Natour & Benbasat, 2009). It is important to note that the present study focuses on three categories of such beliefs, namely those regarding a system's visual, page layout, and navigation quality, which pertain to how content is delivered on a website (Tarafdar & Zhang, 2005). Beliefs that focus on what content an IT offers (e.g., its functionalities, the information it provides) are out of the scope of the present study because such characteristics can greatly vary between specific websites¹.

In essence, the objective of the present study is to examine the influence of design-specific constructs on the well-known indicators of overall user experience, such as satisfaction, usefulness, and ease of use, that past research has heavily focused on. The present study also seeks to contribute to practice by identifying guidelines for conducting finer diagnostics regarding the quality of users' interactions with websites and help designers improve such interactions and enhance the user experience.

The next sections of the paper synthesize four streams of research that have identified criteria via which users tend to evaluate IT, namely IT acceptance, usability, web quality, and IT success. Then, a research model that extends existing acceptance theory via three design quality constructs (page layout quality, navigation quality, and visual quality) is developed, followed by a description of the methodology employed for testing it empirically, its results and findings, as well as a discussion of the study's contributions and its limitations.

USER EVALUATIONS OF INFORMATION TECHNOLOGIES

Existing streams of research on the acceptance, usability, quality, and success of IT have complementary strengths and limitations regarding their ability to explain and predict how users assess their experience with an IT. As explained below, research on user acceptance has strong theoretical foundations, but provides a limited account of design factors; research on usability is more design-focused, but lacks theoretical grounding, as well as linkage to other constructs relevant to IT use; research on website quality provides measurement instruments, but does not distinguish between different types of user evaluation constructs; and while research on IT success considers only a moderate level of design specificity, it also offers a useful theoretical platform for linking research on acceptance to research that focuses on IT design.

The general goal of IT research on user acceptance has been to better understand why individuals use ITs. Anchored in the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), TAM posited that user acceptance is generally driven by their perceptions of the extent to which an IT is easy to use (i.e., perceived ease of use, PEOU) and useful (i.e., perceived usefulness, PU) (Davis, 1989). Since its introduction, researchers have extended TAM by identifying antecedents of PU and PEOU by essentially focusing on user characteristics, such as computer self-efficacy, and contextual factors, such as social influence and organizational support, but have paid little attention to design characteristics (Benbasat & Barki, 2007; Evermann & Tate, 2009). Although a few researchers did examine design aspects, their studies have largely been specific to either a particular domain or a function, rather than being general (e.g., Cenfetelli, Benbasat & Al-Natour, 2008; Davis, 1993; Hong, Thong, Wong & Tam, 2001). Thus, while TAM has important strengths for identifying salient user judgments about the context and use of an IT, including a solid theoretical foundation, high predictive power, generalizability, and ease of operationalizability (Lee et al., 2003; Venkatesh, Davis & Morris, 2007), it does not focus on how an IT's design influences its users' beliefs, attitudes, and usage of that IT.

Interestingly, a different stream of research has focused on the notion of usability as an alternative lens for explaining IT use by identifying design criteria that can be relevant to predicting the use

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