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The influence of hedonic and utilitarian motivations on user engagement: The case of online shopping experiences

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ABSTRACT

User experience seeks to promote rich, engaging interactions between users and systems. In order for this experience to unfold, the user must be motivated to initiate an interaction with the technology. This study explored hedonic and utilitarian motivations in the context of user engagement with online shopping. Factor analysis was performed to identify a parsimonious set of factors from the Hedonic and Utilitarian Shopping Motivation Scale and the User Engagement Scale based on responses from 802 shoppers. Multiple linear regression was used to test hypotheses with hedonic and utilitarian motivations (Idea, Social, Adventure/Gratification, Value and Achievement Shopping) and attributes of user engagement (Aesthetics, Focused Attention, Perceived Usability, and Endurability). Results demonstrate the salience of Adventure/Gratification Shopping and Achievement Shopping Motivations to specific variables of user engagement in the e-commerce environment and provide considerations for the inclusion of different types of motivation into models of engaging user experiences.

1. Introduction

User experience is an increasingly pervasive theme in Human–Computer Interaction (HCI) research and evaluation (Finneran and Zhang, 2003; Kourouthanassis et al., 2008). Experience has become a product attribute in the economical sense, a value added element used to differentiate goods and services (Pine and Gilmore, 1999). Another view of experience focuses on enhancing technology design and outcomes. For instance, the Threads of Experience – compositional, emotional, sensual, and spatio-temporal – situate experience in a place and time, incorporate affect, and emphasize sensory engagement (Wright et al., 2003). This perspective views experience as moving "beyond the instrumental" (Hassenzahl and Tractinsky, 2006) and into the realm of the holistic, the aesthetic, and the hedonic.

Shopping researcher has demonstrated that consumers are motivated by utilitarian factors, including efficiency and cost, (Babin et al., 1994; Kim, 2006) but also by the desire to satisfy hedonic needs, such as affect, social interaction and/or entertainment (Arnold and Reynolds, 2003). While these motivations are well documented in marketing and information systems literatures, the relationship between hedonic and utilitarian motivations and user experience has yet to be explored extensively in other domains (Zhou et al., 2007). However, HCI research has been examining hedonic and utilitarian features of systems. This work has emphasized that both qualities are essential and can support each other in situations where utilitarian components are low, but hedonic qualities are high, and vice versa (Hassenzahl et al., 2000). Thus shopping research shows that hedonic and utilitarian motivations influence system use, and HCI research demonstrates the need to design systems that incorporate both hedonic and utilitarian components. However, these two paths have yet to merge. Many interactive searching, browsing, and learning systems, for example, would benefit from a greater understanding of how to design for system engagement precipitated by distinct motivations.

Engagement has been defined as a quality of user experience that is comprised of: Focused Attention, Perceived Usability, Endurability, Novelty, Aesthetics, and Felt Involvement (O'Brien and Toms, 2010). This view of engagement recognizes usability as an essential variable for an endurable outcome, one that allows users to perceive the experience as worthwhile, successful, and one they would seek again in future. It also acknowledges the role of hedonic factors, such as aesthetics and novelty, in focusing users' attention and making them feel involved in the interaction. Utilitarian, or functionality, and hedonic elements are infused throughout system engagement, manifested in aesthetic appeal, novelty, and appropriate challenge and feedback, for instance. However, it is not clear how the motivations of users, which may be formulated *prior to* the interaction, fit into this model. The aim of this study was to explore the impact of Hedonic and Utilitarian Shopping Motivations on attributes of user engagement. The outcomes of this research may be used to inform system design, specifically

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customizable interfaces responsive to these motivations, and to expanding models of user experience.

1.1. Prior research

1.1.1. Engagement and user experience

User experience research focuses on the need to go beyond usability in system design and evaluation. It aims to create meaningful interactions between users and technologies by accounting for users (i.e., affective), system (i.e., aesthetic), and situational (i.e., dynamic) elements of experience (Hassenzahl and Tractinsky, 2006; Mahlke, 2005).

Engagement has been defined as both the act of emotionally involving users (Jacques et al., 1995) and the state of being in gear and interacting directly with a system (Hutchins et al., 1986). The consensus that engagement contains behavioural (i.e. visible actions (Kappelman, 1995), experimental, cognitive (Laurel, 1993), and affective (Jacques et al., 1995; Jones, 2005) components situates it within user experience frameworks, such as the Threads of Experience (Wright et al., 2003). O'Brien and Toms (O'Brien and Toms, 2008) used this framework to propose a process-based model of engagement consisting of a point of engagement, a period of sustained engagement, disengagement, and re-engagement. They viewed the entire process as following the compositional thread, with the narrative of engagement unfolding as users progress through these stages. The stages of engagement were deconstructed to explore the sensual, emotional, and spatiotemporal threads of the experience, whereby aspects of the interface (e.g., novel presentation of the interface), users' perceptions of the system (e.g., lack of/too much challenge in using the system), and users' assessment of the interaction (e.g., interest, positive or negative affect) were plotted. The attributes of engagement that arose from this research were focused attention, affect, aesthetic and sensory appeal, ease of use, challenge, control, feedback, motivation, novelty, and social involvement; this work united and articulated the behavioural, experimental, cognitive, and affective elements of engagement together in an all-encompassing model (O'Brien and Toms, 2008).

One of the attributes of engagement discussed by O'Brien and Toms (2008) was motivation. Previous work in the area of educational multimedia (Chapman et al., 1997) emphasized intrinsic motivation, the feeling of satisfaction and pleasure one derives from an activity, where the reward is the activity itself, independent of external reinforcements (Jennings, 2000). O'Brien and Toms (2008) focused on intrinsic motivation and extrinsic motivations, which are contingent upon external punishments and rewards. They found that motivation was most poignant at the point of engagement and was expressed as users' desire to accomplish a task, to have an experience that was – for instance – fun, educational, or to socialize with others. Subsequent research (O'Brien and Toms, 2010) used motivation as an attribute to develop a multidimensional scale of engagement. However, in a large-scale study with 440 shoppers, motivation items did not form a reliable subscale, but merged with interest items to form one sub-scale. Furthermore, motivation as intrinsic and extrinsic is only one way of conceptualizing motivation. Utilitarian and Hedonic Motivations are another means of thinking about motivation, and these have not been explored in conjunction with engagement.

1.2. Utilitarian and hedonic motivation

Shopping research on hedonic and utilitarian motivation has fundamentally sought to understand why people shop. Studies have examined motivations with respect to the design of physical and online shopping environments (Kourouthanassis et al., 2008), and users' perceptions of trust (Zhou et al., 2007), flow (Mathwick and Rigdon, 2004; Novak et al., 2000), and playfulness (Ahn et al., 2007) with respect to purchasing intentions. According to Arnold and Reynolds (2003), who examined shopping in physical stores, there are six dimensions of hedonic shopping: (1) Adventure (shopping for stimulation, adventure, and the feeling of being in another world); (2) Social (socializing with friends and family); (3) Gratification (stress relief, alleviating negative mood, treating oneself); (4) Idea (keeping up with trends, seeing new products and innovations); (5) Role (enjoyment derived from shopping for others); and (6) Value (seeking sales, discounts, bargains). Other hedonic dimensions, namely pleasure, arousal, and escapism (Monsuwé et al., 2004) have been identified as facets of shopping enjoyment. With regard to utilitarian motivations, Babin et al. (1994) note that people are concerned with efficiency and achieving a specific end when they shop.

The terms "hedonic" and "utilitarian" are applied not only to motivations, but to systems and aspects of experience. Flow, "the state in which people are so involved in an activity that nothing else seems to matter" (Csikszentmihalyi, 1990, p. 4), has been used to explore users' responses to technology, as well as task and situational factors that motivate use (Finneran and Zhang, 2003; Konradt and Sulz, 2001). Playfulness has been associated with system satisfaction, frequency of use (Webster and Martocchio, 1992) and decision-making on the web (Atkinson and Kydd, 1997). Aesthetics, the visual appearance of the interface, has been studied in the context of usability, users' skills and needs, sensory components of the interface and application format (Karvonen, 2000; Laurel, 1993; Lavie and Tractinsky, 2004; Overbeeke et al., 2003), as well as an influence on engagement (Chapman et al., 1997).

Some researchers have sought to examine Utilitarian and Hedonic Motivations in concert. For e.g., Shang et al. (2005) found that perceived usefulness of a shopping website and economic variables were not as significant as entertainment and escapism in predicting shopping behaviour. Babin et al. (1994) focused on utilitarian aspects of shopping, as well as enjoyment. Kim (2006) built on Babin et al. (1994) and Arnold and Reynolds (2003) to explore hedonic (Adventure, Gratification, Value, Social, and Idea Shopping) and Utilitarian (Achievement and Efficiency) dimensions of motivation in the context of inner city and non-inner city populations. Kim's results demonstrated that inner city consumers were similar to non-inner city shoppers in that both groups were motivated by utilitarian aspects of shopping and value, but inner city shoppers placed more emphasis on Hedonic Motivations, namely social, entertaining experiences that offered a range of products. HCI research has also looked at the co-existence of utilitarian and hedonic aspects of systems. For e.g., Hassenzahl et al. (2000) demonstrated that users' evaluation of seven software prototypes was dependent on both hedonic and ergonomic (utilitarian) perceptions.

1.3. User experience and motivation

While motivation has been investigated in the context of engagement, its study has been confined to intrinsic and extrinsic motivation. According to Lowry et al. (2008), hedonic systems are associated with intrinsically motivated intentions, such as to have fun, whereas utilitarian systems are used for extrinsic purposes, such as to complete a work task. This definition is problematic because it merges the source of the motivation (internal versus extrinsic to the individual) with the desired outcome of an activity (to make a purchase or to have fun). It may be best to focus on the ability to accomplish any task – regardless of whether the motivation is intrinsic or extrinsic to the individual – as a utilitarian aspect of system use, and the value added, experiential features of aesthetics, interactivity, ability to evoke positive emotions, for e.g., as characteristics of hedonic systems (Childers et al., 2001; Fiore et al., 2005). Another difficulty with the association of intrinsic/extrinisic motivation and hedonic/utilitarian technologies (Lowry et al., 2008) is that