



Research

Modeling virtual exploratory and shopping dynamics: an environmental psychology approach

Ming-Hui Huang*

Graduate Institute of Electronic Commerce, National Chung Hsing University, Taichung 402, Taiwan

Received 16 June 2000; received in revised form 16 August 2002; accepted 8 January 2003

Abstract

A huge amount of research in academia and industry has focused on the hardware and technological side of information systems, while the role of emotions in the way these systems are utilized has been largely neglected. However, recent developments in other disciplines have suggested that emotions play a significant role in decision-making. To address this state of affairs, this study draws upon hypotheses from environmental psychology; specifically, that users' tendencies to approach or avoid environments are modeled on the basis of user reaction to the information load of a virtual environment and the emotions that such an environment elicits. A field experiment was conducted in which users visited popular shopping websites. The work demonstrated how information load and emotions influence virtual exploratory and shopping decisions.

© 2003 Elsevier Science B.V. All rights reserved.

Keywords: Virtual shopping; Environmental psychology; Electronic commerce; Information load; Emotions

1. Introduction

Much research in the past ignored the role of emotions and how they affect purchasing decisions. However, in other disciplines have suggested that emotions, reason, and quality of information all play a major role in the decision-making process (e.g. see [1,25,31]). To address this state of affairs, this study draws upon hypotheses from Mehrabian and Russell's [26] environmental psychology approach; specifically, this states that users' tendencies to approach or avoid environments are modeled on the basis of their reaction to the information load of the virtual shopping environment and the emotions that this environment elicits. Thus, the following three issues jointly determine the users' desires to use the web:

- The differences between individuals and the way their interest is stimulated on-line (by inspiring "arousal seeking tendencies").
- The information characteristics of virtual shopping environments (the information available).
- The emotions experienced in using the environments.

The environmental psychology approach has been widely used to examine traditional shopping dynamics (e.g. [8,13,39]). The application of this approach to virtual on-line shopping demands revision of the theoretical framework and empirical examination of shopper behavior to take into account the distinguishing characteristics of the virtual environment.

1. Users not only search the web for specific information, they also surf it for entertainment, stimulation, and to socialize. These are all important aspects of on-line shopping dynamics [11,27,38].

* Tel.: +886-4-22854910.

E-mail address: mhhuang@nchu.edu.tw (M.-H. Huang).

2. Virtual on-line shopping environments are more technically complex and information-intensive than traditional ones. This influences the extent to which on-line users perceive themselves to be able to dominate their interaction with the environments they encounter. Dominance, one of the emotional dimensions specified in the environmental psychology model, has been found to have significant impact on users' behavioral decisions.

2. The Mehrabian–Russell model

2.1. The theoretical framework

The theory of environmental psychology includes two major topics: the effects of the information characteristics of environments on decisions to approach or avoid those environments, and the impacts of emotions experienced in the environments due to those decisions. The model makes three major predictions about an individual's decisions to approach or avoid environments.

1. The arousal-seeking tendency (AST) of an individual determines the types of environments he or she prefers. AST involves the characteristic response of an individual to the information characteristics of his or her environment. Individuals who have a low AST prefer *calm* environments, whereas individuals who have a high AST actively seek stimulation to increase their arousal by selecting *novel*, *complex*, or *unpredictable* environments.
2. The information load of an environment determines the emotional level experienced by individuals in that environment. Information rate (load) depends on information characteristics, which involve complex spatial and temporal factors (such as volume and rate of change) of information in the environment. These information characteristics therefore include attributes of the information, e.g. is it complex, random, intense, jarring, heterogeneous, dissonant, intermittent, rare, novel, surprising, meaningless, asymmetrical, close, crowded, and dense? Environments with a large amount of information are more likely to elicit unpleasant emotions, such as the user feeling that he or she has lost control over interaction with the environment.

3. Emotions experienced in an environment determine the individuals' decision to approach or avoid the environment. Three emotional dimensions characterize an individual's feelings in the environment: arousal, pleasure, and dominance.
 - *Arousal* ranging from sleep to frenzied excitement.
 - *Pleasure* ranging from extreme pain or unhappiness to extreme happiness or ecstasy.
 - *Dominance* depending whether the individual feels restricted or unrestricted (free to act a variety of ways) within the environment.

Thus, the tendency of individuals to approach or avoid an environment is broadly defined to include physical movement toward or away from, degree of attention to, extent of exploration in, and favorable attitudes toward the environment. Pleasant emotions increase willingness to approach the environment that elicits those emotions, whereas unpleasant emotions lead to the tendency to avoid the environment. Thus, web users who have different arousal-seeking tendencies will respond differently to the same environment [18].

2.2. Environmental psychology in virtual environments

Information load has been operationalized in different ways, including the amount of information [28], number of alternative outcomes [32], and overall diversity of the information [20]. In the context of virtual environments, it can be used to refer to the number of different elements, features, or information cues of a site.

The *emotions* experienced by users in virtual environments are commonly conceptualized as flow. This is characterized by two factors: intense concentration and enjoyment [15]. In flow states, users experience feelings of control over human and computer interaction, and thus feel in control of their own actions and choices [34]. The three major dimensions used to measure flow, enjoyment, concentration, and control [15], correspond closely to the three emotional dimensions, pleasure, arousal, and dominance of the environmental psychology model.

Users' *decisions to approach or avoid virtual environments* can be conceptualized as falling into one of two broad categories of on-line behavior: virtual

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات