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A Comprehensive, Parsimonious, Process-Oriented Model for Web User Experience

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Abstract

Numerous attempts have been made to understand how consumers conceptualize their Web experience. Given the multidisciplinary nature of the Web, these efforts have led to “the blind man and the elephant effect.” For instance, because system designers view the Web as a collection of hardware and software, information systems theories and the corresponding metrics of Web user experience are dominated by a rather narrow (from consumers’ view point) usability orientation. Marketers, in contrast, consider the Web as a branding and communications vehicle; yet their efforts are either devoted to advance atheoretical metrics [1] or are relatively narrow in scope, such as focusing on peak user experience (e.g., [2] [3]).

It is only recently that there has been an attempt to develop models that are grounded in broad, multidisciplinary theories (e.g., [4] [5]) that answer a fundamental question: How do users conceptualize, comprehend, interpret, or assign meaning to Web pages/sites? That is, how do users make sense of Web pages, and why do they react to them as they do?

We propose a comprehensive, yet parsimonious, meta model that transcends several narrower Web behavior models proposed in advertising, information systems, and marketing.

Because molar events cannot always be understood by their constituent parts alone, our model focuses on the perception at the molar (totality of user experience) and, not molecular level. With minor modifications, therefore, it applies to the perception of both Web pages and Web sites, a sign of its robustness and generalizability,

The Model

The fundamental premises of our model are: (1) the initial perception of a Web page/site involves understanding or making sense of the content and its organization on the page/site it (what is it, and what does it do for me?); (2) these early attention and interpretational processes of perceiving give rise to positive and negative affective reactions (or feelings¹), of which people are aware (i.e., they consciously monitor them) and which serve as causal antecedents that influence the evaluation of specific aspects of a Web page/site (e.g., attractive, lively, ugly), and its global evaluation (i.e., the overall attitude toward the Web page/site). The hypothesized model is presented in the attached Figure. Sample measures for the constructs are in Table.

In this context, it is worth noting that our model explicitly incorporates users’ feelings as causal antecedents to evaluations, attitudes, and behaviors. This is commensurate with the prevailing scientific view that affect is a highly organized, systematic response to environmental demands that has evolved to serve adaptive roles and that, to understand people’s judgments, we must understand their affective responses ([6] [7]).

Undergraduate students at a Midwestern university were the study participants. The product category selected was electronic cards. This is a relevant category for the students. The participants viewed a web page and responded to

¹ Affective responses, usually defined as valenced feeling states [8], run whole gamut from mild, transient, general, and pervasive moods to more intense emotions such as anger or fear. Appraisals, in contrast, are cognitive or evaluative responses or semantic judgments that represent a respondent’s praise or criticism of the characteristics of the target itself [9]. The two are qualitatively different; the latter is an appraisal, and the former is a phenomenological property of the person or a state engendered in the respondent [10].

questions related to the page and then navigated the underlying web site before responding to questions about the web site. Participants were asked to view the page and navigate the site as if they were casually browsing the web. Participants were told that they would fill out their reactions to the page and the site after viewing the home page and the site, respectively.

We tested the model on the Web page and Web Site using covariance structure modeling. Across two sets of home pages and web sites, the model is validated. The data confirm that, overall, the model presented in the Figure holds for the web page and web site. However, based on the nature of the stimulus—web page or web site—several differences emerge in the underlying constructs and the model.

Implications

Given the dizzying array of attributes designers have at their disposal (e.g., colors, font types, audio, video, and graphics) and their infinite possible arrangements on a page, the design of a Web page/site is a complex task and designers and marketers could use any help they can get. Our model complements extant usability and marketing methods and provides a reliable and valid means for securing large-scale user input in pre- as well as posttests. It, therefore, should facilitate marketing and design decisions by mapping users' cognitive environment in terms of theoretically-anchored and reliably-measured constructs (e.g., coherence, richness, feelings, and shopping enjoyment).

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Figure
A General Model of Web Page/Site Perception and Online Behavior

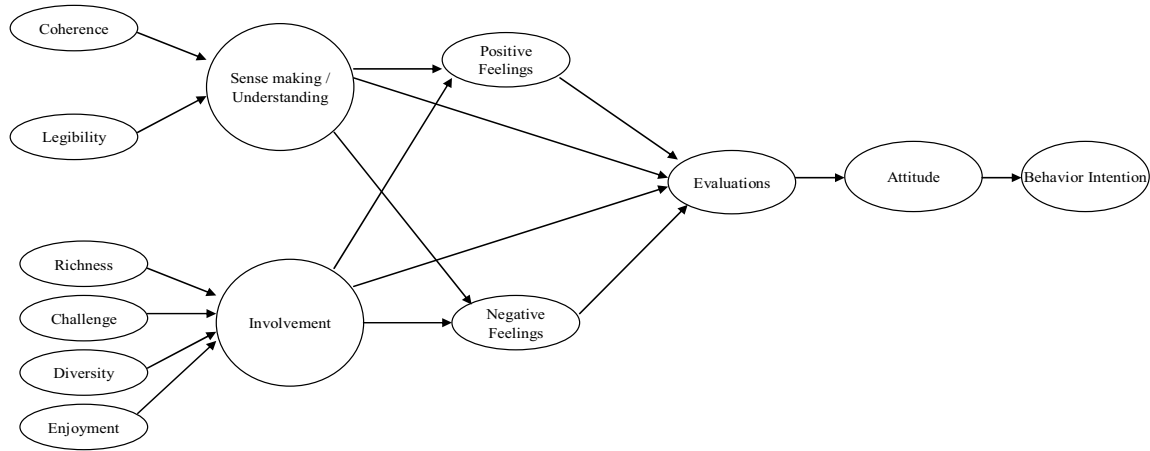


Table
Sample Measures for Constructs for responses to the Home page

Construct	Sample Measures
Understanding	It is easy to make sense of this home page
	Looking at this home page, I think the underlying web site will be easy to navigate
	This home page is easy to comprehend
Involvement	This home page is professionally designed.
	This home page lacks variety.
	The web site this home page represents promises a lot of information.
Positive feelings	Did this Home page make you feel...
	...joyous
	...pleased
Negative feelings	...irritated
	...annoyed
Evaluations	This Home page is ...ugly
	...attractive
	...likeable
Attitude	What is your overall impression of this Home page...Appealing--unappealing
	...good—bad
	...favorable--unfavorable
Behavior Intent	What is the chance that you would further explore this Home page...
	...likely – unlikely
	...probable – improbable
	...possible -- impossible