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ABSTRACT

Despite the prevalence of online shopping, consumers' hedonic experience, when shopping online, is often limited due to static product images and uninspiring product description in textual form. To this end, this study endeavors to shed light on how contemporary and widely applied online product presentation formats influence consumers' hedonic web shopping experience. Building on the Theory of Reasoned Action (TRA), we advance a theoretical model that posits enjoyment and flow as positive indicators of consumers' hedonic web shopping experience, which in turn affects their behavioral intents to return and purchase from an e-commerce website. Our theoretical model is then subjected to empirical validation through an experiment that distinguishes between functional (product description) and visual (product display) dimensions of online product presentation. Findings suggest that hedonic web shopping could be induced through online product presentation that exhibits interactivity, vividness and social presence.

Keywords

Online product presentation, hedonic web shopping, enjoyment, flow.

INTRODUCTION

Although online shopping is a pervasive aspect of daily life for many people, consumers' hedonic experience, when shopping online, is often limited due to de facto standards being applied in product presentation. Static images and textual product descriptions are typically the norm even for sophisticated e-commerce websites (e.g., Amazon.com and Walmart.com), leading to an impoverished hedonic web shopping experience as compared to offline retail. Although past studies have testified to the business opportunities offered by hedonic web shopping, few with the exception of Jiang and Benbasat (2004, 2007a, 2007b) have investigated the impact of online product presentation on hedonic web shopping. Even then, Jiang and Benbasat (2004, 2007a, 2007b) have not fully differentiate between functional and visual dimensions of online product presentation in their work. To this end, this study endeavors to shed light on how online product presentation formats influence consumers' hedonic web shopping experience by: (1) distinguishing between textual and audio forms of presenting product descriptions (functional dimension), and; (2) employing distinctive visualization techniques (i.e., static images, videos and virtual product experience) for displaying products.

THEORETICAL FOUNDATION

When shopping online, consumers are not only motivated by utilitarian goals (e.g., product acquisition), they may also pursue hedonic objectives (e.g., expectations of fun and pleasure) as well. Past studies have shown that consumers, when shopping online, respond to emotional cues (Koufaris, 2002) and desire affective outcomes, which comprise feelings of arousal, enjoyment, involvement, pleasure, spontaneity and stimulation (Cyr, 2014). We therefore define **hedonic web shopping** as the *extent to which e-commerce websites enable consumers to be immersed in the emotive and multi-sensory aspects of online shopping.*

Online shopping differs from that of offline shopping in that it is restricted to presenting mostly two-dimensional graphics and textual information. In the absence of direct product experience, online shopping "limits the ability of consumers to judge product quality and leaves them less emotionally engaged in shopping experiences" (Jiang and Benbasat, 2004, p. 112). This study therefore extends Jiang and Benbasat's (2007a, 2007b) work by delineating between functional (i.e., product description) and visual (i.e., product display) elements in investigating how online product presentation shapes hedonic web shopping.

Theoretical Model

Subscribing to the Theory of Reasoned Action (TRA), we advance a theoretical model that explains and predicts the impact of online product presentation on consumers' shopping experiences. According to the TRA, a person's volitional behavior is predicated on his/her behavioral

intentions, which are in turn determined by his/her attitude towards the behavior and this attitude is the culmination of cumulative beliefs about the behavior (Ajzen and Fishbein, 1980). In the context of this study, we are hence interested in consumers' behavioral intentions to: (1) revisit an e-commerce website, and; (2) purchase from the website. This is because it is not only crucial for e-merchants to entice consumers to revisit e-commerce websites, it is also imperative for them to convert these visits into tangible purchases (e.g., Jiang and Benbasat, 2007a). We therefore hypothesize that:

H1: *Consumers' attitudes towards shopping at an e-commerce website positively influence their intentions to return to the website.*

H2: *Consumers' attitudes towards shopping at an e-commerce website positively influence their intentions to purchase on the website.*

As stated by Hassanein and Head (2007), "user attitude towards a technology is directly affected by beliefs about the system" (p. 692). Clear distinctions must however be drawn between **object**- and **behavioral**-based beliefs in predicting system usage behavior (Wixom and Todd, 2005). While object-based beliefs deal with technical aspects of the system, behavioral-based beliefs only acquire meaning when targeting specific system-related behaviors (see Wixom and Todd, 2005). We hence differentiate between object-based beliefs (associated with the technological qualities of online product presentation) and behavioral-based beliefs (related to consequences of utilizing such product presentation) in conceptualizing the impact of online product presentation on hedonic web shopping.

Behavioral-based Beliefs of Hedonic Web Shopping

Enjoyment: Enjoyment reflects "the extent to which the activity of using the technology is perceived to provide reinforcement in its own right, apart from any performance consequences that may be anticipated" (Childers et al., 2001, p. 513). For this reason, Massey et al. (2007) maintained that "hedonic sites aim to provide self-fulfilling value and enjoyment to a customer" (p. 284). We therefore define enjoyment as the *extent to which feelings of pleasure are induced in consumers through online shopping* and hypothesize that:

H3: *Consumers' feelings of enjoyment from shopping at an e-commerce website positively influence their attitudes towards the website.*

Flow: When people are in a state of flow, they become absorbed in their activity so much so that they possess a narrowed attention focus and experience a loss of self-consciousness (Koufaris, 2002). Within extant literature, flow has been found to exert a positive influence on consumers' attitudes towards online shopping (e.g., Guo and Poole, 2009). We therefore define flow as the *psychological state in which consumers act with total involvement when shopping online* and hypothesize that:

H4: *Consumers' feelings of flow from shopping at an e-commerce website positively influence their attitudes towards the website.*

Object-based Beliefs of Hedonic Web Shopping

Interactivity: Interactive product presentations are those that illustrate product features, assisting consumers to produce mental images of how a product may be utilized. Adapting Jiang and Benbasat's (2007a) definition, interactivity is defined in this study as the *extent to which an e-commerce website provides a mediated environment where consumers can interact with products in real time*. Because interactive product presentation aids consumers in visualizing how a product may be utilized, it is conceivable that feelings of enjoyment are likely to be amplified when shopping online (Jiang and Benbasat, 2007a). We therefore hypothesize that:

H5: *Perceived interactivity of online product presentation positively influences consumers' feelings of enjoyment from shopping at an e-commerce website.*

By facilitating interactions to take place between consumers and products on e-commerce websites, one might expect that interactive product presentations are better able to retain consumers' involvement throughout the online shopping process (Guo and Poole, 2009). We therefore hypothesize that:

H6: *Perceived interactivity of online product presentation positively influences consumers' feelings of flow from shopping at an e-commerce website.*

Vividness: Vivid product presentations expose consumers to a much greater number of "information cues about a product and stimulates more sensory channels than a pallid product presentation" (Jiang and Benbasat, 2007a, p. 456), Vivid product presentations attract and hold consumers' attention by stimulating one's imagination through imageries that are concrete, provocative and emotionally appealing. We therefore define vividness as the *extent to which an e-commerce website provides a mediated environment where consumers can access product information in multi-sensory formats*. Because vivid product presentations excite multiple sensory organs on the part of consumers, feelings of enjoyments are likely to manifest. We therefore hypothesize that:

H7: *Perceived vividness of online product presentation positively influences consumers' feelings of enjoyment from shopping at an e-commerce website.*

Similarly, vivid product presentations, by attracting and retaining consumers' attention during online shopping, should positively influence feelings of flow. We therefore hypothesize that:

H8: *Perceived vividness of online product presentation positively influences consumers' feelings of flow from shopping at an e-commerce website.*

Social Presence: Social presence is defined as the *extent to which an e-commerce website provides a mediated environment where consumers can experience others as being psychologically present*. Although e-commerce websites are generally deemed as channels with low social presence, Hassanein and Head (2007) have countered that it is possible for communication mediums to establish a psychological connection with users through conveying a sense of human warmth and sociability. This is especially true for online product presentation in that perceptions of social presence could be induced through visual and textual content, which embodies rich social cues. We therefore hypothesize that:

H9: *Perceived social presence of online product presentation positively influences consumers' feelings of enjoyment from shopping at an e-commerce website.*

Given that social presence fosters an impression of human contact, online product presentation with high social presence should be able to captivate consumers and induce a state of flow when shopping online. We therefore hypothesize that:

H10: *Perceived social presence of online product presentation positively influences consumers' feelings of flow from shopping at an e-commerce website.*

Visual Control: Visual control proffers a multi-dimensional view of products by allowing consumers to manipulate their appearance or form (Jiang and Benbasat, 2004). Visual control expands consumers' product knowledge by empowering them to draw inferences and confirm predictions about product performance (Jiang and Benbasat, 2007b). We therefore define visual control as the *extent to which an e-commerce website provides a mediated environment where consumers can manipulate and view products from multiple angles*. Since visual control provides consumers with the opportunity to experience products virtually, heightened feelings of enjoyment should emerge. We therefore hypothesize that:

H11: *Perceived visual control of online product presentation positively influences consumers' feelings of enjoyment from shopping at an e-commerce website.*

Online product presentation with visual control should induce a state of flow among consumers due to the latter's enhanced ability to experience products virtually. Because the positive relationship between visual control and flow has been empirically substantiated by Jiang and Benbasat (2004), we hypothesize that:

H12: *Perceived visual control of online product presentation positively influences consumers' feelings of flow from shopping at an e-commerce website.*

METHODOLOGY

To validate our theoretical model, we conduct an experiment with eight different online product presentation formats in order to investigate their impact on hedonic web shopping.

Experimental Design

Online product presentation comprises both functional and visual dimensions (Jiang and Benbasat, 2004). Whereas the functional dimension deals with product description or specifications, the visual dimension is concerned with product appearance as portrayed to consumers. In the same vein, we distinguish between online product presentation formats that showcase products (visual dimension) and those that convey product information (functional dimension) (see Table 1).

Dimension	Presentation Format	Actionable Design Principle
Functional	Textual	Static product description
	Audio	Narrated product description
Visual	Image	Static product image
	Video	Product video
	Virtual Product Experience (VPE)	Rotatable 3D product image

Table 1. Online Product Presentation Formats

Based on Table 1, we conduct an online experiment that employs a **2** [*Functional Element*: Text and Audio] x **4** [*Visual Element*: No Image, Image, Video and Virtual Product Experience] *between-subjects* factorial design.

The experiment was organized with the cooperation of Geef Gevoel (http://www.geefgevoel.nl/), an up and coming online gift store located in the Netherlands. Geef Gevoel envisioned itself to be an online store with gift packs that are aimed primarily at the Dutch market. The gift packs of Geef Gevoel are hedonic in nature because they are specifically designed to convey a certain feeling or emotion (see Figure 1).

Figure 1. Gift Pack 'Het Pronkjewail Gevoel'

For each of the eight treatment cells, an artificial clone of the Geef Gevoel website was developed with the same exact design and offering an identical range of products. The sole difference among these artificial experimental websites lies in the combination of functional and visual dimensions for online product presentation that corresponds to the manipulation for each treatment cell.

Participants for the experiment were recruited from the student body of a large university in the Netherlands. Participation was voluntary. For those who volunteered to participate in the experiment, they were randomly

assigned to one of the eight treatment conditions. Participants were presented with the experimental website corresponding to their treatment condition and instructed to take as long as they need to explore the different gift packs offered on the site. Participants were also allowed to make simulated purchases as they would on a real shopping website. After having visited the experimental website, participants were directed to an online questionnaire where they were asked to evaluate their hedonic web shopping experience. Constructs from our theoretical model have been investigated in past studies and measures can be readily obtained from extant literature with minor modifications whenever necessary.

Data Analysis

A total of 173 participants volunteered for the experiment of which 13 responses were discarded for being outliners, resulting in a sample size of 160 data points (ranging from

18 to 22 participants per treatment cell) for analysis. No significant difference in demographic composition was detected across the eight treatment cells.

Partial Least Squares (PLS) analysis was employed to analyze survey data gathered in the experiment. Because survey measures may be plagued by common method bias, we applied Harman's (1967) one-factor extraction test to the data sample. No single factor accounted for more than 50% of total variance explained, implying that common method bias is not a threat in this study. As can be seen from Table 2, all constructs exceed prescribed thresholds, thus supporting convergent validity. Conversely, for sufficient discriminant validity, the AVE from each construct should be greater than the variance shared between the construct and other constructs in the model. Based on the inter-construct correlation matrix generated from SmartPLS, all constructs display sufficient discriminant validity (see Table 2).

	Average Variance Extracted (AVE) [> 0.50]	Composite Reliability [> 0.70]	Cronbach's Alpha (α) [> 0.70]	ATT	FLO	ENJ	INT	INP	INR	SOP	VIC	VIV
Attitude (ATT)	**0.778**	**0.913**	**0.857**	**0.882**								
Flow (FLO)	**0.667**	**0.857**	**0.750**	0.551	**0.817**							
Enjoyment (ENJ)	**0.787**	**0.936**	**0.909**	0.747	0.575	**0.887**						
Interactivity (INT)	**0.708**	**0.879**	**0.797**	0.444	0.453	0.469	**0.842**					
Intention to Purchase (INP)	**0.775**	**0.932**	**0.903**	0.706	0.423	0.519	0.378	**0.881**				
Intention to Return (INR)	**0.836**	**0.939**	**0.902**	0.781	0.465	0.679	0.424	0.692	**0.915**			
Social Presence (SOP)	**0.586**	**0.876**	**0.823**	0.693	0.533	0.684	0.416	0.480	0.612	**0.766**		
Visual Control (VIC)	**0.793**	**0.920**	**0.870**	0.327	0.281	0.329	0.412	0.294	0.272	0.295	**0.891**	
Vividness (VIV)	**0.672**	**0.891**	**0.836**	0.701	0.508	0.684	0.506	0.569	0.711	0.681	0.445	**0.820**

Table 2. Inter-Construct Correlation Matrix

The test of the structural model include estimates of the path coefficients that indicate the strengths of the relationships between independent and dependent variables as well as R^2 values that capture the amount of variance explained by the independent variables on its dependent counterpart. The bootstrap re-sampling

technique was employed to generate 500 random samples from the original data set to compute for standard errors. Figure 4 depicts statistical results from analyzing our proposed theoretical model of the impact of online product presentation on hedonic web shopping.
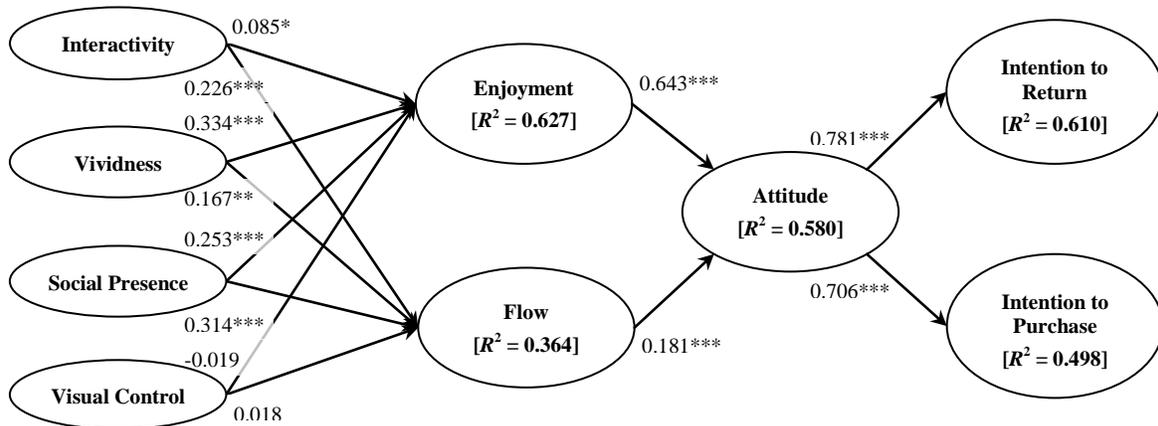

Figure 2. Analytical Results of Structural Equation Model (SEM)

From the data analysis, a majority of hypothesized relationships are substantiated by the empirical evidence (see Figure 4). *Attitude* exert positive and significant effects on *intention to return* ($\beta = 0.78$, $p < 0.001$) and *intention to purchase* ($\beta = 0.71$, $p < 0.001$), accounting for 61% and 50% of variance in the two constructs respectively. Hypotheses 1 and 2 are hence corroborated. In turn, *enjoyment* ($\beta = 0.64$, $p < 0.001$) and *flow* ($\beta = 0.18$, $p < 0.001$) exert positive and significant effects on *attitude*, which when combined, explain 58% of the variance in the latter. Hypotheses 3 and 4 are therefore substantiated. Whereas *interactivity* ($\beta = 0.09$, $p < 0.05$), *vividness* ($\beta = 0.33$, $p < 0.001$) and *social presence* ($\beta = 0.25$, $p < 0.001$) exert positive and significant effects on *enjoyment*, *visual control* ($\beta = -0.02$, $p > 0.05$) has no impact. Together, the four constructs (i.e., *interactivity*, *vividness*, *social presence* and *visual control*) account for 63% of variance in *enjoyment*. Hypotheses 5, 7 and 9 are thus supported whereas hypothesis 11 is not supported. Likewise, the same relationships were observed for *flow*. *Interactivity* ($\beta = 0.23$, $p < 0.05$), *vividness* ($\beta = 0.17$, $p < 0.01$) and *social presence* ($\beta = 0.31$, $p < 0.001$) exert positive and significant effects on *enjoyment* whereas *visual control* ($\beta = 0.02$, $p > 0.05$) has no impact. Together, the four constructs (i.e., *interactivity*, *vividness*, *social presence* and *visual control*) account for 36% of variance in *flow*. Hypotheses 6, 8 and 10 are hence corroborated whereas hypothesis 12 is not.

DISCUSSION

Delineating between functional and visual dimensions of online product presentation, this study advances a theoretical model that posits interactivity, vividness, social presence and visual control to be deterministic of consumers' perceptions of enjoyment and flow when shopping online. While the majority of hypothesized relationships in our theoretical are substantiated by the empirical evidence, it is interesting to note that visual control does not have an impact on either enjoyment or flow (see Figure 4). This runs contrary to the work of Jiang and Benbasat (2004) in which they uncovered a positive relationship between the two. One possible explanation for the contradictory finding might be that the experiential nature of the product (i.e., gift packs) precludes participants from having to manipulate its visual representation: participants are more interested with the overall look-and-feel of the gift pack rather than viewed from specific angles. Another possibility could be that unfamiliarity with more sophisticated online product presentation formats may cause visual control to have a negative influence on participants' perceptions of enjoyment and flow. Participants tend to draw reference from online product presentation formats, which contain static images combined with textual information, as de facto standards (Jiang and Benbasat, 2007a). For this reason, sophisticated online product presentation formats

may appear to be counterintuitive to participants, leading to a decrease in enjoyment and flow.

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