

2009

Modeling Hedonic Consumption Behaviors in Online Shopping

Eric T.K. Lim

Simon Fraser University, etl4@sfu.ca

Dianne Cyr

Simon Fraser University, cyr@sfu.ca

Follow this and additional works at: <http://aisel.aisnet.org/sighci2009>

Recommended Citation

Lim, Eric T.K. and Cyr, Dianne, "Modeling Hedonic Consumption Behaviors in Online Shopping" (2009). *SIGHCI 2009 Proceedings*.
4.
<http://aisel.aisnet.org/sighci2009/4>

This material is brought to you by the Special Interest Group on Human-Computer Interaction at AIS Electronic Library (AISeL). It has been accepted for inclusion in SIGHCI 2009 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Modeling Hedonic Consumption Behaviors in Online Shopping

Eric T.K. Lim

Simon Fraser University
etl4@sfu.ca

Dianne Cyr

Simon Fraser University
cyr@sfu.ca

ABSTRACT

Increasingly, researchers have acknowledged that consumption activities involve hedonic components. Hedonic consumption relates to affective consumer behaviors in that it deals with the emotive and multi-sensory aspects of the consumption experience. Because the online shopping environment is characterized by the existence of an IT-enabled web interface that acts as the focal point of contact between customers and vendors, its design should also embed hedonic elements to create a holistic consumption experience. Drawing on the Expectation Disconfirmation Theory (EDT), this study advances a model that not only delineates hedonic consumer expectations into its constituent dimensions for online shopping but also highlights how these expectations can be best served through properties of aesthetic performance. The model is then empirically verified via an online questionnaire administered to a sample of 84 student participants. Theoretical contributions and pragmatic implications to be gleaned from our proposed model and its subsequent empirical validation are discussed.

Keywords

Expectation disconfirmation theory, hedonic expectations, aesthetic properties.

INTRODUCTION

Although considerable research has been conducted on the utilitarian facets of online shopping, the recognition of the Internet as a hedonic communication medium has gained in momentum only recently (Cyr et al. 2007). When transacting online, the social proximity and face-to-face interaction between shoppers and salespersons are replaced by IT-enabled web interfaces, which act to create distant customer-vendor relationships (Riegelsberger et al. 2003). Such estranged transactional environments however, strain interpersonal relationships between consumers and vendors, which in turn inhibit the growth of e-commerce (Riegelsberger et al. 2003).

Research has consistently demonstrated that consumers treat the technological artifacts embedded within websites as social actors and ascribe humanlike characteristics to them (Reeves and Nass 1996). Insofar as e-commerce websites are deemed as social entities by consumers when transacting electronically, online shopping must not only fulfill its intended utilitarian function, it should also deliver a hedonically charged transactional experience similar to

offline transactions as advocated by numerous scholars (e.g., Cyr and Head 2008). Drawing on the Expectation Disconfirmation Theory (EDT) (Oliver 1981; Spreng et al. 1996), this study advances a model of the hedonic determinants of consumer satisfaction for the e-commerce domain. The model proposes that feelings of hedonic satisfaction arise from consumers' subjective assessment of whether the aesthetic performance of an e-commerce website caters sufficiently to the fulfillment of hedonic expectations.

EXPECTATION DISCONFIRMATION THEORY (EDT): AN OVERVIEW

The EDT was proposed by Oliver (1981) as an explanatory framework to shed light on the process of expectancy disconfirmation. The EDT posits that expectations, coupled with perceived product performance, determine consumer satisfaction (Oliver 1981). This effect in turn, is mediated by the positive or negative disconfirmation of customers' expectations through product performance (Oliver 1981; Spreng et al. 1996). Although the EDT has its roots in product-related marketing research, its recent application to a variety of technological domains (e.g., McKinney et al. 2002) implies that the theory is not only versatile in accommodating and predicting diverse contextual conditions, but more importantly, it is amenable to circumstances where the primary phenomenon of interest is the continuance of system usage behaviors (Bhattacharjee 2001). This study thus subscribes to the EDT as the theoretical framework upon which to decipher the effect of hedonic elements on consumer satisfaction within the e-commerce context.

Emotional Buy-In: Fulfilling Hedonic Expectations via Aesthetic Performance

The festive or epicurean aspects of shopping have received far less attention within contemporary literature. As opposed to the utilitarian facets of consumption, its hedonic aspects are more personal and subjective in that they are tied to the amount of fun and enjoyability experienced in the shopping process than from mere task completion (Holbrook and Hirschman 1982). Hedonic shopping value should thus reflect the entertainment and emotional worth to be gained by consumers in performing the consumption activity (Hirschman and Holbrook 1982). Here, "the purchase of goods may be incidental to the experience of shopping. People buy so they can shop, not shop so they can buy" (Langrehr, 1991, p. 428). For this reason, affective emotions such as increased arousal, heightened

involvement, perceived freedom, fantasy fulfillment, and escapism are typically indicative of a hedonically satisfying shopping experience. This paper therefore posits that consumers' satisfaction with online shopping experiences is reliant on the successful attainment of hedonic outcomes. We henceforth refer to *hedonic satisfaction* as the *psychological state arising from the fulfillment of hedonic expectations*.

Childers et al. (2001) observed that motivations to engage in online retail shopping should not only comprise utilitarian objectives, but they must also encompass hedonic targets because the customizability of e-commerce websites presents "an expanded opportunity to create a cognitively and aesthetically rich shopping environment" (p. 511). Inability to synchronize the aesthetic design of e-commerce websites with consumers' prior expectations would culminate in perceptions of expectancy disconfirmation. We therefore define *hedonic disconfirmation* as the *extent to which discrepancy exists between a consumer's prior hedonic expectations for an e-commerce website and his/her subjective assessment of its performance* and hypothesize that:

H1: A consumer's hedonic disconfirmation of an e-commerce website is negatively related to his/her hedonic satisfaction with the website.

The hedonic expectations construct is clearly multi-dimensional in nature and will be treated as such in this study. To arrive at an explanatory and parsimonious collection of hedonic expectations pertinent to consumers' evaluation of e-commerce websites, we performed an extensive literature review from which we derive the three dimensions of *enjoyability*, *excitability* and *flow*.

Enjoyability: Enjoyability, as a hedonic motivation of consumer action, has been affirmed by numerous researchers (see Childers et al., 2001; Cyr et al., 2007). As an emerging influential factor of consumer attitudes in e-commerce transactions, enjoyability is affiliated with the experiential aspects of shopping to the extent to which Davis et al. (1992) classified it as an intrinsic motivation driving technology acceptance. In this respect, enjoyability qualifies as a hedonic expectation and is defined in this study as the *degree to which the e-commerce website is able to accord feelings of pleasure in the consumer through its utilization*.

Excitability: The term excitability is proposed in this study as the overarching construct from which to classify hedonic motivations like play (Mathwick and Rigdon, 2004), stimulating (Fiore et al., 2005) and mystery (Rosen and Purinton, 2004). While the aforementioned three constructs may differ slightly in their conceptions, they share commonalities in their emphasis on shopping as an engaging and adventurous journey, thereby leading to emotional arousal on the part of the consumer. We hence define excitability as the *degree to which the e-commerce website is able to engage the consumer in a state of heightened arousal through its utilization*.

Flow: The notion of flow as an affective motivational factor has been well-established (e.g., Eroglu et al. 2003; Griffith et al. 2001). When people are trapped in the flow state, they become totally involved in the ongoing activity and are unable to detect changes in their immediate surroundings. Specifically, flow is an end in itself as the activity must be intrinsically rewarding to secure people's involvement. Flow is thus characterized by: (1) a sense of playfulness; (2) a feeling of being in control; (3) strong concentration and loss of self-consciousness; (4) a distorted reality of time, and; (5) mental delight in an activity purely on its own (Ha et al. 2007). In keeping with the spirit of flow as a hedonic expectation associated with e-commerce websites, this study defines flow as the *degree to which the e-commerce website is able to involve the consumer and keep him/her preoccupied through its utilization*.

Since enjoyability, excitability and flow mirror a significant portion of citizens' anticipations of e-commerce websites as affective retail channels as empirically demonstrated through a combination of qualitative and quantitative evidence, it is deducible that consumers' satisfaction with online shopping will be dictated by the capability of e-commerce websites to meet these hedonic expectations:

H2: A consumer's perceived importance of the three hedonic expectations (i.e., enjoyability, excitability and flow) associated with an e-commerce website is positively related to his/her hedonic disconfirmation of the website.

The aesthetic performance of e-commerce websites in addressing consumers' hedonic motivations has been well-investigated within extant literature (Cyr and Head 2008). Whether it is the effect of social presence on perceived enjoyment (Cyr et al. 2007), the impact of media vividness on involvement (Griffith et al. 2001) or the influence of atmospheric cues on flow perceptions (Eroglu et al. 2003), there is an abundance of empirical evidence attesting to the viability of designing e-commerce websites aesthetically so as to match the hedonic expectations of consumers during online shopping. To cater to the hedonic expectations of online consumers, the aesthetic performance of e-commerce websites is of the utmost importance. We hence define *aesthetic performance* as a *consumer's subjective assessment of the extent to which an e-commerce website is able to offer a multi-sensory shopping experience that cater to his/her emotive needs* and hypothesize that:

H3: A consumer's evaluation of the aesthetic performance of an e-commerce website is negatively related to his/her hedonic disconfirmation of the website.

Though there is no pre-existing empirical evidence within extant literature that substantiates the positive linkage between hedonic expectations and the aesthetic performance of e-commerce websites, this relationship should hold in light of extensive empirical evidence from offline retail settings (e.g., Oliver, 1981; Spreng et al., 1996). This study hence hypothesizes that:

H4: A consumer's perceived importance of the three hedonic expectations (i.e., enjoyability, excitability and

flow) associated with an e-commerce website is positively related to his/her evaluation of the aesthetic performance of the website.

By the same rationale, a consumer whose hedonic expectations has been fulfilled or met through the aesthetics made accessible from the e-commerce website is more likely to be satisfied with the online shopping experience:

H5: A consumer's evaluation of the aesthetic performance of an e-commerce website is positively related to his/her hedonic satisfaction with the website.

Like hedonic expectations, the aesthetic performance of e-commerce websites is characterized by the affective properties catering to the affective needs of consumers of communication media to transmit information and have an enjoyable shopping experience by fostering a psychological connection between the e-commerce website and consumers. The aesthetic performance of e-commerce websites is characterized by the affective properties catering to the affective needs of consumers of communication media to transmit information and have an enjoyable shopping experience by fostering a psychological connection between the e-commerce website and consumers. The aesthetic performance of e-commerce websites is characterized by the affective properties catering to the affective needs of consumers of communication media to transmit information and have an enjoyable shopping experience by fostering a psychological connection between the e-commerce website and consumers. The aesthetic performance of e-commerce websites is characterized by the affective properties catering to the affective needs of consumers of communication media to transmit information and have an enjoyable shopping experience by fostering a psychological connection between the e-commerce website and consumers.

H6: A consumer's evaluation of the presence of each of the three aesthetic properties (i.e., atmospheric cues, media vividness and social presence) within an e-commerce website is positively related to his/her evaluation of the

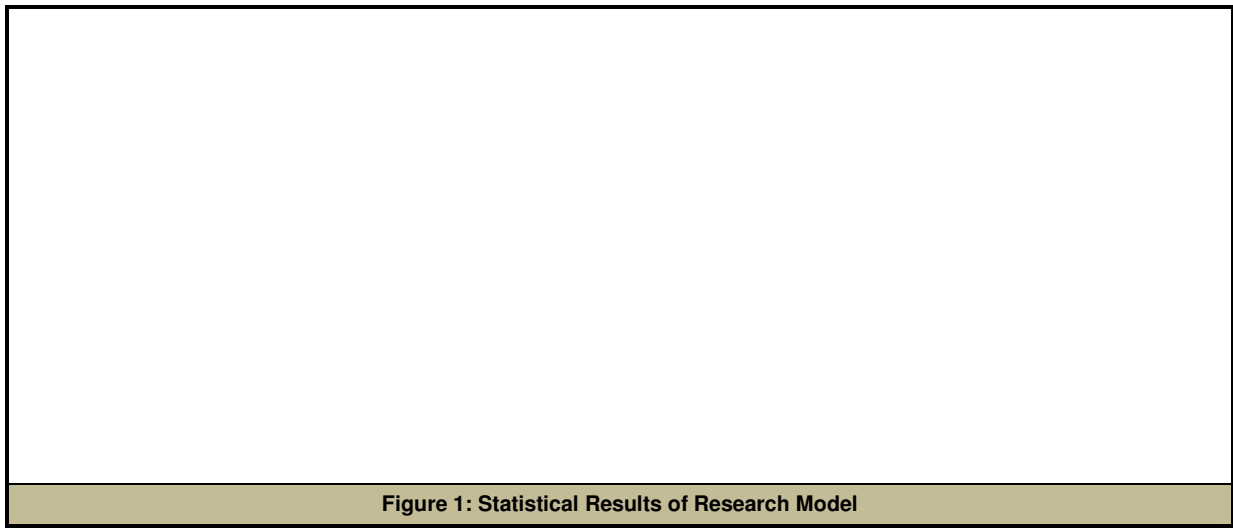
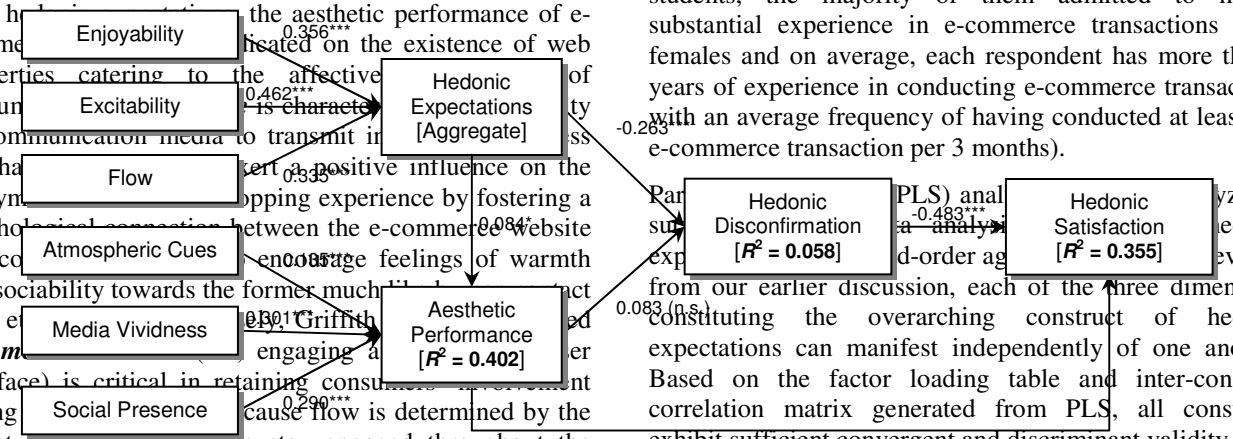
aesthetic performance of the website.

METHODOLOGY

This study adopts the online field survey methodology for data collection. Measurement items for the various constructs were adapted from past empirical studies whenever available. Survey participants are recruited from students attending an undergraduate course in a large North American university. In total, the study yields a sample size of 84 responses for data analysis which represents a 96.6% response rate. While survey respondents are undergraduate students, the majority of them admitted to having substantial experience in e-commerce transactions (52% females and on average, each respondent has more than 3 years of experience in conducting e-commerce transactions with an average frequency of having conducted at least one e-commerce transaction per 3 months).

Partial Least Squares (PLS) analysis was used to analyze the data. Hedonic Disconfirmation [R² = 0.058] and Hedonic Satisfaction [R² = 0.355] are the dependent variables. Hedonic Expectations [Aggregate] is the independent variable. The path coefficients and R² values are shown in the diagram.

The test of the structural model includes estimates of the path coefficients that indicate the strengths of the relationships between the dependent and independent variables as well as the R² values that represent the amount of variance explained by the independent variables on its dependent counterpart. Taken together, the R² values and the path coefficients provide an indication of how well the hypothesized model is substantiated by the data. Results from PLS analysis of the structural model, including path coefficients and their statistical significance, are depicted in Figure 1. With the exception of hypotheses 2 and 3, it is apparent from Figure 1 that the remaining hypothesized relationships are corroborated by the empirical evidence.



*** Correlation is significant at 0.001; * Correlation is significant at 0.05; n.s. Correlation is NOT significant at 0.05.

Post-Hoc Analysis

Although we have delineated hedonic expectations and aesthetic performance into its finer dimensions, much work is still required to comprehend the differential impact imposed by various hedonic expectations on consumers' evaluation of the aesthetic properties of e-commerce websites. Consumers' expectations have a positive relationship with performance such that the higher the expectations for an individual, the higher will be his/her performance ratings. As a preliminary effort at unraveling the effect of consumers' hedonic expectations on their corresponding evaluation of the aesthetic performance of e-commerce website, we conducted a post-hoc analysis whereby we analyzed a structural model that positions each of three constituent dimensions of hedonic expectations (i.e., enjoyability, excitability and flow) as predictors of their ratings of the three aesthetic performance dimensions (i.e., atmospheric cues, media vividness and social presence) respectively.

From our data analysis, while enjoyability ($\beta = 0.13$, $p < 0.001$) and excitability ($\beta = 0.42$, $p < 0.001$) exert positive and statistically significant effects on atmospheric cues, flow ($\beta = 0.09$, $p > 0.05$) has no impact on the latter. Together, enjoyability, excitability and flow accounts for 24% of the variance explained in atmospheric cues. Conversely, enjoyability ($\beta = 0.40$, $p < 0.001$), excitability ($\beta = 0.16$, $p < 0.001$) and flow ($\beta = 0.18$, $p < 0.001$) have significantly positive effect on media vividness, accounting for 42% of the variance explained in the dependent variable. Lastly, only excitability ($\beta = 0.35$, $p < 0.001$) has a positive and statistically significant influence on social presence whereas both enjoyability ($\beta = 0.09$, $p > 0.05$) and flow ($\beta = -0.06$, $p > 0.05$) has no effect.

DISCUSSION

This study accomplishes six primary theoretical objectives. First, it posits hedonic expectations as crucial drivers affecting consumers' attitudes towards e-commerce websites. As uncovered through our review of extant literature on online shopping, there exists a dual stream of research on how e-commerce websites can be efficaciously designed to boost consumer confidence with one school advocating the provision of transactional functionalities to assist customers in the achievement of utilitarian outcomes and the other urging the consideration of aesthetics as an answer to customers' demand for hedonic retail experiences. Although the utilitarian school of thought has garnered extensive scholarly attention over the years, there is unfortunately a paucity of studies dealing with the hedonic aspects of online shopping. By drawing on the well-celebrated capability of the EDT to explain and predict consumer satisfaction for retail shopping, this study advances a model of hedonic e-commerce consumer behaviors, which synthesizes concepts from extant literature to

construct a Nomological network that informs website design for affective shopping purposes. Second, this study adapts and redefines constructs from the original EDT to match the e-commerce context. Particularly, the redefinition of the hedonic disconfirmation construct provides clarity for the conceptual baseline from which expectations should be contrasted (i.e., aesthetic performance for hedonic expectations). Third, given the multi-dimensional nature of hedonic expectations, this study represents a pioneering endeavor to systematically delineate the construct into its constituent dimensions. Specifically, the hedonic expectations notion is split into its sub-dimensions of enjoyability, excitability and flow via an inductive classification of contemporary literature. Fourth, this study identifies key dimensions of aesthetic performance (i.e., atmospheric cues, media vividness and social presence) that translate to actionable design prescriptions that can be harnessed by practitioners when developing e-commerce websites. Fifth, we then assimilate constituent dimensions of hedonic expectations and aesthetic performance to construct a model of e-commerce consumer behavior with testable hypotheses. This model is then subjected to empirical validation via an online survey questionnaire with e-commerce savvy student respondents. Finally, through post-hoc analysis conducted at exploring the differential impact of differing hedonic expectations on consumers' assessment of aesthetic properties for e-commerce websites, this study makes a novel contribution to existing research in that it aids in explaining why online consumers may evaluate certain aesthetic features more favorably than others depending on their hedonically driven objectives.

Empirical evidence underscores several issues of interest. First, the substantiation of the majority of hypothesized relationships lends weight to the credibility of our adaptation of theoretically grounded design principles in inducing consumers' hedonic satisfaction towards e-commerce websites. Second, although the negative relationships between hedonic expectation and hedonic disconfirmation contradict the original premise of the EDT, a viable reason behind these observations may be attributable to consumers' tendency to avoid situations of cognitive dissonance. In accordance with the cognitive dissonance theory (Cooper, 2007), individuals tend to withdraw from beliefs leading to inconsistencies in cognition and are inherently compelled to alter their perceptions to attain mental alignment. Consumers with high hedonic expectations may therefore exhibit propensities to confirm rather than disconfirm their expectations of e-commerce websites in order to evade circumstances of cognitive dissonance. Last but not least, it is interesting to note that aesthetic performance does not have an effect on hedonic disconfirmation and yet, has a salient impact on hedonic satisfaction. Two reasons might account for this phenomenon: (1) existing research has

only scraped the tip of the iceberg with respect to the hedonic aspects of e-commerce websites, or that; (2) consumers' perception of e-commerce websites as a hedonic medium belongs to an emerging trend such that the former may not possess well-formulated ideas of what is to be expected in assessing the aesthetic performance of the latter. In either case, future research is needed to shed light on the hedonic constituents of e-commerce websites.

From a pragmatic standpoint, this study highlights the criticality of taking into account consumers' hedonic expectations in the design of e-commerce websites. In overemphasizing functional performance, e-commerce vendors can easily devise website functionalities that fulfill consumers' utilitarian needs, but concurrently, such emphasis may erode their ability to extract any probable benefits arising from the provision of hedonically-charged shopping activities. Furthermore, by delineating aesthetic performance into its constituent dimensions, our proposed model prescribes viable developmental steps that might be undertaken by practitioners in promoting consumers' hedonic satisfaction towards e-commerce websites.

REFERENCES

- Bhattacharjee, A. (2001) Understanding Information Systems Continuance: An Expectation-Confirmation Model, *MIS Quarterly*, 25, 3, 351-370.
- Childers, T. L., Carr, C. L., Peck, J., and Carson, S. (2001) Hedonic and Utilitarian Motivations for Online Retail Shopping Behavior, *Journal of Retailing*, 77, 4, 511-535.
- Cooper, J. (2007) *Cognitive Dissonance: 50 Years of a Classic Theory*, Sage Publications, London.
- Cyr, D., Hassanein, K., Head, M., and Ivanov, A. (2007) The Role of Social Presence in Establishing Loyalty in E-Service Environments, *Interacting with Computers*, 19, 1, 43-56.
- Cyr, D., and Head, M. (2008) Hedonic and Utilitarian Contexts in Website Viewing: The Impacts of Framing and Time Constraints, *Proceedings for the Seventh Pre-ICIS HCI Research in MIS Workshop (HCI/MIS'07)*, Paris.
- Eroglu, S. A., Machleit, K. A., and Davis, L. M. (2003) Empirical Testing of a Model of Online Store Atmospherics and Shopper Responses, *Psychology and Marketing*, 20, 2, 139-150.
- Fasolo, B., Raffaella, M., McClelland, G. H., and Cardaci, M. (2006) Animation Attracts: The Attraction Effect in an Online Shopping Environment, *Psychology and Marketing*, 23, 10, 799-811.
- Fiore, A. M., Jin, H.-J., and Kim, J. (2005) For Fun and Profit: Hedonic Value from Image Interactivity and Responses Toward an Online Store, *Psychology and Marketing*, 22, 8, 669-694.
- Griffith, D. A., Krampf, R. F., and Palmer, J. W. (2001) The Role of Interface in Electronic Commerce: Consumer Involvement with Print Versus Online Catalogs, *International Journal of Electronic Commerce*, 5, 4, 135-153.
- Ha, I., Yoon, Y., and Choi, M. (2007) Determinants of Adoption of Mobile Games under Mobile Broadband Wireless Access Environment, *Information and Management*, 44, 3, 276-286.
- Hirschman, E. C., and Holbrook, M. B. (1982) Hedonic Consumption: Emerging Concepts, Methods and Propositions, *Journal of Marketing*, 46, 3, 92-101.
- Holbrook, M. B., and Hirschman, E. C. (1982) The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun, *Journal of Consumer Research*, 9, 2, 132-140.
- Langrehr, F. W. (1991) Retail Shopping Mall Semiotics and Hedonic Consumption, in *Advances in Consumer Research Vol. 18*, Holman, R. H. and Solomon, M. R. (Eds.), Association for Consumer Research, Provo, UT, 428-433.
- Mathwick, C., and Rigdon, E. (2004) Play, Flow, and the Online Search Experience, *Journal of Consumer Research*, 31, 2, 324-332.
- McKinney, V., Yoon, K., and Zahedi, F. (2002) The Measurement of Web-Customer Satisfaction: An Expectation and Disconfirmation Approach, *Information Systems Research*, 13, 3, 296-315.
- Morin, S., Dubè, L., and Chebat, J.-C. (2007) The Role of Pleasant Music in Servicescapes: A Test of the Dual Model of Environmental Perception, *Journal of Retailing*, 83, 1, 115-130.
- Oliver, R. L. (1981) Measurement and Evaluation of Satisfaction Process in Retail Settings, *Journal of Retailing*, 57, 1, 25-48.
- Reeves, B., and Nass, C. (1996) *The Media Equation: How People Treat Computers Television, and New Media like Real People and Places*, Cambridge University Press, New York.
- Riegelsberger, J., Sasse, M. A., and McCarthy, J. D. (2003) Shiny Happy People Building Trust? Photos on E-Commerce Websites and Consumer Trust, *Proceedings of CHI*, 5, 1, 121-128.
- Rosen, D. E., and Purinton, E. (2004) Website Design: Viewing the Web as a Cognitive Landscape, *Journal of Business Research*, 57, 7, 787-794.
- Spreng, R. A., MacKenzie, S. B., and Olshavsky, R. W. (1996) A Reexamination of Determinants of Consumer Satisfaction, *Journal of Marketing*, 60, 1, 15-32.