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Landscape preference model in HCI: Emotion and Interactivity

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Landscape Preference Model in HCI Research : Addition of Emotion and Interactivity

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ABSTRACT

The study investigates the mediating role of emotional states and perceived interactivity in the formation of preference for website by revisiting the Landscape Preference Model (LPM) recently introduced to IS literature (Kaplan 1988; Singh, Dalal et al. 2005; Singh, Todd Donavan et al. 2008; Lee and Kozar 2009). We hypothesize that, in HCI context, the variables in exploration dimension of LPM matrix (Complexity and Mystery) affect user's attitude and behavioral intention to the extent that they are mediated by the perception of interactivity. Relying on regulatory focus theory(Higgins 1998), the study further examines two different types of emotional state produced as a function of the difference in motivational origin of factors postulated by the extant LPM. We expect that the results will indicate the proposed additions of both interactivity construct and emotional distinctions provide an important elaboration on the molar level guidance that LPM promised to offer for HCI designers.

Keywords (Required)

Environmental preference, perceived interactivity, regulatory focus theory

INTRODUCTION

Considering the proliferation of cognitive-oriented explanations on IT adoption and usage in IS research (e.g., Fishbein and Ajzen 1975; Davis, Bagozzi et al. 1989; Bhattacherjee 2001), the role given to emotional factors in IS research has been relatively obscured (Guinea and Markus 2010). Most studies in technology acceptance and continuation highlights the conscious mental events that lead to behavioral consequences. As computer use become more voluntary, individual, and experiential use in nature, the emotional factors take more critical role in the choice and use of computer mediated environment (Kim, Chan et al. 2007; Guinea and Markus 2009). Moreover, as computer use has become (and will be more) pervasively integrated into every aspects of our lives, the utilitarian assumptions of task goals and effectiveness in IS inquiries rooted in organizational context often face reasonable challenges (Yoo 2010). One of the recently introduced theories that call to stage the emotional factors as central mediators in determining user's cognitive outcome and behavioral consequences is the landscape preference model (LPM).

In the field of environmental psychology, Kaplan (1982) proposed that, as humans have evolved with perceptual capacity for processing visual information critical to survival, people exhibit a predictable pattern of preference for their surrounding landscapes. The landscape preference theory (Kaplan 1988; Kaplan 1992) contends that people possess a capacity to rapidly determine their preferences by perceiving the environmental cues in terms of their adaptive significance in an unconscious manner. It postulates that there is a strong evolutionary connection between cognition and affect immediately afforded by the physical environment. Kaplan identified a parsimonious matrix model that consists of four human perceptual factors directly

associated with environmental affordances. Because those factors are ingrained in human mind with their survival and adaptive significance, alterations in the level of four predictorss in the matrix evoke a valenced-response which shapes the preferences of landscape guiding the subsequent attitude and behavior (see Table1). It is the combination of two class of information about environmental landscape. One factor concerns the ultimate requirement of sense-making and exploration. The other divides the immediate or inferred levels that reflect how much processing is required to draw information. Kaplan (1982) contends that this matrix captures how people make rapid and unconscious empirical assessment of landscape which is intuitively preferred.

	Sense-making	Exploration
Perception of **Immediate** aspects	Coherence	Complexity
Perception of **Inferred** aspects	Legibility	Mystery

Table1 Preference Matrix Model (Excerpted from Kaplan 1992)

This paradigm draws a substantial empirical supports and has established a dominant theoretical position in landscape perception(Singh, Todd Donavan et al. 2008). Regarding the computer mediated environment as a unique subset of the human environments, Kaplan suggests that these set of constructs may well apply to such abstract environment as human-computer interface (Kaplan 1992). Such extensions have been materialized by a few pioneering researchers (Rosen and Purinton 2004; Singh, Dalal et al. 2005; Demangeot and Broderick 2007; Singh, Todd Donavan et al. 2008; Lee and Kozar 2009). However, these approaches to draw on environmental psychology collectively share some limitations. First, while they effectively highlight draw insight from the similarities between physical environments and computer mediated ones, they seem to have under-estimated the difference between those two. Second, while they take note of the emotional impact of classic LPM constructs, the analyses of emotional impact are either not provided or limited. And lastly, while they emphasize the *sense-making* and *exploration* dichotomy they ignore the difference in perceptual consequences of *immediate* and *inferred* categorization of the matrix (see Table1.)

The purpose of this study is to improve the applicability of the LPM model introduced to HCI literature by complementing it with the consideration of the critical nature of ***interactivity*** that sets apart the computer mediated environments from the real-life landscape and with the consideration of the underlying ***motivational origins*** that creates distinctive set of emotional consequences of LPM constructs

LANDSCAPE PREFERENCE MODEL AND INTERACTIVITY

Rosen and Purinton (2004) initiated the introduction of LPM to web contents domain arguing that the conflict in practitioners advices on site design should be assisted by the established perspective of cognitive psychology. Singh et al. (2005) argue that adoption of LPM in IS literature provides a needed theoretical framework to understand user reactions at a molar level that transcend the merits of molecular level approaches that focus on piecemeal page attributes. Demangeot and Broderick (2007) point out that the dichotomy of sense-making and exploration (Kaplan 1982) carries a unique merit of highlighting emotion-eliciting aspects of preference while it shares conceptually analogous traits with widely accepted other theoretical accounts; They appropriately likened the Kaplan's dichotomization to that of information processing theory (Bettman 1979) which distinguish information processing between cognitive route and experiential routes as well as that of Technology Acceptance Model (Davis 1989) which distinguish ease of use and usefulness (2007). While this view highlights the experience of physical environment, the emphasis is more on *navigating* through and less on *interacting* with the environments.

In adopting the insights of environmental psychology successfully to HCI research, however, we contend that it is critical to take note of the not only the similarity but also the difference between physical environments and computer mediated ones that are inherently social (Turkle 2008). Highlighting this *inherently social* characteristic of computerized environment, Turkle (2008) described the typical computer as "relational artifacts" that ask users to regard them not as tools but as

companions, as subjects in their own right. No natural environment has such relational and social characteristics as the computerized environment.

In this respect, the introduced LPM seems to under-emphasize the critical difference between 'walking through' the physical environment and 'interacting with' the computer mediated environment. That is, while these initial efforts (Rosen and Purinton 2004; Singh, Dalal et al. 2005; Singh, Todd Donavan et al. 2008; Lee and Kozar 2009; Rothman and Updegraff 2010) made significant contributions to HCI literature by successfully recognizing the common properties between physical and cyber landscape, they appear to be less successful in simultaneously taking into account of the difference between those two domains of environment: real vs. virtual.

LANDSCAPE PREFERENCE MODEL AND REGULATORY FOCUS

In addition to the lack of active consideration of interactivity, the extant LPM in HCI literature has also been unsuccessful to differentiate the antecedents and consequences of emotional factors. While the LPM relies heavily on their adaptive implications to explicate the motivational origins of preference perception (Kaplan 1992), it does not analyze the type of emotions that constitute a particular preference state in connection with the characteristic of individual motivational origins. Though the adopted LPM model (Singh, Todd Donavan et al. 2008; Lee and Kozar 2009) employed the affect variables as mediators shaping attitude and behavioral intention of users, those studies stopped short of distinguishing the effects of distinctive motivational origins on different emotional consequences. Therefore, in revisiting the Kaplan's preference model introduced to IS, we further take note of this motivational origins of each antecedent to predict the distinctive consequences on the formation of attitudes and subsequent behavioral intentions.

LPM and Emotion The original focus of LPM is to understand landscape aesthetics (Kaplan 1992). By aesthetic Kaplan refers to the "affective aspects of informational patterns". If it is adaptive to make environmental selections, "one would expect them to be part of the human affective makeup" (p 585 ibid). Kaplan (1992) suggests that for the early humans to carry out the information based assessment processes, it is likely that strong affect is associated with these processes to secure the adaptive purpose. For instance, a person, information-oriented-organism, who did not find affective disruption from disorientation would be an "easy to eat" object (ibid). It is not yet clear how much and how the cognition is involved in this rapid and unobtrusive formation of emotional preference from these environmental cues. Kaplan, however, speculates that there would be spectrum of different relationships between inputs and affects with the mediation of cognitive component varying considerably. It is not unclear that there are strong affective consequences of the environmental cues (1992).

Both Singh et al (2008) and Lee and Kozar (2009) include affect as key variable(s) mediating the influence of the four antecedents postulated by LPM on behavioral intention. Singh et al (2008) assess the affective response on two monoploar factors (positive feelings and negative feelings) while Lee and Kozar (2009) assess it on a bipolar factor (affective appraisals). Given that the extant research on affect generally recognizes two major dimension of human emotion: valence and arousal (Russell 1980; Watson and Tellegen 1985), information associated with the variation of affect in LPM would be captured should we take this two dimensional measure of affect crossing the level of valence and arousal. From this angle, Singh et al (2008) measure of affect (joyous, pleased, cheerful; irritated, annoyed, bothered) captures the emotion on scales of high arousal positive (for positive feelings) and high arousal negative (for negative feelings) (as A in Figure 1.) but does not capture the alteration of emotion representing both low arousal positive and low arousal negative. Similarly, Lee and Kozar (2009) measure of affect (dull/exiting, pleasant/unpleasant, and enjoyable/unenjoyable) captures the emotion on a scale of high arousal positive and low arousal negative (as B in Figure 1) but does not measure the emotions between low arousal positive and high arousal negative.

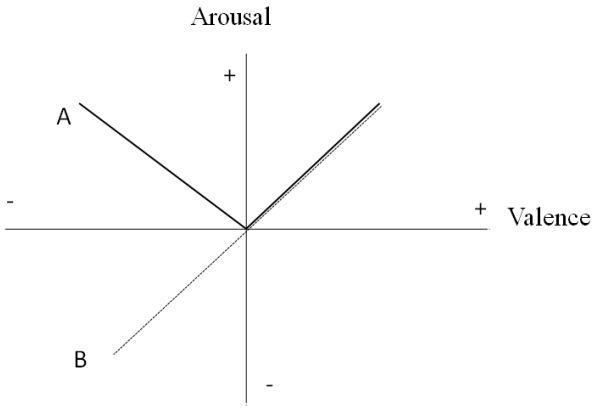

Figure 1 Two dimensional scale of affect

Emotion in Regulatory Focus Theory Because the theory claims that the expected valenced-responses toward a particular environment are grounded in survival instinct, we reason that each LPM construct is directed to meet different motivational origin of adaptive significance. We draw on regulatory focus theory (Higgins 2001) to predict the motivational origin of the affective reaction to the factors postulated by Kaplan. Higgins (2001) argue that there are two qualitatively different basis of emotion between the pleasure of cheerfulness and the pain of dejection on one hand and the pleasure of quiescence and the pain of agitation on the other. This argument is rooted in his more general theory of regulatory focus (Higgins, Roney et al. 1994; Higgins 1997).

According to Higgins (2001) there are two alternative self-regulatory processes: a promotion focus and a prevention focus. A prevention focus is concerned with security, safety, and responsibility while a promotion focus is concerned with advancement, growth, and accomplishment. Regulatory focus theory posits that (Brockner and Higgins 2001; Higgins 2001), the *nature* and *magnitude* of emotional experience vary depending on the degree of people's promotion and prevention focus. In terms of nature, for the promotion focused, emotional experience varies along a cheerful-dejected dimension whereas for the prevention focused, it varies along a quiescence-agitation dimension**.** The magnitude of emotion reflects the magnitude of negative discrepancy (the extent to which the one's actual self is parted from the regulatory goal) and the psychological significance of the goal. (see table 2) While both cheerfulness and quiescence represent success of regulatory effectiveness, the level of arousal (intensity) is higher in cheerfulness (on *presence* of positive outcome). By contrast, while both agitation and dejection represent failure of regulatory effectiveness, the level of arousal is higher in dejection (on *presence* of negative outcome). Such difference in *intensity* relies on people's tendency (i.e., feature-positive effect) to perform better in dealing with the information that has happened (e.g., presence of positive outcome; presence of negative outcome) than when dealing with something that has not happened (e.g., absence of positive outcome; absence of negative outcome)(Higgins 2001).

		Self-Regulatory Effectiveness	
		Success (Pleasure)	Failure (Pain)
Level of Activation	High	Cheerfulness	Agitation
	Low	Quiescence	Dejection

Table 2Emotion as a function of self-regulatory effectiveness (valence) and level of activation (arousal) (Excerpted from Higgins 2001)

Both Kaplan and Higgins take note of the important of understanding the linkage between emotions and their motivational origins. Kaplan points out that, in the information-processing activity to evaluate an environmental object, the feedbacks of mismatch-match signals have powerful motivational as well as emotional implications (1992). Higgins (2001) also notes that the model of emotion would benefit by relating emotional experiences to their motivational origins. To understand the link

between the emotional experiences and their motivational origin within LPM context, it is important to consider why the sense-making and exploration in landscape preference theory matters for human adaptation to begin with.

LPM and Regulatory Focus Theory

There are interesting parallels between the sense-making-exploration dichotomy and promotion-prevention regulatory focus. More specifically, for the components of the sense-making dimension of the preference matrix, the fundamental needs to satisfy appears to be security needs (vs. growth needs), the goals concerns the ought-self (vs. ideal self), and presumably the salient psychological situations is to avoid absence of disorientation (vs. presence of stimulation) and vice versa for the components of the exploration dimension. For the adaptive purpose, both learning about surrounding and acquisition of new information is critical but these two demands can be potentially conflicting. Kaplan remarks that "this potential conflict between seeking knowledge and avoiding what is new and hard to comprehend is what Hebb (1958) identified as 'man's ambivalent nature'"(Kaplan 1992). This dual concern, Kaplan argues, places affective premium on both sense-making of an environment as well as its exploratory capacity to offer new information.

Introducing the concept of regulatory fit, Higgins (2000) suggests that people find additional utility when the chosen means to achieve the goal is compatible with their regulatory focus. The fit facilitates people's attention to the information that contributes to achieve their goal. Because people manifest favorable responses when there is a fit (Higgins 2000), they feel greater motivational intensity, prospective feelings, and retrospective evaluations of decisions and the value assigned to a chosen object (Higgins 2000; Cesario, Grant et al. 2004; Rothman and Updegraff 2010). Building on this notion of regulatory fit, Chernev (2004) argues that, in making choice, people tend to overweigh the attributes that are compatible with their regulatory orientation. That is, people consider more the attributes that are compatible with their goals predisposed by their regulatory focus.

These findings of goal-attribute compatibility lead us to infer that, in the context of current study, the promotion focused people will weigh more on the attributes represented by the design components facilitating exploration (vs. sense-making) and the prevention focused will be more sensitive to the attributes associated with sense-making (vs. exploration).

RESEARCH MODEL

Based on the discussion presented above, we formulate the research model shown below Figure 2 Research Model. The model proposes that the perceptual predictors that facilitate sense-making induce qualitatively distinctive type of emotional consequence than the predictors for exploration. Coherence (a construct in sense-making dimension) serves for the prevention goal and thus will evoke the emotions along a quiescence-agitation continuum (prevention emotions). On the other hand, complexity (a construct in exploration dimension) serves for the promotion goals and thereby will evoke the emotion that varies along a cheerful–dejected dimension. The model further proposes that, due to the difference in processing demand, while the predictors in immediate-level directly engenders emotional reactions which mediate the influence on user's attitude, the predictors in inferred-level shape user's attitude and behavioral intention without the mediation of emotions. Lastly, the model proposes that the none-emotional influence of the exploration predictors (complexity and mystery) on user attitude and behavioral intention is mediated by perceived interactivity. Unlike natural environment, computer mediated environment requires a perception of presence that facilitates the anticipated exploration as controllable and realistic. Therefore, the cognitive impact of complexity and mystery materialize to the extent that the user perceive interactivity. Though not depicted in Figure 2, this model suggests that depending on user's regulatory orientation (or the planned value proposition of the website to the user), the relative importance of the LPM predictors in framing user attitude and behavior intention varies. Therefore, for the promotion focused users the predictors in sense-making will exhibit greater influence on the formation of attitude and behavioral intention while for the prevention focused the predictors in exploration will have greater influence.

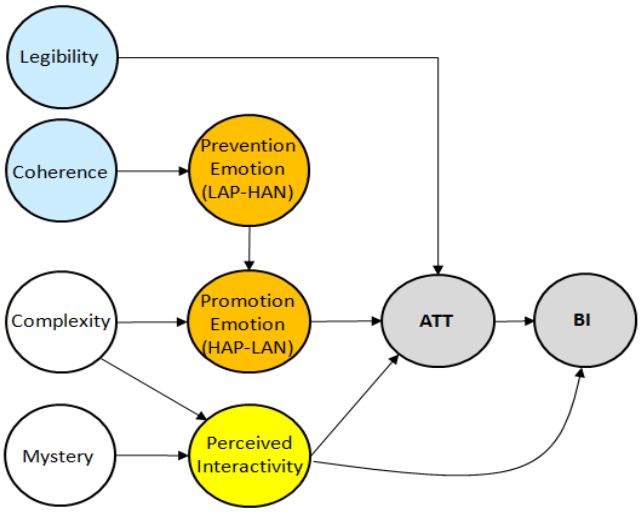

Figure 2 Research Model

HYPOTHESES DEVELOPMENT

Distinctive emotional experiences from sense-making and exploration goals LPM postulates that sense-making and exploration are the two central purposes that impact on survival potential of the information based organism (Kaplan 1988; Kaplan 1992). Sense-making (or understanding) concerns with order, security, and closure (Kaplan 1988). These goals will regulate one to focus on the affordances that increase one's sense of comprehension. Exploration (or involvement), on the other hand, concerns with curiosity, challenge, and stimulation (Kaplan 1988). These goals will regulate one to focus on the affordances that increase richness in possibility and suggested challenges. In the course of evolution, making sense of the surrounding environment should be of considerable adaptive value. When lacking such understanding of the environment, further exploration of new environment could be problematic (Kaplan 1992) partly because the goal for understanding is to meet the necessities while the goal for exploration is to meet the aspiration.

Viewed from the angle of regulatory focus theory(Crowe and Higgins 1997; Higgins 1997), acknowledging this difference in the fundamental purposes between making-sense and exploration opens a potential to predict its alignment with the subsequent emotional reactions and cognitive tendency to over or underweight specific characteristic of environment. As noted earlier, the dichotomy in regulatory focus exhibits key traits that are in parallel with the two contrasting demand in the LPM; sense-making will be considered as preventive concern whereas exploration will be considered as promotion concern.

Given that sense-making can be reasonably considered as preventive concern whereas exploration will be considered as promotion concern, it is safe to expect that the emotional experience associated with sense-making purposes will vary along a cheerful-dejected dimension (herein referred to as "prevention emotion") whereas emotional experience associated with exploration purposes, it will vary along a quiescence-agitation dimension**.** Hence we hypothesize that;

> H1a: LPM predictors in sense-making and exploration dimension induce distinctive type of emotional experiences such that the sense-making predictors (e.g., coherence and legibility) evoke the emotions along a quiescence-agitation continuum, while the exploration predictors (e.g., mystery and complexity) evoke the emotions along cheerfulness-dejection continuum.

This hypothesis (H1a), however, will be slightly modified and restated as H1b following the next discussion.

Immediate vs. inferred predictors Those who introduced LPM to HCI literature paid virtually no attention to the second distinction of LPM based on the degree of inference. In his discussion of cognition and affect, Kaplan suggested that LPM might provide a useful new perspective on the cognition affect relationship(Kaplan 1992) by questioning cognition-centric assumptions in explaining preference judgment. Referring to a widely cited Zajonc's (1980) notion that "preferences need no inferences", Kaplan notes that people may reach preferences in a various mixture of cognitive and affective components (Kaplan 1992). While it is complicated to analyze this mixture, Kaplan suggests that it is inevitable to take note of the nature and quantity of processing involved in making preference judgment in order to determine whether a process is cognitive or

not (Ibid). While complexity (an immediate level predictor) can be determined simply by the information provided in the stimulus array, in determining mystery (an inferred level predictor) requires higher level of information processing that involves a complex relationship between the observer and environment (p 594 Kaplan 1992). This implies that the predictors in inferred level of LPM are more likely to rely on cognition and thus less likely to be preferred without the mediation of cognition. In this light, it is expected that the emotional responses are more likely to be activated by the low processing immediate level predictors (e.g., coherence and complexity). On the other hand, if the inferred level predictors (e.g., legibility and mystery) demands cognitive interventions requiring large amount of processing to shape a preference judgment, it is less likely that the direct emotional responses will precede the judgment. Hence we posit that;

> H2: The immediate-level LPM predictors (coherence, complexity) are more likely to evoke emotional reaction which mediates their influence on user's attitude, whereas the inferred-level predictors (legibility, mystery) influence user's attitude and behavioral intention without the intervention of emotions.

In conjunction with H2, we now recast the hypothesized two emotional impacts postulated in H1a will be more likely to be exhibited as a consequence of immediate level predictors (coherence and complexity) rather than that of inferred level predictors. Hence we re-posit H1a by;

> H1b: LPM predictors in sense-making and exploration dimension induce distinctive type of emotional experiences such that the sense-making predictors (coherence) evoke the emotions along a quiescence-agitation continuum, while the exploration predictors (complexity) evoke the emotions along cheerfulness-dejection continuum.

Perceived interactivity as a mediator Computer mediated environments are similar to but not identical with physical landscapes. While sense-making refers to an concern *to comprehend* what's going on in immediate and inferred world, exploration[1] refers to a more motivated concern "to figure out, to learn, *to be stimulated*"(Kaplan 1988). This represents an "active approach to developing the grasp that is continually required to making a go of it (p457, Kaplan and Kaplan 1986)." This conceptualization of visual impact on preference requires an important assumption: what you see is what you get. While such assumption is a *reality* in physical environment, WISIWYG is a *degree* in computer mediated environment. Drawing on many previous research (Naimark 1990; Rheingold 1991; Laurel 1993), Steuer (1992) identified two determinants that shape and maintain telepresence: vividness and interactivity. As properties of technology, vividness represents the "representational richness of a mediated environment" while interactivity refers to "*the extent to which users can participate in modifying the form and contents of a mediated environment in real time"* (Steuer 1992). In a later conceptualization (Sundar, Xu et al. 2010) defined as "a set of system affordances that enable users to alter the medium, source, and message of their communications using the system", Sundar and his colleagues subsumed the technical components of vividness (i.e., the representational richness) as a part of the range of affordances (medium) that collectively constitute the interactivity. Apart from these technology centered conceptualization of interactivity, some other researchers (McMillan 2000b; McMillan and Hwang 2002; Bucy 2004a) offer a perception-focused definition of interactivity that reflects subjective experiences from various facets of technically afforded interactivity : "individuals rated interactivity of sites on the basis of perceptions of two-way communication, level of control, user activity, sense of place, and time sensitivity" (McMillan 2000b). Conceptualized this way, perceived interactivity becomes a high perceptual construct that reflect variety of socially and technically driven affordances. Thus, in computer mediated environment, perceived interactivity renders itself an effective molar level constructs that could bridge the framework for physical environment into the paralleled domain of mediated environment. That is, perceived interactivity will create the necessary sense of presence that facilitate the mental processing that leads to the realistic expectation of exploration. Therefore, in computer *mediated* environment the cognitive impact of exploration predictors (complexity and mystery) will be in large part bounded by the users' level of perceived interactivity from the afforded interface. Hence we posit;

> H3: The non-emotional influences of the exploration predictors (complexity and mystery) on attitude and behavioral intention are mediated by perceived interactivity.

[1] Kaplan(1988) employees the term *involvement* interchangeably with *exploration.*

The proactive exploration may demand certain level of secured sense-making as a prerequisite. However, Kaplan does not suggest any sequential or hierarchical priority between these two fundamental purposes of sense-making and exploration. Kaplan states, instead, any combinations are possible (e.g., positive in sense-making with negative in exploration, negative in sense-making with positive exploration)(Kaplan 1992). Nonetheless it is tempting to suppose that lack of understanding would undermine the aspiration for more information while securing sufficient understanding would create a favorable condition for exploring more. Concrete basis of understanding, on the other hand, will serve as a foundation on which to explore for more information. Considering this conflicting nature between these dual concerns and also considering the judgmental immediacy that LPM postulates, automatically prioritizing one concern (e.g. sense-making) over the other (exploration) in the process of the preference formation might be an adaptive choice of the evolution. Based on H1b and H2, we now further hypothesize that the promotion- emotion will have direct impact on attitude formation while the prevention-emotion will indirectly influence through the mediation of promotion-emotion. However, while the cognitive judgment based on affective appraisals will be more likely to follow the automatic conjunctive rule being dictated by the level of arousal, the cognitive appraisal processes that link between legibility and attitude and the link between mystery and attitude will more likely take inputs from sense-making and exploration predictors.

H4: Promotion emotion mediates the relationship between prevention emotion and attitude (ATT).

Regardless of the formation of attitude toward the website the highly activated positive emotion associated with the exploration dimension may directly influence the behavioral intention (e.g., return for re-use). Although the formation of general attitude (or preference) will be influenced by the balance of emotions, the engaging property of 'promise' and 'curiosity' from the exploration perceptions will lead one to carry the behavioral intention even without the alteration of attitude. For instance, even when the formation of positive attitude toward the website is inhibited by the negative emotions from disappointing evaluation of sense-making domain, the highly aroused positive emotion (HAP) that originates from the perception of predictors (mystery and complexity) will directly influence a positive behavioral intention prior to (or even without) the formation of the positive attitude. In this case Kaplan's notion of preference judgment is reflected directly on rapid alteration of behavioral intention before (or without) the attitudinal change. Because this highly aroused positive emotion (HAP) adopts promotion focused regulatory process, people are likely to choose eagerness means in processing the information to maximize the match with the strategic inclination of approach. Then they are more likely to choose to act, exhibiting higher behavioral intention. On the other hand, the highly activated negative emotion (HAN) adopts prevention focused regulatory process, as the emotion intensifies, people are likely to choose vigilance means to minimize the mismatch with the strategic inclination of avoidance. This process does not have behavioral implication beyond what's reflected in the formation of negative attitude. Thus, in HAP and HAN combination, while attitude might be neutralized the BI may be intensified. Hence, we expect that the promotion emotion directly influences on BI over and above its indirect influence through ATT.

H5: Perceived interactivity (PI) directly influences on behavioral intention (BI) over and above its indirect influence through attitude (ATT).

EXPECTED CONTRIBUTION

This study seek to revisit and enrich the extant landscape preference model (LPM) introduced to HCI literature by leveraging the perspectives from two distinctive research streams: perceived interactivity and regulatory-focus. We expect the results will lend supports for our hypothesis that in computer mediated environment, the LPM predictors of exploration category (complexity and mystery) influence the formation of user attitude to the extent that the level of perceived interactivity. This is a significant modification of LPM application in HCI research especially given that extant research demonstrate that mystery exhibits a determining impact on preference formation while other three predictors (coherence, legibility, and complexity) form only necessary conditions for preferences (p 96 1973, Kaplan, Singh et al 2008).

Introducing regulatory focus theoretic perspective, the present study also expands on the IS researcher's efforts to explicitly position "affect" as significant variable of interest in shaping user's attitude (Singh, Dalal et al. 2005; Singh, Todd Donavan et al. 2008; Lee and Kozar 2009) based on Kaplan's original acknowledgement of the value of affect. The results revealed that there are two qualitatively different emotional responses that take distinctive roles in determining the user's attitude depending on the type of LPM predictor the user's perception reacted to. Moreover, by showing the exclusive impacts of immediate dimension of the matrix on emotion, this approach successfully elaborates on the qualitative different consequences entailed by the distinction between immediate and inferred aspect of LPM originally proffered by Kaplan yet never attended to.

It is our hope that the present study makes a contribution to ground the future studies that offer fresh insights for emotion-centric account of HCI assessment that leverages LPM in connection with the perspective of interactivity and the regulatory focus theory.

RESEARCH METHODS

To collect the data to test the model, 300 subjects per site shall participate in the experimental survey. S.E.M will be used for path analysis with comparison analysis between the two primed groups. (This research in progress report will be presented at the conference with added empirical results.)

REFERENCES (THIS IS A PARTIAL LIST- THE COMPREHENSIVE LIST IS AVAILABLE UPON REQUEST)

1. Higgins, E. T. (2000). "Making a good decision: Value from fit." American Psychologist 55(11): 1217.
2. Higgins, E. T. (2001). "Promotion and prevention experiences: Relating emotions to nonemotional motivational states." Handbook of affect and social cognition: 186-211.
3. Kaplan, S. and R. Kaplan (1986). Humanscape, Ulrichś Books.
4. Kaplan, S. (1988). "Perception and landscape: conceptions and misconceptions." Environmental aesthetics: Theory, research, and application: 45-55.
5. Kaplan, S. (1992). "Environmental preference in a knowledge-seeking, knowledge-using organism."
6. Kaplan, S. and R. Kaplan (1986). Humanscape, Ulrichś Books.
7. Laurel, B. (1993). "Computers as theatre." Reading, Massachusetts.
8. Organizational Behavior and Human Decision Processes 36(3): 362-377.
9. McMillan, S. J. (2000b). "What is interactivity and what does it do." Listserv. LIST. MSU. EDU. ht tp://list. msu. edu/cgi-bin/wa 2.
10. Rafaeli, S. and F. Sudweeks (1997). "Networked Interactivity." Journal of Computer-Mediated Communication **2**(4): 0-0.
11. Reeves, B. (1991). "Being there: Television as symbolic versus natural experience." Unpublished manuscript, Stanford University, Institute for Communication Research, Standard, CA.
12. Singh, S. N., N. Dalal, et al. (2005). "Understanding web home page perception." European Journal of Information Systems 14(3): 288-302.
13. covariance structure modeling approach." Journal of Environmental Psychology **28**(4): 339-352.
14. Steuer, J. (1992). "Defining virtual reality: Dimensions determining telepresence." Journal of communication **42**(4): 73-93.
15. Singh, S. N., D. Todd Donavan, et al. (2008). "The latent structure of landscape perception: A mean and covariance structure modeling approach." Journal of Environmental Psychology 28(4): 339-352.
16. Sundar, S. S., Q. Xu, et al. (2010). Designing interactivity in media interfaces: A communications perspective, ACM.
17. Thompson, S. C., A. Sobolew-Shubin, et al. (1993). "Maintaining perceptions of control: Finding perceived control in low-control circumstances." Journal of Personality and Social Psychology **64**(2): 293.
18. Turkle, S. (2008). "The Second Self: Computers and the Human Spirit (1984), Turkle wrote that for these and similar computer users, the computer was an "evocative object" that produced strong emotions. Interacting with it and the rule-based world of computation—." A to Z of women in science and math: 299.
19. Yoo, Y. (2010). "Computing in everyday life: A call for research on experiential computing." Mis Quarterly 34(2): 213-231.
20. Zajonc, R. B. (1980). "Feeling and thinking: Preferences need no inferences." American psychologist **35**(2): 151.