Special Session Summary  the Impact on Preferences of Consumer Access to Information in Online Shopping Environments

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SPECIAL SESSION SUMMARY
The Impact on Preferences of Consumer Access to Information In Online Shopping Environments
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SESSION OVERVIEW
The Internet makes available numerous information sources that consumers may draw on as they search for information and construct choices about commercial offerings. These information sources include online product reviews (either by peers or experts), and uncensored in-depth product information on a variety of Web sites, among many other sources.

Recently, consumer behavior researches have begun a close examination of how certain characteristics of the different information sources consumers may access in online shopping environments impact consumer behavior. For example, scholars have investigated the role of electronic recommendation agents on preference construction (Häubl and Trifts 2000) and how consumer control over the flow of information online affects decision quality (Ariely 2000). It has also been demonstrated that compelling online experiences are created through information that strikes the right balance between engagement and effort (Novak, Hoffman, and Yung 2000). Other research has investigated the mechanisms by which Web site backgrounds influence product choice (Mandell and Johnson (2002), and the conditions under which online information interruptions may increase online activity (Xia and Sudharshan 2002). Turning the question around, Moon (2000) examined the factors that influence consumers to reveal information about themselves in online environments.

In this special session, three papers utilized rich theoretical frameworks to examine the impact on consumer preferences of specific information characteristics available in online shopping environments.

The paper by Hoffman, Novak, and Wan examined the impact of various information cues of online product reviews on consumer preference in an online retailing environment. In a series of online experiments, they manipulated consumer mindset, consumer purchasing goals, reviewer characteristics, and review characteristics. Results suggested that processing goals differentially affect the interaction between product review description and cue congruency.

Gershoff, Mukherjee and Mukhopadhyay argued that fundamental differences in depth and richness of preference structures for that which consumers love compared to hate or rate neutrally leads to differences in perceived diagnosticity of revealed preferences. Two of their studies showed that loved alternatives are perceived as more diagnostic than hated, and hated more then neutral, for agent prediction of own and others’ future ratings and informativeness of tastes. A third study revealed that a prospective agent who agrees with a consumer on loved compared to hated, and hated compared to neutral alternatives, is more preferred, perceived as more similar, and less likely to have agreed by chance.

The last paper in the session was by Trifts and Häubl. They investigated under what conditions a vendor, such as an online shopping site, can benefit (most strongly) from providing direct access to uncensored information about its competitors’ offerings. Specifically, they examined the effects of facilitating such access on consumer preference for the firm at varying levels of the ambiguity of the information environment and of consumer search cost. The results of two experiments suggested that providing access to competitor information enhances both perceived trustworthiness and consumer preference for the firm, and that these effects increase in magnitude as ambiguity increases and as the cost of search rises.

The session concluded with moderated discussion led by Pat West.

SESSION ABSTRACTS
“The Impact of Online Product Review Characteristics on Consumer Preferences”
Donna L. Hoffman, Vanderbilt University
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To date, most research on online recommendations has focused on the computer algorithms underlying recommendations (e.g., Ansari et al. 2000); or the impact of recommender system on consumers’ search effort and decision quality (Haubl & Trifts 2000; Lynch & Ariely 2000c). However, little research has examined the impact of human-generated recommendations, such as peer reviews, on consumers’ preferences. Such reviews comprise an important component of the online consumer decision making process. For example, forty-four percent of respondents in a Bizrate.com survey consulted opinion sites prior to making a purchase and fifty-nine percent reported that consumer-generated reviews were more valuable than expert reviews (Filler 1999).

Even a cursory examination of peer generated product reviews on Internet retailing or opinion forum sites such as Amazon.com or ePinions.com, respectively, make clear that online product reviews contain complex information cues made further complex by the consumer’s ability to manipulate the information. Thus, reviews include information about not only the product, but also the reviewer (expertise, credibility, popularity), and the review itself (review valence).

Further adding to the complexity, some of these information cues are unique to the online environment. For example, Web sites usually provide consumers with rankings of the reviewers based on characteristics such as the number of reviews each has written; consumers also have ready access to previous reviews and can search review databases by reviewer or other variables. Additionally, consumers can easily access the number of Web site users who trusted a particular reviewer and determine how useful a particular product review was to other web users. Unlike word-of-mouth in traditional formats, online product review systems enable consumers to track the historical reviewing record of a particular reviewer and group evaluations according to how other consumers perceive and evaluate a certain product review or reviewer simultaneously.

Despite the wide appeal of online product reviews, in applied commercial settings, the assemblage of these complex and unique information cues has been largely ad hoc and online managers have little understanding of the impact of various cues on consumer behavior.

This research attempts to address these issues by constructing a series of studies that systematically investigate the impact of combinations of these cues on product preference and related consumer behavior outcomes in an online retailing environment.

Research on the effects of source characteristics (Pett & Cacioppo, 1986) and cue congruence (Chaiken & Maheswaran 1994; Maheswaran et al. 1992;) motivates our examination of the
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joint impact of multiple source cues on consumer preference. Because previous research has found that consumers’ shopping experiences may be utilitarian or hedonic (Chandon, Wansink & Laurent 2000; Mano & Oliver 1993) and product information can be similarly categorized as hedonic/emotion-laden utilitarian, we examined how hedonic/utilitarian processing goals, together with a hedonic/utilitarian production review affected the impact of source cue congruence on preference.

We hypothesize that when consumers are primed to adopt a hedonic processing goal and product information is hedonic, they will be more likely to process the information in an experiential style (Chen and Chaiken 1999; Epstein 1994). In this mode, individuals rely on simple “heuristics” or feelings regarding the stimuli to derive their judgments. Thus, we expect that compared to positive information, negative or incongruent information will disrupt the process of relying on “heuristics” and confront consumers with inconsistent information to resolve. Such disruption and confrontation will lead to more effortful information processing.

However, when consumers are primed to adopt a utilitarian processing goal and presented with utilitarian product information, they will be more likely to engage in “systematic processing,” (Chen and Chaiken 1999). This mode of processing (cf. Epstein’s (1994) rational system, Petty and Cacioppo’s (1986) central route of processing, and Garcia-Marques and Mackie’s (2001) analytical processing) involves careful attention to the specifics of the situation and the explicit use of a criterion or rule to make judgments (Garcia-Marques and Mackie, 2001). This bottom-up systematic mode of processing is controllable, productive, deliberative and relatively slow. Therefore, positive source cues are not necessarily favored over negative or incongruent cues, as we expect when product information and processing goals are hedonic congruent. On the contrary, consumers in this mode are more likely to pay more attention to the review itself than to source cues.

We designed an interactive experiment in an online environment that allowed us to test these and related theories. In the first study, we examined how 1) mindset priming (experiential vs. rational); 2) purchasing goal (hedonic vs. utilitarian); 3) product review descriptions (hedonic vs. utilitarian); and 4) reviewer/rating cue congruence (positive cues, negative cues, mixed–incongruent–cues) affected consumer preference ratings, evaluations of review and reviewer influence, involvement, processing mode, mood, Internet demographics, and a series of response latencies for each phase of the experiment.

The reviewer/rating cue congruence factor incorporated three different combinations of six source cues that mirrored those commonly found in Internet retailing and opinion Web sites. Four of the cues were reviewer cues: 1) number of reviews written (many/few), 2) reviewer expertise in the product category (expert/non-expert), 3) number of consumers who trusted the reviewer (many/few), and 4) usefulness of review as rated by other consumers (high/low). The remaining two cues were rating cues: 5) reviewer’s rating (high/low), and 6) average of all reviewer ratings (high/low). Levels for Reviewer the consistency between his/her rating of the product and the average rating of other reviewers (inconsistent/consistent).

We constructed the three levels of the reviewer/rating reviews by assembling the six source cues as follows: level 1) congruency across cue domain (cues 1–4 positive; cues 5–6 positive); level 2) incongruency across cue domain, but congruity within cue domain (cues 1–4 negative; cues 5–6 positive); level 3) incongruity among reviewer cues (positive), incongruity within rating cues (different combinations for cues 1–4; cue 5 positive; cue 6 negative).

As an illustration from the large number of significant findings, results from the first study suggest that processing goal affects the interaction between product review description and cue congruence. For respondents with a utilitarian processing goal, the particular review description did not affect cue congruence. That is, regardless of the product review, respondents with utilitarian processing goals made less positive product evaluations in incongruent cue conditions than in congruent cue conditions.

Interestingly, the results are more complex for respondents primed with a hedonic goal. For these consumers, how the review was framed did affect the impact of cue congruence. When the review was framed hedonically (consistent with their processing goal), incongruent source cues still negatively affected product evaluations compared to congruent cues. However, when the review description was utilitarian (inconsistent with processing goal), only negative source cues affected product evaluations negatively.

“Loves, Hates, and In-Betweens: The Role of Preference Structures in Agent Choice”
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Prior to making product choices, consumers often go online to consider the advice of agents, who may be either professional critics (e.g., citysearch.com) or lay people (e.g., all-reviews.com). Since agents often provide contradictory advice, consumers must evaluate which agent is more likely to share their tastes and preferences. Previous research suggests that consumers use information about past opinion agreement between themselves and prospective agents as an important cue for agent choice. Recent work by Gershoff, Mukherjee, and Mukhopadhyay (2003) extended this result by showing that not all past agreements are weighted equally. Instead, agreement on extreme-rated alternatives was found to be perceived as more diagnostic than more moderately rated alternatives (the extremity effect) and agreement on extreme positive alternatives was found to be perceived as more diagnostic than agreement on extreme negative alternatives (the positivity effect). These results are particularly interesting in light of prior research that suggests negative word-of-mouth information is generally perceived to be more diagnostic than positive (Herr, Kardes, and Kim 1991).

The present research examines the underpinnings of these extremity and positivity effects. Drawing on research on positivity and negativity effects (Ahlwalia 2002; Skowronksi and Carlson 1987) and recent studies on learning and memory for preferences (Herr and Page 2003; Hoeffler, Areily, and West 2003), it is argued that extremity and positivity effects in diagnosticity of preferences arise from a fundamental difference in the depth and richness of positive and negative aspects of individuals’ preference structures, whereby people know more about alternatives they love (and the reasons why they love them), than those that they hate or are indifferent about and perceive loved compared to hated or neutral alternatives as more informative about their own and others’ underlying preferences. Consequently, consumers choose are more confident in the abilities of, and see themselves as more similar to, agents who match them on their extreme positive opinions than those who match their extreme negative or moderate opinions.

These hypotheses were tested in a series of three completed studies. Study 1 examined perceptions of consumers’ loved, hated, and neutrally rated alternatives as informative to others for understanding their preferences and predicting future ratings. Using five point scales (1-star to 5-stars), two hundred subjects rated fifty posters from an Internet site. Then, depending on condition, they were shown three of their hated (1-star), neutral (3-star), or loved (5-star) posters and told that another person would use these to predict the subject’s ratings for a new set of posters. A fourth condition allowed subjects to choose posters of any rating level to
show the potential agent. Consistent with hypotheses, subjects rated greater confidence in the agent’s ability to predict their ratings in the new set, and greater informativeness about their own preferences in the loved compared to hated, and hated compared to neutral conditions. Additional analysis favors the argument that subjects’ perceive loved alternatives as more informative because they provide information about underlying preference structure and not because they are more diagnostic due to base-rate frequency.

Study two examined consumers’ perceptions of the degree to which another’s loved, hated, and neutral- ly rated alternatives affect confidence in their ability to predict the other’s ratings for future alternatives and informativeness about underlying preferences. Ninety subjects were assigned to one of three conditions and shown only three posters that another individual (from Study 1) had rated either as loved, hated, or neutral. Subjects provided estimates of ability to predict the other’s ratings and the degree to which the three posters were informative about the other’s preferences. Consistent with the hypotheses confidence in predicting others’ ratings was greatest in the loved, compared to hated or neutral conditions. Informativeness about the other’s underlying preferences was similarly greater in the loved compared to hated, and greater in the hated compared to neutral conditions.

Study three was a within-subjects design that examined consumers’ perceptions of the degree to which agreements and disagreements between a consumer and a prospective agent on loved, hated, and neutrally rated alternatives affect confidence in the prospective agent, ratings of the informativeness of the agreement or disagreement, and knowledge about the prospective agent’s preferences and tastes in the category. Sixty subjects used an on-line interactive tool that had four phases of data collection. In the first phase, subjects provided lists of movies they rated as 1-star, 3-stars, and 5-stars. In the second phase, subjects made a series of choices between two prospective agents who each provided their own ratings (1, 3, or 5 stars) for one of the movies the subject had provided (in the first phase). Agent choices were presented in random order and manipulated in a full-factorial design such that subjects made thirty-six pair-wise choices representing all possible combinations of 1, 3, and 5 star agreements and disagreements between the agent and the subject. In the third phase, prospective agents, described as having given 1, 3, or 5 star ratings to one of the movies that the subject had given a rating of 1, 3, or 5 stars, were sequentially presented to the subjects. All nine possible combinations of agent and subject ratings were provided in random order. Subjects rated each agent in terms of ability to act on the subject’s behalf, perceived similarity, and inferences about the prospective agent’s underlying preference structure. A final phase collected subjects’ beliefs about the percentage of others in the population who agreed with their ratings of each movie they provided in phase one.

Consistent with the hypotheses, agreement on loved alternatives was preferred in both choice and preference measures to agreement on hated or agreement on neutral ratings. Subjects rated their similarity in tastes with a prospective agent to be greater when the agent loved the same movie as the subject than when the agent hated the same movie as the subject. Further, subjects rated that they were more likely to like the same movies as the agent when there was agreement on a loved film, compared to their ratings that they were likely to hate the same movies as the agent when there was agreement on a hated film. Finally, subjects rated that is was more likely that the future agreements between the subject and the agent would be due to chance when there was agreement on a hated compared to a loved movie. As in study one, analysis of subjects’ base rate expectations of agreement for loved versus hated movies rules out an alternative explanation for perceived diagnosticity based on inferences about base-rate agreement for loved versus hated alternatives.

“The Effects of Facilitating Access to Competitor Information on Consumer Preference”

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Gerald Häubl, University of Alberta

From a consumer perspective, an important advantage of internet-based shopping environments relative to traditional retail settings is the drastically reduced cost of search for information about market offerings (Bakos 1997; Häubl and Trifts 2000). Low search costs in electronic environments may also benefit vendors in that this provides them with the opportunity to observe, record, and process—in an automated fashion—aspects of their competitors’ product offerings. The potential for firms to use this information to strengthen customer relationships is an emerging research area. This paper identifies conditions under which it may be beneficial for a firm to facilitate access to uncensored information about its competitors’ offerings.

We develop a model of the processes through which the facilitation of access to competitor information influences consumer preferences, both by affecting the perceived attractiveness of the firm’s offerings relative to those of its competitors, and by enhancing the trustworthiness of the firm. In addition, we examine how such an action on the part of a vendor influences preference through its effect on consumer information search. We adopt a signaling framework (Spence 1974), and incorporate prior research on trust (Morgan and Hunt 1994) and attribution theory (Jones and Davis 1965; Kelly 1973) as a basis for theorizing about how consumers perceive, interpret, and respond to a firm’s act of facilitating access to information about its own competitors.

Recent work by Trifts and Häubl (2003) provides preliminary evidence of the possibility that a retailer’s act of providing access to uncensored competitor price information may result in enhanced preference for that vendor, especially if the latter’s prices are neither clearly superior nor obviously inferior to those of its competitors. Furthermore, these initial results suggest that the positive effect of facilitating access to competitor’s prices on consumer preference is mediated by the perceived trustworthiness of the retailer.

In the present paper, we investigate under what conditions the facilitation of access to competitor information—about price and quality attributes—tends to be most beneficial to a firm. Specifically, we examine how the proposed effects of facilitating such access on consumer preference vary as a function of (1) the degree of ambiguity of the information environment (Muthukrishnan 1995) and (2) the cost of obtaining information about competitors’ offerings directly from these vendors (Moorthy, Ratchford, and Talukdar 1997). Two experiments were conducted using a simulated internet shopping environment. In both studies, subjects were asked to shop for vacation packages at a number of online travel sites.

In Experiment 1, we examined the effects of facilitating access to uncensored competitor information on consumer preference at different levels of ambiguity of the information environment. In a 24 full-factorial mixed design, facilitation of access was manipulated within subjects, where one of the two focal travel agents facilitated access to competitor information (“FC-yes”) and one did not (“FC-no”). Ambiguity was manipulated between subjects. In the low-ambiguity condition, the FC-yes and the FC-no site offered vacation packages for identical resorts at each destination, and the

1Two of the four factors were between-subjects control factors pertaining to different aspects of stimulus presentation order.
packages were described in great detail. In the high-ambiguity condition, the FC-yes and FC-no travel agents offered packages for different resorts, and only resort names and prices were provided. This manipulation of ambiguity addressed two key aspects of information ambiguity, completeness and the comparability. After a practice task, subjects were asked to choose, for each of four destinations, the vacation package offered by one of the competing travel sites.

Our key prediction is that the positive effect of facilitating access to information about competitors’ offerings is stronger when the ambiguity of the information environment is high rather than low. In addition, we propose the process hypothesis that, as the information environment becomes more ambiguous, consumers’ choice of travel site is affected more by their perception of the vendors’ trustworthiness, and less by their assessment of the attractiveness of the sites’ offerings. The results of Experiment 1 provide support for both of these hypotheses. First, even when the FC-yes travel agent’s vacation package was objectively inferior to that of its FC-no competitor, a significant portion of subjects chose the FC-yes site, but the latter’s choice share was significantly greater when ambiguity was high (about 25%) than when ambiguity was low (about 5%). In addition, a significant interaction effect between perceived trustworthiness of the FC-yes firm and the level of ambiguity on relative site preference suggests that a vendor’s trustworthiness is a stronger mediator of the effect of providing access to competitor information on consumer choice when ambiguity is high rather than low.

Experiment 2 focused on the role of consumer search cost in conjunction with the facilitation of access to competitor information, and on the effects of these two factors on consumers’ independent information search and on relative vendor preference. We used a 3 x 2 2 full-factorial between-subjects design. Participants were asked to evaluate a travel site, relative to its competitors, that facilitated access to (1) all competitors (“FC-yes/high”), (2) one competitor (“FC-yes/low”), or (3) no competitor (“FC-no”). In the low-search-cost condition, the experimenter’s page contained direct links to descriptions of the relevant travel packages offered by all competitors. In the high-search-cost condition, the experimenter’s page provided links to the different competitors’ search-query pages, from which subjects had to re-enter the search criteria in order to obtain the description of a specific travel package offered by a particular firm. Our key hypothesis here is that, by facilitating direct access to uncensored information about its competitors’ product offerings, a firm reduces the need for consumers to obtain this information elsewhere and is, thus, perceived by consumers as a more useful source of market information. Preliminary analyses suggest that the facilitation of access to competitor information does in fact result in less search and in greater preference for the firm facilitating such access. Further analyses will reveal whether these effects are contingent upon the continued provision of access to competitor information, or whether the effects may persist into subsequent shopping encounters in which the retailer no longer facilitates such access.

References

2The order in which subjects were exposed to the different comparative outcomes was counterbalanced.


