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DO ONLINE USER-GENERATED REVIEWS REALLY MATTER? A SELF-VALIDATION ANALYSIS

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Abstract

With the recent advances in electronic recommendation agents and social networking platforms, online review systems are becoming pervasive to transmit conventional interpersonal word-of-mouth communications to the World Wide Web. More and more online retailers have offered different opportunities for consumers to access various kinds of opinions and recommendations provided by their peers. Nevertheless, the mechanisms underlying how consumers respond to other people's recommendations regarding a product or service offering remain equivocal. The present research is proposed to understand how consumers may attend to online peer-generated recommendations under different conditions. Based on prior research on metacognition, the present study is intended to examine how online product reviews may in part affect the subjective judgements of consumers' own evaluations of a product and under what conditions those peer recommendations may influence consumers' subsequent preference and choice consistency. An experiment is proposed to show that different online consumer reviews or digital word-of-mouth could have comparable impacts in changing consumers' expressed preferences, but under some conditions, preference shifts or attitude changes induced by online peer reviews may not necessarily reflect people's purchase intentions. Findings of the proposed research may help to obtain a better understanding of the nature of online peer recommendations and their different influences in viewers' decision making processes.

Keywords: user-generated content, online persuasion, peer recommendation systems.

1 INTRODUCTION

With the recent advances in electronic recommendation agents and social networking platforms, online review systems are becoming pervasive to transmit conventional interpersonal word-of-mouth communications to the World Wide Web. More and more online retailers have offered different opportunities for consumers to access various kinds of opinions and recommendations provided by their peers. For example, Amazon.com is boosting its product markets by building online communities to provide product reviews to consumers. Many online auction sites, such as Ebay.com, allow consumers to rate online sellers based on their products and services. A study by eVocInsights revealed the significant impact of online reviews on e-buyers' behaviours: 47% of shoppers read product reviews prior to their online purchases and 63% are more likely to buy from websites with online recommendations or ratings (Gogoi, 2007). In addition, online user-generated reviews have penetrated offline channels to influence and/or change people's offline purchase decisions and other behaviours. Scholars have suggested that people tend to rely on the online opinions of other consumers when making decisions about matters such as which restaurant to go or what stocks to invest in (Dellarocas, 2003; Lee, Park, & Han, 2008).

While online review systems are commonly recognized as a unique tool for computer-mediated persuasion, empirical research indicates that the mechanisms underlying how consumers respond to electronic word-of-mouth, such as online consumer reviews and comments, remain equivocal (Chevalier & Mayzlin, 2006a; Dellarocas, Zhang, & Awad, 2007; Forman, Ghose, & Wiesenfeld, 2008). On the one hand, some studies support the view that online user reviews have significantly positive impacts on sales (Chen, Dhanasobhon, & Smith, 2008). For example, Chevalier and Mayzlin (2006) have examined online book reviews and found that better reviews lead to higher sales. Dellarocas et al. (2007)'s study has shown that online user-generated reviews within the first week of a new movie's release can be used to provide good predictions for the movie's total revenues. However, some studies have shown mixed results on the effects of online reviews and peer recommendations on influencing people's choice and purchase decisions. For movies, Duan et al. (2008) have shown that the number of online postings has a significant influence on box office sales, whereas the impact of user ratings on the sales is trivial. Some scholars have pointed out that when online peer reviews contradict consumers' initial impressions of choice options, unsolicited recommendations may activate a reactance-style response that in turn results in a "behavioural backlash" (Ariely, Lynch, & Aparicio, 2004; Fitzsimons and Lehmann, 2004). In addition, the mere use of online peer-review systems may sometimes paradoxically raise consumers' concerns of overlooking important product information and consequently increases decision disconfirmation anxiety and post-choice regret (Church, Heath, & Iyer, 2011).

Given inconclusive findings in the literature, a number of factors associated to reviewers and review content have been proposed to account for consumers' different responses to online peer recommendations. In particular, it is suggested that expertise claims, review valence and argumentation style may affect the perceived usefulness of reviews (Mudambi & Schuff, 2010). The proportion of negative online consumer reviews may in part determine the persuasive effects of those reviews on consumers' product preferences and choices (Lee et al., 2008). Recent studies have suggested that the extent to which consumers accept particular peer recommendations or opinions could be a result of the match of the construal levels associated with temporal distance of a purchase decision and social distance of review providers (e.g. Zhao & Xie, 2011). While those findings have extended our understanding of how consumers may use online user-generated reviews as a source of information, little is known about how such information may affect people's attitude-behaviour correspondence in different conditions. In particular, it remains somewhat unclear to which extent the influence of online peer-reviews on consumers' preferences or attitudes toward a particular product could be sustained over time, and to which extent the exposure of online peer-reviews may directly or indirectly affect consumers' subsequent evaluations of other product-relevant information as well as their repeated purchase intentions.

Thus, this research proposal aims at examining one mechanism that may explain why consumers may attend to online peer-generated recommendations differently and how such differences may in part

affect consumers' subsequent preference and choice consistency. Drawing on recent research on metacognition (e.g. Briñol, Petty, & Tormala, 2004; Petrocelli, Tormala & Rucker, 2007; Tormala & Desensi, 2009), the present study is proposed to address how online product reviews may change some meta-cognitive properties of consumers' attitudes toward a product and in turn may affect the impact of other marketing attempts on their subsequent product choices. In particular, it is suggested that in addition to understanding the extent to which online peer recommendations may influence consumers' evaluations on a product or service offering, it is important to examine consumers' meta-cognitive judgements of their own preferences or evaluations. Because meta-cognitions such as attitude certainty or accessibility in part determine when consumers will use their own attitudes as a guide to their behaviours, they are considered as critical factors of explaining and predicting attitude-behavioural consistency (Wagner, Briñol & Petty 2012). In other words, an understanding of how people may form or change their meta-cognitions of their attitudes is critical to explain when their attitudinal changes will lead to behavioural changes. In the current study context, it is suggested that different online peer reviews could have the same impact on consumers' expressed preferences but play different roles in influencing those consumers' meta-cognitive judgements of their own preferences or attitudes toward a given product. More specifically, the study is sought to understand the following issues: 1) how the attitude accessibility may influence consumers' assessments in online peer reviews; 2) how online user-generated recommendations may contribute to changing viewers' attitude certainty; and 3) how viewer's metacognitive responses to online peer recommendations may affect their preference choice consistency.

The remaining paper is organized as follows. A literature review is presented in the next section. Hypotheses and research design are then described. In the subsequent section, expected results are discussed in detail, followed by the implication section.

2 LITERATURE REVIEW

This section first reviews prior literature in computer-mediated communication and persuasion as well as in online peer-review systems. The concept of metacognition and recent research in the role of metacognitive processes in attitude change and decision making is then briefly described. The appropriateness of applying a metacognitive perspective to the current research context is then discussed and justified.

2.1 Computer-mediated communication and persuasion

Computer-mediated communication (CMC) is generally considered as an amalgam of interpersonal and mass-media communication characteristics (Hoffman & Novak, 1996). Users interact with one another through online message content (i.e. interpersonal communication) and also interact with the networked computer for such activities as browsing web pages (i.e. mass-media communication) (Wilson & Lu, 2008). As compared to conventional interpersonal communication mediums, research suggests that it may be more difficult to initiate persuasive communication in computer-mediated contexts. In part, it may be a result of the absence of many social cues that can complement and/or enhance the interpretation of persuasive messages in online contexts (Wilson, 2003). Given that messages may be sent or received more readily through various online venues, the high ambiguity of information accuracy and credibility has also been noted as a potential issue that impedes the efficiency and effectiveness of online persuasive attempts (Flanagin & Metzger, 2000).

With the emergence of Web 2.0 applications and user-generated media platforms, the persuasive effects of CMC are generally considered to be realized and even amplified through different online communities, such as social networking sites, forums, discussion boards and/or blogs. In particular, those online communities serve as important reference groups that allow an individual consumer to seek objective product-relevant information and/or to gather subjective experiences and opinions from other online community members in relation to a given product (de Valck, van Bruggen, & Wierenga, 2009). Some scholars have stressed that the informational and social character of online communities contributes to the persuasive impact of electronic word-of-mouth (eWOM) communications (Cheung, Lee, & Rabjohn, 2008), as the open-ended peer comments may help establish social presence online

and consequently imitate the subjective norms of offline interpersonal interaction (Kumar & Benbasat, 2006).

2.2 Electronic word-of-mouth (eWOM)

Scholars have generally agreed that as with traditional WOM communications, online peer reviews and other forms of eWOM are important for constructing individuals' preferences and influencing their purchase behaviours. Prior research has identified two unique characteristics of online user-generated recommendations. First, unlike traditional WOM communications, Internet users can simultaneously access to both positive and negative online reviews from multiple sources (Chatterjee, 2001). Second, consumers can more easily observe and evaluate the quantity and quality of online peer reviews (Cheung et al., 2008).

Online peer recommendations or eWOM communications can take different forms. In general, an online review consists of two elements -- ratings and open-ended comments (Park & Kim, 2008). The former indicates reviewers' general assessments of a given product, whereas the latter offers additional explanations and contexts to the numeric ratings and reflects reviewers' specific experiences and knowledge about the product (Mudambi & Schuff, 2010). Open-ended narrative comments may vary from subjective claims with a simple supportive or antagonistic position to objective evaluations with factual attribute-specific statements (Lee et al., 2008).

Prior research has suggested that the persuasive effects of online reviews may substantially vary across different product/service categories and decision conditions. For example, extreme ratings of eBay sellers have been found to be more impactful than moderate ratings (Pavlou & Dimoka, 2006). In the case of online movie reviews, moderate ratings in conjunction with two-sided arguments tend to elicit more positive attitudes toward the motive (Schlosser, 2005). While negativity biases on persuasion have been commonly observed to account for the asymmetric impacts of positive and negative reviews on a consumer's intent to comply with a review (e.g. (Basuroy, Chatterjee, & Ravid, 2003; Chevalier & Mayzlin, 2006b; Sen & Lerman, 2007), some scholars have noted that such biases may be more salient for evaluating search goods than experience goods (Mudambi & Schuff, 2010). Specifically, consumers may discount online reviews with extreme negative ratings when looking for information about experience goods, as they may attribute those ratings to a difference in personal taste (Mudambi & Schuff, 2010). In accordance with construal level theory and regulatory focus theory (Trope, Liberman & Wakslak, 2007; Higgins, 1997, 2009), a recent study has implied that online peer recommendations tend to be more persuasive when consumers make decisions for distant-future consumptions rather than near-future consumptions (Zhao & Xie, 2011).

2.3 Metacognition and its role in persuasion

Metacognition is defined as one's feelings and thoughts about his or her own thoughts and thought processes (Briñol & DeMarree, 2011). As distinct from primary cognition which involves a direct association of a given social or physical object with certain attributes or traits, metacognition refers to secondary cognition that entails the reflective judgments about primary cognitions or first-order thoughts (Wagner, Briñol & Petty 2012). The relation of metacognition to one's belief, feeling and behaviour has received increasing attention in recent years (e.g. Petty, Briñol, Tormala & Wegener, 2007; Cesario, Grant & Higgins 2004; Dubois, Rucker & Tormala, 2011; Thomas & Morwitz, 2009). In particular, work on metacognition and metacognitive processes has examined how secondary thoughts may produce changes in one's primary cognitions and how people's thoughts about their own or others' mental states may amplify, diminish or reverse the impact of those first-order cognitions on attitude change (Rucker, Petty & Briñol, 2008, Wilson, Gilbert & Wheatley, 1998), impression formation (Swann & Gill, 1998), decision evaluation (Dunning, 2012) and bias regulation (Wegener & Petty, 1997).

People can evaluate their primary cognitions in terms of six core dimensions- valence, number, target, origin, confidence and summary evaluation of primary cognition (Petty et al., 2007). Empirical research of metacognitive responses in attitude and persuasion research has suggested that thought confidence, also known as thought certainty, is one of the most important factors that indicate attitude strength

(Petty et al., 2007). When people are certain about the validity of their primary thoughts about an object, their overall global evaluations of the object are more durable and impactful (Visser & Holbrook, 2012; Tormala & Rucker, 2007). In particular, as compared attitudes with low certainty, attitudes held with high certainty tend to persist over time (e.g. Bassili, 1996), resist counter-attitudinal persuasive attempts (e.g. Bassili, 1996, Tormala & Petty, 2002), increase attitude-behaviour consistency (e.g. Fazio & Zanna, 1978, Visser et al., 2003) and decrease the need to process new information (e.g. Maheswaran & Chaiken, 1991).

Individuals' certainty appraisals of their responses to a persuasion attempt can engender a self-validation process (e.g. Petty et al., 2002). Following resistance or yielding to a persuasive message, any factors that induce a sense of confidence will make an attitude seem more diagnostic of one's real thoughts and feelings (Rucker & Tormala, 2012). Prior studies have suggested that many features of information source, message content, message recipient and social context can serve as self-validation variables to affect one's attitude certainty (Briñol & Petty, 2009). For example, people's perceptions of how others reached an attitude or opinion could affect their assessments of their own knowledge and attitude certainty (Rucker et al., 2008). The majority endorsement may lead to greater attitude certainty when such information follows the message containing strong arguments (Horcajo, Petty, & Briñol, 2008). When given sufficient motivation and ability to process the information, those who have experienced self-regulatory depletion tend to report higher certainty of their post-message attitudes (Wan, Rucker & Tormala, 2010).

2.4 Metacognitive responses to online user-generated reviews

In the context of the present research proposal, it is hypothesized that in some cases, online peer recommendations can influence consumers' decisions and choices through self-validation processes. Based on the certainty appraisal framework (Petty, Tormala, & Rucker, 2004), it is inferred that online consumer recommendations may affect attitude certainty in different ways depending on the accessibility of consumers' own attitudes.

Online consumer ratings can serve as an indicator of social consensus, reflecting the extent to which one's attitude toward or preference of a product is shared by similar others. The desire to hold and maintain correct or valid attitudes is a central premise in theories of attitude and persuasion (e.g. Chaiken, Liberman & Eagly, 1989, Petty & Cacioppo, 1986). In this sense, the presence of online peer recommendation ratings is expected to influence one's attitude certainty by affecting the perceived correctness or appropriateness of his or her own attitude (Petrocelli, et al., 2007). That is, one may hold great confidence that his or her attitude is correct, valid, or justified, when the attitude is supported by the majority. The consensus information has been found impactful especially when individuals hold strong interpersonal goals of social approval (Jacobson, Mortensen & Cialdini, 2011). Past research has shown when a persuasion attempt precedes the information on social norms, message recipients are more likely to use the majority/minority endorsement as an input to confirm their own thoughts and feelings about the persuasive message and its related object (Tormala & DeSensi, 2009, Horcajo et al., 2008). Thus, it is proposed that online peer recommendation ratings can influence consumers' perceived correctness of their own attitudes toward a given product. When people are informed that their pre-existing attitudes are in line with online peer recommendations, they are likely to report high overall attitude certainty but not necessarily lead to an immediate change in attitudes.

However, the effects described above may vary by the accessibility of people's pre-existing attitudes. As people may not always be aware of the reasons of holding a particular attitude (e.g. Wilson, Dunn, Kraft, & Lisle, 1989) and sometimes may have relatively weak associations in memory between the representation of the attitude object and the evaluation of the object (e.g. Fazio, 1995), they may use the subjective sense of attitude clarity to determine whether there is a need to acquire or process new information to increase their attitude certainty (Petrocelli et al., 2007; Briñol, Petty & Wheeler, 2006). In this sense, when consumers are given adequate time and opportunities to carefully think about and explicitly express their attitudes toward a product, it is expected that they tend to hold their initial evaluations or choices in face of online peer recommendations that are counter-attitudinal. Past studies have suggested that when pre-existing attitudes are made accessible, people are more likely to engage in selective information processing and/or biased decision making (Fazio, 1995; Holland, Verplanken

& van Knippenberg, 2003). That is, accessible attitudes tend to lead to people subjectively evaluating pro-attitudinal information as more valid and correct than counter-attitudinal information, regardless of the information's objective accuracy.

3 PROPOSED RESEARCH DESIGN & EXPECTED RESULTS

The proposed research is to examine how online user-generated recommendations may influence consumers' product preferences and choices. The experiment design used in the Zhao and Xie's (2011) study will be modified to test the hypothesized relationships. Similar with the original experiment design, participants will be asked to evaluate a product and then be presented with online peer recommendations. Further, the present study will focus on examining the effects of online consumer reviews on a near-future consumption decision. Another modification made in the current research proposal is that prior to reading the online reviews, participants will be asked to explicitly report their attitudes toward the product on either one or five semantic differential items. This procedure is commonly used to experimentally manipulate the attitude accessibility among participants but not change their attitudes (Fazio, 1995, Holland, Verplanken & van Knippenberg, 2003) and it allows a direct test of attitude change or preference shift after the exposure to subsequent persuasive attempts (Petrocelli et al., 2007). The proposed experiment will involve the manipulation of two between-subjects factors. Specifically, participants will be randomly assigned to conditions in a 2 (attitude accessibility: low or high) x 2 (online peer recommendation type: pro-attitudinal peer reviews or counter-attitudinal peer reviews) factorial design.

Recommendation Attitude Accessibility	Pro-attitudinal	Counter-attitudinal
Low	Low clarity High correctness	Low clarity Low correctness
High	High clarity High correctness	High clarity Low correctness

Table 1. Summary of Four Experimental Conditions

Attitude clarity will be submitted to a 2×2 ANOVA with attitude accessibility and online recommendation type as independent variables. It is expected that participants' reported attitude clarity will be greater in the high accessibility condition than the low accessibility condition but be comparable between the pro-and counter- recommendation conditions. Attitude correctness will be then submitted to the same ANOVA. A main effect for the recommendation type manipulation on attitude correctness will be expected, after controlling for attitude clarity. Specifically, participants are expected to express greater correctness in the pro-recommendation condition than in the counter-recommendation condition. The manipulation of attitude accessibility is not expected to affect participants' reported correctness.

A similar analysis procedure will be conducted to analyze the overall attitude certainty across the four experiment conditions. It is expected that participants in high attitude accessibility conditions and in pro-attitudinal recommendation conditions tend to report higher attitude certainty as compared to their counterparts. A mediational analysis will be performed to examine whether the effects of two manipulation variables on overall attitude certainty are mediated through their effects on attitude clarity and correctness. In line with prior research (Petrocelli et al., 2007), it is expected that when the two independent variables and the measures of clarity and correctness are included regression model predicting participants' overall attitude certainty, both clarity and correctness measures will remain as significant predictors. No significant effects of two independent variables on overall attitude certainty will be observed in the mediational analysis.

To examine the attitude change induced by online pro- and counter- peer recommendations, one attitude measure (i.e. negative-positive) used in all the experiment conditions will be used in the analysis. Time

of attitudinal evaluation (i.e. pre- online reviews vs. post- online reviews) as a within-participant variable will be included to a ANOVA in addition to the two independent variables. It is expected that participants in low attitude accessibility conditions tend to report more attitude change than those in high attitude accessibility conditions. Further, those in counter-attitudinal conditions are expected to show more attitude change than those in pro-attitudinal conditions.

Results of behavioural intentions are expected to parallel to the attitude results. In particular, similar effects of the independent and mediating variables on behavioural intentions are expected to be observed. Further, the analysis procedures used in a Tormala and DeSensi's study (2008) will be applied in this study to examine the attitude-behavioral intention correspondence. It is expected that post-review attitudes and behavioural intentions are more strongly correlated when overall attitude certainty is high than it is low. In other words, the correspondence of post-review attitudes and their purchase intentions are likely to be higher among participants in the high attitude accessibility and pro-attitudinal recommendation conditions, but lower among those in the low attitude accessibility and counter-attitudinal recommendation conditions.

4 POTENTIAL IMPLICATIONS

Prior research has implied that 'all reviews are not created equal' and thus are not evaluated as equal (Godes & Mayzlin, 2004; Park et al., 2007; Porter, 2004). While past research has empirically examined a number of factors that affect consumers' assessments of online peer recommendations and in turns influence their purchase decisions and product choices, little is known the extent to which people's preference shifts due to reading online user-generated product reviews are durable and impactful. The present research proposal is intended to show that at least in some cases, even the same reviews may be evaluated differently by consumers. The differences can be independent of participants' temporal or social construal of consumption decision as suggested in prior research (Zhao & Xie, 2011). It is not to say that psychological distance or regulatory fit per se lacks utility or importance in studying online peer recommendations. In fact, prior research has shown that the subjective experience of fit between one's goal orientation and means of goal pursuit research accounts for the changes in one's attitude confidence and certainty and consequently enhances persuasive effects (e.g. Cesario et al., 2004). The present experiment is proposed to show that a sense of feeling right in processing others' product reviews occurs through meta-cognitive assessments which require a high degree of thought to operate (Rucker & Tormala, 2012). According to the certainty appraisal framework (Petty et al., 2004), it also means that not all preference shifts or attitude changes can be sustained equally. When consumers do not have adequate motivation or ability to attend to online peer recommendations, expressed preference or attitude changes may be highly malleable and transitory. In other words, even when consumers report similar attitudes toward a product after reviewing online peer recommendations, they may hold different levels of certainty of their own attitudes. The overall attitude certainty and other second-order cognitions may primarily influence the extent to which people's expressed product preference corresponds to their behavioural intentions.

The proposed research may offer an alternative explanation on why sometimes online reviews may not affect people's favourable attitudes toward a given product. High levels of attitude accessibility due to direct experience (Fazio & Zanna, 1978) or other self-knowledge (Wood, Rhodes & Biek, 1995) may increase people's subjective sense of attitude clarity, which in turn leads them to successfully counter-argue those unfavourable online peer reviews. Further, while low levels of attitude correctness may motivate one to acquire more information online from other consumers, the individual could still hold his or her initial preference if perceived "social correctness" is somewhat irrelevant of the product itself or if online peer recommendations are perceived to be inadequate to make a correct judgement (Petrocelli et al., 2007).

From a self-validation perspective, the present study suggests that novice and experienced consumers attend to online peer recommendations in different manners. First, novice consumers with relatively low attitude certainty may be more likely to actively seek online peer recommendations to validate their own evaluations of a given product. The overall product rating or majority endorsement may be more likely to change novice consumers' attitudes or decisions as compared to narrative comments. In

contrast, experienced consumers with relatively high attitude certainty may be less likely to carefully scrutinize the online peer recommendations as long as the overall product rating is in line with their own evaluations. The mere presence of majority endorsement may be less likely to affect their preference choices. Rather, an unexpected product rating or minority endorsement may lead experienced consumers to elaborate more on the narrative comments or opinions to re-evaluate the confidence or certainty of their own attitudes toward the product.

Further, empirical findings in the current research may provide further understanding of how IS designers may incorporate users' metacognitive judgements as part of online review features. Such design tactics may be particularly useful for consumers who have formed favourable attitudes toward a given product. Features that are designed to indicate online peers' attitude certainty and other metacognitions may contribute to enhancing the influence of consumers' attitudes on their subsequent judgements and behaviours.

In sum, the present research is proposed to understand how consumers may attend to online peer-generated recommendations under different conditions. Based on prior research on metacognition, the present study is intended to examine how online product reviews may in part affect the subjective judgements of consumers' own evaluations of a product and under what conditions those peer recommendations may influence consumers' subsequent preference and choice consistency. An experiment is proposed to show that different online consumer reviews or digital word-of-mouth could have comparable impacts in changing consumers' expressed preferences, but under some conditions, those impacts may not be consequential. In other words, preference shifts or attitude changes induced by online peer reviews may not necessarily reflect people's purchase intentions. Findings of the proposed research may help to obtain a better understanding of the nature of online peer recommendations and their different influences in viewers' decision making processes.

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