

## How do individuals process neural (mixed) online consumer reviews?

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### Extended Abstract

E-commerce is rapidly replacing traditional face-to-face transactions and has become the most common purchase method for individual consumers. The U.S. retail e-commerce sales reached 394 billion dollars in 2016 and are expected continually to grow in 2017 (U.S. Census Bureau News 2017). E-commerce has provided several advantages over traditional face-to-face transactions, such as convenience, product comparisons, and detailed information on products/purchases (Kim, Kim, & Kandampully 2007). One of the key advantages is that e-commerce provides extensive product information/reviews created by consumers (Demangeot & Broderick 2010). An online consumer review refers to any statement on internet/social media made by potential, actual, or former customers about their experiences, evaluations, and opinions on products and/or services (Park & Park 2008). As a type of information that is not available in offline environments, online consumer reviews have become one of the most important sources for product information. Online consumer reviews have been shown to influence consumers' product perception and purchase evaluations (i.e., consideration set) (Hung & Yiyang Li 2007), and sales (Zhu & Zhang 2010). Various aspects of online consumer reviews have been explored by academic researchers. For instance, previous academic research on online consumer reviews has shown that consumers are more likely to be influenced by online consumer reviews when the reviews are longer (Mudambi & Schuff 2010), greater in number and of higher quality (Park, Lee, & Han 2007).

Such studies have undoubtedly expanded our understanding of online consumer reviews. There are, however, other aspects of online consumer reviews that remain unexplored. One unexplored issue is how individuals process and respond to neutral online consumer reviews. Even though in the real marketplace consumers are frequently exposed to online consumer reviews containing both positive and negative evaluations on products, previous research has paid little attention to valence of online consumer reviews, which refers to the nature of the reviews (i.e., whether they are positive or negative). Studies on valence of online consumer reviews have revealed inconsistent findings. Some studies have found negative effects, that is, negative online consumer reviews have a greater impact than positive online consumer reviews on the effectiveness of the reviews (Park & Lee 2009). Other studies have shown that valence has little explanatory power for sales (Liu 2006). This paper focuses on a type of neutral online consumer reviews that is mixed online consumer reviews including both positive and negative evaluation on the attributes of products/services and attempts to explore how mixed online consumer reviews influence consumers' brand attitude and attitude certainty using attitude theory and heuristic-systematic model of information processing theory.

According to the heuristic-systematic model, when consumers are faced with mixed messages, heuristic processing alone is not sufficient to reach a certain level of judgmental confidence in the matter of the overall evaluation of the object (Jonas, Diehl, & Bromer 1997). Mixed online consumer reviews, therefore, tend to evoke systematic processing and the reviews are more carefully evaluated which, in turn, increases the attitude certainty. However, it is not clear that mixed online consumer reviews result in more favorable attitudes even though the heuristic-systemic model implies that mixed online consumer reviews will be processed more intensively than consistent information (i.e., positive or negative reviews). Nowlis, Kahn, & Dhar (2002) argue that the responses of people who are exposed to mixed messages go to the middle point in the bipolar attitude measurement scale because favorable evaluations caused by positive information are neutralized by negative information. Attitude theory and heuristic-systematic model of information processing theory suggest that mixed online consumer reviews do not necessarily result in more favorable attitudes compared with positive online consumer reviews but will increase attitude certainty because of systemic information processing. Individuals' cognitive personality traits (tolerance-of-ambiguity) would influence attitude certainty. Individuals are different in terms of how they cope with mixed messages because they have different levels of allowance for the coexistence of positive and negative information in an object. This paper expects that individuals with low tolerance-of-ambiguity are more confident about the attitude created by mixed online consumer reviews compared with individuals with high tolerance-of-

ambiguity.

This paper conducted scenario-based surveys to explore how mixed online consumer reviews influence consumers' attitude and attitude certainty. Subjects (n=167, male=91, female=76) were recruited from undergraduate classes enrolled at a Southern University and were randomly assigned to one of three manipulated conditions (positive, negative, and mixed online consumer reviews). The subjects who were assigned to one of the conditions read a scenario and then completed a questionnaire, which consists of overall attitude toward the product, attitude certainty, tolerance-of-ambiguity, and items for manipulation checks. After checking manipulations and the validity and reliability of multiple item measures, mean values of attitude and attitude certainty are compared to verify that three groups (positive, negative, and mixed online consumer reviews) have different levels of attitude and attitude certainty.

It has been noted that online consumer reviews are positively related to attitude, and the findings of this study reaffirms the argument in that the subjects in the positive condition have more favorable attitudes than those in the mixed or negative condition. This paper hypothesized that individuals who are exposed to mixed online consumer reviews would have a more neutral attitude than individuals exposed to positive or negative online consumer reviews because the positive evaluations would be counterbalanced by negative evaluations. This is exactly what the paper found. The results of this study show that mixed online consumers reviews do affect other aspects of attitude (attitude certainty). Subjects who are exposed to mixed online consumer reviews are more confident about their attitude. Positive and negative evaluations in mixed online reviews occupy separate evaluation dimensions and do cause individuals to have ambivalent feelings. So each message is more likely to be systematically processed, and as a result of this intensive process a neutral attitude is chosen. As predicted, subjects with low tolerance-of-ambiguity are more certain about their attitude formed by mixed online consumer reviews. But the difference between the high and low tolerance-of-ambiguity groups was not significant. This might be attributable to the characteristics of tolerance-of-ambiguity. Tolerance-of-ambiguity is a personality variable and may not reflect exactly how much the individuals felt ambiguity in this specific situation. The findings of this study revealed that the individuals who are exposed to mixed online consumer reviews create a neutral attitude toward the reviewed product when compared with the individuals who are exposed to positive or negative online consumer reviews. They are, however, more certain about the formed attitude.

The paper focuses on a type of neutral online consumer reviews and several variables related to the processing of online consumer reviews are controlled for in this study. For instance, subjects' involvement was manipulated to be high. But individuals' involvement influences the way that congruent and incongruent information is processed. This study considers only equal amounts of positive and negative information for mixed online consumer reviews. There are, however, lots of possible combinations of good and bad information. Thus, it is meaningful to study how the valence of positive and negative in online consumer reviews is related to attitude toward products in low vs. high purchase situations.

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**Keywords:** *online consumer reviews, valence of online consumer reviews, neutral online consumer reviews, attitude, attitude certainty*

**Relevance to Marketing Educators, Researchers and Practitioners:** This paper attempts to explore how mixed online consumer reviews influence consumers' brand attitude and attitude certainty. Mixed online consumer reviews refers to reviews including both positive and negative evaluation on the attributes of products/services.

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**TRACK: Consumer Behavior**