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Exploring How Review Curation Influences Consumer Decision Making

Designing Judgement Styles: Exploring the Effect of Review Curation on Consumer Decision Making

Research-in-Progress

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Abstract

The role played by Online Customer Reviews (OCRs) in consumers’ decision making decisions is increasingly prominent. Compelled by the paucity of understanding regarding how OCRs assist consumers’ decision making process, this study investigates how OCRs and the emerging OCR curation features facilitate consumers’ judgement styles in the light of the model of dual-system cognition function. This study postulates that the information cues available in numerical rating and opinionated review are conducive to intuitive and deliberate judgements respectively. Furthermore, OCR curation features can help to enhance judgements in response to OCRs through manipulating cue accessibility. Lastly, different judgement modes are expected to entail distinct decisional outcomes in terms of performance and justifiability. To empirically validate the proposed hypotheses, this study proposes a plan for conducting a subsequent experiment on a custom-developed online restaurant review site.

Keywords: Online Consumer Reviews, Review Curation, Intuitive Judgement, Deliberate Judgement, Decisional Outcome
Exploring How Review Curation Influences Consumer Decision Making

Introduction

Consumers are increasingly relying on Online Consumer Reviews (OCRs) to facilitate their decision making process (Salehan and Kim 2016). Indeed, past studies have attested to consumers’ dependence on OCIs by substantiating the connection between OCIs and product sales (Chevalier and Mayzlin 2006; Yang and Mai 2010). Chevalier and Mayzlin (2006) discovered that both review volume and average review rating boost book sales. Likewise, the work of Yang and Mai (2010) revealed that review volume drives up sales of video games. Intrigued by consumers’ reliance on OCIs, recent studies attempted to unravel the underlining characteristics of OCIs that evoke consumers’ perceptions of review helpfulness (Mudambi and Schuff 2010). Mudambi and Schuff’s (2010) seminal work gave momentum to this research stream by exploring how product type moderates the effects of review extremity and review depth on review helpfulness. Subsequent studies extended the range of antecedents of review helpfulness by taking into account source-oriented characteristics, such as reviewer credibility and reviewer expertise (Li et al. 2013; Racherla et al. 2012; Zhu et al. 2014), in addition to content-oriented characteristics advocated by Mudambi and Schuff’s (2010). Although the preceding findings are insightful for distinguishing helpful OCIs from unhelpful ones, they stop short of articulating how OCIs can aid consumers’ decision making process. Furthermore, with the emergence of big data curation (Miller 2014), online platforms, which have accumulated an abundance of OCIs (e.g., Amazon.com and Yelp.com), have begun to integrate and present OCIs in a value-added fashion. For example, Yelp.com has taken advantage of its huge repository of OCIs by curating numerical ratings as: (1) histograms depicting the rating distribution across five discrete tiers, and; (2) trend lines illustrating how average ratings fluctuate on a monthly basis. In addition, Yelp.com curates opinionated reviews by highlighting representative phrases that contain the most frequently mentioned keywords in the review section. Yet, how these curation features shape consumers’ evaluation of OCIs remains unexplored in prior research. To this end, this study attempts to contribute to extant literature on OCR on two fronts. First, this study endeavors to elucidate the role of OCIs in consumers’ decision making process. Second, this study seeks to explore how OCR curation features alter the impact of OCIs on consumers’ judgement.

To achieve the aforementioned objectives, this study espouses the model of dual-system cognition function (Kahneman 2003) as the theoretical lens for deciphering consumers’ cognitive response to OCIs. This model delineates between intuition and deliberation as two distinct processes that tend to disrupt each other (Kahneman 2003). Intuitive judgements are often founded on easily accessible percepts and thoughts, which in turn generate impressions in an effortless, involuntary and implicit manner (Kahneman 2003). In contrast, deliberate judgements involve intentional and verbally explicit reasoning. Deliberate judgements are thus much more controlled and effortful as compared to intuitive ones. Though intuitive judgements can be rapid and effortless, they are susceptible to biases induced by heuristics on the basis of easily accessible percepts and thoughts (Kahneman 2003). Deliberate judgements can often serve the purpose of monitoring the intuitive process. When corrective thoughts are made salient, deliberate judgements can help to reduce the biases induced by intuitive judgements (Schwarz et al. 1991).

Consistent with prior research, numerical rating and opinionated review constitute two distinct forms of OCIs (Liu et al. 2015; Mudambi and Schuff 2010). Because of different information cues intrinsic to numerical rating and opinionated review, we expect each OCI form to be more conducive for one mode of judgement over another. Moreover, OCR curation features can be employed to adjust the accessibility of information cues such as reducing and combining cues or unveiling previously unobservable patterns. In turn, these features can amplify the effects of OCIs on each of the two modes of judgements, thereby culminating in distinct decisional outcomes in terms of performance (Speier et al. 2003) and justifiability (Reb and Connolly 2010). This study thus strives to explicate the influence of OCIs and OCR curation features on consumers’ online decisions by providing answers to the three research questions listed below:

1. How do the two forms of OCIs facilitate consumers’ intuitive and deliberate judgements?
2. How can OCR curation features be employed to enhance the facilitating effects of OCIs on consumers’ intuitive and deliberate judgements?
3. What are the distinct decisional outcomes of intuitive and deliberate judgements?
A Duel-System Perspective on Cognition Function

Building upon the paradigm of bounded rationality (Simon 1979), Kahneman (2003) accentuated the pivotal role played by accessibility of cues and thoughts in driving individuals' cognitive functioning. According to his duel-system view, individuals' cognitive function comprises both intuitive and deliberate judgement (Kahneman 2003). These two cognitive systems are characterized by distinct cognitive processes. Whereas intuitive judgement is fast, parallel, automatic, effortless, associative, slow-learning, and emotional, deliberate judgement, in comparison, is often slow, serial, controlled, effortful, rule-governed, flexible, and neutral (Kahneman 2003).

When confronted with highly accessible heuristic cues, individuals are inclined to engage in intuitive judgement by relying on impressions and intuitions that come to mind quickly and effortlessly (Kahneman 2003). This tendency to gravitate towards accessible cues and thoughts can potentially give rise to biases in decision making (Kahneman 2003). Deliberate judgement can curb intuitive judgement from biasing decisions and preferences by modifying or overriding intuition through reasoning. This corrective operation can be triggered by enhancing the accessibility of competing alternatives and of metacognitive awareness of bias (Kahneman 2003).

This study subscribes to the notions of intuitive judgement and deliberate judgement to capture consumers' dual cognitive processes when examining OCRs. Specifically, this study advances a research model (see Figure 1) that postulates how the two forms of OCRs (i.e., numerical rating and opinionated review) cater to the preceding modes of judgement due to the existence of different informational cues being afforded. Likewise, curation feature can alter the activation of distinct modes of judgement though manipulating the accessibility of cues in OCRs. Finally, the proposed research model attests to separate decisional outcomes embodied within the two modes of judgements.

**Online Customer Reviews (OCRs) and Two Modes of Judgements**

OCRs consists of two main forms: numerical rating and opinionated review (Liu et al. 2015; Mudambi and Schuff 2010). Numerical rating is an ordinal representation of a reviewer's attitude towards a product or service. Its concise nature allows consumers to make swift judgement on product or service qualities (Fiske and Taylor 2013) through the invocation of categorical thinking (Macrae and Bodenhausen 2001). Opinionated review usually takes the form of written comments that offer personal experience and logical justifications behind a given opinion. It is cognitively much more demanding and leaves room for subjective interpretation (Park and Kim 2008; Park and Lee 2008). With opinionated review, consumers may arrive at a conclusion that differs from a given opinion.

The concise nature of numerical rating encourages consumers to substitute the quality of the service provider under evaluation with peers’ attitudes toward this service provider in numerical forms (Kahneman and Frederick 2002). This heuristic nature of numerical rating is conducive to the
activation of intuitive judgement, which manifests as consumers’ swift judgement of service quality by relying on rating score as a proxy for quality. The lack of diversity in cues in each isolated numerical rating tends to inhibit consumers’ additional considerations, thus further steering them towards intuition (Kahneman 2003). Nonetheless, whenever discrepancies in numerical ratings among reviewers were to be detected, consumers may come to realize that numerical ratings can be plagued by reviewer subjectivity. Such realizations raise consumers’ awareness of the bias caused by relying on numerical ratings to gauge service quality and triggers their deliberate judgement (Kahneman 2003). Nevertheless, due to the saliency of heuristic cues in numerical rating, this study anticipates that intuition will remain the dominant mode of judgement that is activated by numerical rating:

**Hypothesis 1**: The provision of numerical rating facilitates consumers’ intuitive judgement.

**Hypothesis 2**: The provision of numerical rating facilitates consumers’ deliberate judgement.

**Hypothesis 3**: The provision of numerical rating is more conducive for activating consumers’ intuitive judgement than for activating their deliberate judgement.

Conversely, opinionated review offers consumers a wider range of information cues for assessing a select service provider. Opinionated reviews often encompass consumers’ personal accounts, feelings, reasoning, and opinions. This multiplicity of cues can introduce competing considerations that encourage consumers to engage in deliberate judgement (Kahneman 2003). Additionally, reading opinionated review is a cognitively taxing task that leaves little room for intuition. Nonetheless, it is still plausible for consumers to ‘jump to conclusion’ by merely adhering to reviewers’ recommendation without careful scrutiny of the actual content. Specifically, consumers may settle on easy to interpret cues without engaging in alternative considerations. As a consequence, even though opinionated review is predominantly geared towards deliberate judgement, it can still activate consumers’ intuitive judgement. This study hence hypothesizes that:

**Hypothesis 4**: The provision of opinionated review facilitates consumers’ intuitive judgement.

**Hypothesis 5**: The provision of opinionated review facilitates consumers’ deliberate judgement.

**Hypothesis 6**: The provision of opinionated review is more conducive for activating consumers’ deliberate judgement than for activating their intuitive judgement.

The Role of Online Customer Review (OCR) Curation Features

OCR curation features refer to design elements that leverage on big data analytical algorithms to synthesize and display OCR data in a schematic fashion (Miller 2014). OCR curation features offer a means of manipulating the accessibly of information cues available in numerical rating and opinionated review. Schematic curation features can be employed to facilitate intuitive judgement via reducing and aggregating information cues. Analytical curation features can be employed to improve deliberate judgement by eliciting and visualizing previously hidden information cues. For example, average rating is a schematic curation feature that computes and presents the average numerical rating for a select service provider. This curation mechanism facilitates prototypical heuristics by enabling consumers to concentrate on a single performance indicator without considering between-reviewer variations (Kahneman 2003). Consequently, providing average rating facilitates quicker and more effortless intuitive judgement. In contrast, histograms of rating distribution can be conceived as an analytical curation feature in that it sensitizes consumers to between-reviewer variations. This curation mechanism encourages consumers to pay attention to the inherent bias in the rating scores. It hence enhances the corrective operation of deliberate judgement over intuition made on the basis of individual rating score. Review highlighting can be construed as a schematic curation feature for eliciting the most representative phrases from all available opinionated reviews. This curation mechanism helps to reduce the multiplicity of information cues in opinionated reviews and permit consumers to make intuitive judgement on a service provider’s performance on the basis of isolated opinions. Last but not least, review word cloud, which elicits keywords from opinionated reviews and visualizes them in a word cloud, resembles an analytical curation feature that sheds light on the distribution of keywords. Similar to histograms, review word cloud grants consumers a holistic view across all opinionated reviews for a select service provider and expands the range of information cues by presenting prevalent keywords along with their number of appearances in the review section. Consumers’ deliberate judgements are therefore more likely to be invoked by the abundance of alternative considerations. From above, both analytical and schematic curation features are expected to strengthen the positive impact of numerical rating and opinionated review on consumers’ intuitive and deliberate judgement.
Hypothesis 7a-b: Schematic curation features strengthen the positive influences exerted by (a) numerical rating, and; (b) opinionated review, on intuitive judgement.

Hypothesis 8a-b: Analytical curation features strengthen the positive influences exerted by (a) numerical rating, and; (b) opinionated review, on deliberate judgement.

Judgement Modes and Decisional Outcome

The judgement modes adopted by consumers during decision making would dictate their decisional outcomes. In accordance with Decision Justification Theory (DJT), consumers have to overcome two hurdles to safeguard against decisional regret (Connolly and Zeelenberg 2002). Particularly, the decisional outcome must withstand cognitive evaluations against pre-determined criteria and suppress affective feelings of self-blame (Connolly and Zeelenberg 2002). Guided by DJT, this study argues for decisional performance (i.e., accuracy and efficiency) (Speier et al. 2003), and decisional justifiability (Reb and Connolly 2010) as two major countervailing factors to neutralize the cognitive and affective components of decisional regret respectively.

Decisional Performance

Decisional performance outcome consists of decisional accuracy and efficiency (Speier et al. 2003). Decisional accuracy reflects the extent to which decisional outcomes are aligned with consumers’ selection criteria whereas decisional efficiency represents the extent to which consumers are able to economize time and effort in the decisional process. Intuitive judgement is expected to enhance decisional efficiency since it is quick and effortless in nature (Kahneman 2003). Consumers who embrace intuitive judgement respond to the most accessible stimuli and easily succumb to thoughts that come quickly to their minds. Therefore, the strength of intuitive judgement resides in its minimal demand for cognitive resource. Conversely, deliberate judgement benefits decisional accuracy due to its controlled and rule-governed characteristics (Kahneman 2003). According to Browne et al. (2007), possessing a predefined rule set during a decision making process is essential to ensure a fit between selection criteria and eventual choice. Because deliberate judgement compels consumers to monitor the reasoning process, it not only improves the fidelity of the rule set, but also the accuracy of rule matching. This study hence hypothesizes that:

Hypothesis 9: Consumers’ intuitive judgement facilitates their decisional efficiency.

Hypothesis 10: Consumers’ deliberate judgement facilitates their decisional accuracy.

Decisional Justifiability

Decisional justifiability is defined as consumers’ awareness of the thoughtful and comprehensive process through which they arrive at their decisions (Reb and Connolly 2010). Past studies have testified to the impact of methodical decisional processes on decisional outcome justifiability (Connolly and Zeelenberg 2002; Reb and Connolly 2010). Conceivably, it is likely for intuitive judgement to undermine decisional justifiability because it tends to be automatic and effortless (Kahneman 2003). Specifically, intuitive judgement makes it difficult for consumers to derive the accounts and counterfactuals that legitimize their eventual choices. Besides, intuitive judgement is often devoid of logics and reasoning for arriving at the final choices, thus diminishing the justifiability of the decisional outcome. On the contrary, since consumers remain conscious during deliberative decisional processes (Kahneman 2003), they can generally recall the reasoning behind their decisions and justify their final choices. Furthermore, the effortful and rule-governed attributes of deliberate judgement is also beneficial for ensuring decisional justifiability. This study hence hypothesizes that:

Hypothesis 11: Consumers’ intuitive judgement impedes their decisional justifiability.

Hypothesis 12: Consumers’ deliberate judgement facilitates their decisional justifiability.

Study Plan

An online experiment is planned for empirically validating the proposed hypotheses. A custom-designed online restaurant review site with novel ORC curation features was developed as the experimental platform. To ensure the realism of the experiment, this experimental site was populated with real dataset that contains detailed descriptions of 1,079 restaurants in the San Francisco region together with about 268,000 reviews for these restaurants written by roughly 91,000 diners.
Prior to launching the study, two experimental tasks and corresponding measurement instruments will be developed. Specifically, one goal-oriented restaurant selection task with explicit criteria and one experiential restaurant selection task without any requirements being imposed would be formulated to control for the effects of task type on judgement (Nadkarni and Gupta 2007). Measures for numerical rating, opinionated review, and OCR curation features will be developed to capture participants’ dispositions for these latent constructs. Measurement items for intuitive judgement and deliberate judgement will be developed in accordance with their constituent dimensions (Kahneman 2003). Measures for decisional accuracy, efficiency and justifiability will be adapted from prior research (Reb and Connolly 2010; Speier et al. 2003). Because the experimental site was designed to keep track of each respondent’s behavior throughout the experimental process, this study can draw on objective data to complement subjective responses in ascertaining decisional accuracy and efficiency.

The experimental procedure for this study will start by recruiting participants from Amazon Mechanical Turk (AMT) and asking them to fill in a pre-task questionnaire about their demographics and experience pertaining to OCR usage. They will then be randomly assigned to one of the experimental treatments to complete the first of the two restaurant selection tasks. The completion of the task will be followed by a post-task questionnaire. After introducing a time lag of 6 to 24 hours, participants will be requested to finish the second task on the same experimental treatment and to respond to the post-task questionnaire again. This arrangement is devised to accommodate data collection for both between- and within-subject comparisons.

For data analysis, Analysis of Variance (ANOVA) will be performed to assess the validity of the manipulation checks. Partial least squares (PLS) analysis will be conducted to ensure the reliability and validity of the measurement model as well as the explanatory power of the structural model, which mirror the nomological network of the research model depicted in Figure 1.

**Expected Contributions**

This study is among the first to investigate how consumers’ judgement can be shaped by distinct forms of OCRs and OCR curation features in the context of online service selection. The study is expected to contribute to both OCR-related theory and practice. First, in light of a dual-system perspective of cognition function (Kahneman 2003), this study adapts the concepts of intuitive and deliberate judgement to reflect consumers’ dual decisional processes in response to OCRs. Second, this study will clarify: (1) the distinct roles played by numerical rating and opinionated review in the activation of intuitive and deliberate judgements, and; (2) how schematic and analytical curation features can be employed to facilitate the two modes of judgement respectively. Third, this study seeks to unravel how decisional performance (Speier et al. 2003) and justifiability (Reb and Connolly 2010) can be attributed to the two modes of judgement. Fourth, findings from this study can inform practitioners about potential trade-offs between effectiveness and efficiency when configuring OCR curation features. Last but not least, this study can potentially prescribe actionable guidelines for practitioners to configure the provision of OCR forms and curation features in a bid to optimize consumers’ decision making preferences.

**References**


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