

# Trust in Online Reviews: Integrating the Elaboration Likelihood Model and IS Trust

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## Abstract

Online word-of-mouth (eWOM) such as online review is important in reducing shopping uncertainty in e-commerce context. Current literature mainly examines the perceived quality of eWOM in terms of helpfulness and trustworthiness of the review content, while the study of how readers' trust in the source – the reviewer – is influenced by peripheral, contextual factors such as certification badges receives little attention. This paper integrates the Elaboration Likelihood Model (ELM) and the IS Trust Model perspective to introduce a comprehensive model to assess how peripheral cues of badges that convey reviewer information would influence eWOM readers' trust on the reviewer. An experimental design is also proposed to empirically assess the model's hypotheses.

## Keywords

Online word-of-mouth (eWOM), Online reviews, Elaboration Likelihood Model (ELM), Trusting beliefs

## Introduction

The popularization of electronic markets (e-commerce) provides new contexts and behaviors for information systems (IS) research, including how online buyers use information sources such as electronic word-of-mouth (eWOM) like product reviews to reduce uncertainty in making purchase decisions (Mudambi and Schuff 2010). Prior IS research has looked at some aspects of online review quality, with review “helpfulness” being a prominent, focal construct (e.g., Mudambi and Schuff 2010, Yin et al. 2016). Review “helpfulness” is a general assessment of review quality and is typically voted upon by readers. It has long been established that an audience can find certain information helpful but not necessarily trust its source (Hoch and Ha 1986), and now as e-commerce platforms and sellers can incentivize review generations by monetary rewards or free products, the trustworthiness of the source – the reviewer – can be questioned. Unlike the helpfulness of online reviews, the trustworthiness (ability to be relied upon) of online reviewers has received limited attention (e.g., Reimer and Benkenstein 2018).

To fill this gap in literature, we integrate the IS Trust Model and the Elaboration Likelihood Model (ELM) and develop a research design to examine how trust in online reviewers is affected by peripheral cues of reviewer expertise and incentives, which graphically convey reviewer-related information and can be quickly processed by readers. ELM is an established and widely used theoretical perspective in IS research for user's information processing and decision making (Tam and Ho 2006, Sussman and Siegal 2003), and the IS Trust Model provides a comprehensive model for capturing users' trust in e-commerce and IS use context (McKnight et al. 2002, Li et al. 2006). The integration of these two models enables this ERF paper to propose both potential theoretical and practical contribution on peripheral cues use and eWOM trust.

## Literature Review

Online consumer reviews are commonly described as “peer-generated product evaluations posted on company or third-party websites” (Mudambi and Schuff 2010), whose quality has been a topic of interest

among IS researchers. The majority of research on this topic examines review helpfulness ratings as a proxy for review quality (Mudambi and Schuff 2010, Yin et al. 2014, Mousavizadeh et al. 2015), while some recent studies have examined other review attributes, such as persuasiveness, credibility or trustworthiness (Cheung et al. 2012, Zhang et al. 2014, Reimer and Benkenstein 2018). However, the majority of these studies have taken a more central, effortful processing approach in which buyers had to read and process detailed reviews and related information about reviewer valence (Yin et al. 2016), embedded emotion (Yin et al. 2014), and readability (Mousavizadeh et al. 2015). Peripheral cues, IT artifacts such as reviewer badges and ratings, on the other hand, can be perceived without necessarily processing all the review content, and have received little attention (e.g., Cheung et al. 2012, Baek et al. 2012). Further, the study of trust in online reviews has been limited, and a comprehensive examination of trust-related constructs in an online review setting has not been conducted.

Thus, there is a need for more research on online review peripheral cues that may influence buyer perceptions, other than helpfulness ratings. First, helpfulness as an outcome variable produces findings that are only generalizable to the people who vote, as it fails to capture the perceptions of those who read the review but do not click the “Helpful/Not helpful” buttons (Mudambi and Schuff 2010). Second, in marketing information processing context, helpfulness and trust are two different constructs that do not necessarily co-occur, as an audience could find some information helpful but doubt the source (Hoch and Ha 1986). Yet trust has been found to strongly influence behavioral intentions (McKnight et al. 2002) such as purchasing intention, which is crucial to both the platform and sellers in e-commerce. Third, helpfulness is typically assessed through buyer helpfulness ratings, while trusting beliefs are typically measured with a comprehensive, multidimensional assessment of the competence, benevolence and integrity of online reviewers. Given the common use of review badges (cues) with online reviews on popular e-commerce platforms (e.g. Amazon, BestBuy) and concern about relying upon online reviewers, we are motivated to apply ELM and the IS Trust Model to study the influence of peripheral cues on trust in online reviewers.

## **Theoretical Background and Hypothesis Development**

### ***Elaboration Likelihood Model***

Dual-processing Models such as Elaboration Likelihood Model (ELM) (Petty and Cacioppo 1986) seek to explain how persuasion can occur through two major routes: a central route and a peripheral route. The central route refers to persuasion achieved through careful elaboration, such as the consideration of the merits of arguments and information provided in online review content. The peripheral route refers to persuasion induced by simple heuristic cues, which are extrinsic to the arguments of the review content and quickly processed.

The ELM established that when an individual is incompetent or unmotivated to process information, peripheral cues can be more dominant than central cues in influencing attitude change. In the context of e-commerce, there are a lot of circumstances under which even the most determined buyers may not process review information in a systematic manner (Cheung et al. 2012). For example, the number of online reviews could be too large; a review could be too lengthy; or the review content could be too technical for buyers to process. In those situations, ELM suggests that buyers rely on peripheral cues to form their attitude to the review.

While some studies have applied ELM in eWOM context (e.g Cheung et al. 2012, Baek et al. 2012, Mousavizadeh et al. 2015), few have tried to capture attitude of readers, which is one of ELM’s essential outcome constructs. The inclusion of the IS trust model, besides being theoretically relevant to the assessment of readers’ trust in a review, also helps us capture the important attitude construct.

### ***Trust***

It is long established in IS research that trusting intention is a strong predictor of trust-related behavior (McKnight et al. 2002). The IS Trust Model establishes that trusting attitude mediates the relationship between trusting beliefs and trusting intention, and individual differences such as disposition to trust. Therefore, IS Trust Model is expected to add explanatory power to the change in Trusting Attitude as a result of peripheral cues in online reviews.

## Trusting beliefs

The trusting beliefs construct is most frequently measured using three dimensions: competence, benevolence and integrity (McKnight et al. 2002). In the context of online reviews, competence reflects the ability of reviewers (the trustee) to provide the information buyers (the trustors) need; benevolence indicates reviewers' caring and willingness to act in buyers' interest; and integrity encompasses the honesty of the reviewers. These beliefs could be influenced by peripheral cues which certify qualifications of the reviewers to buyers. Indeed, platforms have been using credibility cues, such as "Verified Purchase" badge (Amazon and BestBuy) to certify reviewers as real past buyers, and also special program cues like "Vine Customer Review" (Amazon) or "Tech Insider Network" (BestBuy) to disclose that a reviewer is in a special program created by the platform to elicit reviews. These special programs designed to elicit reviews, sometimes provide free products given to participating reviewers, and thus could be perceived by readers as a potential external motivation (i.e., paid reviewers).

The use of badges (cues conveying information extrinsic to the product), to communicate reviewer qualifications or motivations has received little research attention, but some studies have examined the effect of related extrinsic information conveyed through text. The first type of badge, "Verified Purchase", is used to indicate source credibility, as reviewers who are actual buyers are expected to provide real product experience in their reviews. Past studies of source credibility (as reported through surveys of buyers) has suggested a positive impact on the perceived quality of reviews (Cheung et al. 2012, Zhang et al. 2014). However, the second, "special-program" badge, which could create an impression that reviewers receive some kind of external motivation such as free products to write reviews, suggests lower perceived quality of reviews (Reimer and Benkenstein 2018). Therefore, we hypothesize that:

**H1:** *A verified purchase badge has a positive effect on trusting beliefs.*

**H2:** *A special-program badge has a negative effect on trusting beliefs.*

## Disposition to trust

In the IS trust model, disposition to trust refers to an individual's general propensity to depend on others under a broad range of circumstances (McKnight et al. 2002). This construct has been found to positively influence trusting beliefs and help explain users' trust in an IS context (McKnight et al. 2002; Li et al. 2006). In the presence of peripheral cues, we theorize a moderation effect of disposition to trust on their effect: a buyer with a greater disposition to trust is more likely to be affected by peripheral cues that support the credibility of the reviewer, and is more likely to trust a reviewer despite the presence of a peripheral cue on the reviewer's potentially biasing incentives. Thus, in the context of online reviews:

**H3a:** *Disposition to trust increases the effect of a verified purchase badge on trusting beliefs.*

**H3b:** *Disposition to trust decreases the effect of a special-program badge on trusting beliefs.*

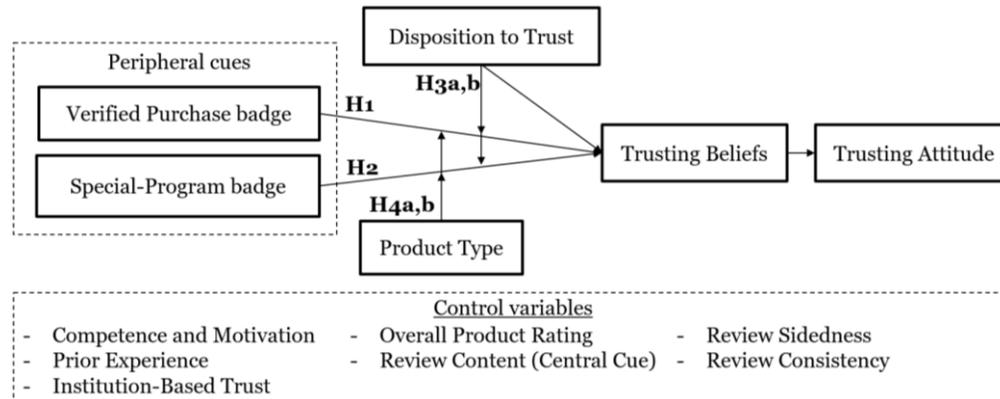
## Product Type

Product type determines the effort needed to search for information (Mudambi & Schuff 2010) and influence buyers' reliance on cues beyond the content (Weather et al. 2007). Prior research has categorized products as search goods and experience goods based on the availability of product quality information prior to purchase (Mudambi & Schuff 2010). Search goods are products that have clear and comparable information to evaluate quality thus require less buyers' dependence on extrinsic cues, while experience goods' product quality is highly subjective and not easily comparable, thus make buyers rely more on extrinsic attributes in assessing the review. Because product information for experience goods requires more effort to evaluate, buyers are more apt to avoid centrally processing this information and use peripheral cues instead. Therefore, product type is expected to have a moderating effect:

**H4a:** *A verified purchase badge has a greater effect on trusting beliefs involving experience goods, compared to search goods.*

**H4b:** *A special-program badge has a greater effect on trusting beliefs involving experience goods, compared to search goods.*

The relationships between trusting beliefs and trusting attitude is well established in the literature (McKnight et al. 2002, Li et al. 2006) and thus is included in the proposed model to demonstrate a connection to attitude, an important outcome construct of the ELM.



**Figure 1. Research Model**

## Research Methodology

A 2x3 between-subjects experiment was designed with two types of products (search, experience) and three forms of reviewer badges (no badge, verified purchase badge, and special-program badge) (see Table 1). A laptop computer was selected as the search product, while a video game was selected for the experience product. Both types of products have been used in online experiments, operationalizing search and experience goods, and both have attributes that may demotivate ill-informed readers when they process review content. Additionally, these products are representative of their category: A laptop specifications are standardized and comparable, while a game's quality is difficult to assess prior to experiencing.

Treatments w/labels		Product Type	
		Search goods	Experience goods
Peripheral cues	No badge	NS	NE
	"Verified Purchase" Badge	VS	VE
	"Special Program" Badge	SS	SE

**Table 1. Treatment Conditions**

Subjects will be randomly assigned to one of the six conditions and given instructions to use reviews of a product manipulated according to the product type treatment to inform their purchasing it as gift for a friend. The instructions will also provide the detailed meaning of the badge subjects will see, which is omitted in the "No badge" condition. The subjects would then view a website showing the product and the online review, whose content (ELM's central cue) is controlled across treatments, along with the manipulated reviewer's badge. They will then complete a survey to measure the constructs in the research model, as described in Table 2. The survey will also include manipulation check and demographic questions.

We plan to recruit subjects from Amazon Mechanical Turk (MTurk) as the US-citizen sub-population of MTurk subjects has been suggested to be somewhat representative of the US population (Paolacci et al. 2010, Mason and Suri 2012). MTurk also allows cost-effective sampling of subjects who are fitting for a study using ELM, as the subjects are expected to have low motivation in the context of the simulation task, and the majority of them are expected to be unfamiliar and thus "incompetent" with product specifications.

Construct (Sub-Construct)	Scale Source
Disposition to Trust (Faith in Humanity, Trusting Stance)	McKnight et al. (2002)
Trusting Beliefs (Benevolence, Competence, Integrity)	
Trusting Attitude	Developed from Ajzen & Fishbein (1980)

**Table 2. Measurement Scales**

## Potential Contributions

On a theoretical level, our research aims to contribute to the literature in three ways. First, we seek to establish reviewer trustworthiness as an important construct to consider in addition to helpfulness. Second, this will be one of the first studies to integrate the IS Trust Model with ELM to better explain the role of reviewer peripheral cues (badges) on eWOM evaluation through readers' attitude. Last, disposition to trust is introduced as a potentially important moderator of the relationship between peripheral cues and trusting beliefs, and should be considered in future eWOM studies. Practical contribution includes the potential impact of providing cues (badges) that convey reviewer credibility and motivation on reviewer trustworthiness. The ERF paper will be presented at AMCIS, and future, more extensive studies are planned to also manipulate central cues and provide a full factorial design with both types of badges.

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