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Abstract

Consumer endorsements have along been used as an advertising strategy, and now, it is also easy to see consumer endorsements in online shopping sites. A positive Online Consumer Review (OCR) is a consumer endorsement in the web site. Although the sources of both OCR and consumer endorsement in advertisement (CEA) are typical consumers, trust in the source of OCR could be perceived differently from trust in the source of CEA. Trust in the information source ensures that consumers comfortably accept the endorsement. In e-commerce, how is a consumer’s judgment involving trust based on endorsements made by other consumers? This experimental study investigates whether trust in a web site is transferred to trust in the source of OCR and CEA. Moreover, it also tests which source credibility could be more influenced by site trust.

Key Words: electronic commerce, online consumer review, consumer endorsement, trust transfer, trust in web site

1. Introduction

Consumer endorsement is used as one of the useful advertising strategies. These include celebrity spokespersons, experts, and consumers (Fireworker and Friedman 1977; Friden 1984; Friedman and Friedman 1979). With the exponential growth of e-commerce, consumers create a huge amount of information which influences other consumers. Online Consumer Review (OCR) is the consumer-created information that allows consumers to post comments on a seller’s web site about the product (Chen and Xie 2004 forthcoming) and the positive OCR is a consumer endorsement in the web site. That is, now, we can see easily consumer endorsement in online shopping sites instead of consumer endorsement in advertisement (CEA).

Since Amazon.com allowed consumers to write their product reviews, about 10 million consumer reviews have been posted. This strategy has become one of the most successful features of Amazon. As a result, numerous web sites followed the strategy and finally OCR is indispensable in online shopping malls. Since online shopping malls began providing OCR, buyers have considered OCR as their most important information source about service providers and products. Positive OCR acts as consumer endorsement in a site. Studies on positive OCR studies have investigated the effect of OCR as word of mouth or part of the marketing communication mix (e.g., Park et al. 2005, Chen and Xie 2004).

Although the source of both OCR(S-OCR) and CEA(S-CEA) is typical consumers, S-OCR has different characteristics from S-CEA. First, S-OCR is independent from sellers. That is, S-CEA seems to have a close relationship with advertisers while S-OCR does not.
Second, S-OCR is a user of the web site while S-CEA is not. The differences influence source credibility, which consists of two components: expertise and trustworthiness. Because both the sources involve typical consumers, the level of expertise of S-OCR and S-CEA may not be different. However the fact that S-CEA is not independent from sellers could lead other consumers to trust the information contained in an endorsement less because of the advertising context. Instead, S-OCRs are definitely strangers who act in the site but they are still members of the site. If the web site is not trustworthy, other consumers will not trust the information or S-OCR inside the site.

Although some studies (Dellarocas 2003; Chevalier and Mayzlin 2003) have been interested in trust in the source of consumer-created information comparatively with seller-created information, the antecedent of trust in the source of OCR needs to be further investigated. What factors influence trust in S-OCR? How does an individual decide how much he/she trusts S-OCR? In this paper, trust in S-OCR and S-CEA is investigated with trust in a web site using “trust transfer” as means of establishing trust in consumers. The main goal of this study is to test trust transfer from the web site to its consumers in the e-commerce context. Another goal is to test how different the influence of the two types of consumers is depending on site trust. In this paper, only positive endorsement is the focus for comparing S-OCR with S-CEA.

2. Literature Review

2.1 OCR vs. CEA

OCR is consumer-created information by site users who have already bought the target product. OCR contains recommendations of the products from the consumer perspective. Current studies have investigated OCR as electronic Word-of-Mouth (eWOM). OCR is changing people’s behavior (Brown and Reingen 1987; Chatterjee 2001; Chen and Xie 2004). For example, people make offline decisions based on online information (Godes and Mayzlin 2004) and rely on postings to make decisions ranging from what movie to watch to what stocks to invest in (Dellarocas 2003).

In advertising, consumers’ experience stories similar to OCR have been used. It is one of the typical advertising strategies involving the use of celebrities, experts, and typical consumers offline (Fireworker and Friedman 1977; Friden 1984; Friedman and Friedman 1979). Even though celebrity and expert endorsements are very powerful, consumer endorsement is an efficient way to advertise because of the low cost. CEA is normally used in testimonials in which consumers provide product information based on their own experiences. These strategies have moved to the online market. Marketers begin to include other consumers’ personal experiences and interviews in their online product advertisement. Sometimes, some OCRs are selectively quoted with product information as CEAs.

Although the information sources of both OCR and CEA are typical consumers, the effect may be different because of source characteristics. From the viewpoint of the independence of marketers, S-CEA seems to have a much closer relationship with advertisers than S-OCR. People may think that S-CEA is selected and controlled by the advertiser. Yet, OCR is written by independent consumers who are not selected or controlled by advertisers. Anyone can participate in posting their experiences. Sellers could disguise their advertising messages as OCR. However, CEA relative to OCR is perceived as more seller-independent information because CEA is located inside of
advertisement.
S-OCR seems to be influenced by the web site because S-OCR involves site users who have already purchased the target product. But, the reviewers are strangers that consumers have never met or will never meet in the future. Thus, potential consumers are likely to rely on the site’s reputation and popularity. If a site is held in good reputation and many other friends use the site, then people tend to trust the information on the site and S-OCR. On the contrary, if a site does not have a good reputation and other people do not use the site, and then consumers do not trust S-OCR or any information in the site. This paper investigates the influence of the site trust on S-OCR, based on these differences from S-CEA.

2.2 Trust in S-OCR and trust in S-CEA
In the marketing area, the research of trust in a message has focused on “source credibility.” Source credibility is designed to determine the conditions under which the message sender or the source is persuasive. Source credibility has been applied to the endorsement process. The source credibility model is based on social psychology. Message effectiveness depends on the “expertness” and “trustworthiness” of the source (Hovland and Weiss 1951-1952; Hovland et al. 1953). The definition of expertness is the perceived ability of the source to make valid assertions. The definition of trustworthiness is the perceived willingness of the source to make valid assertions. The model holds that sources exhibiting expertness and trustworthiness are credible and persuasive. Several studies (Atkin and Block 1983; Kamen, Azhari and Kragh 1975; Klebba and Unger 1983) have validated the model. Expert, celebrity, and typical consumer endorsements significantly increase the overall attitude toward the product and the expected price (Fireworker and Firedman 1977). Given the empirically demonstrated power of these endorsements to affect consumer attitudes and behavior, further investigation appears warranted. In this paper, trust in S-CEA or S-OCR means the perceived expertise and trustworthiness of previous buyers who write CEA or OCR.

2.3 Trust in Web Site
Internet users perceive significant risks and uncertainties in transacting with an unknown seller via an internet web site (Friedman et al. 2000; Hoffman; Novak, and Peralta 1999). Recent studies show that trust is essential for the success of e-commerce activities (Hoffman et al. 1999; Crowell 2001) and trust in the vendor is central to e-commerce (Gefen 2000; Reichheld and Schechter 2000).
Mcknight and Chervany (2001-2002) investigate the existing various definitions of trust and categorized trust into four second-order categories (competence, benevolence, integrity, and predictability). Among them, competence, benevolence, and integrity appear to be most frequently used. We adopt the concept of trust in this study as an individual’s belief concerning the extent to which a target is likely to behave in these ways. Competency means that one believes that the other party has the ability or power to do for one what one needs done. In this study, the consumer would believe that the online vendor site can provide the goods and services in a proper and convenient way. Benevolence means that one believes that the other party cares about one and is motivated to act in one’s interest. A benevolent online vendor site would not be perceived to act opportunistically by taking advantage of the trustor. Integrity means that one
believes that the other party makes good faith agreements, tells the truth, act ethically, and fulfills promises.

2.4 Trust Transfer
In previous trust transfer research, three focuses exist (Stewart 2003). The first focus is trust transfer from individual sources. Some studies show that individuals (known targets) serve as the source of trust transfer to unknown targets (e.g., Uzzi 1996). At an individual level, two persons who have little knowledge of each other can develop trust relatively quickly when they share trust in a common third party (McEvily et al. 2003). A buyer of a certain product would decide to trust an unknown seller if a third person, trusted by the buyer, vouched for the unknown seller (Strub and Priest 1976).

Another focus is the sources from which trust may be transferred to an individual. Examples include a location (Henslin 1968) and an industry association (Milliman and Fugate 1988). The cab drivers’ trust in passengers is influenced by the location that is involved in an encounter (Henslin 1968). A salesman could transfer the burden of establishing trust from himself to a “proof source” by co-opting a prospect’s trust in an industry association. The proof source offers verifiable evidence of the salesperson’s claims, and influences the client’s intention to purchase.

The other focus is a transfer process: a communication process in which either the target or a trusted third party exerts direct influence on the trustor, or a cognitive process in which the mere knowledge of the relationship between the target and another source of trust induces transfer. The present research focuses on the cognitive process of trust transfer and considers both the possibility of transfer from one individual entity to another, and from a context to an individual entity (McEvily et al. 2003; Stewart 2003). We follow the concept of “context” as the situation in which a target is encountered. In this study, shopping on the “web site” is the context, and it provides the online marketplace where buyers make transactions.

2.5 Trust Transfer from Web Site to Consumer
In e-commerce research, trust in a web site has been studied in the viewpoint of institution-based trust. Institution-based trust has been studied as an important factor to influence consumers. The institution-based trust is derived from sociology, which says that behaviors are situationally constructed (McKnight and Cervany 2001-2002). Such trust stems from the belief that impersonal structures are in place to facilitate and encourage trustworthy behavior in a given situation (Zucker 1986). Already many other works have demonstrated that different types of contextual factors such as society, organization, and location may influence trust. The effects on general measures of trust influence have been investigated based on their religious make-up (La Porta et al. 1997) and the communications infrastructure (Fisman and Khanna 1999) of society. There exists a strong correlation between trust in an organization and trust in an individual within that organization (Zaheer et al. 1998).

If the online vendor is trustworthy, potential consumers may trust the online site operation and may feel that information in the site is trustworthy. Even though an OCR is posted not by a vendor but by a consumer (S-OCR), the fact that the OCR is in the context of where the trustworthy vendor operates could lead to a transfer of the trust from the vendor to the information source, S-OCR.
Trust in a web site may be transferred to S-CEA because the advertisement is inside the web site. The strength, however, is much less than S-OCR because S-CEA is nested in the advertisement. Even though trust in web site could be transferred to advertisement and be influenced by it, the effect of it on S-CEA is less than S-OCR.

**HYPOTHESIS 1:** The level of trust in a web site is transferred to trust in consumers

**HYPOTHESIS 1.a:** The level of trust in a web site is transferred to S-OCR

**HYPOTHESIS 1.b:** The level of trust in a web site is transferred to S-CEA

**HYPOTHESIS 2:** The effect of trust transfer from a web site on trust in S-OCR is much greater than the effect on trust in S-CEA.

Consumer-created information is likely to be more credible than seller-created information in the viewpoint of trustworthiness (Wilson and Sherrel 1993; Dellarocas 2003). S-CEA is selected by sellers. Sometimes, the reviewer is directly compensated. S-CEA is perceived as having some relationship with the advertiser. When the site trust is high, S-OCR may be more credible than S-CEA. Sellers control S-CEA in terms of aspects such as the storyline and format, while they cannot control S-OCR. In OCR, there are no controls by anybody in terms of the content or format such as length, perspective and positiveness. The independence of S-OCR from marketers suggests that the S-OCR will be perceived as very trustworthy.

In this sense, when trust in a web site is high, trust in S-OCR may be greater than trust in S-CEA. That is, when OCR is posted in a highly trustworthy site, it is more credible than CEA.

**HYPOTHESIS 3:** In a web site with high trust, trust in S-OCR is greater than trust in S-CEA.

When trust in web site is low, trust in S-OCR may rapidly decrease by trust transfer. In addition, the fact that OCR is written by strangers could have a more negative impact in a web site with low trust than in a web site with high trust. Although the CEA source is also a stranger, people perceive that advertisers are responsible for the mass marketing. Therefore, when trust in a web site is low, trust in S-OCR is lower than trust in S-CEA.

**HYPOTHESIS 4:** In a web site with low trust, trust in S-CEA is greater than trust in S-OCR.

### 3. Research Method

#### 3.1 Subjects and Design

The subjects are eighty-six college students. About 70% of the subjects purchase products more than four times per year using internet shopping malls. Each participant was given a reward.

We have two criteria in choosing a product for testing our hypotheses. First, we seek a product that is understandable to the research participants. Second, we want a product with which our participants are not too familiar. Because familiarity would evoke participants to draw upon their pre-knowledge and prior brand evaluation about the product, other buyers’ product reviews may be less useful to them. A digital camera is selected for this study. Most of college students have seen or used a camera and they can
understand a camera’s basic functions and characteristics. A digital camera is similar with a film camera but it is upgraded with new functions very quickly with advances in technology.

Full factorial design is used in Figure 1: 2(trust in web site: low and high) x 2(type of information source: S-OCR and S-CEA). The subjects were randomly assigned to each cell.

![Figure 1](image)

**FIGURE 1. Experiment Design**

### 3.2 Independent Variables

Trust in a web site is manipulated with “site reputation.” A favorable reputation is easily transferable and enhances the credibility of the vendor (Ganesan 1994) and a firm’s reputation is important in influencing a consumer’s trust toward the firm (Chen and Dhillon 2003). Two kinds of information are provided. One is to tell how many people around you use the web site and the other is to tell award records of the web site (Table 1). If many people know and have used the web site for many years, then consumers believe the web site is trustworthy. Moreover, the fact that the web site has received awards makes consumers trust the web site more.

Two types of information sources (S-OCR and S-CEA) are used in this experiment containing the same information. The difference is the location of the information. In the case of S-OCR, the information is located independent from the product advertisement. In the case of S-CEA, the information is inside the advertisement.

According to a prior study (Park et al. 2005), 6 reviews are used for a medium number of reviews. The length of each review is set at 3 lines with a font size of 10 points to eliminate the effect of varying lengths because the length of reviews can affect information quality and quantity (Chevalier and Mayzlin 2003). Each review includes a title, a poster name and contents. The experiment sites are shown in Figure 2 and 3.

### Table 1. Site Trust Manipulation

<table>
<thead>
<tr>
<th>Level of Trust</th>
<th>Reputation</th>
</tr>
</thead>
</table>
| Low           | ● *Direct Reputation*: No one purchases on this site  
|               | ● *Indirect Reputation*: No awards               |
| High          | ● *Reputation*: Most people including me have purchased on this site  
|               | ● *Indirect Reputation*: Two reputation awards  
|               |   ➢ #1 online shopping site in Consumer Satisfaction Survey (2003)  
|               |   ➢ Online brand power # 1 (2004)               |
3.3 Dependent Variables

For source credibility measurements, five items, each rated on a seven point semantic differential scale, are used. Items include: expert/not expert, experienced/not experienced, trustworthy/not trustworthy, moral/immoral, and trained/untrained (Sternthal et al. 1978). The level of trust in a web site that is transferred to S-OCR and S-CEA is assessed through one-way ANOVA by comparing the change of trust in S-OCR and S-CEA depending on the site trust using a planned contrast.

3.4 Control Variables

To control for the effects of possible confounding variables and improve the internal validity of this study, some variables such as product knowledge are measured for analysis as covariate variables and some are for manipulation checks. The subjects in all groups should think that the content and amount of both OCR and CEA are the same. To control them, the amount of reviews and the positiveness of reviews for the product are measured. Other variables to change the effects of consumer endorsements should be controlled. Site familiarity, the brand effect, prior knowledge of the product and attitude for the reviews could be the factors (Hong et al. 2004; Park et al.). Site familiarity is eliminated by hiding the site name and only giving site information. By hiding the name of the experiment product, product familiarity is controlled. Prior product knowledge and general attitude for consumer endorsements (i.e. perceived usefulness and tendency of trust in general consumer reviews) are found through a survey. Prior product knowledge variable is measured by an item with anchors ranging from “I’ve never heard of it” to “I know it well” General attitude for consumer endorsements is measured with four items on a seven point scale. They are used as the covariate variables.

3.5 Experimental Procedure

The procedure consists of three parts. First, we explained this study and the contents of
experiment to the subjects. We also told them to continue this experiment at their own pace and raise their hands when they have questions. Before subjects enter the web site, we give the web site profile for site trust manipulation. Second, each subject goes to the web site. The web site contains the target product advertisement including a product picture and one of the consumer endorsement types, S-OCR or S-CEA. Finally, the subjects fill out the questionnaires, which consist of questions on dependent variables, manipulation checks, and demographic information. The subjects in all cells were given the same questionnaire.

4. Results
To assess the manipulation check of the site trust, five questions are used based on the three trust concepts, benevolence, integrity, and ability perspectives (Pavlou and Gefen 2004; McKnight et. 2002 etc) (alpha 0.916). The questions come from prior studies. Subjects who receive high site trust information perceive that the site is significantly more trustworthy than do subjects who receive the low site trust information (p< 0.01). Individuals in both CEA and OCR cells perceive that the amount of reviews is medium (mean=3.51, t=-1.110, p>0.1).

In the web site with high trust, trust in S-OCR is significantly greater than in the web site with low trust (t = -5026, p<0.01). This shows that trust transfers from trust in a web site to trust in S-OCR (H1a accepted). Trust in S-CEA is not significantly different in a low trust site and in a high trust site (t = -0.262, p>0.1) (H1b rejected). Interaction involving the site trust and consumer endorsement type is significant (F (1, 86) = 15.401, p<0.01). The mean and standard deviations of the dependent variable are presented in Table 2. As trust in a web site increases, the change of trust in S-OCR is much greater than the change of trust in S-CEA (planned contrast, F (86, 3) = 12.370, p<0.001, the change of trust in S-OCR =1.938, the change of trust in S-CEA =0.063) (H2 accepted). S-OCR is more trustworthy than S-CEA in trustworthy site (t = 3.772, p <0.001) (H3 accepted). However S-OCR is less trustworthy than the S-CEA in the site with low trust (t = -2.324, p <0.05) (H4 accepted). Results are summarized in Table 3

Both covariate variables are not significant: General attitude for consumer endorsement (Cronbach’s alpha = 0.8372, F (1, 86) =0.544, p > 0.1) and prior product knowledge (F (1, 86) =1.007, p > 0.1)

Table 2. Means and Standard Deviations for Each Experimental Cell on Trust in Information Source Index

<table>
<thead>
<tr>
<th>OCR</th>
<th>CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Trust</td>
<td>High Trust</td>
</tr>
<tr>
<td>Low Trust</td>
<td>High Trust</td>
</tr>
<tr>
<td>3.010 (1.351)</td>
<td>4.948 (1.149)</td>
</tr>
<tr>
<td>3.873 (1.011)</td>
<td>3.936 (0.521)</td>
</tr>
</tbody>
</table>

Table 3. Summary of Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review Type (OCR vs. CEA)</td>
<td>0.057</td>
<td>0.811</td>
</tr>
<tr>
<td>Site Trust</td>
<td>19.813</td>
<td>0.000***</td>
</tr>
</tbody>
</table>


Review Type x Site Trust 15.401 0.001***
Prior Product Knowledge 1.007 0.319
General Review Attitude 0.544 0.463

*: p < 0.1, **: p<0.05, ***: p<0.01

Figure 4. Trust in Information Source

5. Conclusion and Discussion
5.1 Summary
The objective of this research is to investigate trust in consumers, S-OCR and S-CEA, and the influence of site trust. The results show that site trust is transferred to trust in S-OCR while site trust is not transferred to trust in S-CEA. In a trustworthy web site, consumers perceive S-OCR as being trustworthy, while in a less trustworthy web site, consumers do not. Site trust does not influence trust in S-CEA. This could imply that consumers think that advertisements are separated from information in a web site. The reason may be that consumers perceive the advertisement as being a mass marketing tool depending not on a web site but on a product manufacturer or a product brand. In a trustworthy web site, S-OCR is more believable than S-CEA. In a low trust web site, however, S-CEA is more credible than S-OCR.

5.2 Implications
This study involves the experimental research to find the impact of site trust on interpersonal trust. How much do consumers trust S-OCR in e-commerce? Other OCR studies investigate how OCR influences consumers, but here we investigate what influences S-OCR. Our result, that OCR’s meaningful role depends on the site trust, shows that site trust influences interpersonal trust among consumers in e-commerce. Moreover the experiment results show that two consumer types have a different impact in terms of the antecedent factor. S-OCR is more influenced by site trust than S-CEA. It implies that site trust must be developed before S-OCR development.
E-commerce strategy using OCR could be derived from these results. At the beginning stage of e-commerce, the site owner should first try to develop site trust. Site trust is the basic factor not only for trading in e-commerce but also for enhancing the effect of OCR. In this stage, site trust is low and there are few OCRs. Thus, the web site managers had better ask advertisers to use CEAs in this web site to increase source credibility.
Additionally, the web sites should continue to focus on improving site trust, and the web sites need to ensure that consumers trust the site by emphasizing their stable transactions using escrow service or guarantees, and recommendations from third parties. As the site matures, a more efficient endorsement strategy not using CEA but using OCR had better be applied. When site trust is settled and consumers perceive it, OCR has great potential to persuade other consumers. The positive impact of OCR on purchase intention could give web sites a chance for good sales. Moreover, advertising cost will be reduced by using OCR.

5.3 Limitations and Future Research
In this experiment, only an online vendor among many types of B2C marketplaces is considered. In other cases such as an e-mail, a community of sellers (Turban, King, Lee, and Viehland 2004), other factors could have a different impact on S-OCR, such as an individual seller’s reputation. This study only focuses on site trust as an antecedent of trust in S-OCR. Research on other factors which increase trust in S-OCR would be interesting. In addition, celebrity endorsements and third party endorsements are important endorsement types in advertising (e.g., Dean and Biswas 2001; McCracken 1989; Tripp and Carlson 1994). To find the effects of different endorsement types along with OCR could also be an interesting subject in the OCR research area.

6. REFERENCES


