When and How Information Quality Matters: Perceived Customer Orientation and Customer Satisfaction

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Abstract

Nowadays E-tailing has grown tremendously fast, which bring intensive competition in online business. E-tailers pay more attention to website management to acquire and retain customers. Information quality of website is vital to gaining and increasing customer loyalty in online market. This study validates that information quality has direct effect on customer satisfaction, and it investigates when and how information quality of website matters. More specifically, the moderator effect of perceived customer orientation upon the relationship between information quality and customer satisfaction is investigated. Results indicate that perceived customer orientation has the moderating effect on the information quality and customer satisfaction relationship. In addition, this study finds that customer satisfaction does play a mediating role in the effect of information quality on behavioral intentions.

Keywords: Information Quality, Customer Orientation, Satisfaction, Behavioral Intentions

1. Introduction

Internet has grown extremely fast and had a profound impact on ecommerce, which has opened up a new paradigm for retailing business [1]. Customer satisfaction is a critical and focal issue in the success of e-commerce business [20][26][27]. In order to attract customers to visit and revisit E-tailer’s website, more and more E-tailers pay a big attention to website design management to developing a customer-centric environment [2][24].

Customer satisfaction is a central factor in e-commerce studies [18], which is proved as a key element to success in the online environment [19]. Currently, many empirical studies are present in dealing with the determinants of customer satisfaction in E-tailers [21][22][38]. Information quality in commercial websites is becoming a focal point in the e-satisfaction literature. In a computer-mediated environment, customers’ purchasing decisions on a firm’s products and services can be determined by their perceived quality of information [3]. And information quality is found to play an essential role, because it is ranked as a key success factor in many product categories [4]. Even though, some studies define the effect of website’s information quality on customer satisfaction, the causal linkage from information quality to customer satisfaction is not clearly validated. That is, the research on the causal relationship between information quality and customer satisfaction shows inconsistent results, which means that in some cases, the effect of information quality on customer satisfaction is unexpectedly weak or non-significant. Hence, we can expect that there are some moderators that affect the strength of the relationship between the information quality and satisfaction.

This article explores the moderating role of customer orientation in the effect of information quality on customer satisfaction, in addition to the direct effects of information quality and customer orientation. Results indicate the substantial direct effect of information quality and customer orientation, and the interaction effect of information quality and customer orientation. Through these findings, we can interpret that if a consumer has experienced satisfaction with an E-tailer website through perceived customer orientation toward an E-tailer, then he or she is less reliant on the website’s information quality as the main cue to judge satisfaction with that E-tailer. However, from the managerial perspective, E-tailers, which are perceived as customer-oriented company by customers, might invest their resources less on website’s information quality improvements as the main avenue to successful customer relationship building.
2. Theory and Hypotheses

2.1 Information Quality and Satisfaction

With the dramatic growth of Internet, customers rely on the Internet as a major information resource. The information quality of E-tailer websites is becoming a focal point in the current consumer behavior and e-commerce literature. In a computer-mediated environment, customer purchasing decisions are determined by their information quality [3]. Choi et al. [4] found that the information quality is top-ranked in all types of products as a key success factor through exploring web success factors. In addition, the information quality of a company's offerings is also believed to be crucial to create a positive image of the company and build an ongoing relationship with the customer [3][13].

Information quality for products on the Web is believed to be the most important factor for predicting customer behavior [3]. Information in the website is a critical factor for website design [14]. Customers' satisfaction with E-tailer is directly affected by the information quality of the website [7][23]. Poor information quality can result in less customer satisfaction, loss of customers to competitors, and reduction in profits. If the information provided by the E-tailer is useless, insufficient, inaccurate, or incomplete, customer satisfaction will be diminished, since customers may consider that E-tailers engage in detrimental opportunistic behavior. In contrast, providing high information quality on the website will increase customer satisfaction [25]. Specifically, we hypothesize that:

Hypothesis 1: Information quality of E-tailer will have a positive impact on customer satisfaction with E-tailer.

2.2 Perceived Customer Orientation and Customer Satisfaction

There are limited literatures that have indicated the importance of perceived customer orientation in E-commerce. Surprisingly there is little research linking customer orientation to customer satisfaction in online environment [29]. However, in practice, senior management reports emphasize that customer satisfaction, positive word of mouth, and repeat purchase are the outcome of a firm’s strategy of customer orientation. In the same vein, Luo and Seyedian [5] argue that firms in the virtual market space should commit to meet customer needs to make them feel satisfied and become loyal to the sites. In other words, customers’ perception of customer orientation strategy firms has influence over customer satisfaction of internet storefronts.

Previous research has investigated the influence of customer orientation on behavioral intentions (purchase intention, repurchase intention, revisit intention) in the wholesaler–retailer context. A Website should be evaluated according to the effectiveness of product organization and the degree of customer focusing [6]. DeLone and McLean [7] asserted that the information system’s success (i.e., website success) should together consider the independent variables such as customer focus (i.e., customer orientation). However, most of the customer orientation studies focus on antecedents and performance outcome of customer orientation from the organization-centric view (i.e., profitability, market share, and revenue, etc.)(8), rather than consider the perspective from customer such as customer orientation and its outcome (i.e., customer satisfaction and behavioral intentions, etc.). Moreover, Day and Nedungadi [9] indicate that customer satisfaction and loyalty are important indicators to measure the performance of customer-oriented business. In this paper, we will use customer-based measures such as satisfaction, purchase intention, and revisit intentions as the indicative of a corporate performance outcome in the online market space.

Deshpande et al. [10] investigate the positive relationship between customer evaluation of the firm’s customer orientation strategy (perceived customer orientation) and business performance. They emphasize that the evaluation of a customer oriented organization should come from its customers rather than merely from the company itself. In other words, the effect of customer orientation should be measured from the customers' perspective.

Moreover, Chang et al. [11] found that companies which exhibit customer orientation, by being vigilant regarding the need of customers, would achieve better performance in the e-commerce. Ghandour, et al. [12] also assert that the success of the e-Commerce system is determined by customer
orientation approach. A consumer is likely to satisfy with a customer-oriented e-retailer over a less customer-oriented one. Thus, we hypothesize that:

**Hypothesis 2:** Perceived Customer orientation of E-tailer will have a positive impact on customer satisfaction with E-tailer.

### 2.3 The Moderating Effect of Perceived Customer Orientation

In the literature, scholars have worked on the positive relationship between information quality and customer response variables such as trust, satisfaction, commitment, and loyalty. Most past research found the positive effect of information quality on satisfaction [19][32]. Research up to this point has focused on the direct effect of information quality on customer response. However, according to Jang et al.[15]’s study, they found that there was no significant effect of information quality on customer commitment. As customer satisfaction is strongly associated with customer commitment [36], one can expect that there might be no significant effect of information quality on customer satisfaction. Through these inconsistent results, one may infer that there are some moderators that affect the strength and/or direction of the relationship between information quality and customer satisfaction. This research addressed that gap by finding a significant effect of moderator of information: perceived customer orientation. To date, no one has proposed and tested customer orientation in such a manner. That is, this paper aims to test empirically the direct effects of both information quality and customer orientation as well as the moderating effect of customer orientation.

A high customer orientation perception by customers is likely to reduce a customer’s reliance on product information as an important source for efficient purchasing decision making. That is, consumers with high perceived customer orientation may not always seek much information for better decision making because they are already satisfied with E-tailer and trust in it. Since customer satisfaction can occur at a robust rate with either high customer orientation perception or high information quality perception, a strong synergy between perceived customer orientation and perceived information quality is not expected. But customers with either low perceived customer orientation or low perceived information quality are expected to have difficulty in building satisfaction.

Based on this logic, we might expect that there is an interaction effect between information quality and customer orientation: First, when information quality is high, high customer orientation would help in conveying the same and hence improve the consumer’s satisfaction with E-tailers. Second, even when information quality is high, low customer orientation will lower the possibility of consumers building high satisfaction. Third, when information quality is low, low perceived customer orientation would only lead to the further decline of satisfaction with E-tailers. Fourth, even when information quality is low, high perceived customer orientation can prevent it from reducing satisfaction with E-tailers. The hypothesized interactions about the relationship between information quality and customer satisfaction given the level of perceived customer orientation is illustrated at Figure I.

![Figure I. Hypothesized Interactions](image)

We theorize that perceived information quality is a significant positive impact on customer satisfaction. However, we also argue that the greater the perceived customer orientation, the less
customers rely on website’s information quality to build and judge satisfaction. Therefore, the positive effect of information quality weakens as perceived customer orientation increases. Therefore, we hypothesize:

**Hypothesis 3:** The greater perceived customer orientation, the weaker the positive effect of information quality on customer satisfaction.

### 2.4 Satisfaction with E-tailer and Behavioral Intentions

E-satisfaction has been defined in various ways in the literature. E-satisfaction is defined as “the contentment of the customer with respect to his or her prior purchasing experience with a given electronic commerce firm” ([30] p. 125). E-satisfaction refers to overall contentment with the online experience with a given website ([30],[31]). Customer satisfaction is an essential antecedent for customer loyalty ([37]). According to Jeong et al. ([32]), increasing customers’ satisfaction through high quality product information provisions positively influence customers’ behavioral intention.

Customer Satisfaction is also important in the virtual environment ([14],[28],[37]). Behavioral intention has been investigated as the consequence of satisfaction ([32]). Moreover, various researchers have suggested that online customer satisfaction will positively influence their intention to purchase online. With a greater degree of satisfaction with the online retailer, customers are more willing to make online purchases ([25],[28]).

Song and Zinkhan ([16]) specifically identify behavioral intentions associated with website usage as: repeat purchases intentions; repeat visits intentions to the website. Specifically, we hypothesize that:

**Hypothesis 4:** Customer satisfaction with E-tailers will have a positive impact on behavioral intentions

### 3. Research Methodology

#### 3.1 Sample Characteristics

The internet penetration in Korea reaching 82.7% with the average 32.7% worldwide and the numbers of Korean internet users, 40.3 millions, are ranked 17th ([ITU, 2011]). Given this situation, Korea may be a very proper domain to execute this study because previous findings have suggested characteristics of typical internet shoppers were similar to general Internet users ([17]). After checks for completeness, 151 useful responses are secured for further analysis. The respondents are all undergraduate students of Universities in Seoul, Korea.

#### 3.2 Hypotheses Analysis

In Hypothesis 1, we have proposed that information quality of a website will positively affect the customer satisfaction with E-tailer. Table 1 reveals a significant positive effect in the hypothesized direction (F(1, 147) = 33.777, p = .000, η² = .187), contributing support for Hypothesis 1 (See Table 1). Hypothesis 2 predicted that the perceived customer orientation for E-tailers will positively affect the customer satisfaction with E-tailer. It reveals a significant positive effect in the hypothesized direction (F(1, 147) = 25.806, p = .000, η² = .149), contributing support for Hypothesis 2 (See Table 1).
Hypothesis 3 predicted that the positive effect of information quality on customer satisfaction would be moderated by customer orientation. Table 1 reveals a significant interaction effect in the hypothesized direction \( (F(1,147) = 10.659, p = .001, \eta^2 = .068) \), contributing support for Hypothesis 3. The source of this interaction was examined further by testing the simple effect at high and low level of customer orientation (see Table 2). In the case of low customer orientation, the effect of information quality on customer satisfaction is significant and positive \( (F(1,147) = 43.75, p = .000) \). However, in the case of high customer orientation, the effect of information quality on satisfaction is only marginally significant \( (F(1,147) = 3.01, p = .08) \). That is, simple effect of information quality was more pronounced in low customer orientation than in high customer orientation \( (F(1,147) = 43.75 \text{ and } 3.01, p = .000 \text{ and } p = .08, \text{ respectively for low customer orientation and high customer orientation}) \).

Table 2. The Effect of Information Quality and Customer Orientation on Satisfaction

<table>
<thead>
<tr>
<th>Customer Orientation</th>
<th>Information Quality</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>High IQ</td>
</tr>
<tr>
<td>High CO</td>
<td>4.06 (0.89, 36)</td>
</tr>
<tr>
<td>Low CO</td>
<td>3.71 (0.92, 43)</td>
</tr>
<tr>
<td>Total</td>
<td>3.87 (1.12, 79)</td>
</tr>
</tbody>
</table>

*(a, b), a: Std. Deviation, b: cell sample size

Hypothesis 4 predicted that customer satisfaction would positively influence behavioral intentions. Table 3 reveals a significant positive effect in the hypothesized direction \( (b = .892, t = 16.440, p = .000, \text{ Adjusted } R^2 = .642) \), contributing support for Hypothesis 4.
Table 3. The Effect of Satisfaction on Behavioral Intentions

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.489</td>
<td>.197</td>
<td></td>
<td>2.490</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>.892</td>
<td>.054</td>
<td>.803</td>
<td>16.440</td>
</tr>
</tbody>
</table>

*R^2 = .645, Adjusted R^2 = .642*

Additionally, we conducted Baron and Kenny [35]'s mediation analysis to examine that satisfaction is responsible for the causal effect of independent variables on behavioral intentions. To test whether the satisfaction with E-tailer mediated the relationship between independent variables and behavioral intentions, it was first necessary to test whether satisfaction was influenced by information quality and customer orientation. As shown in Table 4, the regression analysis with satisfaction as criterion was significant (IQ: b = 0.581, t = 5.820, p = 0.000, CO: b = 0.478, t = 4.791, p = 0.000). Next, there was a significant effect of IQ and CO on behavioral intentions respectively (IQ: b = .580, t = 4.917, p = 0.000, CO: b = .336, t = 2.847, p = 0.005). Lastly, When the satisfaction was entered as a predictor in the regression of behavioral intentions, satisfaction exerted a strong effect on behavioral intentions (b = .896, t = 14.105, p = .000). IQ and CO were no longer significant (IQ: b = .059, t = .694, p = .489, CO: b = .093, t = 1.118, p = .265). We conducted the Sobel test to examine whether a mediator variable significantly carries the influence of an independent variable to a dependent variable. That is, whether the indirect effect of the independent variable on the dependent variable through the mediator variable is significant. The Sobel test results showed that the indirect path via satisfaction was significant, z = 5.366, p = 0.000, z = 4.523, p = 0.000, respectively for IQ and CO. The mediation effect of satisfaction was therefore found in both IQ and CO.

Table 4. The Mediating Effect of Customer Satisfaction with E-tailer

<table>
<thead>
<tr>
<th>Predictors</th>
<th>IV → M(Satisfaction)</th>
<th>IV → DV</th>
<th>IV, M(Satisfaction)→ DV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>t</td>
<td>b</td>
</tr>
<tr>
<td>Information Quality</td>
<td>.581</td>
<td>5.820***</td>
<td>.580</td>
</tr>
<tr>
<td>Customer Orientation</td>
<td>.478</td>
<td>4.791***</td>
<td>.336</td>
</tr>
</tbody>
</table>

IV = Independent Variable (Information Quality, Customer Orientation), DV = Dependent Variable (Behavioral Intentions), M= Mediator (Satisfaction with E-tailer)  *, p<0.05, **: p<0.01, ***: p < 0.000.

4. Conclusion

Since customer satisfaction is an important determinant factor in online purchasing, E-tailers pay more attention on website design to lead to customer satisfaction during customer online shopping [31][33]. Therefore, it is essential to understand whether the information quality or the customer-oriented image design has a greater effect on improving customer satisfaction during online shopping. In the other hand, the optimum resource allocation is also important for firms with limited resource. For the purpose of optimum resource allocation, the results of this study suggest that E-tailer should devote their resources to developing some cues (e.g., visions, slogans, services, or systems) to increase customer orientation perceptions that directly increase customer satisfaction. The E-tailer's customer-oriented images are more influential in communicating such cues to consumers. In addition, according to our empirical results, information quality is a significant direct factor that enables customer satisfaction. For an E-tailor who has difficulty in establishing customer-oriented systems and/or activities across the value chain of target customers, it had better focus on the management of information quality.

In addition, customer orientation has also a moderating effect on relationship between information quality and satisfaction. It indicates that if consumers are highly satisfied with E-tailer by its customer oriented systems and/or activities, they will be less reliant on the website’s information quality as the
main cue to judge satisfaction with it. Therefore, high customer-oriented firms might need to allocate their resources less on information system development for information quality improvement when they have limited resources. A general assertion of this article is that E-tailers have a superior likelihood of creating a sustainable competitive advantage, if they are perceived to be customer-oriented and have good information quality on the website. But if companies have to choose one strategy, due to their limited resource to build good relationship with customers, they should focus on establishing customer-orientated strategy rather than making big effort to improve information quality of the website.

Finally, there appears to be no such study conducted to examine the direct and moderated effect of the customer orientation on customer satisfaction in an e-commerce setting. Moreover, this paper tried to address the limitations of previous literature that are reliant on the self-reported customer orientation measure, thus adopting the measure of consumer-evaluated “perceived customer orientation for a firm” to derive the actual performance of customer orientation. The findings of this study also suggest that customer evaluations of customer orientation should be included as a regular indicator for firm performance when doing a market research.

In this paper, we tested our hypotheses on an electronic products website, but the effect of information quality and customer orientation on customer satisfaction may depend on the type of product category. And we sampled primarily university students. It may be interesting to revalidate the results of this paper according to demographic variables and product category.

References


