



# Consumer perception of interface quality, security, and loyalty in electronic commerce

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## ABSTRACT

Customer interface quality, perceived security, and customer loyalty are critical factors for success of an e-commerce website; however, the relationships among them are not fully understood. We proposed a model for testing the relationships among them and the important outcomes of the site: switching costs and customer loyalty. Data was collected to test the model using a web-based survey, and empirical analyses were performed using SEM. The analytical results demonstrated that customer interface quality and perceived security positively affected customer satisfaction and switching costs, and thus customer loyalty to an e-commerce website. Specifically, our study showed that switching costs positively moderated the effect of customer satisfaction on customer loyalty; this moderating effect is discussed.

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## 1. Introduction

It is difficult to build customer loyalty in e-commerce transaction primarily because of the low switching costs when competition is only a click away. Hence, online companies have been eager to launch loyalty programs whereby customers obtain benefits by conducting most of their online shopping at one website, creating positive lock-in.

Marketers have attempted to discover the major factors leading to customer loyalty. Customer satisfaction is obviously one, and although many studies have identified other factors [10], the impact of the customer interface and its perceived security on customer loyalty has generally been ignored.

In real-world commerce, salespeople influence customer satisfaction, but in the context of e-commerce, they are replaced by a customer interface, which provides information to prospective customers and helps to counter the disadvantages of impersonal websites. Consequently, the quality of the customer interface can influence consumers' purchase intentions and, thus, the financial performance of the e-business. Moreover, consumer attitudes and beliefs about security have significant effects on the

intention to purchase online. This is possibly because customers no longer interact with a salesperson and must rely on electronic payment methods, which increases their perceived risk. Hence, lack of security, as perceived by online consumers, is one of the main obstacles to the development of e-commerce, and studies [14] have recognized perceived security as being important in online purchase decisions. However, despite the recognition of a need to build a perception of security, little effort has been made to investigate the factors that affect it in an online shopping context.

Furthermore, while customer interface quality and perceived security have been recognized as critical factors for success, few studies have examined whether they affect customer satisfaction and switching costs, and in turn, influence customer loyalty. Therefore, in order to understand the relationships among customer interface quality, perceived security, customer satisfaction, switching costs, and customer loyalty, we developed a research model to examine the relationships among these constructs in the context of e-commerce.

## 2. Literature review

### 2.1. Customer interface quality

Customer interface quality is a multi-faceted concept that is a measure of the shoppers' perception of quality of a transaction from pre- to post-purchase [15]. Parasuraman et al. [16] developed a scale with four dimensions (i.e. efficiency of the website, system

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availability, privacy, and the post-transaction experience) while Bauer et al. [5] used five eTransQual dimensions (functionality/design, enjoyment, process, reliability and responsiveness).

Since all of these measures have several components, a single study cannot include all possible customer interface features from all previous studies. For an online store, the customer interface serves as the store “atmospherics” [7,9], which is an attempt to design a web environment that has positive emotional effects on a visitor (a potential buyer) to increase the chance of making a sale. Based on this, our study primarily focused on the components of customer interface quality that are related to online store atmospherics rather than to the entire online buying experience. We adopted four components of customer interface quality that deal with its atmosphere:

- *Convenience* → the extent to which a customer feels that a website is easy to navigate (i.e. user-friendly). About two-thirds of all e-commerce transactions are not completed because shoppers cannot find the information they need to complete the purchase quickly.
- *Interactivity* → the degree to which an e-commerce website facilitates two-way communication with its customers. In physical stores, the atmosphere includes the staff and fellow customers. For an online store, the customer interface substitutes for the salesperson when interacting with customers. The interactive nature of websites has been credited with positively affecting consumer response, including a desire to return to the website.
- *Customization* → the ability of a website to tailor products, services, and the transactional environment to individual customers. It increases the probability that customers will find something that they wish to buy and creates the perception of increased choice by enabling users to focus on what they really want, making the site more appealing.
- *Character* → an overall image or personality that the online store projects via its website to consumers through the use of inputs (fonts, graphics, colors, and background patterns), which can serve the function of making the visual content easy to read, can create an atmosphere that makes the shopping experience more pleasurable, or instill a sense of confidence in shopping with a previously unknown online store.

## 2.2. Perceived security

In e-commerce, consideration of security refers to customer perceptions of the security of the transaction as a whole (including means of payment and mechanisms for the storage and transmission of all personal information). A lack of perceived security is a major reason why many potential consumers do not shop online because of common perceptions of risks involved in transmitting sensitive information, such as credit card numbers, across the Internet. Consumers who provide personal information during transactions assume the risk of having this information compromised. Hence, a major concern of online customers is the security of their transactions. Accordingly, we defined perceived security as the extent to which a potential customer believes that the e-commerce website is secure for transmitting sensitive information. This definition denotes a personal perception rather than any objective measurement, and assumes a customer's intuitive ability to assess risk.

## 2.3. Customer satisfaction

Customer satisfaction is an affective response to a purchase, and it is an important goal in consumer marketing. There are two different ways of determining overall satisfaction:

- the *transaction-specific* approach considers the emotional response by consumers to their most recent experience with a provider, while
- *cumulative customer satisfaction* is based on the customer's overall experience with a particular firm over time.

In addition, some see overall satisfaction as a function of perceived service quality. Here we treat customer satisfaction as a cumulative factor.

## 2.4. Switching costs

Switching costs have been investigated from many perspectives. Burnham et al. [6] broke down switching costs into procedural (the time and effort involved), financial (quantified loss) and relational (personal and brand relationship loss causing psychological discomfort due to the breaking of bonds). Thus switching costs are not only economic in nature, but can also be psychological and emotional. We therefore defined switching costs as the consumers perceptions of the time, money, and effort associated with changing e-service providers.

## 2.5. Customer loyalty

Most of the early literature emphasized the behavioral dimensions of loyalty, such as repeat purchase behavior, concentrating on the development of models designed to predict repurchase rates. Later, this was considered insufficient, because it did not distinguish between true customer loyalty and spurious customer loyalty, possibly resulting from a lack of alternatives. So, recently, customer loyalty has been considered an attitude construct. Thus in our research, we defined customer loyalty as *a customer's favorable attitude toward an e-commerce website that predisposes the customer to repeat buying behavior*.

## 3. Research model and hypotheses development

### 3.1. Research model

Our research model is shown in Fig. 1, in this a relatively old cognition–affect–behavior (C–A–B) model was adopted. *Cognition* consists of beliefs, thoughts, or perceptions formed through interaction with marketing stimuli (e.g. products, services, and shopping environments). *Affect* refers to a favorable disposition toward a stimulus that leads to a relative preference for the product in that particular stimulus. Based on the model, our study posited that customer perceptions of interface quality and security (i.e. cognition) formed through interaction with an e-commerce website positively affected customer satisfaction and switching costs (i.e. the affect), and thus customer loyalty (i.e. behavioral intention).

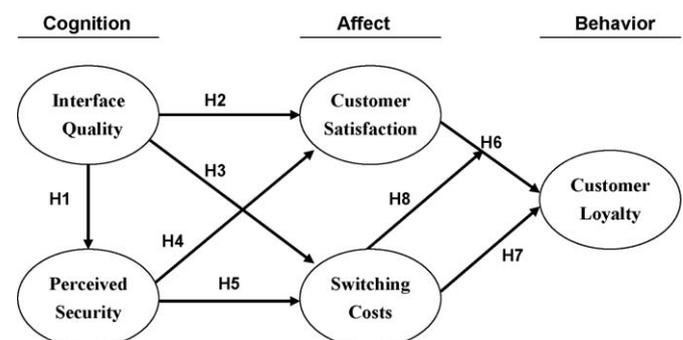


Fig. 1. Research model.

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