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The critical factors impact on online customer satisfaction

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Abstract

In the last decade, the concepts of customer satisfaction and customer retention have gained increasing importance in both online and off-line businesses. The primary objective of the present study is intended to ascertain the factors that affect online consumers' satisfaction in Taiwan. In it, information quality, system quality, service quality, product quality, delivery quality and perceived price have been identified and taken as the antecedents of user satisfaction. The present study, too, holds the key to unravelling how these factors may influence online consumers' satisfaction.

A survey was conducted with 390 Taiwan's university undergraduates who had online purchase experience. Multiple regression techniques were used to verify the overall model fit and to illustrate online customers' satisfaction. The results showed that online consumers' satisfaction was positive and significant affected by information quality, system quality, service quality, product quality, delivery quality and perceived price at significant $P <0.01$ level. Moreover, delivery quality was the most important factor and followed by product quality. The evidence generated in the present study suggests that e-commerce operators should pay more attention on the product sourcing, and cooperate with the delivery supplier to provide a higher delivery quality such as correct order, on time, and safety package. The implications of this finding, among others, are thoroughly discussed in the concluding section.

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1. Introduction

Online customer retention has attracted considerable attention in recent years, partly because it serves as a means of gaining competitive advantage [28]. When a customer is satisfied with a particular internet store, he or she is more likely to shop there again [15]. Therefore, concepts of both customer satisfaction and customer retention have become increasingly important to online and off-line businesses. It is important to understand the factors that drive consumers' satisfaction and their choice of the online channels [8].

Kolter [17] pointed out that the buying process includes problem/need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behavior. Satisfaction is the consequence of the customer's experience during various purchasing stages. Online customer shopping experience is based solely on online stores' information because of a lack of physical contact [23]. Therefore, information as well as system and service quality may influence customers' satisfaction during the information-search stage and shoppers' purchase decisions.

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The present study focused on indentifying and measuring the constructs that may serve as the antecedents of online user satisfaction. This study further intended to verify empirically the relationship between these constructs and online user satisfaction. In doing so, this study synthesized the information-system research and the marketing perspectives while identifying instruments for measuring online user satisfaction and its antecedents. The survey targeted Taiwan's university undergraduates who had online shopping experience.

2. Specification of Online User Satisfaction

Satisfaction is believed to influence attitude change and purchase intention [25]. A satisfactory purchase experience would appear to be one requirement for the type of continued interest in a product that might lead to repeat purchasing [7]. Many scholars found that satisfaction is one of critical factors influencing the continued purchase intentions [5, 8, 11, 12, 15, 24, 28, 30, 32]. In e-commerce context, DeLone and McLone [7] identified "User Satisfaction" as an important means of measuring our customers' opinions of an e-commerce system.

3. Theoretical Framework

Since the e-commerce should consider not only the information systems but also marketing strategies, this study reviewed the literature on both. Regarding the information systems field, this paper employed information quality, system quality, and service quality dimensions to investigate the consumers' satisfaction with e-commerce based on the updated DeLone and McLean [7] information systems (D&M IS) success model. Regarding the marketing field, we introduced the product quality, delivery quality, and perceived price into our research model.

3.1. E-Commerce system quality

Regarding the updated D & M IS success model, many researches employed information quality, system quality, or service quality dimension to investigate the consumers' e-commerce behavior [3, 18, 19, 21, 22]. Lin [22] identified Web site quality dimension, including information quality, system quality, and service quality and emphasized that system quality, information quality, and service quality are important factors influencing customer satisfaction.

In sum, according to the previous literature, information quality, system quality, and service quality are important independent variables of information system usage and user satisfaction. These three factors have been applied in many contexts. Therefore, this study proposes:

H1. Information quality has a positive influence on online user satisfaction.
H2. System quality has a positive influence on online user satisfaction.
H3. Service quality has a positive influence on online user satisfaction.

3.2. Product Quality and Delivery Quality

Perceived product quality is defined as the consumer's judgment about a product's overall excellence or superiority [6]. Keeney [14] indicated that minimizing product cost and maximizing product quality are major factors in e-commerce success. Patterson [27] pointed out that perceived product performance is the most powerful determinant on satisfaction.

On the other hand, the delivery of a product can affect all fundamental objectives of the value proposition [14]. Ahn, Ryu, and Han [2] indicated that the timely and reliable delivery increase user satisfaction so that they will shop again. Thus, other hypotheses are:

H4. Product quality has a positive influence on online user satisfaction.
H5. Delivery quality has a positive influence on online user satisfaction.

3.3. Perceived Price

From the consumer's perspective, price is what is given up or scarified to obtain a product [33]. Gupta & Kim [9] defined perceived price as the level of (monetary) price at a vendor in comparison with the customer's reference price and found that the influence of perceived price on purchase intention loses strength with increased transaction experience. Cao & Gruca [4] examined the customer ratings of pre-purchase and post purchase service to explain price variations in the online book market and found that the higher prices of the three market leaders were most likely associated with higher satisfaction ratings of both pre- and post-purchase satisfaction. Therefore, another hypothesis is:

H6. Perceived price has a positive influence on online user satisfaction.

4. Research Methodology

The first step toward developing measurement involves identifying the operational definitions of the study constructs. The proposed conceptual model in the present study suggests that information quality, system quality, service quality, product quality, delivery quality, and perceived price are the independent variables while online user satisfaction is the dependent variable. The definitions of information quality and system quality were adapted from Delone and Mclean [7]. Service quality definition comes from Kim, Lee, & Law [16]. Definitions of product quality and delivery quality were adapted from Ahn et al. [2]. Perceived price definition comes from Gupta and Kim [9]. Definition of online user satisfaction was adapted from Delone and Mclean [7].

4.1. Development of Measuring Instruments

Based on previous research, the present study used survey methodology with questionnaire items measured on Likert scales. Most measuring instruments were adapted from validated measures, the IS success model, and the marketing research. All statements were rephrased to fit the context of the present study. Items for measuring information quality were adapted from Ahn et al. [2] and Kim et al. [16]. Items on system-quality instruments were adapted from Ahn et al. [2] and Brown and Jayakody [3]. Service quality items were adapted from Ahn et al. [3], Tsai and Huang [28], and Wang [29]. Product quality items were adapted from Ahn et al. [2], and Hult, Boyer, and Ketchen [13]. Delivery quality items were adapted from Ahn et al. [2]. Items measuring perceived price were adapted from Gupta and Kim [9] and Kim et al. [16]. User satisfaction items were adapted from Anderson and Srinivasan [1].

4.2. Sampling procedure

Participants in the present study were university undergraduates in Taiwan. Using university undergraduates is appropriate as they have good computer skills and have more frequent access to Internet than do other consumers [6]. Most university students are electronic service users [31]. The investigator distributed 390 questionnaires to students on campus face to face. Participants were asked to recall a recent on-line purchasing experience and refer to this experience when providing their answers. Surveys were collected immediately upon completion. Three out of all completed questionnaires were discarded because they were incomplete.

5. Data Analysis and Results

The participants ranged from freshman to seniors and comprised 63.4% female and 36.4% male. Overall, 81.1% had more than 1 year of online purchasing experience, 70% spent less than 32USD and 1.8% more than 160USD on online shopping per month.

This study conducted multiple regression method to test the hypotheses. The author employed the enter estimate procedure and assessing the model fit. The regression coefficients of the first five variables (product quality, system quality, information quality, perceived price, delivery quality) were significant at .001 level ($p<0.001$) and for the SRQ variable at .01 level ($p<0.01$). These six independent variables explained 62 percent variance in user

satisfaction. The standardized coefficients were (0.188, 0.172, 0.156, 0.117, 0.203, and 0.162). Delivery quality, followed by product quality, was the most important factor.

The overall online user satisfaction correlated positively and significantly with all six independent variables. All correlations were significant at 0.01 level. Hence, research hypotheses H1-H6 can be supported.

6. Conclusion and Managerial Implications

Based on the findings of this research, user e-commerce satisfaction context relates to six factors: information quality, system quality, service quality, product quality, delivery quality, and perceived price. The e-commerce managers should development not only good information system features, that is, information quality, system quality, and service quality, but also marketing features, that is, product quality, delivery quality, and perceived price, which can influence user satisfaction positively.

According to the findings of this study, the customers consider the product and delivery more important; thus, e-commerce proprietors should pay more attention to the product sourcing and cooperate with the delivery supplier to provide a higher quality of delivery, such as correct order, timeliness, and safety packaging. The implication for management is that customers' sense of the good buy and worthy product or service is likely to influence satisfaction of online customers directly. Another implication is that when developing strategies to retain online customers, management needs to develop not only high quality e-commerce system but also quality products, reliable delivery, and fair price.

7. Limitations and Suggestions

Although this study provides meaningful managerial implications, it has some limitations. First, the model was empirically tested in a sample of university undergraduates from Taiwan. Thus, it cannot be assumed that the sample is representative of the worldwide e-population. Past research has found that culture plays a significant role in consumer behaviors [10, 20]. Future research should replicate this study and test this conceptual model in different country or culture.

Because the respondents in this study were university undergraduates, the items that they frequently bought were books, cloths, music, or movies, for example. The cost of these items is lower; therefore, the perceived price is no longer an issue for them. The results of this study cannot represent the customers who buy high cost items online, such as motorcycle, jewelry, or car, to mention a few. Future research may target the buyers of high cost items and explore the factors influencing their satisfaction.

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