



## Exploring E-service Quality on Customer Satisfaction in the Online Marketplace

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### บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาผลกระทบของคุณภาพการบริการทางอิเล็กทรอนิกส์ (e-service quality) ต่อความพึงพอใจของลูกค้าบนแพลตฟอร์มสำหรับการซื้อขายออนไลน์ในประเทศไทย การศึกษานี้แสดงให้เห็นว่าการเชื่อมโยงมิติทั้งสี่ของคุณภาพ e-service คือ (1) ประสิทธิภาพ (2) ความพร้อมใช้งานของระบบ (3) การเติมเต็ม และ (4) ความเป็นส่วนตัวในตลาดออนไลน์ สามารถนำไปสู่ความพึงพอใจของลูกค้าได้อย่างไร โดยรวบรวมจากผู้ซื้อ 400 รายที่ซื้อผลิตภัณฑ์ในตลาดออนไลน์โดยใช้แบบสอบถามเป็นเครื่องมือในการเก็บข้อมูล และใช้ค่าสัมประสิทธิ์สหสัมพันธ์ของ Spearman เพื่อทดสอบสมมติฐานและกำหนดทิศทางของความสัมพันธ์ในงานวิจัยนี้ ผลลัพธ์แสดงให้เห็นถึงความสัมพันธ์เชิงบวกระหว่างคุณภาพบริการอิเล็กทรอนิกส์และความพึงพอใจของลูกค้า ผลการทดสอบความสัมพันธ์ยอมรับสมมติฐานทั้งหมด โดยมีค่านัยสำคัญมากกว่า 0.01 จากมิติด้านคุณภาพการบริการทางอิเล็กทรอนิกส์ทั้ง 4 ด้าน ผลการวิจัยพบว่ามีมิติด้านประสิทธิภาพมีความสัมพันธ์มากที่สุดกับความพึงพอใจของลูกค้า อย่างไรก็ตาม ระดับความสัมพันธ์ระหว่างประสิทธิภาพและความพึงพอใจของลูกค้าอยู่ในระดับปานกลาง นอกจากนี้ มิติด้านความเป็นส่วนตัว ความพร้อมใช้งานของระบบ และการปฏิบัติตามข้อกำหนด พบว่ามีความสัมพันธ์ในระดับค่อนข้างน้อยต่อความพึงพอใจของลูกค้า ตามลำดับ การวิจัยนี้บ่งชี้ว่าบริษัทที่เกี่ยวข้องกับการตลาดออนไลน์ควรใส่ใจในการวัดคุณภาพการบริการทางอิเล็กทรอนิกส์ของตน เพื่อปรับปรุงคุณภาพการบริการของตนเป็นระยะๆ อย่างต่อเนื่อง ทั้งในด้านประสิทธิภาพการให้บริการ ความเป็นส่วนตัว ความพร้อมใช้งานของระบบ และการเติมเต็มในทุกมิติของการให้บริการเพื่อเพิ่มความพึงพอใจของลูกค้า

**คำสำคัญ:** คุณภาพการบริการทางอิเล็กทรอนิกส์; ความพึงพอใจของลูกค้า; แพลตฟอร์มสำหรับการซื้อขายบนโลกออนไลน์

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## Abstract

This research aims to examine the effect of electronic service quality (e-service quality) on customer satisfaction in the online marketplace in Thailand. This study illustrates how linking the four dimensions of e-service quality: (1) efficiency, (2) system availability, (3) fulfillment, and (4) privacy in the online marketplace can lead to customer satisfaction. Data were collected from 400 buyers who had purchased a product from an online marketplace by questionnaire survey. Spearman's correlation coefficient was conducted to test the hypotheses and to define the direction of relations in this research. The results demonstrate a positive relationship between e-service quality and customer satisfaction. The tests of hypothesized relationships are all accepted which significant value is greater than 0.01. Among the four e-service quality dimensions, efficiency was found to have the strongest relationship with customer satisfaction. However, the level of correlation relationship between efficiency and customer satisfaction was moderate. Furthermore, privacy, system availability, and fulfillment showed a weak correlation relationship with customer satisfaction, respectively. Finally, this research indicates that the online marketplace firms should pay attention to assess their e-service quality for continuous improvement of their service quality in terms of efficiency, privacy, system availability, and fulfillment to enhance their customer satisfaction.

**Keywords:** e-service quality; customer satisfaction; online marketplace

## Introduction

To be competitive in business nowadays, a firm cannot merely rely on product quality but the quality of service as well. From this service, the firm will lead to customer assessment and result in customer satisfaction. For instance, satisfied customers are more likely to stay with the firm for a longer period, which can significantly increase sales revenue and profitability over time. Moreover, satisfied customers are more likely to recommend the brand, product or firm to their family, friends and social media connections. Typically, satisfied customers will increase their purchase quantity over time as such the firms will generally gain a greater share of customers' purchases in that product category. Therefore, the firm needs to realize that the customer's decision to buy the products is based on service quality. The firm



can further encourage customers to re-purchase the product the firm offers.

In addition, the business competition will also come from electronic commerce (e-commerce). Over the past decade, the use of the Internet as a means of shopping for goods and services has increased. The number of online stores that can conduct transactions on the Internet through e-commerce has been steadily increased (Liang and Lai, 2002, pp. 431-444) while online shopping revenues showed significant growth (Rohm and Swaminathan, 2004, pp. 748-757).

For Thailand's online marketplace, increasing competition will come from other modern retail outlets within the similar business group, from modern retail outlets belonging to a different business group but trying to attract the same customers, and from new domestic and international modern retail operators that have entered the market to take advantage of Thailand's growing modern retail sector. Thus, modern retail operators are gradually enhancing their market channels via e-commerce that tends to grow at an accelerating rate. Indeed, the Thai Retailers Association (2018) estimates that online sales will increase to 5% of all retail sales in the country over the next five years. This will involve increasing sales and competitiveness by moving from selling primarily offline to establishing an online presence and exploiting these on-line distribution channels more fully.

According to Smith and Chaffey (2005), online customers have certain non-negotiable standards in their online store requirements, with product quality, service quality and website quality at the top of the list. As such, successful e-commerce firms realize that the key factors to avoid such problems are not limited to the existence of a website and low prices, but must also include high standards of e-service quality (Zeithaml, 2000, pp. 135-138). Hence, research on e-service quality and customer satisfaction can provide online marketplace managers with useful insights and support them in improving important quality aspects of online service to expand e-commerce use in Thailand.

### **Objectives**

The primary aim of this study was to examine the effect of e-service quality on customer satisfaction in the online marketplace in Thailand.

### **Conceptual Framework**

From Oliver's (1997) perspective, satisfaction is an ongoing evaluation of the surprise inherent in product acquisition and/or consumption experience.

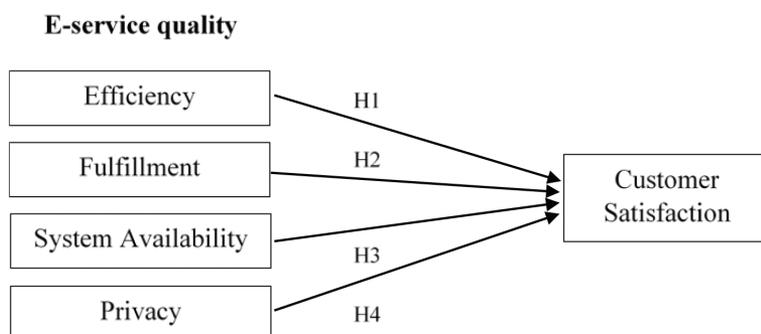
According to Blanchard and Galloway (1994, pp. 5-23) customer satisfaction is the result of a customer's perception of the value received in a transaction or relationship; where value equals perceived quality. Therefore, customer satisfaction in this research is defined as a level that can meet the customer's needs, wishes and expectations and may result in repeated buying or continued loyalty. As such, the most important factor for obtaining consumer satisfaction is the performance of the agent (Nagengast, Evanschitzky, Blut, and Rudolph, 2014, pp. 408-427). Therefore, the definition of customer satisfaction highlights its strong relationship with customer's perceived quality. Parasuraman et al., (2005, pp. 213-233) examined e-service quality through the dimensions of the four constructs in the online context including (1) Efficiency: The ease and speed of accessing and using the site, (2) Fulfillment: The extent to which the site's promises about order delivery and item availability are fulfilled, (3) System availability: The correct technical functioning of the site, and (4) Privacy: The degree to which the site is safe and protects customer information.

Besides, the study of satisfaction had always received large consideration by researchers mainly, as a result the plenty of benefits that are associated with its attainment (i.e., Fornell, 1992, pp. 6-21; Anderson and Sullivan, 1993, pp. 99-121; Bressolles and Durrieu, 2011, pp.1-13). Based on the explanation, the conceptual framework of the hypothesized research is depicted in Figure 1. Therefore, the hypotheses tested are the following:

- H1: Efficiency significantly affects customer satisfaction.
- H2: System availability significantly affects customer satisfaction.
- H3: Fulfillment significantly affects customer satisfaction.
- H4: Privacy significantly affects customer satisfaction.

**Figure 1.** Conceptual Framework

Source: Parasuraman et al. (2005); Anderson and Srinivasan (2003).





## Methodology

To test the hypotheses, this study relied on four sets of constructs and their indicators. All indicators were derived from the items in a survey questionnaire designed with a 5-point scale from strongly agree (5) to strongly disagree (1). The 22 items were validated in previous studies and used with minor modifications to apply to e-service quality and customer satisfaction for the online marketplace context. The survey was designed and applied on randomly chosen individual buyers who has purchased a product from an online marketplace. A total of 400 self-administered questionnaires were collected in Thailand from June 2022 to November 2022. Data of the research were analyzed by using SPSS 23 (Statistical Package for Social Sciences) for Windows.

The questionnaire survey contained questions on the demographic profile of respondents including their gender, age, education level, monthly net income, occupation, most frequency used online marketplace, average time spent on shopping per month, and the average amount spent on shopping per month. With regard to the demographic profile, most of the respondents are female and aged between 20–30 years old. Concerning education level, most of them are undergraduates and have monthly net income of less than 15,000 Baht. Regarding occupation, most of the respondents are students. Lazada is the most frequently used online marketplace application. The average frequency of shopping is 3–5 times a month and the average amount spent on shopping per month is 300–1,000 Baht. The details of the demographic profile of respondents are presented in Table 1.



**Table 1.** Descriptive Statistics

Demographics		Frequency	Percentage
Gender	Male	122	30.5
	Female	278	69.5
Age	20–30 years old	148	37.0
	31–40 years old	100	25.0
	41–50 years old	96	24.0
	More than 50	56	14.0
Education level	High school	63	15.8
	Undergraduate	264	66.0
	Graduate	73	18.3
Monthly net income	Less than 15,000 Baht	171	42.8
	15,000–30,000 Baht	145	36.3
	30,001–50,000 Baht	58	14.5
	More than 50,000 Baht	26	6.5
Occupation	Student	137	34.3
	Government official/State enterprise employee	92	23.0
	Private company employee	54	13.5
	Business owner	77	19.3
	Housewife/Househusband	40	10.0



**Table 1.** Descriptive Statistics(Cont.)

Demographics		Frequency	Percentage
The most frequently used online marketplace	Lazada	207	51.8
	Shopee	100	25.0
	Alibaba	32	8.0
	Kaidee	22	5.5
	J.I.B.	15	3.8
	Central online	12	3.0
	Chilindo	12	3.0
The average frequency of shopping per month	Less than 3 times a month	160	40.0
	3–5 times a month	201	50.3
	6–10 times a month	15	3.8
	More than 10 times a month	24	6.0
Average amount spent on shopping per month	Less than 300 Baht	25	6.3
	300–1,000 Baht	175	43.8
	1,001–1,500 Baht	17	4.3
	1,501–2,000 Baht	101	25.3
	More than 2,000 Baht	82	20.5

The independent variables of the survey are of e-service quality developed based on the four originally hypothesized components and their items were developed from the e-service quality scale of Parasuraman et al., (2005, pp. 213-233). The total number of measurement items was 18. Efficiency was measured by six items, system availability by five items, fulfillment by four items, and privacy by three items. Similarly, customer satisfaction was measured by four items. Customer satisfaction is treated as a dependent variable which is measured in terms of perceived value and loyalty intention (Anderson and Srinivasan ,2003

The data were analyzed using principal components analysis to refine the measures and to assess the construct validity. First, confirmatory factor analyses (CFA) for each focal construct (e-service quality) estimates a 5-factor confirmatory measurement model, including 2 focal constructs, resulting in a five, separate two-factor solution, as expected. Then, the study estimates a 12-factor confirmatory measurement model, including 3 focal

constructs. For the multi-item scales, the study set each questionnaire item to load only on its respective latent construct and allowed the latent constructs to correlate. All factor loadings are statistically significant ( $p\text{-value} > .01$ ) and the composite reliabilities of each construct exceed .80, well-above the usual .60 benchmark (Hair et al., 2006). Thus, these measures demonstrate adequate convergent validity and reliability. To assess discriminant validity, the authors examine whether the average variance extracted (AVE) for each construct is greater than its highest shared variance with other constructs (Fornell and Larker, 1981, pp. 9-50). Overall, these results show that all items loaded appropriately onto their respective factors as shown in Table 2. Thus, the measures in this study possess adequate reliability and validity, and the preliminary analysis indicated that the psychometric properties of the measures were acceptable to examine the hypotheses.

**Table 2.** Preliminary analysis

	AVE	Composite Reliability	Cronbach Alpha	Loadings
<b>E-service Quality</b>				
<i>Efficiency (6 items)</i>	.471	.841	.773	
1. This online marketplace makes it easy to find what I need.				.721
2. It makes it easy to get anywhere on the online marketplace.				.690
3. It enables me to complete a transaction quickly.				.546



**Table 2.** Preliminary analysis(Cont.)

	AVE	Composite Reliability	Cronbach Alpha	Loadings
4. Information at this online marketplace is well organized.				.750
5. This online marketplace is simple to use.				.656
6. This online marketplace enables me to get on to it quickly.				.735
<b>Table 2System Availability (4 items)</b>	.555	.832	.731	
7. This online marketplace is always available for business.				.621
8. This online marketplace launches and runs right away.				.735
9. This online marketplace does not crash.				.808
10. Pages at this online marketplace do not freeze after I enter my order information.				.802
<b>Fulfillment (5 items)</b>	.476	.818	.719	
11. It delivers orders whenpromised.				.630
12. This online marketplace makes items available for delivery within a suitable time frame.				.750
13. It quickly delivers what I order.				.753
14. It has in stock the items that the company claims to have.				.713
15. It is truthful about its offerings.				.586

**Table 2.** Preliminary analysis(Cont.)

	AVE	Composite Reliability	Cronbach Alpha	Loadings
<b><i>Privacy (3 items)</i></b>	.636	.840	.713	
16. It protects information about my online shopping behavior.				.801
17. It does not share my personal information with other sites.				.826
18. This online marketplace protects information about my credit card.				.764
<b>Customer Satisfaction (4 items)</b>	.543	.825	.717	
19. The ranges of service this online marketplace offer satisfy my needs.				.849
20. This online marketplace is my preferred service provider.				.707
21. I am likely to recommend this online marketplace to a friend.				.710
22. I am satisfied that I will remain loyal to this online marketplace.				.670

## Results and Discussion

In this study, Spearman's correlation coefficient was conducted to test the hypotheses and to define the direction of relations. The Spearman's correlation coefficient was applied to test whether e-service quality (efficiency, system availability, fulfillment, and privacy) significantly affects customer satisfaction or not. The condition of Zar (1972, pp. 578-580) was applied accurately in this analysis. Spearman's correlation coefficient can take values from +1 to -1. Spearman's correlation coefficient of +1 indicates a perfect association of ranks; a Spearman's correlation coefficient of zero indicates no association between ranks, and a Spearman's correlation coefficient of -1 indicates a perfect negative association of ranks. The closer Spearman's correlation coefficient is to zero, the weaker the association between the ranks.



According to the results from the test of all hypotheses, depicted in Table 3, the value of Spearman's correlation coefficient is between .330–.596, which significant value is greater than 0.01. This correlation coefficient indicates a positive relationship between the e-service quality (efficiency, system availability, fulfillment, and privacy) and customer satisfaction. Among the four hypothesized relationships, H2, H3, and H4 were found to have a weak correlation relationship with customer satisfaction, while H1 was found to have a moderate correlation relationship with customer satisfaction.

Therefore, H1, H2, H3 and H4 are all accepted. The strongest correlation relationship resides in the relationship between efficiency and customer satisfaction ( $r = .596$ ;  $p = 0.000 < 0.001$ ), while the weakest correlation relationship resides in the relationship between fulfillment and customer satisfaction ( $r = .330$ ;  $p = 0.000 < 0.001$ ).

**Table 3.** Correlations between e-service quality and customer satisfaction

Independent Variables (E-service Quality)	Dependent Variable	Hypothesis	Correlation Coefficient (r)	Significance (p)
Efficiency	Customer Satisfaction	H1	.596**	.000
System Availability		H2	.370**	.000
Fulfillment		H3	.330**	.000
Privacy		H4	.377**	.000

Remark: \*\*Correlation is significant at the 0.01 level (2-tailed)

## Conclusion

The findings revealed that e-service quality was relatively significant in its impact on customer satisfaction in the online marketplace in Thailand. The analysis of the research data showed that e-service quality has a relationship with customer satisfaction, with all the four e-service quality dimensions having significant effects. The huge influence of e-service quality on customer satisfaction is widely expected, given the relatively accelerating rate of online shopping in Thailand, a fact which increases the importance of all the e-service quality-related customer satisfaction drivers. Among the



e-service quality dimensions, efficiency was proved to have a greater effect on customer satisfaction. This indicates that issues relevant to the ease and speed of accessing and using the site must be looked very closely and dealt with efficiently by managers of e-commerce software developing firms and online shops. It is observed that customers give importance to the tendency of the online marketplace in emphasis on privacy which is safe and protects their information. Additionally, customers expect the correct technical functioning of the site provided promptly that takes into consideration the availability of after-sales services and ease of getting in touch with firm agents. Issues relevant to the extent to which the site's promises about order delivery and item availability are fulfilled are important as well. A prompt reaction of the online shops to customer requests must by no means be neglected as fulfillment is also proved to contribute significantly to customer satisfaction.

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