

# The Effect of e-Service Quality on e-Satisfaction: A Study in the Context of Online Learning during the Covid-19 Pandemic

**Susanta, Humam Santosa Utomo**

, Universitas Pembangunan Nasional Veteran Yogyakarta  
E-mail address [Susanta@upnyk.ac.id](mailto:Susanta@upnyk.ac.id); E-mail address  
[humam.santosautomo@upnyk.ac.id](mailto:humam.santosautomo@upnyk.ac.id)

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## Abstract

*During the Covid-19 pandemic, almost all universities conducted distance learning. Student responses to the implementation of online lectures need attention. Research on e-service quality on e-satisfaction in the context of pursuit is still very limited. The purpose of this study was to examine the effect of e-service quality on e-satisfaction in online learning during the Covid-19 pandemic. The study was conducted on 1,212 students who had participated in online learning by distributing online questionnaires. The analysis tools used are SPSS and WarpPLS. The results of this study indicate that e-service quality has a significant positive effect on e-satisfaction. This finding is useful for universities as evaluation material to improve the online learning process.*

Keywords: e-Service Quality, e-Satisfaction, covid-19 pandemic

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## I. INTRODUCTION

The implementation of lectures at university during the Covid-19 pandemic is different from the implementation of lectures in normal times. In normal times, students and lecturers can interact face-to-face in class, while during the Covid-19 pandemic, lectures are conducted online. By the letter of the Minister of Education and Culture of the Republic of Indonesia No: 36962 / MPK.A / HK / 2020 dated 17 March 2020, regarding Online Learning and Working from Home in the Context of Preventing the Spread of Corona Virus Disease (Covid-19), all universities in Indonesia especially public universities conduct online courses as a substitute for face-to-face lectures.

Online learning facilities determine the quality of online learning services. The quality of online learning encourages student satisfaction in the online learning process. Students expect easy, attractive, and effective learning services so that learning objectives are achieved. Research on the relationship between e-service quality and e-satisfaction in the context of online learning is still very limited. This study aims to investigate the effect of service quality on electronic satisfaction electronics on online learning.

## **II. LITERATURE REVIEW**

### **II.1. e-Service Quality**

The emergence of internet-based lecture services during the Covid-19 pandemic has changed the way lecturers and students interact. Their level of service is measured in a different way than before. The newest version of Service Quality is e-service quality. Electronic service quality is an interactive information service (Rowley, 2006). The quality of e-service is a company's competitive advantage (Santos, 2003). Electronic service quality Expands the company's distribution capabilities, simplifies shopping activities, and makes purchases effectively and efficiently (Chase, Jacobs, & Aquilano, 2006). Zeithaml, Parasuraman, and Malhotra (2002) also argue that a website must provide shopping services for consumers, make purchases, and product delivery transactions.

### **II.2. e-Service Quality Dimension**

Although Wolfinbarger & Gilly (2003) stated that e-service quality is an established construction in the e-commerce literature, in reality, there are still differences regarding the dimensions that make up e-service quality. Referring to the opinion of Neuner and De Landsheer (2005), Toots (2006) presents four antecedent constructs of e-service quality, namely content, interactivity, ease of use, and aesthetics. The 5 dimensions of measuring the quality of e-service according to Ho and Lee (2007), namely: information quality, website functionality, customer relationships, and responsiveness, and fulfillment. Ladhari (2010) proposes six dimensions of e-service quality which include reliability, responsiveness, privacy/security, benefit/quality of information, and ease of use/usability. Referring to the opinion of Parasuraman et al. (2005), Luo and Lee (2011) offer five dimensions forming e-service quality, namely efficiency, system availability, the fulfillment of promises, and privacy. Referring to the functional and technical service quality components proposed by the Nordic Model (Brady & Cronin, 2001), Vlachos, Giaglis, Lee, and Vrechopoulos (2011) propose seven antecedents of e-service quality including ease of use, usability, aesthetics, content, privacy, customization and customer service.

### **II.3. e-Satisfaction**

E-satisfaction and satisfaction are no different in general. Based on the perspective of disconfirmation theory, e-satisfaction occurs when a product or service exceeds consumer expectations. Ong et al. (2014), stated that e-satisfaction is represented as customer satisfaction that comes from previous purchases with certain electronic services. In a business context, Tang and Huang (2015) define e-satisfaction as customer satisfaction with online shopping which consists of happiness in the purchase process and user appreciation in using information technology. Electronic satisfaction is customer satisfaction that comes from previous real purchasing experiences (Anderson & Srinivasan, 2003), indicating online service providers and using online services (Park and Kim, 2003). Customer satisfaction is measured by the level of customer satisfaction with products or services provided by online retailers (Schaupp and Bélanger, 2005).

### **II.4. e-Service Quality and e-Satisfaction**

According to Mustafa (2011), the performance of websites and products provided by websites are indicators of online customer satisfaction. Zhu and Lin (2010) found that e-service quality will drive e-satisfaction. E-service quality is a significant antecedent of

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evaluating the value of online shoppers which affects e-satisfaction. E-service quality dimensions can be used to predict online consumer satisfaction (Zha and Wang 2006). E-service quality is closely related to online customer satisfaction, and many studies have shown that there is a strong positive relationship between e-service quality and e-satisfaction of online shoppers on B2C sites (Yang and Tsai, 2007; Zhang and Prybutok, 2005). In the context of online learning, e-service quality determines the e-satisfaction attitude of students. Thus, the following hypothesis can be determined: e-service quality has a significant effect on student e-satisfaction.

### III. RESEARCH METHODOLOGY

The research approach used in this research is explanatory research. The purpose of explanatory research is to explain the position of the variables under study and the influence between one variable and another and to test the hypothesis for generalization purposes (Singarimbun and Effendi, 2011). The approach used in analyzing this research is quantitative (Kerlinger, 2003).

The population of this research is all students of the Yogyakarta “Veteran” National Development University who are actively participating in online lectures. Based on academic information system data, the number of students who are actively studying online in the even semester of the 2019/2020 academic year is 11,745 students. Data was collected online using an online form distributed to all study programs (22 study programs). The number of questionnaires collected was 1,212 (response rate = 10.32%).

The measurement of the e-service quality variable adapts the opinion of Vlachos, et al. (2011). The indicator of e-satisfaction adapts to Ting et al. (2016). The measurement scale used in this study is the attitude scales. The type of scale used is a Likert scale with a grade of 1-5 (1=strongly disagree to 5=strongly agree). The analytical tools used in this study were SPSS and WarpPLS.

### IV. FINDING AND DISCUSSION

Research instrument testing was carried out on 100 students who attended online lectures (Table 1). Based on the opinion of Sekaran (2011) and Malhotra (2010), the research instrument was declared valid and reliable.

Table 1: Result of instrument validity test

| Variable          | Indicator        | Correlation Coefficient | Cronbach's $\alpha$ |
|-------------------|------------------|-------------------------|---------------------|
| e-Service quality | Easy to use      | 0.664                   | 0.721               |
|                   | Benefit          | 0.677                   |                     |
|                   | Aesthetics       | 0.540                   |                     |
|                   | Content          | 0.559                   |                     |
|                   | Privacy          | 0.662                   |                     |
|                   | Customization    | 0.735                   |                     |
|                   | Customer service | 0.793                   |                     |

| Variable       | Indicator              | Correlation Coefficient | Cronbach's $\alpha$ |
|----------------|------------------------|-------------------------|---------------------|
| e-Satisfaction | Interesting experience | 0.771                   | 0.886               |
|                | Enjoyment              | 0.788                   |                     |
|                | Performance            | 0.844                   |                     |

Table 2. Characteristics of the sample (% of respondents, n = 1.212)

|                            |                             |       |
|----------------------------|-----------------------------|-------|
| Gender                     | Male                        | 50.66 |
|                            | Female                      | 49.34 |
| Online learning experience | Yes                         | 77.06 |
|                            | No                          | 22.94 |
| Network used               | Wi-Fi                       | 35.31 |
|                            | Gathering from a smartphone | 42.24 |
|                            | Others                      | 22.45 |

### II.5. Profile of Respondents

Table 2 shows that the number of male and female students is equal, however, the number of males is dominant. Most of the respondents had experience (77.06%) in taking online lectures before the Covid-19 pandemic. The majority of respondents used gathering from smartphones as the first choice (42.24%). Furthermore, wifi usage was 35.31%, and using other networks was 22.45%.

Table 3. Hypothesis testing results

| Relations between variables |                | Coefficient | p-value | Description | Hypothesis Decision |
|-----------------------------|----------------|-------------|---------|-------------|---------------------|
| e-Service Quality           | e-Satisfaction | 0.699       | < 0.000 | Significant | Accepted            |

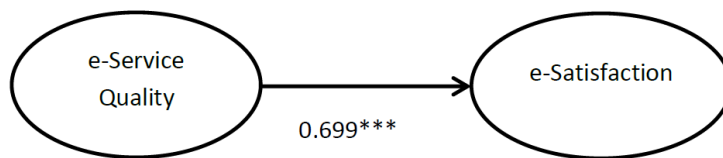


Figure 1. Final Model

### V. CONCLUSION AND FURTHER RESEARCH

The results of this study found that e-service quality has a significant positive effect on e-satisfaction. This finding is consistent with the results of Mustafa's (2011) study. These results also support the research of Zhu and Lin (2010) that e-service quality promotes e-satisfaction. In the context of online purchasing, the results of this study are also consistent with previous research. E-service quality and e-satisfaction have a strong positive relationship with online shoppers on B2C sites (Yang and Tsai, 2007; Zhang and Prybutok, 2005). Zha and Wang (2006) assert that the dimensions of e-service quality can be used to predict online consumer satisfaction.

The results of this study are beneficial for the development of online learning applications in universities. Online learning users want applications that are easy to use, have high

usability, have a high aesthetic level, complete content, privacy is well maintained, can be tailored to user needs, and have fast and accurate services. These aspects determine e-service quality and have implications for e-satisfaction. The effectiveness of learning during the Covid-19 pandemic cannot be separated from the quality of online learning applications.

This research has limitations so it is hoped that it can be closed with further research. This research was only conducted at one state university in Yogyakarta, so it is advisable to expand the scope of research by involving public universities and private universities. The e-learning applications examined in this study are different (google meet, zoom, Webex, etc.) because lecturers can choose the appropriate application. Future research can examine one kind of application that is used uniformly in universities. This study was a cross-sectional study conducted at the beginning of the corona pandemic. Longitudinal studies are needed so that results can be compared at different times.

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