

# The Influence of E-Servqual Dimensions and Product Characteristic Dimensions on Customer E-Satisfaction and E-Loyalty of Customers of Pt. BPD Southeast Sulawesi

**Ainul Hasyim<sup>1</sup>, Sudirman Zaid<sup>2</sup>, Hayat Yusuf<sup>3</sup>, Nofal Nur<sup>4</sup>**

<sup>1</sup>Student, Program Doctoral in Management Science, Halu Oleo University, Indonesia.

<sup>2,3,4,5</sup>Lecturer, Program Doctoral in Management Science, Halu Oleo University, Indonesia.

Corresponding Author: **Ainul Hasyim**

**Paper Number: 240036**

## **Abstract:**

*This study aimed to test and analyze the impact e-servqual dimensions and product characteristic dimensions on customer e-satisfaction and e-loyalty of customers of PT. BPD southeast Sulawesi. The population in this study is all customers of Bank BPD Sultra and samples in this study is 180 respondents. Furthermore, the collected data were analyzed using descriptive analysis and partial least squares (PLS) statistical analysis with SmartPLS Ver. 4. The results of this study indicate that Site Organization has a negative but significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. The reliability dimension has a positive and significant influence on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. Responsiveness has a negative and significant effect on electronic customer satisfaction at PT. BPD Southeast Sulawesi. User Friendliness has a positive and significant influence on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. Personal Need has a positive and significant effect on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. Efficiency has a positive and significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. Perceived usefulness has a positive and significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. Perceived ease of use has a positive and significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. Aesthetics have a positive and significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. Electronic customer satisfaction has a positive and significant effect on electronic customer loyalty of PT. BPD Southeast Sulawesi.*

**Keywords:** E-Servqual Dimensions, Product Characteristic Dimensions, Customer E-Satisfaction, E-Loyalty, Customers Of PT. BPD Southeast Sulawesi

## Introduction

The development of information technology has had a major impact on various industrial sectors, especially in terms of communication between organizations and customers. One of the most affected sectors is the banking industry, which is now experiencing a digital revolution through the adoption of various internet-based services such as internet banking (George & Kumar, 2014). Internet banking, as a form of e-banking, allows customers to carry out various banking activities ranging from bill payments to investments online (Pikkarainen et al., 2004). This service is considered one of the most profitable e-commerce innovations because it provides dual benefits for banks—namely improved customer service and reduced operational costs (Wang et al., 2017; Xue et al., 2011). Ease of access from anywhere and anytime at a relatively low cost makes internet banking a modern solution for more efficient banking activities (Yoon & Steege, 2013). However, the adoption of this service still faces challenges because a number of customers show reluctance to use internet banking services (Rahi & Ghani, 2019).

In facing the digital era, the banking sector is required to not only provide digital services, but also evaluate the quality of these services to remain relevant and competitive. Superior service is the main differentiator in retaining old customers and attracting new customers. Service quality, especially electronic-based or known as e-service quality, is an important instrument in maintaining sustainable relationships with customers. E-service quality according to Parasuraman et al. (2005) is a measure of internet-based service quality that includes transaction processes, product delivery, and service delivery. This quality measurement is based on a comparison between customer expectations and the services actually received. Services that meet or exceed expectations will create satisfaction (Griffin, 2005), which in the long term has an impact on customer loyalty to the service (Charles, 2016).

Research on the influence of e-service quality on loyalty shows varying results. Charles (2016) found a positive and significant relationship between e-service quality, e-satisfaction, and e-loyalty. However, different results were shown by Al Hawari (2014) and Othman et al. (2015) who found that e-service quality does not have a direct effect on e-loyalty, but must go through e-satisfaction first. This shows that customer satisfaction is an important mediating variable in forming loyalty to digital banking services. Dimensions of e-service quality such as reliability, responsiveness, assurance, empathy, and physical evidence (Parasuraman et al., 1988), are also considered to determine customer perceptions of service quality. On the other hand, the phenomenon in the field shows that there are still customer complaints regarding slow

responses to complaints, inappropriate service times, and services that do not meet expectations, which ultimately reduce perceptions of service quality.

In addition to service quality, product characteristics are also important factors in influencing customer loyalty. Product characteristics are attributes or characteristics of a product that distinguish it from competitors' products and are intended to meet consumer needs (Kotler & Armstrong, 2008). In the context of banking, digital products such as mobile banking applications or internet banking must be easy to use, have relevant features, and be able to answer the specific needs of users. However, the phenomenon that occurred in Bank Sultra's digital banking products shows that some customers still have difficulty understanding how the application works and are not yet familiar with the new features provided. This is a challenge for banks to educate and improve systems to ensure that their products truly provide added value to their users (Rohmah & Badi', 2020; Tjiptono, 2010).

The third factor that plays a role in shaping customer loyalty is e-satisfaction or electronic satisfaction. According to Kotler (2016), customer satisfaction is a feeling of pleasure or disappointment that arises after comparing the performance of a product or service with the expectations it has. If the service received meets or exceeds expectations, then satisfaction will be achieved, and this has the potential to create customer loyalty. In a digital context, e-satisfaction reflects the accumulation of customer experience in using online services, both in terms of ease of transactions, interface design, data security, and speed of service (Pratiwi, 2019; Fazria, 2019). However, cases such as slow response to complaints or data leak issues can damage customer perceptions and reduce satisfaction, even causing distrust of banks.

Finally, e-loyalty is the output of the entire customer experience process for digital services. E-loyalty includes the customer's intention to return to access the banking site or application, with or without making a transaction (Hur et al., 2018; Gautama, 2018). When customers feel satisfied and trust the digital services provided, they will not only continue to use the service, but also tend to recommend it to others (Susilo, 2020; Yoo et al., 2015). Therefore, building e-loyalty is not enough just by providing digital services alone, but must also be supported by good service quality, relevant products, and a satisfying user experience.

## **Literatur Review**

### **E-Servqual**

Electronic service quality refers to services provided via the internet. The concept of electronic service quality was first proposed by Zeithaml, Parasuraman and Malhotra (2000) They showed that electronic service quality

is the extent to which the web provides effective and efficient shopping facilities when purchasing and delivering products or services (services). E-service quality was originally a development of service quality applied to an electronic media device. E-service quality or also known as e-servqual, is a new version of service quality (ServQual). Service quality is the extent to which the difference between customer expectations and reality for the services they receive. According to Tjiptono (2002) Service quality is the fulfillment of customer needs and desires and the provision of delivery to match customer expectations. Service quality is the extent to which the website facilitates effective and efficient shopping, purchasing and delivery of products or services. According to Chase, Jacob, & Aquilano (2006) e-serqual is defined as an extension of a site's ability to facilitate shopping, purchasing, and distribution activities effectively and efficiently. E-service quality was developed to evaluate a service provided on the internet network. According to Jonathan (2013) it is defined as an extension of the site's ability to facilitate shopping, purchasing, and distribution activities effectively and efficiently. According to Puriwat and Tripopsakul (2017), it explains that E-Service Quality is the main strength and competitive advantage of a company that will make business sustainability in a company. According to Santos (2003) E-service quality is also interpreted as a broad assessment and evaluation carried out by customers by making the good and bad qualities of product quality as a reference that will be given in virtual form. Parasuraman et al. (2005) explained that E-Service Quality is the extent to which a website or application can provide efficient and effective online shopping, purchasing, and delivery facilities. E-Service Quality has seven dimensions derived from two scales, namely the core scale and the recovery scale. The four dimensions included in the core scale of E-Service Quality are efficiency, fulfillment, system availability, and privacy. These four dimensions are included in the core scale of e-service quality because these four dimensions are the main dimensions desired by consumers when shopping via the internet.

### **Product Characteristics**

Products can be defined as goods or services in order to meet customer needs. Each product made has tangible and intangible characteristics. Product category characteristics are characteristics that are distinguished by each individual in seeking variation through involvement, differences in perception between brands, hedonic features, and strength. (Dalrymple, Douglas J. 1976. Parsons, Leonard J., Marketing Management: text and cases, USA: John Wiley & Sons, Inc.). In general, characteristics can be interpreted as distinctive features or characters possessed by each individual, behavioral patterns,

special signs. Based on this understanding, in this study, product characteristics can be interpreted as distinctive features or a character possessed by a product offered to consumers to meet their needs. These characteristics can then be used to differentiate from other products. Each product has different characteristics, and each manufacturer always tries to create products that have their own characteristics so that consumers have a special perception of the product. (Aditya Prabowo. 2018. Analysis of the Influence of Uniqueness of Product Packaging Design on Impulsive Buying Decisions). The many variations of products offered by a company are a step to face competition in capturing market share. Product characteristics are important capital or attributes, as long as the product is able to provide benefits to meet larger goals. In other words, product characteristics are a pattern that will determine whether a product is suitable for consumption or not. When the characteristics of a product are used to formulate marketing policies, each product character must be stable enough to represent a number of products that are grouped during the classification process. These conditions must be met so that the characteristics used can be considered valid. In forming market offerings for activities carried out by the company, one of them is to answer the characteristics of the product and how a marketer classifies its products. A product must have more value than other products in terms of quality, design, size, packaging that can attract consumers from other products. While in his other book entitled "Marketing Management" Kotler states that a product is everything that is offered to a market to meet the needs and desires of consumers. (Kotler, Philip and Kevin L. Keller. 2006. Marketing Management. Millennium Edition, Volume 1. PT. Prehallindo. Jakarta).

### **Satisfaction**

Providing the best service to customers provides many benefits for the company, if the company provides great customer service, customers will be satisfied and will come back to the company, and other benefits customers will tell people around them and so on. This is a means of free promotion for the company and makes it more confident because it gets a positive response from customers. Consumer satisfaction has been widely studied and researched in the field of marketing both traditionally and online (Al Hawari, 2014;). Anderson and Srinivasan (2003), e-satisfaction refers to "the contentment of the costumer with respect to his or her priority purchasing experience with a given electronic commerce firm". On the other hand, according to Komara (2014), e-satisfaction is the satisfaction given after making a purchase in an industry with electronic services. And according to Prayitno (2015) it can also be said that e-satisfaction is a feeling as a form of product or service

performance evaluation based on consumer expectations. Where e-satisfaction is established when products or services are offered by the industry to meet consumer needs and expectations. Electronic Customer Satisfaction (ECS). Customer satisfaction conceptualized as a sentiment assessment, has been used regularly over time. User satisfaction is considered as the extent to which users think that the storage or utilization of the facility elicits optimistic emotions (Rust and Oliver, 1994). According to Cheng and Chan (2009), e-services can be categorized into two aspects, the first can be termed as transaction specific where satisfaction is considered as a sentimental response to performance on certain characteristics of a service while satisfaction that depends on variables that occur due to repeated transactions is referred to as cumulative outcome or overall satisfaction (Shankar et al., 2003).

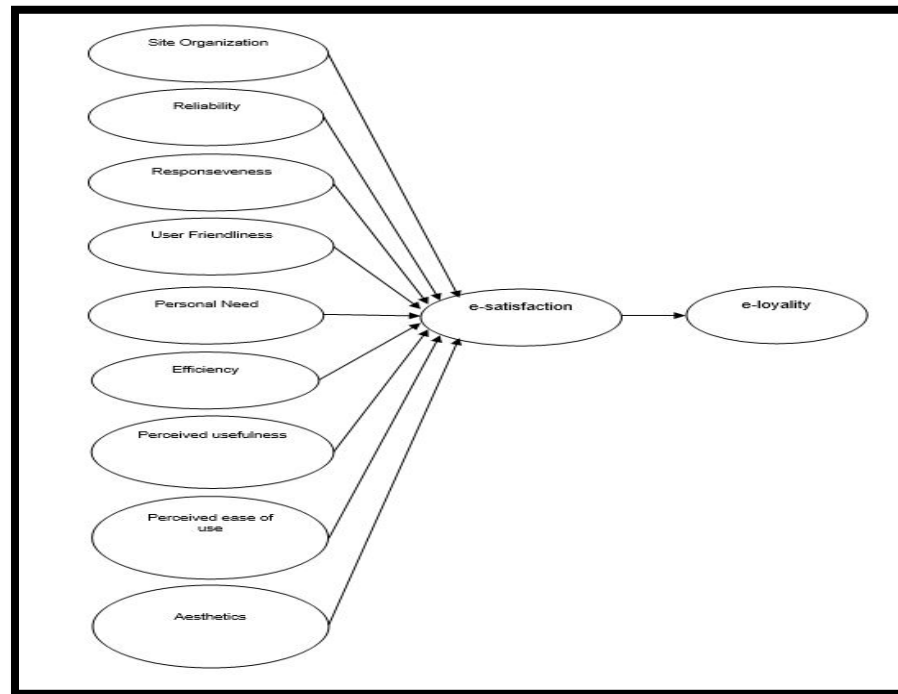
### **E-Loyalty**

According to (Hur et al., 2011) defines e-loyalty as a customer's intention to revisit a website with or without an online transaction. E-Loyalty is a customer's favorable attitude towards an electronic business that results in repeat purchasing behavior (Ashoer, 2019). In order to create loyalty to the blibli application, there are several important factors that can influence loyalty, including the influence of service quality and satisfaction with the application (I. A. K. T. M. Putri & Telagawathi, 2021). Meanwhile, what is meant by E-Service Quality is the extent to which a site can facilitate efficient and effective shopping, purchasing and delivery (Kurniasari & Widayanto, 2021). E-loyalty is the willingness to observe and revisit a website or make transactions in the future. Although the theoretical basis of traditional loyalty and the newly defined electronic loyalty phenomenon are generally similar, both have unique aspects related to internet-based marketing and buyer behavior. According to Mar'ati et al. (2021), e-Loyalty is the attitude and commitment of customers towards a company that creates an intention to make repeat purchases in the future at that company and not at other companies. Then continued with the definition according to Kartono and Halilah (2018) that e-loyalty is the customer's intention to revisit a website and consider buying from that site in the future or without online transactions. This definition finds customer loyalty as a constructive and potentially profitable attitude in conventional situations. Berlianto (2017) e-loyalty is an attitude that benefits customers and their commitment to online retailers, which results in repeat purchasing behavior. A truly loyal customer is a customer who is committed and attached to a retailer and is not easily distracted by more attractive alternatives. According to Cyr (2014), e-loyalty is the customer's intention to revisit a website and consider buying from that site in the future. According to Anderson in Santika (2018)



said "E-loyalty is a customer's favorable attitude towards an online business that results in repeat purchasing behavior. In addition, e-loyalty refers to the consumer's intention to buy from an online site or the intention to return to an online site".

**Figure 1 Conceptual Framework**



### Research Hypothesis

- H1: Site Organization (bank site) has a positive and significant influence on electronic customer satisfaction of PT BPD Southeast Sulawesi.
- H2: Reliability has a positive and significant effect on electronic customer satisfaction of PT BPD Southeast Sulawesi.
- H3: Responsiveness has a positive and significant effect on electronic customer satisfaction of PT BPD Southeast Sulawesi.
- H4: User Friendliness has a positive and significant effect on electronic customer satisfaction of PT BPD Southeast Sulawesi.
- H5: Personal Need has a positive and significant effect on electronic customer satisfaction of PT BPD Southeast Sulawesi.
- H6: Efficiency has a positive and significant effect on electronic customer satisfaction of PT BPD Southeast Sulawesi.
- H7: Perceived usefulness has a positive and significant effect on electronic customer satisfaction of PT BPD Southeast Sulawesi.

H8: Perceived ease of use is felt to have a positive and significant effect on electronic customer satisfaction of PT BPD Southeast Sulawesi.

H9: Aesthetics has a positive and significant effect on electronic customer satisfaction of PT BPD Southeast Sulawesi.

H10: Electronic customer satisfaction has a positive and significant effect on electronic customer loyalty of PT Southeast Sulawesi.

## Research Methods

The location of the study is Bank BPD Southeast Sulawesi. The population in this study is all customers of Bank BPD Sultra whose number is not known for certain (unlimited) and cannot be identified for certain (infinite). In this study, the number of samples is 36 indicators  $\times$  5 = 180 based on the opinion of Hair et al., in Ferdinand, (2005). So the number of samples in this study is 180. To determine the respondents is to find 180 people who meet the criteria that have been determined by the researcher, namely 1. Using the BPD Sultra banking application, 2. at least 1 year as a customer of Bank BPD Sultra. Meanwhile, the research approach used is SmartPLS. The SmartPLS approach is a development of PLS (Partial Least Square) analysis.

## Research Result

### Composite Reliability

Composite reliability tests the reliability value between indicators of the constructs that form it. Composite reliability results are said to be good if the value is above 0.70 Ghazali, I and Latan, H (2015). The results of the composite reliability test of the measurement model of this study can be presented in Table 1.

**Table 1 Composite Reliability Test Results of Variables**

Variable	Composite Reliability	Cut of point	information
Aesthetics	0,809		Reliabel
Efficiency	0,713		Reliabel
Kepuasan _pelanggan	0,897		Reliabel
Loyalitas _Pelanggan	0,906		Reliabel
Perceived _ease of use	0,570		Reliabel
Perceived _usefulness	0,727		Reliabel
Personal Need	0,746		Reliabel



Reliability	0,838	Reliabel
Responseveness	0,970	Reliabel
Site Organization	0,608	Reliabel

Source: Processed primary data, 2025

The test results in Table 1 obtained composite reliability values for the five variables studied have good reliability because the value is greater than 0.60. Thus, all variables used in this study have met the criteria or are suitable for use in measuring the research model because they have good reliability. Especially for Perceived ease of use, it is not dropped from the analysis because it is considered important as an indicator of product characteristic dimensions.

### Structural Model Evaluation (Inner model)

Testing on the structural model is evaluated by considering the percentage of explained variance, namely by looking at the value (R<sup>2</sup>). To assess the model with PLS, start by looking at the R-Square of each latent variable. Changes in the value (R<sup>2</sup>) used to assess the influence of the independent variable on the dependent variable whether it has a substantive influence. The coefficient of determination (R<sup>2</sup>) of the endogenous variable is presented in Table 2.

**Table 2 R-Square Values**

No.	Compositer Reliability	R-Square	Adjusted R-Square
1	Kepuasan _pelanggan	0,826	0,817
2	Loyalitas _Pelanggan	0,637	0,635

Source: Processed primary data, 2024

$$Q^2 = 1 - (1 - 0.826^2) * (1 - 0.637^2) * (1 - 0.189) \rightarrow Q^2 = 0.811$$

Based on the calculation results, the predictive relevance value is obtained as much as  $Q^2 = 0.811$  or 81.1%. This means that the accuracy or precision of this research model can explain the diversity of Site Organization, Reliability, Responsiveness, User Friendliness, Personal Need, Efficiency, Perceived usefulness, Perceived ease of use, Aesthetics of customers towards customer satisfaction and loyalty of electronic customers by 81.1%. The remaining 18.9% is explained by other variables not included in this research model.

## Hypothesis Testing

The results of the analysis that has been done with PLS, then the hypothesis proposed to answer the research question can be tested by comparing the p-value with alpha 5% or 0.05 which is the amount of the tolerable error rate. The results of the analysis of the magnitude of the influence coefficient between the latent variables in question, both direct and indirect influences, along with the total effect and p-value can be seen in table 3. Results of the analysis of the direct path coefficient and indirect influence and P-Value.

**Table 3 Hypothesis Testing**

<b>Direct Influence</b>	<b>Path Coefficient</b>	<b>p-value</b>	<b>information</b>
Aesthetics -> Customer satisfaction	0,182	0,003	Significant positive
Efficiency -> Customer satisfaction	0,221	0,003	Significant positive
Customer Satisfaction -> Customer Loyalty	0,798	0,000	Significant positive
Perceived _ease of use -> Customer Satisfaction	0,174	0,009	Significant positive
Perceived _usefulness -> Customer Satisfaction	0,157	0,005	Significant positive
Personal Need -> Customer Satisfaction	0,188	0,000	Significant positive
Reliability -> Customer Satisfaction	0,233	0,000	Significant positive
Responseveness -> Customer Satisfaction	-0,234	0,000	Significant negative
Site Organization -> Customer Satisfaction	-0,085	0,025	Significant negative
User Friendliness -> Customer Satisfaction	0,158	0,022	Significant positive

Source: Processed primary data, 2024

## Discussion

### **Site Organization (Bank Site) On Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

The results of the analysis using the PLS method show that Site Organization has a negative but significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This indicates that although bank sites are getting better in terms of structure and appearance, they can actually reduce customer satisfaction if they are not balanced with ease of use or service effectiveness (Amin, 2016; Jiang et al., 2016). In fact, site organization is one of the main attributes in building a first impression of a bank's digital services and is believed to contribute to ease of use and user satisfaction (Yang et al., 2004; Gera, 2011; Chemengui & Hajer, 2013). However, in the context of PT. BPD Southeast Sulawesi, the possibility of a design that is too complex or less intuitive is actually an obstacle for users in accessing services. In general, e-service is defined as a service delivered through digital media without direct interaction between humans (Rowley, 2006; Boyer et al., 2002). In this case, the main value offered is information, and most services are self-service, allowing customers to access services from anywhere (Rust & Lemon, 2001; Surjadaja et al., 2003). E-service quality (e-SQ) itself is defined as a customer's overall assessment of the quality and excellence of internet-based services (Santos, 2003; Parasuraman et al., 2005; Zeithaml et al., 2001). This quality measurement includes system aspects (such as efficiency, speed, and security) as well as service attributes such as delivery and response to complaints (Collier & Bienstock, 2006; Zeithaml et al., 2005). Several scales have been developed to measure e-SQ such as WebQual (Loiacono et al., 2002), SITEQUAL (Yoo & Donthu, 2001), and eTailQ (Wolfinbarger & Gilly, 2003), which combine aspects of site design, trust, reliability, and personalization (Lee & Lin, 2005). Furthermore, Cristobal et al. (2007) grouped e-service quality elements into two broad categories, namely site design quality and online sales service. Initially, research only focused on system aspects and interactions with websites (Collier & Bienstock, 2006), but now the approach is broader by considering the entire user experience during and after the interaction (Zeithaml et al., 2002; Wolfinbarger & Gilly, 2003). In the context of site organization, aspects such as appearance, navigation, color selection, and informative content arrangement are important because they can affect user perceptions of service quality (Yang et al., 2004; Al-Hawari & Ward, 2006). Several studies have shown that good site organization can increase user satisfaction and loyalty of digital banking services (Al-Motari et al., 2013;

Kaura et al., 2015; Carlson & O'Cass, 2011; Herington & Weaven, 2009; Ho et al., 2012).

### **Reliability To Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

Based on the results of the analysis using Partial Least Square (PLS), it is known that the reliability dimension has a positive and significant influence on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. This means that the higher the level of reliability of electronic banking services, the higher the satisfaction felt by customers. This finding is in line with previous studies by Hammoud et al. (2018), Kettinger and Lee (2005), and Tan and Teo (2000), which stated that accurate and reliable information in digital services greatly contributes to increasing customer satisfaction. Reliability in the context of service quality refers to the company's ability to provide services accurately, consistently, and in accordance with the promises that have been made. According to Susanto (2018), reliability includes providing services on time without errors, as well as paying attention to accuracy and consistency in every service. This is reinforced by Gunawan et al. (2019), who emphasize the importance of reliability from the first interaction with customers, and by Tjiptono & Chandra (2016) who state that fast and accurate service greatly determines the level of customer satisfaction. From the perspective of digital service users, reliability is an important aspect because it concerns a sense of security, certainty of service, and the system's ability to work optimally. Firdaus (2018) and Putri & Hidayat (2018) found that reliability has a significant impact on user satisfaction of mobile banking services. This shows that consumers consider a service reliable if the system is not easily disrupted, information is delivered correctly, and transactions run smoothly without technical obstacles. Furthermore, Singh and Kaur (2013) emphasized that banks need to maintain their reputation for reliability also in digital service channels. Chemegui and Hajer (2013) even stated that the reliability of online services can increase user engagement and loyalty. However, disruptions such as those that occurred on the HSBC site due to cyber attacks (Rudgard, 2016) show that system unreliability can erode customer satisfaction and trust. Therefore, Cheng and Chan (2009) suggest that data security and confidentiality must be a top priority so that bank sites remain trusted and reliable. Overall, various literatures agree that reliability is an important determinant in measuring the quality of digital services, especially in the banking sector. If the promised service can be delivered consistently, accurately, and quickly, this will build strong and sustainable satisfaction for customers (Saidah, 2017; Dewi & Yenita, 2023; Sofiati et al., 2018). Thus,

maintaining the reliability of electronic banking systems and services is a strategic step in creating a positive experience for customers while strengthening their loyalty to the bank.

### **Responsiveness To Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

The results of the PLS analysis show that responsiveness has a negative and significant effect on electronic customer satisfaction at PT. BPD Southeast Sulawesi. This means that even though the bank has good responsiveness, this does not necessarily increase satisfaction, and can even decrease it if customer expectations are not met consistently. This finding is in line with the research results of Hammoud et al. (2018) and Amin (2016) which show that speed and accuracy in providing services are crucial in maintaining customer satisfaction, especially on digital platforms such as internet banking. Responsiveness in the context of service is defined as the willingness and ability of staff to help customers and provide services quickly and responsively (Tjiptono, 2014; Tjiptono & Chandra, 2016). This includes the speed in responding to requests, complaints, and effective communication with customers (Shi et al., 2014; Parasuraman et al., 1988). Sunyoto and Fatonah (2015) added that slow service or unclear information can lead to negative perceptions of overall service quality. Responsiveness is also seen as one of the main indicators in measuring the quality of digital banking services. Sheng and Liu (2010) and Suleman et al. (2012) emphasize the importance of response speed in maintaining customer loyalty. In addition, Chen (2013) stated that customers tend to continue using services if complaints are handled quickly. In fact, Hammoud et al. (2018) explained that responsiveness includes four main aspects: proper service management, guidance when transaction errors occur, quick solutions to disruptions, and quick responses to questions. Furthermore, researchers such as Omar et al. (2016) and Fellix (2017) associate responsiveness with employees' proactive attitude in responding to customer requests, which includes willingness, speed, and timeliness. When employees show readiness and sincerity in helping customers, this builds trust and can have a positive impact on consumer loyalty (Othman et al., 2019). However, if expectations are not met consistently, such as slow responses or ineffective solutions, it will actually create dissatisfaction even though technical responsiveness is recorded as good.

### **User Friendliness Towards Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

Based on the results of the analysis using the PLS method, it was found that User Friendliness has a positive and significant influence on the

satisfaction of electronic customers of PT. BPD Southeast Sulawesi. This finding is in line with the research of Amin (2016) and Mahadin et al. (2020), which states that a user-friendly website facilitates access to online banking services, thereby increasing customer satisfaction. In today's era of digital competition, banking companies are required to provide a simple, convenient, and easy-to-use experience for their customers (Novianti & Endri, 2018). The perception of ease and usefulness of the application, as explained by Davis (1989), is key to driving user satisfaction and loyalty to digital banking services. User friendliness is not only related to an attractive interface, but also concerns intuitive navigation, simple service flows, and display personalization options (Mai et al., 2013; Scholtz & Mahmud, 2016). This is especially important for users who are not familiar with technology, such as the elderly (Wu & Chang, 2013). Another study by Ahmadi et al. (2016) and Abadi et al. (2013) also emphasized the importance of easy-to-understand application design to reduce technophobia and increase service adoption. In fact, flexible customization of appearance and features has been shown to create a more comfortable and enjoyable user experience (McKechnie et al., 2006; Olushola & Abiola, 2017). Furthermore, research by Mohan et al. (2013) and Intana & Chansa-ngavej (2010) emphasized that user-friendliness in online banking services increases transaction efficiency and creates an agile and simple banking experience. Acceptance of the digital banking system, according to Tan et al. (2010), is also greatly influenced by convenience, accessibility, and a user-friendly portal appearance. In various contexts, be it banking, e-learning, or other digital services, ease of use is a key factor influencing user satisfaction and acceptance (Bogart & Wichadee, 2015; Al-Rahmi et al., 2015; Mavroidis et al., 2013). Customer satisfaction with the friendliness of digital banking applications is also associated with increased loyalty. Rizan et al. (2019) and Selli et al. (2016) revealed that the higher the perception of ease and benefits felt, the greater the user satisfaction and loyalty. This is reinforced by Djuardi et al. (2021), who stated that a positive perception of ease of transactions will foster customer loyalty. Satisfaction is an important prerequisite before customers can trust and use the application sustainably (Gloria & Achyar, 2018; Sebayang & Situmorang, 2019). Thus, User Friendliness plays a strategic role in improving customers' digital experience and is one of the main pillars in building long-term relationships with users of electronic banking services.



**Personal Need Towards Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

Based on the results of the analysis using the PLS method, it was found that Personal Need has a positive and significant effect on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. This means that the better the fulfillment of customers' personal needs, the higher the level of satisfaction they feel. This finding is consistent with the research of Amin (2016) and Keskar et al. (2020), although carried out in different contexts, but shows the same relationship between personal needs and customer satisfaction. Keskar et al. (2020) even included the Customer Satisfaction Index (CSI) approach to assess this influence more comprehensively. In a competitive business environment, companies are required to provide quality services to meet customer needs and expectations (Kasmir, 2016). If these needs are not met, customers have the potential to switch to other service providers. Therefore, the fulfillment of personal needs is a crucial aspect that influences the success of the service. This is reinforced by research by Afandi et al. (2019), Diasari and Oetomo (2016), and Maimunah (2019), which states that personal needs have a significant influence on customer satisfaction. According to Grönroos (2007), banks must pay attention to customers' personal needs, such as age, gender, lifestyle, and preferences, in order to develop more personalized and relevant service strategies. This personal needs data allows the development of more customized digital service features, thereby increasing user satisfaction and loyalty (Yoon, 2010; Keskar et al., 2020). Within the framework of Maslow's theory of needs, aspects such as a sense of security and a sense of belonging also contribute to positive perceptions of digital banking services. Thus, fulfilling personal needs is a strategic factor in building sustainable electronic customer satisfaction (Hamadi, 2010; Amin, 2016).

**Efficiency Towards Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

Based on the results of the PLS analysis, it was found that Efficiency has a positive and significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This shows that the higher the level of efficiency of digital banking services, the higher the level of customer satisfaction. This finding is in line with research by Hammoud et al. (2018), Herington and Weaven (2009), and Sohail and Shaikh (2008) which states that efficiency is the main factor in assessing the quality of internet banking services. Efficiency in this context includes ease of use, transaction speed, and the effectiveness of the website system in completing customer requests (Parasuraman et al., 2005). Efficiency is also closely related to the optimization of resources such as time, energy,

and costs to achieve maximum results (Mulyamah, 1987; Hasibuan, 1984). According to KBBI, efficiency means the right way to do something without waste. This concept is closely related to customer satisfaction that arises when the service provided meets or even exceeds their expectations (Kotler & Keller, 2009). Therefore, high efficiency in e-banking services increases the likelihood of customers feeling satisfied and loyal (Kheng et al., 2010; Ranchi & Khudjanov, 2011). According to Amin (2016), efficiency is the most important factor in the internet banking service quality index (iBSQ), because it allows for fast and smooth transaction completion. Kemeny et al. (2016) also emphasized that web efficiency has a significant impact on customer satisfaction, especially in terms of navigation, information access, and ease of transactions. Therefore, banks need to design efficient e-banking sites so that customers get a pleasant transaction experience, which in turn increases customer satisfaction and the likelihood of customers continuing to use the service in the future.

### **Perceived Usefulness Towards Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

Based on the results of the PLS analysis, perceived usefulness has a positive and significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This means that the higher the customer's perception of the usefulness of electronic banking services, the higher the level of satisfaction felt. Perceived usefulness is the belief that the use of a technology will provide benefits in increasing the effectiveness and efficiency of the user's work (Davis et al., 1989; Jogiyanto, 2007; Tandon et al., 2016). This concept is very relevant in the context of digital banking, where technology that is considered useful can encourage adoption and increase customer satisfaction (Ajzen, 1991; Eriksson et al., 2005; Rahman et al., 2017). Previous studies by Park et al. (2013), Lee and Jun (2007), and Amin et al. (2014) showed that perceived usefulness significantly affects customer satisfaction. The perception that technology-based services can save time, costs, and facilitate transactions is an important factor in customers' decisions to continue using these services (Tyas & Darma, 2017; Lestari et al., 2023). In addition, studies by Ariff et al. (2014) and Sibona & Choi (2012) also found a strong relationship between perceived usefulness and customer satisfaction in the digital service sector. When customers feel that the technology used can improve performance or make tasks easier, there will be deep and ongoing satisfaction with the service (Cho & Sagynov, 2015; Keni, 2020). Conversely, if technology is considered not to provide added value, customers tend to be reluctant to use it (Polatoglu & Ekin, 2001; Rouibah et al., 2011). Therefore, perceived usefulness plays a key role in shaping customer satisfaction with electronic banking services, and has a

major influence on the success of technology implementation in the banking industry.

### **Perceived Ease Of Use Towards Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

Based on the results of the analysis with PLS, perceived ease of use has a positive and significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This means that the higher the customer's perception that electronic banking services are easy to use, the greater the level of satisfaction felt. This perception refers to the belief that using a system or technology does not require much effort (Davis, 1989; Setyowati & Respati, 2017), and is easy to understand and operate (Ginting & Marlina, 2017; Yo et al., 2021). Customers tend to prefer standardized products or technologies because they are easier to learn and use widely (Deshpande & Zaltman, 1987; Usman et al., 2021). Previous studies support this finding, where perceived ease of use has been shown to significantly influence customer satisfaction, as found by Rezaei and Amin (2013), Amin et al. (2014), Tu et al. (2012), Sibona and Choi (2012), and Ariff et al. (2014). Technology that has features that are easy to find and understand will increase user perception that the system is easy to use (Brown in Fradana, 2011). This perception plays a dual role in influencing behavior, both directly on satisfaction and indirectly through perceived benefits (Davis, 1989). In this context, if technology is considered difficult to learn, it will reduce customer interest and cause dissatisfaction, so companies need to ensure that the features and technologies offered are user-friendly in order to increase satisfaction as well as interest in purchasing or continued use.

### **Aesthetics Towards Electronic Customer Satisfaction Of Pt. Bpd Southeast Sulawesi**

Based on the results of the PLS analysis, it was found that aesthetics have a positive and significant effect on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This means that the better the aesthetic appearance, both in digital services and other visual elements, the more it will increase customer satisfaction. Aesthetics, which was first introduced by Baumgarten as a science related to the perception of beauty (Brady, 2013; Blackburn, 1994), now plays a strategic role in shaping customer perceptions of value, emotions, and experiences (Postrel, 2003; Bölen, 2020; Burnap et al., 2019; Xu & Schrier, 2019). In the context of digital banking, a visually appealing interface can improve the perception of service quality, facilitate navigation, and form an emotional connection between customers and the services used (Creusen et al., 2010; Toufani et al., 2017; Lee & Koubek, 2010). Aesthetics is also considered an important element in differentiation strategy, as superior

visual design can influence purchasing decisions and create competitive advantage (Grohmann et al., 2007; Landwehr et al., 2013). In the digital world, website aesthetics contribute to purchase intention, brand image, and even customer satisfaction levels (Chang et al., 2014; Burnap et al., 2019; Jiang et al., 2016). Zhang and Xu's (2020) research also proves that the aesthetic experiential dimension has a positive effect on satisfaction. In addition, the aesthetics of well-designed digital products or services not only convey information, but also evoke positive emotions, professional impressions, and comfort in interaction, all of which greatly affect customer satisfaction (Dahlgaard et al., 2008; Lee & Shin, 2020; Pang & Ding, 2021). Although aesthetics are subjective, many studies have shown that aesthetic elements can be objectively assessed through visual responses, complexity, coherence, and emotional aspects such as stress reduction and attractiveness (Jiang et al., 2016; Saran et al., 2017). Therefore, in digital banking services, aesthetics are not only about visual beauty, but also the key to building a pleasant and satisfying customer experience.

### **Electronic Customer Satisfaction Towards Electronic Customer Loyalty Of Pt. Bpd Southeast Sulawesi**

Based on the results of the PLS analysis, it was found that electronic customer satisfaction has a positive and significant effect on electronic customer loyalty of PT. BPD Southeast Sulawesi. This means that the higher the level of customer satisfaction with electronic banking services, the greater the likelihood that customers will become loyal. This finding is consistent with previous studies such as Amin (2016), Ramseook-Munhurrin and Naidoo (2011), and Thaichon et al. (2014), which show that satisfaction is an important determinant in forming customer loyalty, especially in the context of digital services. Customer satisfaction is an emotional response to the experience of using a product or service that meets or exceeds their expectations (Tjiptono, 2016; Oliver, 1980). When internet banking services are considered satisfactory, customers tend to continue using the service, make repeat purchases, and recommend it to others (Anderson & Srinivasan, 2003; Parasuraman et al., 1988).

Satisfaction in the digital context is also understood as a positive emotion that arises from the cumulative experience of services provided by financial institutions (Rust & Oliver, 1994; Shankar et al., 2003). Other studies also show that service quality and satisfaction are closely related and are the main determinants of customer loyalty (Taylor & Cronin, 1994; Jain & Gupta, 2004). In the banking industry, good service not only increases satisfaction but also strengthens long-term relationships between banks and customers

(Osman, 2014; Al-alak, 2014; Levy, 2014). Previous studies by Kashif et al. (2015), Aksoy (2014), and Gounaris et al. (2010) showed that customer satisfaction is a key factor in building sustainable loyalty. In addition, studies by Fornell (1992), Yi & La (2004), and Lam & Barton (2006) emphasized that customer satisfaction is a direct antecedent of customer loyalty. Therefore, increasing customer satisfaction, especially in the context of e-services, is an important strategy in creating long-term loyalty and maintaining the sustainability of the company's business amidst increasingly tight digital competition.

## Conclusion

Based on the research results and discussions that have been presented, it can be concluded as follows: There is a negative and significant influence between Site Organization (bank site) on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This means that indirectly Site Organization (bank site) will increase electronic customer satisfaction of PT. BPD Southeast Sulawesi. There is a positive and significant influence of Reliability on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This means that directly reliability will increase electronic customer satisfaction of PT. BPD Southeast Sulawesi. There is a positive and significant influence between Responsiveness on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This means that directly reliability will increase electronic customer satisfaction of PT. BPD Southeast Sulawesi. There is a positive and significant influence between User Friendliness on electronic customer satisfaction of PT. BPD Sultra. This means that directly User Friendliness will increase electronic customer satisfaction of PT. BPD Southeast Sulawesi. There is a positive and significant influence between Personal Need on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. This means that Personal Need will directly increase the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. There is a positive and significant influence between Efficiency has a positive and significant effect on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. This means that Efficiency will directly increase the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. There is a positive and significant influence between Perceived usefulness on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. This means that Perceived usefulness will directly increase the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. There is a positive and significant influence between Perceived ease of use on the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. This means that



Perceived ease of use will directly increase the satisfaction of electronic customers of PT. BPD Southeast Sulawesi. There is a positive and significant influence between Aesthetics on electronic customer satisfaction of PT. BPD Southeast Sulawesi. This means that Aesthetics will directly increase electronic customer satisfaction of PT. BPD Southeast Sulawesi. There is a positive and significant influence between Electronic customer satisfaction on electronic customer loyalty of PT. BPD Southeast Sulawesi. This means that Electronic customer satisfaction will directly increase electronic customer satisfaction of PT. BPD Southeast Sulawesi.

### **Reference:**

1. Ahmad Nizar Yogatama (2019), *The Influence Of Electronic Service Quality And Client Fulfillment In Online Buying At Gofood Consumer In Malang*. (Volume 16 Nomor 1 XX Number X (year) pages Halaman 52-74,
2. Alldila Nadhira Ayu Setyaning, Sahid Susilo Nugroho (2020), *The influence of website characteristics on customer satisfaction and E-WOM in Indonesia*. (*Jurnal Siasat Bisnis* Vol. 24 No. 2, 2020, 148 - 167, Journal homepage: [www.jurnal.uui.ac.id](http://www.jurnal.uui.ac.id), The Authors. *Jurnal Siasat Bisnis*. Published by The Management Development Centre, Department of Management, Faculty of Business & Economics, Universitas Islam Indonesia).
3. Alvin Tiko H, Winston, (2021), *The Influence Of E-Service Quality Towards Customer Satisfaction And Customer Loyalty On Gopay Electronic Wallet Users*. (Vol.2 No.6 Nopember 2021, ISSN 2722-9475 (Cetak) *Jurnal Inovasi Penelitian* ISSN 2722-9467 (Online)).
4. Ancok, Djameluddin, 1995. *Teknik penyusunan skala*, Seri Metodologi No. 9, Edisi ketujuh, Pusat Penelitian Kependudukan Universitas gadah Mada, Yogyakarta.
5. Andi Arini Syahidah, Muhammad Fikry Aransyah (2023), *Pengaruh E-Service Quality dan E-Trust Terhadap ECustomer Loyalty Pada Pengguna Dompot Digital DANA Melalui E-Satisfaction Sebagai Variabel Intervening*. (*Jurnal SISFOKOM (Sistem Informasi dan Komputer)*, Volume 12, Nomor 01, PP 36-44, p-ISSN 2301-7988, e-ISSN 2581-0588
6. Annissa Hamdallah, Pramitha Aulia (2020), *Pengaruh E-Service Quality Terhadap E-Customer Satisfaction Dan E-Customer Loyalty Pada Pengguna Aplikasi*. (*JIMEA | Jurnal Ilmiah MEA (Manajemen, Ekonomi, dan Akuntansi)* Vol. 4 No. 3, 2).



7. Arum Istiqomawati, (2017), *Pengaruh Dimensi Relationship Marketing Terhadap Kepuasan Dan Loyalitas Nasabah (Studi Kasus Pada BPR Argodana Puduk Payung Semarang)*. (EKOBIS Vol.18, No.1, Januari 2017 : 28 – 39).
8. Armawi Fauzi Nasution, Surya Safari SD, Astri Ayu Purwati, Harry Patuan Panjaitan, (2022). *The Effect Of Service Quality And Trust On Customer Satisfaction And Loyalty At Pt. Agung Toyota Harapan Raya Pekanbaru*. *International Conference on Business Management and Accounting (ICOBIMA) Volume 1(1), 2022, page 96-108*.
9. Arief Budiman, Edy Yulianto, Muhammad Saifi (2020), *Pengaruh E-Service Quality Terhadap E-Satisfaction Dan E- Loyalty Nasabah Pengguna Mandiri Online*. (Jurnal Profit| Volume. 14 No. 1 2020| profit.ub.ac.id).
10. Azwar, Saifuddin (2001). *Reliabilitas dan Validitas*, Penerbit Pustaka Pelajar, Yogyakarta.
11. Balla Wahyu Budiarto et al,. (2023), *The Influence Of E-Customer Satisfaction, E-Service Quality And Sales Promotion On E-Customer Loyalty Of Tokopedia Customers*. (JEMSI (Jurnal Ekonomi, Manajemen, dan Akuntansi) E-ISSN: 2579-5635, P-ISSN: 2460-5891 Volume 9 (6) Desember Tahun 2023, Hal 2472-2479).
12. Coper, Donal R. Dan Emory C. William, 1997. *Metode Penelitian Bisnis, Jilid 1 dan 2, Terjemahan* , Penerbit Erlangga Jakarta.
13. Dalrymple, Douglas J. 1976. *Parsons, Leonard J., Marketing Management: text and cases*, USA: John Wiley & Sons, Inc.
14. Evelyn Wijaya et all, (2023), *Trust, Satisfaction, And Loyalty Of Islamic Bank Customers: Role Of Religiosity*. (JURNAL APLIKASI MANAJEMEN VOLUME 21 ISSUE 2 JUNE 2023).
15. Fajar Pasaribua et all (2022), *The effect of e-commerce service quality on customer satisfaction, trust and loyalty*. (International Journal of Data and Network Science 6 (2022). 1077–1084, © 2022 by the authors; licensee Growing Science, Canada).
16. Farida Indriani, Candra Alfiyanto, Mirwan Surya Perdhana, (2020), *The Effect Of Service Quality On Consumer Trust And Customer Satisfaction To Improve Customer Loyalty On Go-Car Transportation Online In Semarang City*. (DIPONEGORO JOURNAL OF ECONOMICS Volume 9, Nomor 1, Tahun 2020, Halaman 43/58 ejournal-s1.undip.ac.id).
17. Hair F. Joseph, JR, Anderson E. Rolph, Tatham L. Ronald, Black C. William, 1998. *Multivariate Data Analysis, Fifth Editon* Prentice-Hall International Inc.

18. Hafiz Ramadhan, Yusuf Ronny Edward, Yeni Ariesa (2019), *Analysis Of The Influence Of Service Quality And Trust On Customer Loyalty With Customer Satisfaction As Intervening Variable In Menantea Field. International Journal of Educational Research & Social Sciences* ISSN: 2774-5406, [ijersc.org](http://ijersc.org).
19. He, Zhi Ling Kim, Se Hwa Gong, Du Hui (2017), *The Influence of Consumer and Product Characteristics on Intention to Repurchase of Smart band*. (received, January 21, 2017, accepted, January 21, 2017, *International Journal of Asia Digital Art and Design*).
20. Ida maftuhah, Tanisah (2015), *The Effects Of Service Quality, Customer Satisfaction, Trust, And Perceived Value Towards Customer Loyalty*. (JDM Vol. 6, No. 1, 2015, pp: 55-61 *Jurnal Dinamika Manajemen* [jdm.unnes.ac.id](http://jdm.unnes.ac.id)).
21. I Gede Agus Wirdiana et all, (2022), *The Role Of Customer Satisfaction As A Mediator Of The Effect Of Service Quality And Competence On Customer Loyalty In Public Libraries Tabanan Regency Library And Archives Service*. VOL 5, No.2 July 2022 ISSN: 2656-3037 [www.journals.segce.com](http://www.journals.segce.com)
22. Jacsy Tubalawony, Merry M Pelupessy, Walter Tabelessy, Claudia J Thenu (2023), *Peran E-Satisfaction dalam Memediasi Pengaruh E-Service Quality terhadap E-Loyalty pada Pengguna Aplikasi Blibli.Com*. *Jurnal Pendidikan Tambusai*, ISSN: 2614-6754 (print) ISSN: 2614-3097(online) Halaman 4491-4498 Volume 7 Nomor 2 Tahun 2023.
23. Kotler, Philip, 2005. *Manajemen Pemasaran*, Terjemahan Benyamin Molan, Edisi Bahasa Indonesia, Jilid 1 dan 2, PT. INDEKS Kelompok Gramedia.
24. Kotler, Philip Dan Kevin L. Keller. 2006. *Manajemen Pemasaran*. Edisi Milenium, Jilid 1. PT. Prehallindo. Jakarta.
25. Malhotra K. Naresh, 2004. *Marketing Research, An Applied Orientation*, Fourth Editon, Prentice Hall.
26. Megasari Gusandra Saragih (2019), *Pengaruh E-Service Quality Terhadap E-Loyalty Melalui E-Satisfaction (Studi Pada Pelanggan Toko Online Shopee Di Kota Medan)*. (*Jurnal Mantik Penusa* Vol. 3, No. 1, Juni 2019, pp 190-195 Terakreditasi DIKTI No.SK 21/E/KPT/2018).
27. Milcha Handayani Tammubua, Deni Surapto (2022). *Analysis of Competence and Service Quality on Customer Satisfaction and Loyalty in Eastern Indonesia Border Tourism*. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* Volume 4, No 2, May

- 2021, Page: 3016-3031 e-ISSN: 2615-3076 (Online), p-ISSN: 2615-1715 (Print) [www.bircu-journal.com](http://www.bircu-journal.com).
28. M. Mayasari, Audina Audina (2018), *The Influence of E-Service Website E-Commerce Quality to E-Customer Satisfaction*. (Advances in Social Science, Education and Humanities Research, volume 298, Proceedings of the First International Conference on Applied Science and Technology (iCAST 2018), Copyright © 2020 The Authors. Published by Atlantis Press SARL. This is an open access article distributed under the CC BY-NC 4.0 license - [creativecommons.org](https://creativecommons.org)).
  29. Nila Nurochani, Eddy Jusuf, Undang Juju, Sidik Priadana, Azhar Affandi (2023). *The Influence of E-Banking Service Quality, Marketing Communication and Corporate Image on Customer Satisfaction and Its Impact on Customer Loyalty*. *Jurnal Manajemen Industri dan Logistik (JMIL)* Vol. 7, 2023, 247-263.
  30. Ni Putu Indah Pradnyaswari, Ni Made Asti Aksari (2020), *E-Satisfaction Dan E-Trust Berperan Dalam Memediasi Pengaruh E-Service Quality Terhadap E-Loyalty Pada Situs E-Commerce Blibli.Com*. (E-Jurnal Manajemen, Vol. 9, No. 7, 2020 : 2683-2703 ISSN : 2302-8912).
  31. Novi Andriyani, Diyan Novita Sari (2022), *The Influence Of Trust And Service Quality On Customer Satisfaction Of Islamic Banks*. *EtiHAD: Journal of Islamic Banking and Finance* Vo. 2, No. 2, Juli - Desember 2022: 155 – 171).
  32. Satria Tirtayasa, Jufrizen et al, (2021), *E-Satisfaction And E-Loyalty: The Role Of Brand Image And E-Service Quality*. (Ekuitas: Jurnal Ekonomi dan Keuangan p-ISSN 2548 – 298X Akreditasi No. 158/E/KPT/2021 e-ISSN 2548 – 5024).
  33. Syed Ali Raza and Amna Umer dan Muhammad Asif Qureshi and Abdul Samad Dahri (2020), *Internet banking service quality, e-customer satisfaction and loyalty: the modified e-SERVQUAL model*. (The TQM Journal © Emerald Publishing Limited 1754-2731
  34. Solimun, 2002. *Multivariate Analysis, Structural Equation Modelling (SEM), LISREL and AMOS*, Penerbit Universitas Negeri Malang, Malang.
  35. Sugiono, 2004. *Metode Penelitian Bisnis*, Cetakan Ketiga, Alfabeta, Bandung.
  36. Supriyati dan S P Harahap (2021), *Website Characteristics On Customer Satisfaction*. (Journal of Business and Behavioural Entrepreneurship, 5(2), 57-63, Website Characteristics on Customer Satisfaction

37. T. Enita Rosmika T. Nurhaida ( 2017), *Employee Competence and Culture Set to Customer Satisfaction with Service Quality as Intervening Variable of PT. Bank Rakyat Indonesia (Persero) Tbk Medan. Journal of Education and Practice* [www.iiste.org](http://www.iiste.org) ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.8, No.36, 2017.
38. Uma Sekaran. 2015. *Metodologi Penelitian untuk Bisnis (Research Methods for Business)*. Jakarta: Salemba Empat.
39. Widhi Wicaksono, (2019), *Influence of Competence and Customer Service Motivation on the Performance of the Bank Syariah Mandiri Remittance Business Unit. (Pinisi Discretion Review Volume 3, Issue 1, September, 2019 Page. 93- 102 ISSN (Print): 2580-1309 and ISSN (Online): 2580-1317)*.
40. Zheng ShiYong et all, (2022), *Do Product characteristic affect customer participation invirtual brand cummmunities, An empirical study. (Original Research, publised, 6 January 2022)*.