

## **Customer Satisfaction Analysis of E Banking Users: A field study of Conventional Bank in Jember city**

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### **Abstract**

The banking industry is currently growing rapidly by utilizing and optimizing management information and technology in the form of e-banking as an efficient means of a satisfying customer. Online-based services at banks are more efficient services to help customers. Technological advances have been used to attract customer for bank transactions. Therefore, customer satisfaction is a priority in banking activities. Customer satisfaction is an important factor in maintaining a competitive advantage in the era of technological development. This research is a form of replication that use the subject of bank customer of e-banking user in Jember city. The aim of the research is to determine the factors that influence customer satisfaction of e-banking users. The role of cloud service, security banking system, e-learning and service quality are four factors that can drive customer satisfaction. This research uses quantitative methods with multiple linear regression analysis. The sample use in this research amunted 125 respondents. This research find that cloud service, e-learning and service quality significantly affect on customer satisfaction, on the other hand security banking system has no effect on customer satisfaction.

**Keywords:** customer satisfaction; e-learning; security banking system; service quality; cloud service

### **INTRODUCTION**

The development of information technology (IT) presents new opportunities for all sectors of the economy. These developments have an impact on fundamental changes in the business sector (Shaqiri & Namani, 2015). One of the factors of business success is information technology (IT) which is useful for optimizing business management in generating profits. IT-based business is considered the main source of success in the business world (Nikoloski, 2012).

The development of IT in business aims to make it easier for customers to interact with companies (Hugh & Kim, 2019). The era of the digital economy for cellular services is one aspect that is experiencing rapid development in the world, this opportunity offers significant added value to services. In the last few decades, competition in the banking industry has become increasingly intense. Technology-based banking activities in this era emerged as a strategic innovation for responding to changes and increase competitive power for customer convenience (Ho, Wu, Lee, & Pham, 2020).

The information technology has made it easier for bank customers to access accounts via the internet network (e-banking). The e-banking application is a banking activity that utilizes information technology that provides services as needed (Li, Lu, Hou, Cui, & Darbandi, 2021). E-banking products provide transaction services at low costs to increase efficiency and productivity. The e-banking service is one of the fastest-growing bank products in the world, especially in Indonesia (Ho, Wu, Lee, & Pham, 2020). Based on the Financial Services Authority (OJK) noted that the number of e-banking users increased 270% from 2012 to 2016, this increase occurred due to customer needs in utilizing technology (Yani, Lestari, Amalia, & Puspita, 2018). In terms of transactions, in 2020 the number of customers transacting via e-banking was 60,912,342 transactions. This data increased by 36% from 2019 with 44,872,107 transactions, (Richard, 2020).

Customer satisfaction with e-banking users has been confirmed as the key to success in information technology and communication systems (Geebren, Jabbar, & Luo, 2021). Customer satisfaction is also an important parameter for banks (Ahmed, Rezaul, & Rahman, 2014), and banks must have a strategy that aims to get customer satisfaction (Ayo, Oni, Adewoye, & Eweoya, 2016). Satisfaction is one of the reasons customers continue to use e-banking as a transaction facility (Nustini & Fadhilah, 2020). Customer satisfaction in using e-banking services is influenced by several factors, namely cloud service, security system, e-learning and service quality (Li, Lu, Hou, Cui, & Darbandi, 2021). Technological advances are part of the emerging trends in information technology, such as the internet of things (IoT), big data, cloud computing, and industry 4.0 (Kim, 2017). Cloud computing is a large-scale parallel system that provides computing resources such as servers, networks, and applications via the internet (Song, Kim, & Shon, 2020). Cloud computing enables the growth of cost-effective information technology services (Ali, Shretha, Chatfield, & Murray, 2020). The rapid development of cloud

computing has an impact on cloud service, which is a component needed to measure the quality of a service that has a direct effect on customer performance and satisfaction (Ding, Wang, Wu, & Olson, 2017).

Increasing concerns regarding cloud security and privacy, the security system dynamically provides a reliable computing environment according to customer needs (Huang, Chen, Yuan, Ding, Jian, Tan, Chen, Chen 2020). System security is a series of services such as passwords and authentication services that are mostly used in cloud systems. Complex security services derive from the coordination of several different services (Hamdy, Abbas, & Hegazy, 2021). The security system is currently a major concern in the banking sector for better service improvements (Neeraja, Rao, Maloji, & Hussain, 2018).

The sophistication of IT allows individuals to learn effectively using electronic services (e-learning) (Tan, Chen, Li, Li, Tang, Wang, 2015). E-learning is a type of service that is one of the new developments in the company. This system makes it possible to access the latest knowledge which aims to increase the productivity and performance of the company (Chen & Kuo, 2011). E-learning is a solution to avoid problems related to physical mobility that allows customers to access online information anywhere (Dominici & Palumbo, 2013).

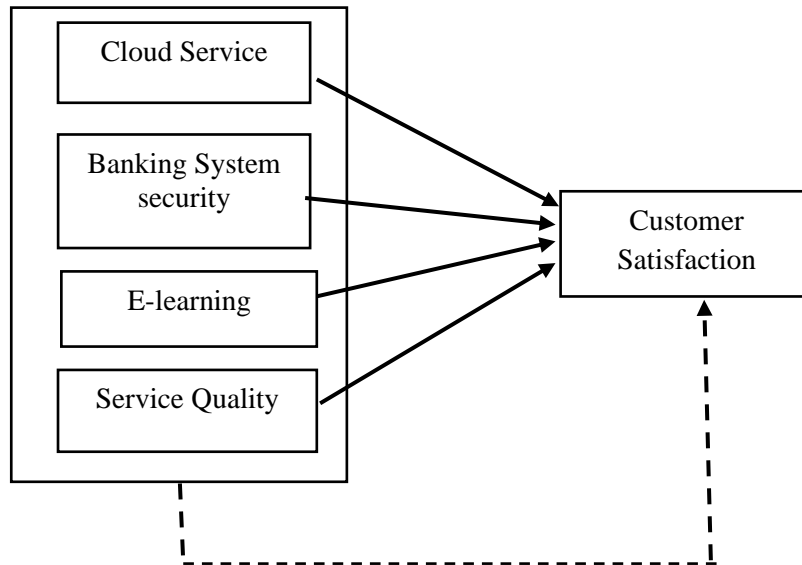
Customer satisfaction results from good employee performance (Chen & Kuo, 2011). Service quality has a role in influencing customer satisfaction, the better service provided, the higher customer satisfaction (Nunkoo, Teeroovengadum, Ringle, & Sunnassee, 2020). Service quality for e-banking users is considered important to maintain a higher quality of service. Customers are more interested in banks that provide fast transaction services when using e-banking (Raza, Umer, Qureshi, & Dahri, 2020).

This study intend to investigate the effect of information technology management on customer satisfaction. The four variables this study that are cloud service, banking service system, e-learning and service quality have never been studied in Indonesia. Therefore this study aims to looks at the effect of cloud service, banking security system, e-learning and service quality on customer satisfaction. The study is conducted in the District of Jember.

## RESEARCH METHODS

The object of this research are conventional banks in Jember. The research conducted on February 2022. The data used in this study were primary data, literature review also conducted to find phenomenon. The population in this study is bank customers who use e-banking services in Jember city. The number of samples is 125 subjects, consist of 49 male and 76 female. They are students, entrepreneur, employee, government employee, teacher amd lecture. Collecting data using a questionnaire distributed online. The characteristics of the samples are conventional bank customers who use e-banking application and have made online transactions. The sampling technique used is accidental sampling.

The conceptual framework of the research is:



**Figure 1: Conceptual Framework**

Measuring five variables in this study using a scale developed by Li, Lu, Hou, Cui, & Darbandi, (2021). The number of items is 25 items. All variables are measured by using a Likert scale with the following responses: 1 (strongly disagree); 2 (disagree); 3 (neutral); 4 (agree); 5 (totally agree). A high score on this scale indicates a satisfactory of e-banking service. Researchers transadapted the scale using the guidelines of Beaton, Bombardier, Guillemin, & Ferraz, (2000) with stages: stage 1 (initial translation); stage 2 (synthesis of the translation); stage 3 (expert committee); stage 4 (test of the prefinal version); stage 5 (submission of documentation). Research instrument can be seen in the table 1:

Table 1. Research Instruments

Number	Variables	Indicators
1	Cloud Services	Ease to use
		Virtualization of resources
		Cost Flexibility
2	Banking security system	Pivacy
		Integrity
		Digital Signature
3	E-Learning	Using Skill
		Temporal and spatial flexibility
		System availability
4	Sevice Quality	Cost-effectiveness
		User friendlinness
		Technical support
5	Customer Satisfaction	Satisfaction on cloud and e-banking service
		cloud and e-banking service can handle all transaction
		Participating in e learning increase satisfaction
		E-learning system can be accessed at any time
		Satisfaction on response speed e baking service

The data analysis used in this research are descriptive statistics, test of validity and reliability, multiple regression model, t test and F test. Descriptive statistics is used to describe the response of participants on research variables. Multiple regression model used to explain the relationship between independent variables (Cloud Services, Banking security system, E-Learning, Service Quality) and the dependent variable (Customer Satisfaction). Futhermore, t-test used to to explain the influence of Cloud Services, Banking security system, E-Learning, Service Quality on Customer Satisfaction partially, and F-test used to to explain the influence of Cloud Services, Banking security system, E-Learning, Service Quality on Customer Satisfaction simultaneously.

## RESULT AND DISCUSSION

### Participant's Response to Cloud Service.

Cloud service refer to the various services that are provided according to the demands of companies and customers over the internet. This service provides easy and affordable access to applications and resources without the need for infrastructure or internal hardware (Li, Lu, Hou, Cui, & Darbandi, 2021). This study found that most respondents agree that cloud service is a system needed by customers. Cloud service provides a wider access for customers and guarantees security in transaction. The majority of respondents think that high speed

information manajemen affect the growth of-e banking. Cloud-based banking service system increases the productivity, efficiency dan provide low cost.

### **Participant's Response to Banking security system**

Security is defined as protecting, ensuring and preventing hackers from attacking customer information and data. Banks with secure electronic systems can protect customers regarding financial information and personal data, especially when making online transactions (Li, Lu, Hou, Cui, & Darbandi, 2021). Security in using e-banking services is one of the factors of important concern regarding banking services (Armend, Metin, Hajrizi, & Ahmeti, 2019). Research conducted by Al-Azzam (2015) states that the security system is an indicator that plays a role in increasing customer satisfaction in using banking services. The result of this study is the majority of respondents feel secure in using e-banking, they agree that e-banking system give services stability and security, e-banking security system guarantees the confidentiality of customers data. In addition customers agree that digital signature as a system security.

### **Participant's Response to E-learning**

E-learning is an electronic service that make easier for individuals to carry out cooperative learning efficiently anywhere and anytime (Li, Lu, Hou, Cui, & Darbandi, 2021). E-learning is a type of electronic service that helps users access the latest knowledge and find solutions that aim to increase company productivity (Chen & Kuo, 2011). The quality of e-learning services is one of the factors that increase satisfaction and loyalty to individuals (Pham, Limbu, Bui, Nguyen, & Pham, 2019). In this study, e-learning consist of three indicators, that are using skill, system availability, temporal dan spatial flexibility. The majority respondents agree that e-learning service will increase satisfaction, e-learning can be accessed easily, e-learning provides benefit and helps customers having orientation.

### **Participant's Response to Service Quality**

Service quality is the diversity of customer anticipation and understanding of the services provided. If service quality has a good value, customer satisfaction will arise (Li, Lu, Hou, Cui, & Darbandi, 2021). Service quality for the banking industry's e-banking users is considered important to maintain a higher quality of service. Customers are more interested in banks that provide fast transaction services when using e-banking (Raza, Umer, Qureshi, & Dahri, 2020). There are three indicators of service quality in this study, that are cost effectiveness, user

friendliness, technical support. The majority of respondents agreed that the use of e-banking reduce cost of providing service. E-banking system provides a fast response in service and e-banking service accelerates the transaction settlement process. More than 40% of respondent say that e-banking system handled customers complaints quickly.

### Participant’s Response to Customer Satisfaction

The result of this study find that more that 50% of the respondents satisfied with all type of cloud service and e-banking service. Respondents satisfied since use of e-banking accelerates the completion of transaction and resolve customer complaints quickly. In addition, respondents satisfied with the speed of services response in e- banking.

The result of Multiple Regression is described on the table below.

Tabel 3 : Summary of Multiple Regression

Variable	Coefficient of Regression
Constant	-1,168
Cloud Service	0,230
Banking Security System	0,016
E-Learning	0,513
Service Quality	0,286

Source: output SPSS

Based on the information, the equation model of multiple regression is:

$$Y = -1,168 + 0,230 (X1) + 0,016 (X2) + 0,513 (X3) + 0,286 (X4)$$

The model explain that the value of constanta -1,168, it means that if the banks do not use cloud service, banking security system, E-learning and service quality, then the bank’s customer satisfaction is negative. Coefficient of cloud service is positive, it means the better cloud service the banks have, then the higher customer satisfaction. Coefficient of banking security system is positive, it means the better banking security system the banks have, then the higher customer satisfaction. Also, coefficient of e-learning is positive, it means the better e-learning the banks have, then the higher customer satisfaction. Service quality has a positif coefficient means that means the better service quality the banks have, then the higher customer satisfaction. Based on tabel 3 e-learning variable has the highest coefficient value, it means the influence of e-learning is greatest compared to the other variable. Next, t-test is used to see the affect of cloud service, banking security system, e-learning, service quality on customer satisfaction. The result of t-test is presented in the table below:

Tabel 4 : The results of t-test and F-test

Variable	t-test	F-test	Significance
Cloud Service	3,321		0,000
Banking Security System	3,318		0,751
E-Learning	7,342		0,000
Service Quality	4,166		0,000
F-test		73,847	0,000

Source: Source: output SPSS

Based on the table 4 it can be explained that cloud service, e-learning, service quality are significantly affect on customer satisfaction, because the sigificance value of those variables than 0,05. In contrast banking security system has insignificant affect on customer satisfaction, because the sigificance value of banking security system more than 0,05. Therefore the hypotesis 1: *Cloud Service* significantly affect on *customer satisfaction* is accepted. Hypotesis 2: *Banking security system* significantly affect on *customer satisfaction* is rejected. Hypotesis 3: *E-learning* significantly affect on *customer satisfaction* is accepted. Hypotesis 4: *Service quality* significantly affect on *customer satisfaction* is accepted.

#### **The Affect of Cloud service on Customer Satisfaction**

Cloud services are currently increasingly popular in the banking industry. Cloud services have several advantages, including saving time and simplifying operational work for management (Mell and Grance, 2011), although the system has the disadvantage that it requires a fairly high initial investment cost. This cloud-based service is used by banks in the tight of intense competition to retain their customers. Based on the results of the t-test Cloud service has a significant effect on customer satisfaction. Respondents in this study argue that with cloud-based services they can have wider access. Cloud-based services can be done anytime and anywhere. Respondents in this study more than 65% are teenagers aged 19 to 24 years, most of them are students who are already familiar with digital technology, so cloud services are very suitable for them. Therefore, the more sophisticated the cloud service, the more satisfied customers will be.

#### **The Affect of Banking Security System on Customer Satisfaction**

The banking security system is an important factor for users of e-banking services, therefore banks are responsible for ensuring a reliable security system (Kumar and Ahmad, 2015). The use of e-banking has the opportunity to create risks. Risks that may arise include distributed denial of service attacks, data breaches, malware attacks and TCP/IP spoofing, therefore banks



must prioritize a trusted security system in order to retain their customers. Although the banking security system is an important factor in increasing customer satisfaction, in this study the banking security system has insignificant effect on customer satisfaction. Even though the bank has tried to optimize the security system, customers are still worried. Threats of crime and fraud such as loss of funds from accounts, or the existence of hoax messages sent via SMS or email, theft of personal data creates anxiety for users.

### **The Affect of E-learning on Customer Satisfaction**

The sophistication of information technology allows individuals to learn effectively using electronic networks or e-learning (Tan, Chen, Li Li, Tang, Wang, 2015). E-learning allows customers to reduce physical mobility because customers can access information online (Domici, Palumbo, 2013). The findings in this study are, e learning has a significant effect on customer satisfaction. This means that the use of e-learning systems can increase customer satisfaction because e-learning provides easy access to information, is flexible and provides benefits for customers. The majority of respondents in this study were students who were still teenagers. They have skills in using technology so that this e-learning system provides a greater contribution to customer satisfaction when compared to the other three variables.

### **The Affect of Service Quality on Customer Satisfaction**

Service quality is the diversity of customer anticipation and understanding regarding the services provided. Good service quality will create customer satisfaction (Li, Lu, Ho, Cui and Darbandi, 2021). The findings in this study are that service quality has a significant effect on customer satisfaction, meaning that the better the service quality, the greater the satisfaction felt by customers. Satisfaction is felt because of the speed with which banks respond to customers when using e-banking, e-banking accelerates the transaction process and handles customer complaints immediately.

## **CONCLUSION**

Based on the results of the study, it can be concluded that the Cloud Service variable has a significant effect on customer satisfaction. These results explain that implementation or optimization of cloud services can increase the bank customers satisfaction. E-learning variable has a significant effect on customer satisfaction. The availability of services allows customers to access and obtain information as needed. Flexibility of time and place when accessing e-

learning can increase bank customer satisfaction. Service quality variable has a significant effect on bank customer satisfaction. This means improving the quality of services sought by banks can increase customer satisfaction. Meanwhile, the Banking System Security variable has no effect on customer satisfaction. This means even though the bank has made good efforts to secure the system, the customer still has vigilance regarding the issue of security threats that could harm the customer. The implications of the research is bank should focus on development of information technology management to increase customer satisfaction. Banking system security should be reliable to protect customers from SMS hoaxes, account breaches, and others.

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