

**Research Article****THE EFFECT OF SERVICE QUALITY, INSTITUTION IMAGE AND ONLINE LEARNING SYSTEMS ON STUDENT SATISFACTION AFTER COVID-19 PANDEMIC****<sup>1,\*</sup> Anis Marjukah, <sup>2</sup>Mahmud Yusuf, <sup>3</sup>Cahaya Nugrahani and <sup>4</sup>Dandang Setyawanti**<sup>1</sup>Management Study Program, Faculty of Economics, Widya Dharma University, Indonesia<sup>2</sup>Informatics Study Program, Faculty of Engineering, Widya Dharma University, Indonesia<sup>3,4</sup>Accounting Study Program, Faculty of Economics, Widya Dharma University, Indonesia**Received** 11<sup>th</sup> October 2022; **Accepted** 14<sup>th</sup> November 2022; **Published online** 30<sup>th</sup> December 2022

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**Abstract**

The Covid-19 pandemic has had a broad impact on various life systems, including higher education institutions, so it needs the right strategy to survive and win the competition by providing services, maintaining and improving the image of the institution, and continuing to strive to innovate the development of learning systems, in order to increase student satisfaction which is the market value of the College. **Research objectives:** To determine and analyze the role of service quality, institution image and online learning systems on student satisfaction during the Covid-19 pandemic. **Research Methods:** The research model is designed as a quantitative descriptive research, with the nature of a descriptive explanation. The population is active students at University in Indonesia. Sampling with simple random sampling technique used a questionnaire, with a total of 100 respondents. The data analysis technique used regression analysis with the support of the SPSS program. **Research results:** The results of the study: the variable quality of service and the learning system partially have a positive and significant effect on student satisfaction during the Covid-19 pandemic, but the image of the institution does not have a positive and significant effect. Simultaneously the variables of service quality, institution image and learning system have a positive and significant effect on student satisfaction during the Covid-19 pandemic.

**Keywords:** Institution Image, Online Learning System, Service Quality, Student Satisfaction.

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**INTRODUCTION**

The Covid-19 pandemic has had a broad impact on various life systems, including Higher Education Institutions, so it is necessary to have the right strategy to survive and win the competition, by providing quality services, maintaining and improving the image of the institution, as well as trying to innovate the development of learning systems, to increase student satisfaction, as its market value. The impact on the education sector is felt starting from the education system and governance so that it must quickly adapt and develop the education system in order that the tasks, functions and goals of education continue to run, while taking into account the risk factors due to the pandemic, for university stakeholders. In realizing the Tridharma vision of higher education at universities in Indonesia, especially research and community service, we are fully aware as service organizations/institutions, especially in the field of education, responsive and innovative to situations and conditions due to the Covid-19 pandemic. Through the use of technological advances, providing quality services and maintaining the image of the institution to provide student satisfaction. Several studies regarding service quality variables, institution image and online learning systems have basically been carried out by previous researchers, with the results that service quality variables have a positive and significant effect on student satisfaction, (Fikri *et al.*, 2009); (Pawirosumarto, 2018); (Nasukah, 2014).

Likewise, the institution image variable has a positive and significant effect on student satisfaction (Sugianto and Hartono, 2018). The online learning system variable also has a positive and significant effect on student satisfaction (Prasetyaningrum, 2009); (Hakim & Mulyapradana, 2020). However, the inconsistency of research results still occurs, including that there is no positive and significant relationship between service quality and student satisfaction (Hafni *et al.*, 2019). Image variable has no significant and negative effect on satisfaction and loyalty (Saragih, 2018). On the online learning system variable, the online learning system does not have a significant and negative effect on the quality and student satisfaction (Saragih, 2018). By referring to the problems faced by higher education institutions during the pandemic, phenomena and inconsistencies in the results of previous research, the researchers aim to analyze more deeply the effect of service quality, institution image and online learning system on student satisfaction during the Covid-19 pandemic.

**LITERATURE REVIEW****Service quality**

Service quality is an activity that must be carried out as well as possible, because it relates to products, services and resources, and the environment that are fulfilled as a form of balancing the fulfillment of customer expectations and desires (Tjiptono, 2012). Some of the service quality attributes within the scope of universities include speed, accuracy, friendliness, and comfort (Tjiptono and Chandra, 2007). The definition of the concept in this research, the quality of service is the level of

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achievement of the fulfillment of student expectations for a series of actions, both visible and invisible from the institution.

### Institution image

Image, conceptualized as a series of beliefs, ideas and their influence on institutions on the assessment of an object from stakeholders (Kotler and Keller, 2009) will affect the views and expectations of consumers on the products and services offered by the organization/institution (Howard, Robert, & Christopher, 1988), because it will improve the positioning of the company/institution (Tjahjaningsih, 2013); acting as a filter for good things regarding consumer impressions, (Kotler & Keller, 2009); relating to the picture of the impression and feeling of the organization and being important for the sustainability of the organization in the future (Bloomer, Rueter and Peeters, 1998); so it must be built for the long-term sustainability of the institution (Kotler and Keller, 2009); at the next stage they will provide satisfaction for customers (Bloomer et al., 1998). As a conceptual definition in research regarding the image of the institution, it is the students' ability and view on the virtues of higher education institutions, for the development and sustainability of the institution in the long term.

### Online learning system

According to (Qodri, 2017), the system in principle which is interpreted as a set of elements in a series of management activities so that goals are achieved is a form of cooperation on a set of components in order to achieve goals (Wilkinson and Cerullo, in (Qodri, 2017). The term distance learning system with the support of internet technology, is better known as the on-line learning system / e-learning (Hakim and Mulyapradana, 2020), is carried out independently, the lecturer acts as an instructor, students carry out the lecturer's instructions via the internet network, with the content adapting to the theme, whose main principle and goal is to provide understanding to students rather than providing skills (Hanum, 2013). As a conceptual definition of research, the online learning system is an integrated system in learning, with interaction between lecturers and students with the support of the internet network, so that learning objectives can run well.

### Student satisfaction

In management science, customer satisfaction is known as customer's satisfaction theory, so in the world of education it can be developed into learning satisfactory theory, which is the development of consumer satisfaction science, so that expectations and realities are met in the teaching and learning process (Putra, 2019). As a conceptual definition, student satisfaction is students' feeling of pleasure, both individually and collectively, because the services provided have met their expectations, even exceeding what they expect.

## RESEARCH METHODS

This research was designed as a quantitative descriptive research, with the nature of explanatory research's. The population of this study are active students at universities in Indonesia. The number of research samples is 100 respondents, using a structured questionnaire. The research was carried out during the Covid-19 pandemic, using Google Form support,

due to the Large-Scale Social Restrictions policy. The sampling technique is simple random sampling technique. The data analysis technique used regression analysis with the support of the SPSS program.

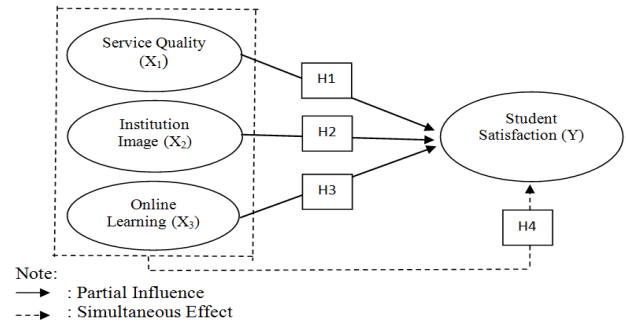


Figure 1. Thought Conceptual Framework

## RESULTS AND DISCUSSION

### Respondent profile

The general description of respondents in more detail is summarized in table 1 as follows:

Table 1. The Characteristics of Respondents

Characteristics		Frequency	Percentage
Cellphone Ownership	Have	100	100%
	Do not have	-	-
Ability to Use Internet	Capable	100	100%
	Not capable	-	-
Internet Experience	Before the Pandemic	96	96%
	During the Pandemic	4	4%
Experience of Taking Online Classes	Ever	98	98%
	Never	2	2%

Source: Primary data processed; 2022.

The results of the study show that the research respondents as a whole have a cell phone (100%), can use the internet (100%), although as many as 4% are new to the internet since the Covid-19 pandemic, have experience taking lectures online (98%), so that they become valuable capital for higher education institutions to organize online learning, by providing quality services, supported by improving the image of the institution in order to improve the quality of student satisfaction.

## DESCRIPTION ANALYSIS

### Description of service quality variables

Service quality is reflected by 5 indicators, with the results of descriptive analysis summarized in table 2 as follows:

Table 2 shows that the overall distribution of respondents' answers gives the highest score on the responsiveness indicator, which is reflected in the indicator of the need for friendliness of each service on campus, (92.60%), and the smallest on the empathy indicator which is reflected in the question of the need for familial attention between lecturers. - students (84.68%). The overall achievement is 87.58%. Table 3 shows that in the institution image variable, the highest distribution of respondents' answers is on the indicator of the need for a good impression for students (81.60%), so that every university stakeholder needs to try to create, maintain and improve a good impression in front of students, to improve the image of the university.

**Table 2. The Distribution of Respondents' Answers on Service Quality Variables**

No	Indicator	Freq. Score					Score	Max Score	(%)
		1	2	3	4	5			
1	Adequate Physical Building	1	0	14	35	50	433	500	86.60%
2	Confirmity of service on the promise given	1	0	11	38	50	436	500	87.20%
3	Hospitality of every service	1	0	4	25	70	463	500	92.60%
4	Service guarantee to be trusted	1	0	12	38	49	434	500	84.68%
5	Familial Attention between lecturers and students	1	2	14	47	47	470	500	73.04%
	Average						447	500	87.58%

Source: Primary data processed; 2022

**Table 3. The Distribution of Respondents' Answers on Institution Image**

No	Indicator	Freq Score					Score	Max Score	(%)
		1	2	3	4	5			
1	The presence of the institution can be felt real.	0	0	30	51	19	389	500	77.80%
2	The information provided is realistic.	0	2	44	44	10	362	500	74.40%
3	Institution always tries to meet student expectations.	0	10	49	31	10	341	500	68.20%
4	Service does not discriminate.	0	5	49	31	15	356	500	71.20%
5	Student impression is built up well	0	0	21	50	29	408	500	81.60%
	Average						371	500	74.24%

Source: Primary data processed; 2022.

**Table 4. The Distribution of Respondents' Answers in the Online Learning System**

No	Indicator	Freq Score					Score	Max Score	(%)
		1	2	3	4	5			
1	Conventional learning system is adequate.	1	9	54	19	17	342	500	68.40%
2	It is enough to use common applications such as WA and SMS.	4	3	54	33	6	334	500	74.40%
3	It needs to have an online learning system.	1	4	30	50	15	374	500	74.80%
4	Online learning during the Covid-19 pandemic has fulfilled the expectations.	6	27	50	9	8	286	500	57.20%
5	It needs to build an integrated Management Information System (MIS).	1	0	26	55	18	389	500	77.80%
	Average						371	500	69.00%

Source: Primary data processed; 2022.

**Table 5. The Distribution of Respondents' Answers on Student Satisfaction**

No	Indicator	Freq Score					Score	Max Score	(%)
		1	2	3	4	5			
1	Regulations that are not burdensome to students	1	1	19	44	35	411	500	82.20%
2	A system of sanctions that do not harm students	0	3	35	33	29	388	500	77.00%
3	The need for strictness in the application of rules	0	2	36	48	14	374	5060	74.80%
4	The need for enforcement of the rules by the Institution/ Foundation.	0	1	32	49	18	384	500	76.80%
5	The need for an objective assessment	0	0	27	46	27	400	500	80.00%
	Average						391	500	78.28%

Source: Primary data processed; 2022.

The smallest achievement is the indicator of the need for higher education institutions to try to meet student expectations (68.20%), because students are the main consumers of higher education whose expectations need to be fulfilled, thus setting a choice for higher education institutions. The overall achievement is 74.24%. Based on the results in table 4, on the online learning system variable the highest achievement is on the indicator whether higher education institution needs to build an integrated Management Information System (MIS) (77.80%) and the smallest is on the indicator whether the online learning system is carried out during the Covid pandemic. -19 has met expectations (57.20%). The average value of the achievement is 69.00%. This achievement is the smallest value. Table 5 shows that the highest achievement score is on the indicator of the need for regulations that are not burdensome for students (82.20%), and the lowest average value is on the indicator of the need for strictness in the application of rules by lecturers (74.60%). Furthermore, overall for each variable, the highest achievement is obtained in the service quality variable (87.58%); followed by student satisfaction variable (78.28%); institution image (74.24%); and the smallest on the online learning system variable (69.00%).

### The results of testing validity and reliability

Table 6 shows that the value of  $r_{count} > r_{table}$ ; so that the research instrument is stated valid, it means that all the questions asked to the respondents are able to measure the variable of student satisfaction. Table 7 shows that the value of Cronbach's alpha of all the variables studied is greater than the specified criteria, namely 0.6; it can be interpreted that all the question constructs are stated reliable, so they can be used in measurement.

### Classic assumption test

Based on the results of the classical assumption test above, it can be concluded that the parameter values generated in this research model are valid, because they meet the classical regression assumption.

### Regression analysis

Regression analysis is used to measure the strength of the relationship between two or more variables, also shows the direction of the relationship between the dependent and independent variables.

**Table 6. The Results of Testing Validity**

Item	<i>R</i> xy				<i>R</i> Table	Interpretation
	Service quality	Institution image	Online learning	Student satisfaction		
1	0.798	0.798	0.741	0.714	0.196	Valid
2	0.800	0.800	0.818	0.650		
3	0.840	0.840	0.841	0.764		
4	0.823	0.823	0.828	0.764		
5	0.804	0.804	0.684	0.735		

Source: Primary data processed; 2022.

**Table 7. The Results of Testing Reliability**

Variable	Cronbach's Alpha	Interpretation
Service quality	0.869	Reliable
Institution image	0.842	
Online learning	0.716	
Student satisfaction	0.768	

Source: Primary data processed; 2022.

**Table 8. The Results of Testing Classic Assumption**

Test Type	Results	Interpretation
Normality	Kolmogorov-smirnow test statistic 0.082 ; significant 0.094 > 0.05	Normal
Linearity	The significance value of each independent variable on the dependent variable > 0.05	Linear
Multicollinearity	Tolerance value of all independent variable > 0.01; ( $X_1 = 0.981$ ; $X_2 = 1.065$ ; $X_3 = 0.927$ )	There is no multicollinearity
Autocorrelation	Durbin Watson test autocorrelation test = 1.960 at the level of significance 0.05, n = 100, k=2.	There is no autocorrelation

Source: Primary data processed; 2022.

**Table 9. The Results of Testing Regression Analysis**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.461	2.477		2.204	0.030
	Service quality	0.352	0.078	0.393	4.534	0.000
	Institution image	0.016	0.085	0.017	0.193	0.847
	Online learning	0.335	0.093	0.320	3.594	0.001

a. Dependent Variable: student satisfaction

From the table above, the regression model in the study can be formulated as follows:

$$Y = 5.461 + 0.352 X_1 + 0.016 X_2 + 0.335 X_3$$

The interpretation of the regression equation above is as follows:

- The constant coefficient is positive at 5.461, it can be interpreted that each variable of service quality, image of the institution and online learning system in a constant state (zero) will have an effect on student satisfaction of 5.461.
- The service quality coefficient with a positive value of 0.352, it can be explained that every time there is an increase in the service quality variable, it will have an effect on student satisfaction of 0.352.
- The coefficient of the institution image is positive at 0.016, it can be explained that every time there is an increase in the institution image variable, it will affect student satisfaction of 0.016.
- The coefficient of the online learning system is positive at 0.335, it can be explained that every time there is an increase in the online learning system variable, it will have an effect on student satisfaction of 0.335.

**T test**

**Table 10. The Results of T Test**

Variable	t-test	t-sig
1 (Constant)	6.090	0.000
Service quality	4.798	0.000
Institution Image	1.232	0.221
online learning	4.018	0.000

Dependent Variable: Student Satisfaction

Based on the results of the T test, the value of  $t_{count}$  is  $4.798 > t_{table} 1.985$  or  $t_{sig} 0.000 < 0.05$  then  $H_0$  is rejected, which means that service quality has a significant effect on student satisfaction; while on the institution image variable, the value of  $t_{count}$  is  $1.292 < t_{table} 1.985$  or  $t_{sig} 0.221 > 0.05$  then  $H_0$  is accepted, which means that the image of the institution has no effect on the student satisfaction variable. Furthermore, on the online learning system variable, the value of  $t_{count}$  is  $4.018 > t_{table} 1.985$  or  $t_{sig} 0.000 < 0.05$  then  $H_0$  is rejected, which means that the online learning system has an effect on the student satisfaction variable.

**F test**

This test is intended to analyze whether all independent variables have a significant effect together on the dependent variable, and to determine the magnitude of the effect of the variables ( $X_1$ ,  $X_2$  and  $X_3$ ) together on the dependent variable (Y).

**Table 11. The results of Testing F**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	146.544	1	146.544	23.016	.000 <sup>b</sup>
	Residual	623.966	98	6.367		
	Total	770.510	99			

Source: Primary data processed; 2022.

Based on the results of the F test, the  $F_{count}$  is  $23.016 > F_{table} 0.000$  or the  $F_{sig}$  value of  $0.000 < 0.05$ , it is concluded that the service quality variable, the image of the institution and the

online learning system simultaneously affect the student satisfaction variable.

### Determination coefficient test ( $R^2$ )

This analysis is used to determine how far the independent variable can explain well the dependent variable.

**Table 12. The Results of Determination Coefficient**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.542 <sup>a</sup>	0.294	0.272	2.381

a. Predictors: (Constant), online learning, service quality, institution image

The results of the study have an R Square ( $R^2$ ) value of 0.294, indicating that 29.4% of student satisfaction variables can be explained by variables of service quality, institution image and online learning system, the remaining 70.6% is explained by other factors.

## DISCUSSION

The results of the regression analysis show that all independent variables namely service quality ( $X_1$ ) and online learning system ( $X_3$ ) partially have a positive and significant effect on student satisfaction ( $Y$ ), but the institution image variable ( $X_2$ ) partially does not have a positive and significant effect on student satisfaction during the Covid-19 pandemic. Based on the results of the  $t$  test analysis that the  $t_{\text{count}}$  value is  $4.798 > t_{\text{table}} 1.985$  and the  $p$ -value is  $0.000$  ( $\alpha < 0.05$ ), it can be interpreted that the effect of service quality on student satisfaction has a positive and significant effect during the Covid 19 pandemic. Students feel satisfied with the quality of service provided by the institution which is reflected in the presence of adequate physical building, the confirmity of services for the promises given, the friendliness of each service on campus, the guarantee of service to be trusted, the familial attention between lecturers and students. The research results are consistent that the quality of service has a direct effect on student satisfaction (Fikri et al., 2016); (Prasetyaningrum, 2009); (Hafni et al., 2019); (Pawirosumarto, 2018); (Nasukah, 2014). With the result that the value of  $t_{\text{count}}$  is  $1.292 < t_{\text{table}} 1.985$  or  $p$ -value  $0.221$  ( $\alpha > 0.05$ ), it is interpreted that the image of the institution has no significant effect on the variable of student satisfaction. The results of the study are consistent that image does not have a significant and negative influence on satisfaction and loyalty (Saragih, 2018); because the image is something intangible (Radiman and Wahyuni, 2017); describes a series of beliefs, ideas, and their effect on the institution on the assessment of an object from stakeholders (Kotler and Keller, 2009). With  $t_{\text{count}}$  value =  $4.018 > t_{\text{table}}$  value of  $1.985$  and  $p$ -value =  $0.000$ , it shows that there is an effect of online learning system on student satisfaction, consistent with previous research that there is a positive and significant influence of online learning variable on student satisfaction (Prasetyaningrum, 2009); (Hakim and Mulyapradana, 2020), because the use of online media has a positive and significant relationship on learning motivation (Hakim and Mulyapradana, 2020).

The results of the simultaneous regression analysis obtain the following equation:

$$Y = 5.461 + 0.352 X_1 + 0.016 X_2 + 0.335 X_3$$

With a constant value of 5.461, it can be interpreted that if the independent predictor variable is assumed to be equal to zero, then student satisfaction will have value of 5.461. With the  $X_1$  regression coefficient of 0.352, it means that the quality of service has a positive effect on student satisfaction, so that with the addition of one unit of service quality will increase student satisfaction by 0.352. Likewise, the  $X_2$  regression coefficient of 0.016 means that the image of the institution has a positive effect on student satisfaction, namely the addition of one unit of institutional image will have an effect of increasing student satisfaction by 0.016. Furthermore, the  $X_3$  regression coefficient of 0.335 also has a positive effect, where an increase in one unit of the online learning system will have the effect of increasing student satisfaction by 0.335. Of the three variables in relation to increasing student satisfaction, it shows that the service quality variable has the highest influence (0.352), followed by the online learning system (0.335) and the smallest influence is on the institution image variable (0.016) in its influence on student satisfaction during the Covid 19 pandemic. The regression coefficient of  $X_1 X_2 X_3$  is 5.461, it can be interpreted that the interaction between service quality, institution image and online learning system has a positive effect on student satisfaction during the Covid 19 pandemic. So with the addition of one unit of interaction between service quality, institutional image and learning system online will provide an increase in student satisfaction of 5,461.

By basing on the results of the study on testing the independent variables on the dependent variable simultaneously, the results obtain that the  $F_{\text{count}}$  value is 23.016 at a  $p$  value of  $0.000$  ( $\alpha < 0.05$ ), so it can be concluded that simultaneously the variables of service quality, institution image and online learning system have an effect significantly to student satisfaction during the Covid-19 pandemic. The results of this study consistently support the results of previous studies that there is a positive and significant influence between service quality and student satisfaction (Prasetyaningrum, 2009); (Hafni et al., 2019); (Pawirosumarto, 2018); (Nasukah, 2014), it is the direct influence (Fikri et al., 2016). On the online learning system variable, the research results are also consistent (support) the findings of previous research that there is a positive and significant influence between learning variables and student satisfaction (Prasetyaningrum, 2009); (Hakim and Mulyapradana, 2020); because the use of online media has a positive and significant relationship on learning motivation (Hakim & Mulyapradana, 2020). Furthermore, on the variable image of the institution in relation to student satisfaction, this study supports the research findings of (Sugianto and Hartono, 2018), that student satisfaction will increase because of the image of the institution; with improved perceptions of system quality and service quality will increase student satisfaction (Pawirosumarto, 2018). The results of this study at the same time reject the findings of research conducted by (Saragih, 2018), that image does not have a significant and negative effect on satisfaction and loyalty (Saragih, 2018). Furthermore, with regard to the level of accuracy and how far the independent variables in this case are the service quality variables, the image of the institution and the online learning system on the dependent variable, namely student satisfaction, based on testing the coefficient of determination ( $R^2$ ) with a value of 0.294, it can be interpreted that the level of student satisfaction can be influenced by the variable of service quality, institution image and online learning system by 29.4% and the remaining 70.6% is influenced by other variables.

## CONCLUSION AND SUGGESTION

### Conclusion

Based on the results of the analysis and discussion in this study, it can be concluded that the service quality variable and the online learning system partially have a positive and significant effect on student satisfaction during the Covid-19 pandemic. However, the institution image variable has no positive and significant effect. Simultaneously, the variables of service quality, institution image and online learning system have a positive and significant effect on student satisfaction during the Covid-19 pandemic, with the highest influence on the service quality variable, followed by the online learning system and the smallest effect on the institution image variable in its effect on student satisfaction. The level of student satisfaction can be influenced by variables of service quality, institution image and online learning system by 29.4% and the remaining 70.6% is influenced by other variables.

### Suggestions and recommendations

Suggestions and recommendations from the research results include:

1. Higher education institutions need to improve service quality management, including by building dynamic familial relationships between lecturers and students, especially during the Covid 19 pandemic.
2. Higher education institutions increase awareness and concern of stakeholders in order to build, maintain, and improve the image of the institution, with efforts to fulfill student expectations, providing services that do not discriminate.
3. Higher education institutions need to build and apply an online learning system, as well as an integrated Management Information System (MIS) in order to improve services to students, providing convenience for all university stakeholders.
4. Higher education institutions improve the image of universities by enforcing the applicable rules.

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