

THE INFLUENCE OF SERVICE QUALITY AND UNIVERSITY IMAGE ON WORD OF MOUTH IN HIGHER EDUCATION INSTITUTIONS IN RIAU PROVINCE

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Abstract: The purpose of the article is to develop new knowledge to better understand the influence of service quality and university image on word of mouth. The sample used were the higher education students from 13 higher educations within Riau Provinces, with total of 570 respondents. The exogenous variables used are service quality and university image, while the endogenous variable used is the word of mouth. The data collected will be analyzed using Structural Equation Modeling (SEM) by using statistic analyzer tools, SPSS 21 and AMOS 21. The findings of this article show that both service quality and university image do have a positive and significant influence on word of mouth.

Keywords: Service Quality, University Image, Word of Mouth; Structural Equation Modeling (SEM)

1. Introduction

In general, economies can be distinguished by their main driving force, manufacturing or service-centered economies, in which, each of them needed its own measurement tools to measure the quality of the work produced. At first, researchers were keener in developing product quality measurement as the economy was at the manufacturing-centered economy phase. This can be seen as there was a massive usage of total quality management (TQM) and other product quality measurements during the manufacturing-centered economy. However, as the economy started to shift towards service sectors in the second half of the twentieth century (Witt & Gross, 2020), it is inappropriate to use product quality measurement to measure out the quality of the service provided. Hence, it demanded exact measurement on service quality, and research on service quality studies started to bloom (Seth et al., 2005).

The pioneer of service quality studies was Parasuraman et al., (1988), where they studied the quality of the service sectors in appliance repair and maintenance, securities brokerage, credit cards, retail banking, and long-distance telephone. Through this study, Parasuraman proposed five dimensions that can be used to measure service quality in almost any kind of service provider, which are tangibility, responsiveness, assurance, reliability, and empathy. However, Carman (1990) suggested that those five service quality dimensions needed some modifications based on each service provider's industry. In the education field, some researchers agree with Carman (1990) to only use the dimensions specifically for education matters rather than using the overall dimensions proposed by Parasuraman et al. (1988) (Abdullah, 2006; Alves & Raposo, 2007; Annamdevula & Bellamkonda, 2016a; Duarte et al.,

2012). On the other hand, some researchers in the education field who still use the five service quality dimensions proposed by Parasuraman et al. (1988) (Afridi et al., 2016; Arambewela & Hall, 2006; Calvo-Porrall et al., 2013; Kanakana, 2014; Mansori et al., 2014; Yousapronpaiboon, 2014).

As the higher education field is getting competitive, higher education institutions were expected to compete with local and international higher education institutions in order to get market shares (Chandra et al., 2019). One of the strategies used is by providing high service quality (Stevens et al., 1995). A high service quality will result in increase in customer satisfaction and long term benefit in the form of market share and profitability (Anderson et al., 1994). Even though the study in service quality of higher education consider as something new compare to the study in the commercial field, studies in the higher education field has been set as one of the main priority in most countries (Sultan & Yin Wong, 2010).

In higher education, the level of service quality will determine the number of students that will enroll in the particular institution (Chen, 2016), and students tend to choose the higher education institutions that can provide them with high service quality and give them high satisfaction (Tahir et al., 2010). This is because high service quality and satisfaction will lead to student loyalty (Annamdevula & Bellamkonda, 2016b), hence will lead to the spread of information in the form of word of mouth (Alves & Raposo, 2009; Mansori et al., 2014).

According to Landrum et al., (1998), university image is one of the most valuable assets for higher education institutions when competing in the market. Kotler and Fox (1995) also mentioned that university image and reputation are much more important compare to the level of service quality because the perceived university image by the students will be taken into account when considering the higher education institutions that they will enter. Besides, university image will have an effect on student satisfaction (Alves & Raposo, 2010) and student loyalty (Alves & Raposo, 2010; Brunner et al., 2008), which will result in the spread of word of mouth (Alves & Raposo, 2009; Mansori et al., 2014).

Starting from 2018, the Indonesian government has stated their interest to open the door for foreign higher education institutions to enter the education market in Indonesia in order to increase the quality of the education and services provided (Stefanie, 2018). This causes a stir within local higher education institutions as there are plenty of foreign universities that have taken interest in entering the Indonesian market. It worsened as in October 2021, the first foreign higher education institutions in Indonesia, Monash University, was officially opened (CNN Indonesia, 2021).

In Riau Province itself, the higher education institutions have been dealing with this situation for quite some time as the distance to the neighboring countries i.e. Malaysia and Singapore, are very close. This widened the competitors of the local higher education institutions as the higher education institutions from neighboring countries are frequently promoting their higher education institutions in Riau Province as well. Since the local higher education institution in Riau Province will be competing with the higher education institutions in Malaysia and Singapore, they need to improve their quality by constantly evaluating the quality of service provided. The Indonesian government is committed to improve the quality of the local higher education institution, including Riau Province. Regrettably, there were only a number of studies done to examine the connection between service quality and university image with word of mouth. Because of that, the purpose of this article is to examine the influence of service quality and university image towards word of mouth in higher education institutions in Riau Province.

2. Literature Review

This study focuses on assessing the structural model of service quality and university image on word of mouth.

Service Quality

The concept of service quality proposed by Parasuraman et al., (1988) encouraged the other researchers to further studying this concept in various service fields. The concept proposed to measure service quality (SERQUAL) consisted of five dimensions:

- a. **Tangibility:** physical facilities, equipment and appearance of personal.
- b. **Reliability:** ability to perform the promised service dependably and accurately.
- c. **Responsiveness:** willingness to help customers and their ability to inspire trust and confidence.
- d. **Empathy:** the caring, individualized attention provides to customers.
- e. **Assurance:** knowledge and courtesy of employees and their ability to inspire trust and confidence.

In the education field, these SERQUAL five dimensions are still commonly used to measure the quality of service (Afridi et al., 2016; Arambewela & Hall, 2006; Calvo-Porrall et al., 2013; Kanakana, 2014; Mansori et al., 2014; Yousapronpaiboon, 2014), and the results were still considered satisfying. However, some researchers criticizes and do not agree with the usage of the SERQUAL five dimensions to measure the service quality in higher education (Chen, 2016). Furthermore, since each stakeholder in the higher education field is unique, it is impossible to use the same measurement for every stakeholder (Gruber et al., 2010). Thus, the journey to find the best measurement tool for education field still goes on. On the other hand, several researchers have proposed and developed new concepts designed specifically for the higher education field (Abdullah, 2006; Annamdevula & Bellamkonda, 2016a; Chen, 2016; Senthilkumar & Arulraj, 2011).

Even though there are quite a number of service quality measurements proposed, there is no agreement about which one is the best measurement tool to measure service quality in higher education (Chandra et al., 2019; Chen, 2016). The concept of service quality that will be used in this study will incorporate several proposed concepts and will be adjusted to match the characteristic of higher education in Indonesia, specifically in Riau Province.

University Image

Definition of image according to Kotler and Fox (1995) is the overall impression that someone has towards some object. This perceived image may differ from one another as there is asymmetric information received by public regarding certain higher education institution. Thus, the perceived image of the institution might differ for each person (Dowling, 1988). Evaluating the image of an institution provides insights for the institution to measure its strength. According to these definitions, university images cover the impression of higher education institutions (Arpan et al., 2003; Landrum et al., 1998). In the article written by Arpan, Raney, and Zivnuska (2003), they have listed three factors that may influence the image of the university: academic factors, athletic factors, and the extent of news coverage of the university.

Word of Mouth

Hawkins et al., (2007) suggests that word of mouth is an activity of disseminating information from one person to another in the form of verbal communication including face to face, by telephone, and the internet. On the other hand, Suprapti (2010) suggests that word of mouth communication is personal communication between two or more individuals, for example, between customers or between members of a group. Dimensions of word of mouth according to Rosiana (2011) are:

- 1) Positive story, is the desire of the students to share positive things about the higher education institution they enrolled in to others.
- 2) Recommendation, is the desire of the students to provide recommendations to others who need the information about the learning experience and the institution's service quality.
- 3) Invitation, is the willingness of students to invite others to experience the learning activities in the institution itself.

Influence of Service Quality towards Word of Mouth

According to the study conducted by Mosahab et al., (2010), service quality will affect satisfaction and loyalty positively. In the research conducted by Mansori et al., (2014) has found a positive and significant relationship between student satisfaction and word of mouth. Study conducted in private universities in Pakistan shows that there is a significant impact of service quality towards word of mouth (Afridi et al., 2018). While in the research done in Portuguese State University by Alves and Raposo (2007) said that there was no significant relationship between student satisfaction and word of mouth, but there was a significant positive relationship between student loyalty and word of mouth. Thus, only students that have both high satisfaction and loyalty will spread word of mouth to their family and friend. Since service quality correlate positively with satisfaction and loyalty, and satisfaction and loyalty correlate positively with word of mouth (Prastowo, 2019), hence, service quality will influence word of mouth positively as well.

H1. Service quality has a positive influence on word of mouth.

Influence of University Image

In the context of marketing theory, higher education institution image is much more important compared to the quality of service given in relevant of student satisfaction (Kotler & Fox, 1995). Since a positive image will trigger repeated purchases, it is clear that the image of the higher education institution has a strong impact on improving and maintaining customer loyalty (Dick & Basu, 1994). A study conducted by Nguyen and LeBlanc (2001) at several business schools in Canada found a significant influence of higher education institutional image towards student loyalty and the tendency of students to stay and advance to higher degrees. Bloemer and de Ruyter (1998), on the other hand, had no direct influence of image towards loyalty. However, they found that image has a significant influence towards satisfaction and indirect influence towards loyalty.

A survey of Portuguese students by Alves and Raposo (2010) found that the image of the university influence both student loyalty and student satisfaction. In other studies, it was found that if there is a drop in student satisfaction, then the spread of word of mouth will drop as well (Molinari, Abratt, & Dion, 2014) and image has a significant influence towards word of mouth (Chaniotakis & Lymperopoulos, 2009). Since university image can affect student satisfaction and loyalty positively, and satisfaction and loyalty correlate positively with word of mouth (Prastowo, 2019), thus, university image will positively influence word of mouth.

H2. University image has a positive influence on word of mouth.

3. Method

The model in Figure 1 reflected the hypothesis of this study that aimed to determine the influence of service quality and university image on word of mouth.

Survey Instrument

The service quality construct in this article consisted of 12 indicators, which was designed by the researcher and the rest were adapted from other researchers (Abdullah, 2006; Annamdevula

& Bellamkonda, 2016a; Chandra et al., 2019; De Jager & Gbadamosi, 2010; Duarte et al., 2012; Lagrosen et al., 2004; Mahapatra & Khan, 2007). For the construct of university image, there were five indicators which were adapted from Duarte et al., (2012) and Chandra et al., (2019). In the construct of service quality, there were twelve indicators that were adapted from several studies (Abdullah, 2006; Annamdevula & Bellamkonda, 2016a; Chandra et al., 2019; De Jager & Gbadamosi, 2010; Lagrosen et al., 2004; Mahapatra & Khan, 2007), while there are 5 indicators for the construct of word of mouth that were designed by the researcher. All three constructs used seven-point Likert scale scoring, which ranged from 1=strongly disagree to 7=strongly agree.

Figure 1: Path Diagram from Structural Model

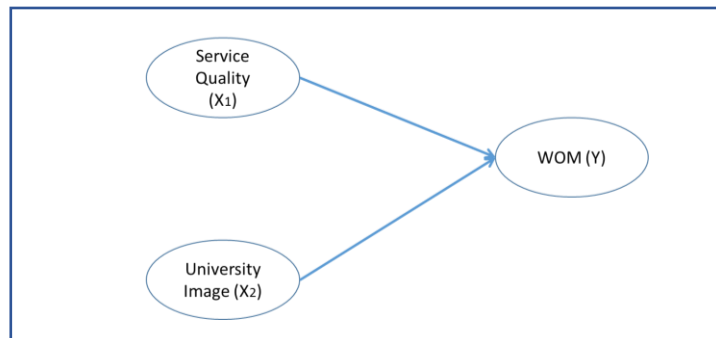


Table 1. Survey Instruments Indicators

Variable	Indicators	Source
Service Quality (X ₁)	X ₁₁ Teachers treat all students in equal manner	(Annamdevula & Bellamkonda, 2016a)
	X ₁₂ Teachers follow good teaching practices	(Annamdevula & Bellamkonda, 2016a)
	X ₁₃ Course content develops students' knowledge	(Abdullah, 2006; Annamdevula & Bellamkonda 2016a)
	X ₁₄ Teachers' responsive and accessible	(Lagrosen et al., 2004)
	X ₁₅ Admin staff are courteous and willing to help	(Mahapatra & Khan, 2007)
	X ₁₆ Admin maintains accurate and retrieval records	(Abdullah, 2006; Annamdevula & Bellamkonda 2016a)
	X ₁₇ Classroom clean and comfortable	(Chandra et al., 2019)
	X ₁₈ Computer/science labs are well equipped	(De Jager & Gbadamosi, 2010)
	X ₁₉ Library has adequate academic resources	(Annamdevula & Bellamkonda, 2016)
	X ₁₁₀ University provides counseling services	(Abdullah, 2006; Annamdevula & Bellamkonda, 2016)
	X ₁₁₁ Campus environment is convenient to study well	(Annamdevula & Bellamkonda, 2016)
	X ₁₁₂ University has safety and security measures	(Annamdevula & Bellamkonda, 2016)
University Image (X ₂)	X ₂₁ This campus has a good academic culture	(Chandra et al., 2019)
	X ₂₂ The campus has a good academic reputation	(Duarte et al., 2012)
	X ₂₃ The alumni of this campus have a good job	(Chandra et al., 2019)
	X ₂₄ Provides good training to students	(Duarte et al., 2012)
	X ₂₅ This campus is very famous	(Chandra et al., 2019)
Word of Mouth (Y ₃)	Y ₃₁ I will only say good things about this campus	SELF
	Y ₃₂ I will tell my friends about my learning experience in this campus	SELF
	Y ₃₃ I will recommend others to study in this campus	SELF
	Y ₃₄ I prefer to talk about this campus compared to other campuses	SELF
	Y ₃₅ I am proud to be able to share my experiences while on campus	SELF

Population and Sample

The population in this article included all 146,230 students enrolled in higher education institutions in Riau Province. The population used in this study is 75,000 students, hence the minimum required sample required according to Sekaran (2003) were 384 samples. A total of 600 questionnaires were distributed to the samples, and 572 were returned. After reconfirming, two questionnaires did not contain the complete information and had to be removed. Therefore, 570 samples were used in this study, and the percentage of respondents and valid questionnaires reaching 90.91 percent ($n = 570$). The samples came from 12 study programs from 13 largest higher education institution in Riau Province, therefore, the samples were considered representative. The study program of the respondents are shown in Table 2.

Table 2. Sample's Final Composition by Study Program

No	Study Program	No. of Students	%
1	Business	242	42.46
2	Economic	91	15.97
3	Nursing	20	4.51
4	Public health	14	2.46
5	Midwifery	15	2.63
6	Medical Records	28	4.91
7	Computer Science	97	17.02
8	Master Management	29	5.08
9	Automotive Engineering	19	3.33
10	Biology	15	2.63
Total		570	100.00

The demographic profile of the respondents included the age, gender, occupation, and institution accreditation can be seen in Table 3.

Table 3. Demographic Profile of Respondents

Demography	Category	Frequency	(%)
Age	< 20	381	66.84
	20 - 24	156	27.37
	25 - 30	6	1.05
	≥ 30	27	4.74
Gender	Male	176	30.87
	Female	394	69.13
Type University	University	159	27.90
	School of Higher Learning	368	64.56
	Academy	43	7.54
Occupation	Only student	436	72.46
	Working Student	157	27.54
Institution Accreditation	B	314	55.09
	C	256	44.91

The data collected in this study were then analyzed using the structural equation modelling (SEM). The data was tested using the software, namely, IBM AMOS version 21 and IBM SPSS statistics version 21. SEM was used to test the influence of construct service quality and university image towards word of mouth.

4. Result and Discussion

Validity and Reliability Test

Before running the SEM tests, a reliability test was ran to verify that the research equipment was appropriate. Two tests were run, a validation test and a reliability test. The results of these tests are shown in Table 4.

Table 4. Validity and Reliability Test

Constructs	Indicators	Correlation	Loading Factor	P value	Cronbach's alpha	CR	AVE
Service Quality (X ₁)	X ₁₁	0.726	0.699	***	0.954	0.956	0.647
	X ₁₂	0.825	0.814	***			
	X ₁₃	0.779	0.764	***			
	X ₁₄	0.802	0.815	***			
	X ₁₅	0.850	0.843	***			
	X ₁₆	0.874	0.867	***			
	X ₁₇	0.823	0.819	***			
	X ₁₈	0.862	0.833	***			
	X ₁₉	0.857	0.825	***			
	X ₁₁₀	0.827	0.815	***			
	X ₁₁₁	0.746	0.737	***			
	X ₁₁₂	0.814	0.807	***			
Image (X ₂)	X ₂₁	0.860	0.842	***	0.916	0.923	0.706
	X ₂₂	0.904	0.898	***			
	X ₂₃	0.857	0.812	***			
	X ₂₄	0.909	0.890	***			
	X ₂₅	0.813	0.751	***			
Student Loyalty (Y)	Y ₁	0.854	0.755	***	0.913	0.921	0.701
	Y ₂	0.903	0.890	***			
	Y ₃	0.911	0.880	***			
	Y ₄	0.868	0.810	***			
	Y ₅	0.786	0.844	***			

*** = p-value < 0.001

The validity test was intended to measure the accuracy and preciseness of the survey instruments in collecting data on respondent perceptions. Correlation tests were performed to measure the validity test of the survey instruments.

Correlation test results for all indicators show a value greater than of 0.700 and a p-value of 0.000. The validity test limit was set to 0.600 (Hair, Black, Babin, & Anderson, 2019). In this way, indicators such as quality of service, university image, and word of mouth were valid. Confirmation analysis can also be used to measure the convergence validity of a loading factor known as the average variance extracted (AVE) of each constructs. The results of the AVE test for this study showed values above 0.600, with The limit of AVE test is 0.500 (Hair et al., 2019), which means that all indicators of each construct are suitable for use in this study.

The construct reliability test was used to verify the stability and consistency of each indicator in regards to the construct. Table 4 shows the results of the construct reliability test. This table shows that the value obtained from the construct reliability test is greater than 0.900, but the limit is set to 0.70 only (Hair et al., 2019). Similar results were obtained with Cronbach's alpha coefficient. In this test, the values for all construct within the same limit of 0.70 (Hair et al., 2019) were above 0.900. Therefore, it is clear that all construct of this study are reliable. This also means that the survey instrument used in this study was suitable for data analysis.

Goodness of Fit Test in SEM

Prior to the implementation of the model in this study, the model was tested for suitability through goodness of fit test. The results are shown in Table 5.

To test the model in this study, eight criteria including χ^2 , Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Incremental Fit Index (IFI), and root mean square error of approximation (RMSEA). Six of the eight criteria, which are GFI, TLI, CFI, NFI, IFI, and RMSEA, met the eligibility criteria and the other two were included in the marginal criteria.

Even if AGFI could not exceed the limit, they achieved values of 0.887, which is near the critical point (0.900). This means that this criteria are still acceptable. Due to the large sample size ($n = 200$), the χ^2 criterion received relatively high values (603.709) and a probability value of 0.000, making it difficult to measure the probability (Hair et al., 2019). Based on the results of all the criteria used in the goodness of fit test, it can be concluded that the SEM model used in this study was suitable for further analysis.

Table 5. Goodness of Fit Test Result

Goodness of Fit Index	Cut-off*	Results	Conclusion
Chi-Square		603.709	
Probability	≥ 0.05	0.000	Marginal
GFI	≥ 0.90	0.912	Fit
AGFI	≥ 0.90	0.887	Marginal
TLI	≥ 0.90	0.956	Fit
CFI	≥ 0.90	0.963	Fit
NFI	≥ 0.90	0.946	Fit
IFI	≥ 0.90	0.963	Fit
RMSEA	0.05 - 0.08	0.060	Fit

Source: (Hair et al., 2019)

Testing of Hypothesis

The results of hypotheses testing administered in this study are presented in Table 6 and Figure 2. From the results of the hypotheses testing, it can be seen that both hypotheses showed positive but and significant influence of service quality and university image on student loyalty.

Table 6. Final Estimation of Measurement Model Parameters

Hypothesis	Exogenous Variable	Endogenous Variable	Standardized Coefficient	Critical Ratio	p-value	Conclusion
H ₁	Service Quality	WOM	0.678	15.682	0.000	Significant
H ₂	University Image	WOM	0.183	4.619	0.000	Significant

Discussion

It appears that the result of hypotheses testing 1 shows that service quality does have a positive and significant influence on word of mouth. This result supports the studies done by Alves and Raposo (2007), Mansori, Vaz, and Ismail (2014), and Prastowo (2019). This result means that the higher education institutions in Riau needs to start improving their service quality in order to increase the spread of word of mouth. The two service quality items with low responses were "Admin maintains accurate and retrieval records" and "Classroom clean and comfortable." It is suggested that higher education institution should focus on students aged 21-24, and improve their services to Nursing and Business students. These two study programs received the worst

response compared to other study programs. The reckless quality of service provided to these groups will reduces student satisfaction as students prefer to choose higher education institutions that are able to offer them superior quality of service and give them the satisfaction in other criteria (Tahir et al., 2010).

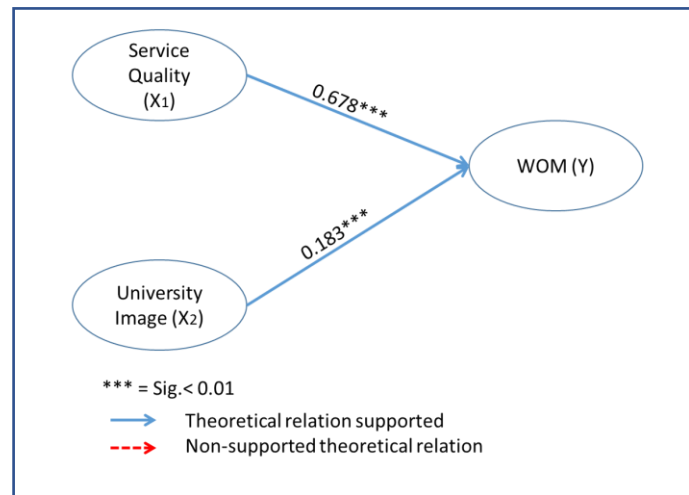


Figure 2: Final Estimation of Measurement Model Parameters

Students tend to choose higher education institution that is able to provide them with high service quality and student satisfaction (Tahir et al., 2010). Since good service quality will determine the number of students who enrolled in certain institution (Chen, 2016) and in order to be able to compete with the other higher education institution from abroad and other states in Indonesia, it is crucial to immediately improve the service quality of the higher education institutions in Riau Province. This is due to the fact that a good service quality will increase the student satisfaction and student loyalty thus, will increase the spread of positive word of mouth.

In this article, it is found that the university image has a significant and positive influence towards word of mouth. This result support the studies done by Chaniotakis and Lymperopoulos (2009). Therefore, it would be beneficial for higher education institutions to build a better image of the institutions that strengthens their position. The image of the higher education institution seems to be more important than the quality of service, as seen in the phenomenon of higher education institutions in Riau Province (Kotler & Fox, 1995).

Since competition between higher education institutions is expected to intensify in this global era, higher education institution in Riau Province must compete not only with other Indonesian higher education institutions in other states, but also with foreign universities in Malaysia and Singapore. Therefore, given that only universities with excellent quality of service have the ability to predict the number of students who are likely to enroll there, the service quality should improve immediately (Chen, 2016)

5. Conclusions

This study led to several conclusions: The results of the data analyzed confirmed the existence of a significant and positive influence of service quality on word of mouth, and there is significant and positive influence of university image towards word of mouth.

In terms of theoretical contribution, this article contributes to the development of the integrated quality management to develop performance in higher education. This article contributes to Deming (1986) Chain Reaction Theory, a conceptual framework and quality theory that says

“higher quality results in higher productivity, which in turn develop long-term competitive advantage.” The article also supports Sallis (2010) Total Quality Management (TQM) aim and finding of this article functions as empirical evidence that TQM practice, service quality and university image, has positive influence on word of mouth. In other words, good TQM practice results in higher chance of positive word of mouth spread. Effect of relationship between service quality and university image on word of mouth is positive, which means higher improved service quality and university image will result in higher speed of word of mouth spread.

In regards of practical contribution, this article is expected to provide university rectors and management lecturers with suggestions and insight on the practice of TQM and improve the institutions performance. Due to the era of open management (globalization), universities will need to build partnerships with other institutions to improve the quality of their academic departments in the future. University image, collaboration, or partnerships between higher education institutions are important to enhance the competitive advantage of the institutions, thus cooperation and partnerships between institutions has been normalized.

Future researchers are encouraged to focus on private universities to carry out similar studies and check the consistency of the data obtained. This is because different characteristics can result in different results. In addition, future researchers are encouraged to extend this study by researching the higher education institutions on the other states of Indonesia in order to generalize the findings.

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