

The Students' Responses toward Implementation of Quality Management Principles and Service Quality in Higher Education

Andi Arif Rifa'i¹, Winarno Winarno², Ari Wibowo³, Ahmad Fadholi⁴, Priyango Karunia Rahman⁵

¹ State Islamic University of Raden Mas Said Surakarta, Sukoharjo, Indonesia

E-mail: andiarifrifai@gmail.com

ORCID: <https://orcid.org/0000-0002-6426-3753>

² State Islamic Institute of Syaikh Abdurrahman Siddik Bangka Belitung, Bangka, Indonesia

E-mail: winarno83.stain@gmail.com

ORCID: <https://orcid.org/0000-0002-3299-1262>

³ State Islamic Institute of Syaikh Abdurrahman Siddik Bangka Belitung, Bangka, Indonesia

E-mail: ari@iainsasbabel.ac.id

ORCID: <https://orcid.org/0000-0003-4661-350X>

⁴ State Islamic Institute of Syaikh Abdurrahman Siddik Bangka Belitung, Bangka, Indonesia

E-mail: jessarung75@gmail.com

ORCID: <https://orcid.org/0000-0002-8172-1365>

⁵ State Islamic Institute of Syaikh Abdurrahman Siddik Bangka Belitung, Bangka, Indonesia

E-mail: Pkarunia.rahman@gmail.com

ORCID: <https://orcid.org/0000-0003-1921-9574>

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Abstract

This study aims to examine the implementation of quality management principles and service quality in higher education institutions (HEI's) based on student responses. This study involved 570 students from public and private universities in Bangka, the province of Bangka Belitung, Indonesia. This is a quantitative study with a correlational research design. The results showed that the implementation of quality management principles in universities had a very high correlation with service quality ($r = 0.88$). The results of this study prove that improving the implementation of quality management principles, such as development of cooperation, HR (human resources) focus, continuous development, process approach, leadership, process focus, and goal consistency of higher education will improve the quality of service rendered to students.

Keywords: quality management, service quality, higher education, student responses.

Мнение студентов о внедрении принципов управления качеством и о качестве услуг в высших образовательных учреждениях

Анди Ариф Рифаи¹, Винарно Винарно², Ари Вибово³, Ахмад Фадхоли⁴,
Прияннго Каруня Рахман⁵

¹ Государственный исламский университет Раден Мас Саид Суракарта, Сукохарджо, Индонезия

E-mail: andiarifrifai@gmail.com

ORCID: <https://orcid.org/0000-0002-6426-3753>

² Государственный исламский институт Сьяиха Абдурахмана Сиддика Банка Белитунг, Банка, Индонезия

E-mail: winarno83.stain@gmail.com

ORCID: <https://orcid.org/0000-0002-3299-1262>

³ Государственный исламский институт Сьяиха Абдурахмана Сиддика Банка Белитунг, Банка, Индонезия

E-mail: ari@iainsasabel.ac.id

ORCID: <https://orcid.org/0000-0003-4661-350X>

⁴ Государственный исламский институт Сьяиха Абдурахмана Сиддика Банка Белитунг, Банка, Индонезия

E-mail: jessarung75@gmail.com

ORCID: <https://orcid.org/0000-0002-8172-1365>

⁵ Государственный исламский институт Сьяиха Абдурахмана Сиддика Банка Белитунг, Банка, Индонезия

E-mail: Pkarunia.rahman@gmail.com

ORCID: <https://orcid.org/0000-0003-1921-9574>

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Аннотация

Цель данной работы – на основе опроса студентов исследовать реализацию принципов управления качеством в высших образовательных учреждениях и реальный уровень качества услуг, предоставляемых вузами. В исследовании приняли участие 570 студентов из государственных и частных университетов острова Банка провинции Банка Белитунг (Индонезия). Авторы провели количественное исследование с применением корреляционного анализа. Полученные данные показали, что в университетах степень внедрения принципов управления качеством имеет высокую корреляцию с качеством предоставляемых услуг ($r = 0.88$). Результаты исследования подтвердили, что чем лучше реализованы принципы управления качеством (развитие сотрудничества, кадровые ресурсы, непрерывное развитие, процессный подход к управлению, лидерство, ориентация на процесс и последовательность целей высшего образования), тем выше качество услуг, предоставляемых студентам.

Ключевые слова: управление качеством, качество услуг, высшее образование, ответы студентов.

Introduction

Globalization has created an increasingly tangible climate of competition between nations. The boundaries between nations have been lost by the integration of the economy, information, culture, and other aspects of various interactions (Gaffar, 2012). This means that globalization brings new challenges for each nation to improve the quality of its human resources to be consistent with the path of competition. Based on the UNDP report, Indonesian human resources still lack competitiveness in the Southeast Asian Region (Rencana Strategis Kementerian Riset, Teknologi Dan Pendidikan Tinggi Tahun 2015 – 2019, 2015). This is a serious problem that needs special attention from the government and universities as the shape of the nation's human resources.

The problem of human resources in Indonesia is very close to the quality of education, especially higher education. According to Hayat, it has become a problematic paradox in the nature of globalization (Hayat & Yusuf, 2010). This requires the development and improvement of the quality of education with a strategy aimed to evaluate the quality of education in general. However, evaluating the quality of higher education is a complex matter because of the various definitions used such as quality, theory, models, and performance indicators (Turner, 2011).

Quality evaluation that has been running in Indonesia (including in Bangka) to measure the quality of higher education is performed through accreditation which is carried out regularly by the National Accreditation Board for Higher Education (BAN-PT). Based on the results of institutional accreditation released on the official website (www.banpt.or.id), the majority of universities in Bangka receive a sufficient score (C / score 200-300 out of a maximum score of 400) which means that higher education services are not of good quality. This quality service problem is caused by the university's efforts not being maximal in perfecting the process, working hard, and learning from mistakes (Hoy et al., 2000). The quality of higher education services will ultimately lead to the creation of stakeholder satisfaction (for example, students, lecturers, educational staff, and others) (Dinh et al., 2021; Misra, 2006). This means that service quality is positively correlated with student satisfaction (Khoo & McGregor, 2017). Based on this concept, students are customers or direct stakeholders from universities who can provide information regarding the quality of the services they receive. Information related to higher education quality services can be used as input to the effectiveness of plans and their implementation (Fuchs & Fangpong, 2021).

Improving service quality and higher education competitiveness can be seen from how well the implementation of quality management is (Molina-Azorin et al., 2015). In line with that, the implementation of quality management principles can improve the quality of services in higher education, and indirectly increase the competitiveness of graduates. In addition, the application of quality management principles can also improve organizational performance. The results also show that ISO-certified institutions perform better than non-certified ones (Gustafsson et al., 2003; Mohamed et al., 2020; Sharabati et al., 2019). Some of these studies have proven that service quality is related to the application of quality management principles. In addition, service quality also has implications for graduates' satisfaction (Sharabati et al., 2019). Furthermore, the quality of higher education services can also affect student loyalty (Shurair & Pokharel, 2019). Therefore, service quality and student satisfaction are important factors in higher education management.

From the above-mentioned research, it can be concluded that quality is how well the service provided by the university to its customers (especially students). This means that student satisfaction can only be achieved with the good service quality. At the same time, service quality depends on the extent to which higher education institutions apply the

principles of quality management properly. This research aims to prove that the principles of quality management can improve the service (quality) of higher education rendered to its stakeholders, especially the student services. Quality service has implications for student satisfaction. Based on several theoretical studies and literature review, the hypothesis of this research is:

H1: there is an influence of the implementation of quality management principles in higher education on service quality.

Literature review

Principles of Quality Management

Sallis (2002) argues that realizing the quality of education output based on certain standards is not easy. One of the reasons is the difference in the output between education and products in the industrial world. Therefore, quality is an effort to meet customer demands (Noronha, 2002). Furthermore, the quality mentioned by Kenneth H. Rose is very close to customer requirements. Guaranteeing the quality of the process is the first step towards the quality of the product or service produced (Rose, 2005).

The development of the concept of quality has inspired efforts to improve quality in various organizations including educational organizations. Juran et al. (1999) offers three quality steps called the *Jurantrilogy*, which includes quality planning, quality control, and quality improvement (Rose, 2005). Crosby (1979) emphasized that quality was a *zero defect* condition supported by technical and economic perfection (Zairi, 1991). We know that Crosby is one of the most successful in selling ideas through consultation and training, unlike his predecessor, who focused on statistics (Rose, 2005). Meanwhile, Ishikawa, being the successor of Crosby, emphasized the importance of training and education of workers as the basis of quality (Rose, 2005).

The development of quality concepts by the above-mentioned scholars underlies various trends related to the modern quality concepts known as quality management. The concept of quality management is developed and implemented in various fields including education. The main challenge of implementing quality management in the field of education is the difficulty in operationalizing the phenomenon of “quality education” (Sallis, 2002). A success in achieving or realizing educational goals is the result of perfecting the process, working hard and learning from failure (Hoy et al., 2000). This means that efforts in realizing the quality of education need to be managed properly and comprehensively based on the principles of quality management.

Historically, quality management has developed since the late 1970s and early 1980s, inspired by Japan’s ability to integrate various quality control concepts from America into their own systems, known as total quality control (TQC). The evolution of the quality system can be divided into four stages, namely inspection, quality control, quality assurance, and Total Quality Management (TQM) (Noronha, 2002). These developments have influenced the principles in quality management. According to Işoraité (2008), Sallis (2002), Rose (2005), Bollaert and colleagues (2007), Armstrong (2006), the principles of implementing quality management include:

- a. Consistency of objectives (result-oriented)
- b. Focus on customers
- c. Leadership
- d. Process approach (process management)
- e. Involving people
- f. Continuous development
- g. Systems approach and strategy
- h. HR Focus

- i. Development of partnerships
- j. Automation and communication.

The implementation of the main principles of quality management is the basis for the success of higher education institutions in realizing their quality. Assuming that by applying the principles of good quality management, service quality can improve and satisfy customer needs.

Higher Education Service Quality

The quality of higher education services is an important part of the quality of output of graduates. The characteristics of the quality of education services are more difficult to explain than the quality of products in physical form. This is caused by the quality of services containing many important elements that are subjective. These elements can be in the form of leadership, attention, training, and care which can be a disruptive service (quality of service) (Sallis, 2002).

Kruger and Ramdass (2011, p. 1176) try to describe the dimensions of the quality of education services and classify them into five dimensions of quality abbreviated as TERRA, described as follows:

- a. Tangibles - a physical appearance in terms of facilities, equipment, personnel, and communication materials.
- b. Service reliability is the ability of service providers to perform services that have been promised reliably and accurately.
- c. Responsiveness is the willingness of service providers to assist in providing services.
- d. Assurance is the knowledge and courtesy of employees and their ability to inspire trust and confidence when dealing with customers.
- e. Empathy is the individual attention given to the customer (Kruger & Ramdass, 2011).

Completing the above concepts, Owila and Aspinwal (1997) describe the quality of service in 12 quality dimensions that can be used in measuring higher education services, (Table 1) (Sudha, 2013).

Table 1. Service Quality Dimensions

<i>Service Quality Dimensions</i>	<i>Descriptions</i>
Responsiveness	the willingness and readiness of the staff to help students
Reliability	degree of truth, accuracy and novelty of education
Understanding customer	the level of staff availability to guide and supervise
Access	understand students and their needs
Competence	theoretical and practical knowledge from staff and other abilities
Courtesy	positive feelings and attitudes towards students
Communication	how well students and lecturers communicate in class
Credibility	degree of trustworthiness of the institution
Security	degree of trustworthiness of the institution
Tangible	conditions, adequacy and availability of equipment and facilities
Performance	basic knowledge or abilities that graduates must possess
Completeness	additional knowledge and abilities, using computers

The Relation among Implementation of Quality Management Principles and Quality Services

The implementation of Quality management principles in higher education occupies an important position to improve and develop quality services provided to its stakeholders. The application of quality management in higher education has an effect on innovation in higher education services through people and management processes (Sciarelli et al., 2020). The Total Quality Management (TQM) approach in universities can improve the quality of their electronic administrative services (Papanthymou & Darra, 2018). More specific research shows that quality management practices affect the quality of service received by students (Soria-García & Martínez-Lorente, 2020). Quality services provided by universities to students can have an impact on their satisfaction (Dinh et al., 2021).

Methods

This study aimed to examine the relationship between two variables: implementation of the principles of quality management and service quality. Influence testing is used to test the relationship or influence between variables by using statistical associations (Lodico et al., 2006; Postlethwaite, 2005).

This research was conducted at universities in Bangka Island. The sample of this study included 570 students from public (state) and private universities in the Bangka Island. A public university is a university organized by the government, while a private university is a university organized by the community or community organizations. The sample was random, and students were not distinguished by their attributes. The distribution of research respondents by universities is shown in Table 2:

Table 2. Respondents

No.	University	Types		Total Respondents
		Public (Pb)	Private (Pv)	
1	IAIN Syaikh Abdurrahman Siddik Bangka Belitung	Pb		150
2	Universitas. Bangka Belitung	Pb		200
3	STKIP Muhammadiyah Bangka Belitung		Pv	100
4	STMIK Atma Luhur		Pv	70
5	STISIPOL Pahlawan		Pv	50
Total				570

Questionnaires were used to collect the data. The questionnaire was first piloted in several universities in East and Central Java that have the same characteristics in order to guarantee its reliability and validity (Muhadjir, 2011). This research uses a 5-point Likert scale. For data analysis product moment correlation techniques were used. Then, the influence between variables was tested using regression analysis to test the significance of the influence between variables. SPSS was used to run statistical data analysis.

Results and Discussion

Students' Responses to the Implementation of Quality Management Principles

The ten criteria illustrate the average description of respondents regarding the application of quality management principles (Figure 1).

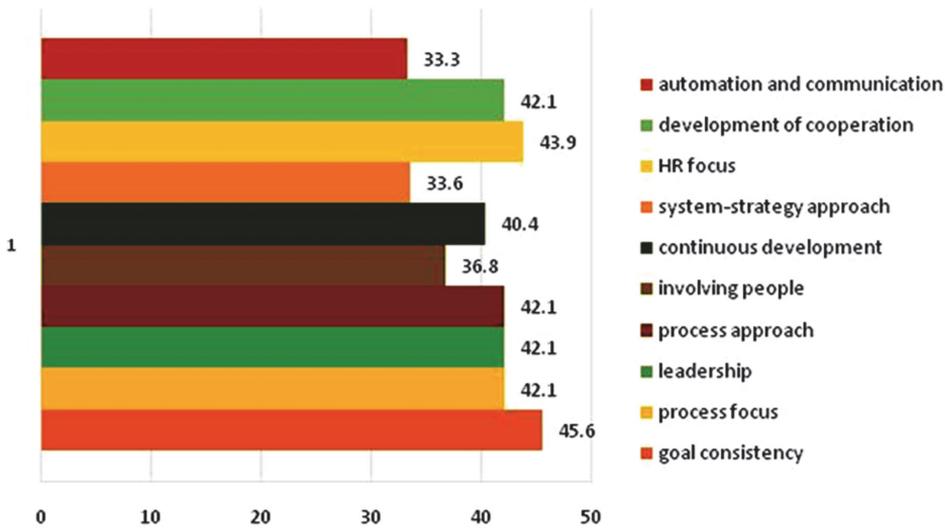


Figure 1. Implementation of quality management principles

Figure 1 shows that on average, respondents stated that the application of quality management principles in higher education institutions (HEI's) was high (on a scale of four). The ten observed characteristics show the highest average of goal consistency, meaning that the existing HEI's has maintained its direction or is consistent with its goals or visions.

In addition to consistency in objectives, the principles were also high. These are process focus, leadership, process approach, HR (Human Resources) focus, sustainable development, and collaboration development. This research has supported what Wolfgang Kersten and Jan Koch also found, namely that factors such as HR development, leadership commitment, continuous development and process orientation are quality management factors that support influence on service quality (Kersten & Koch, 2010).

The lowest average in the implementation of quality management principles were in automation and communication. This means that universities have not seriously developed an automation system that supports ease of communication. In addition, the principle that is also low is not yet the maximum use of the system-strategy approach and does not involve campus stakeholders effectively.

Students' Responses to the Service Quality of Higher Education

Higher education service quality is measured by 12 criteria (dimensions). They are responsiveness, reliability, customer understanding, access, competence, courtesy, communication, credibility, security, tangible, performance, and completeness. Students' rating of these criteria is shown in Table 3.

These data suggests that 43.9% of students agree that higher education services are in accordance with the indicated quality criteria. Meanwhile, 21.5% of students strongly agreed, 21.3% of students were neutral, 11.4% disagreed, and 1.9% strongly disagreed.

Table 3 shows that higher education institution carrying out their programs are in accordance with good service quality criteria, although not sufficiently.

Table 3. Students' Response to Quality Service

Quality Service Dimensions	Students' Response (percent)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly disagree
Responsiveness	3,5	12,3	14	49,1	21,1
Reliability	0	8,8	26,3	47,4	17,5
Customer understanding	0	12,3	21,1	45,6	21
Access	1,8	19,12	26,3	45,6	17,5
Competence	1,8	10,5	28,1	36,8	22,8
Courtesy	0	15,8	17,5	45,6	21,1
Communication	3,5	8,8	14	45,6	28,1
Credibility	1,8	15,8	22,8	35	24,6
Security	1,8	7	14	43,9	33,3
Tangible	3,5	8,8	29,8	40,4	17,5
Performance	1,8	10,5	24,6	43,9	19,2
Completeness	3,5	17,5	17,5	47,4	14,1
Mean	1,9	11,4	21,3	43,9	21,5

The Effect of Implementation of Quality Management Principles on Service Quality

The implementation of quality management principles at tertiary institutions and their effects on service quality are analysed using regression analysis (Table 4).

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.882 ^a	.779	.775	4.78785	.779	193.640	1	568	.000

a. Predictors: (constant, the implementation of quality management principles)

Based on the model summary table above (Table 4), the R-value (correlation) is 0.882, which means that the implementation of quality management principles to the quality of higher education services has a very high relationship (Rifa'i, 2019). While R Square (coefficient terminated) is 0.779, which means that 77.9% of the service quality variable is influenced by the implementation of quality management. While other variables not examined, contributed to the quality of service were only 22.1%. Furthermore, to ensure the effect of the implementation of quality management on service quality, the ANOVA was run, and the results are presented in Table 5.

Table 5. ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4438.925	1	4438.925	193.640	.000 ^a
	Residual	1260.795	568	22.924		
	Total	5699.719	569			

a. Predictors: (Constant), the implementation of quality management principles
b. Dependent Variable: the quality of higher education services

The ANOVA analysis showed that the calculated F value of 193.640 with a significance level of 0.000 < 0.01, the regression model can be used to predict the quality of higher education services. The coefficient regression equation is presented in Table 6.

Table 6. Coefficients ^a

Model		Unstandardized Coefficients	Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.469	2.812		2.300	.025		
	The implementation of quality management principles	1.024	.074	.882	13.915	.000	1.000	1.000

a. Dependent Variable: the quality of higher education services

Based on the output (coefficient), the regression equation becomes: Quality Service (QS) = 6,469 + 1.024 IQMP (Implementation of Quality Management Principles). The equation implies that for every 1 increase in the value of the implementation of quality management principles (IQMP), the value of quality service (QS) will increase by 1.024. The results of this study are in line with what has been found by Soria-García and Martínez-Lorente (2020) who conducted the research in 56 secondary schools in the Murcia Region (Spain). They showed that quality management has an effect on perceptions of service quality. Kersten & Koch (2010) also concluded that quality management has a positive effect on service quality and business success. Furthermore, service quality of HEI's can increase their customer satisfaction (Farooq et al., 2018; Teeroovengadum, 2020) and customer loyalty (Fida et al., 2020).

In the context of service quality, education quality management can increase student satisfaction (Jabbar et al., 2019). Quality management is essentially an effort in improving quality, while improving quality plays an important role in organizational performance (Arumugam et al., 2011). In line with that, higher education institutions need to have targets on improving the quality of teaching and learning, management and leadership as well as overall educational standards in the existing education system (Kinjawan et al., 2020).

Conclusion

The descriptive analysis based on student responses related to the application of quality management principles showed that the highest average was in the dimension (criteria) of consistency to goals (mean 45.6), while the lowest dimension was automation and communication with an average of 33.3. While student responses to quality services are based on 12 criteria, the results show that 43.9% of respondents agree that higher education institutions have provided quality services.

Based on the analysis and discussion of the research results, it can be concluded that the implementation of quality management at tertiary institutions is an important aspect that is essential to continuously improve to support the realization of the better quality of higher education services. The principles of automation-communication and systems approach need to get more emphasis so that it supports the creation of improved service quality. A very high correlation number indicates that the application of quality management principles is an important variable that must continue to get the attention of university managers and leaders.

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