

Kaizen Costing and Quality Academic Administration Services Case Study: Bureau of Academic Administration in Trilogy University 2019

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ABSTRACT

The purpose of this study is to explain the application of kaizen costing to the Academic Administration Bureau of the University of Trilogy. Kaizen costing is a concept that aims to reduce costs, strengthen brands, increase market share, increase information exchange within the company, increase profits, reduce capacity utilization, improve employee quality and productivity, and make gradual and continuous improvements to operational activities. Trilogy University Academic Administration Bureau was the object of research and involved employees of the Academic Administration Bureau and Trilogy University students from 2014 - 2019. This study used primary and secondary data. Primary data obtained through questionnaires and interviews, the preparation of the questionnaire considering the concept of 5S in kaizen costing namely Seiri, Seiton, Seiso, Seiketsu, Shitsuke. The results of this study indicate that based on respondents of the Trilogy University Academic Administration employee respondents suggest that only Seiketsu and Shitsuke affect quality of service of the Trilogy University Academic Administration Service. While the results based on student respondents indicate that Seiri, Seiton, Seiketsu, and Shitsuke affect the effectiveness and efficiency of the service of the Academic Administration Bureau of the University of Trilogy.

Keyword: Kaizen Costing, Effectiveness and Efficiency

1. INTRODUCTION

The tight competition in the world of education, especially universities, is inseparable from the offer that will be given to students. One of the offers offered by universities is service. Services are one of the activities that are vulnerable to ineffective and inefficient. That is because every college competes to provide maximum service to its students. The era of globalization that successfully led to the industrial revolution 4.0 which has created useful technology to increase the effectiveness and efficiency of a tertiary institution. By 2030 it is estimated that 26

million jobs will be lost due to automation. Physical data collection and processing activities have begun to decrease and replaced by technology, the impact of automation is on reducing working hours (McKinsey & Company, 2019). This proves that the industrial revolution has supported the creation of efficiency and effectiveness. But in reality, the technology must be monitored and carried out regular evaluations so that effectiveness and efficiency can be carried out continuously.

In assessing a department, universities can use a variety of management accounting tools, one of which is Kaizen

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Costing. Kaizen costing is a cost reduction that allows universities to increase effectiveness and efficiency so that universities can maximize profits. The application of Kaizen Costing can use an assessment of the costs of activities and an assessment of the risks that occur at a tertiary institution. Kaizen Costing is an improvement made by eliminating waste, eliminating excess workload, and always improving product quality (Subawa, 2016).

The Academic Administration Bureau performs roles directly in contact with students so that student satisfaction can be assessed through the performance of the services provided. The application of Kaizen Costing can evaluate the activities of academic services in a tertiary institution, and it is hoped that this can be implemented so that the objectives of the tertiary institution can be achieved. Based on the background above, this research will refer to the activities of the Academic Administration Bureau. Based on these thoughts, the title of this study is "*Kaizen Costing and Quality Academic Administration Services Case Study: Bureau of Academic Administration in Trilogy University 2019*".

2. LITERATURE REVIEW AND HYPOTHESIS

Kaizen Costing Theory

Kaizen is a way that is done by eliminating or removing waste, minimizing excessive workload, and quality improvement that is always done (Subawa, 2016). According to Radovic (Sahri & Novita, 2019), Kaizen Costing is a concept that aims to reduce costs, strengthen brands, increase market share, increase information related to exchanges within the company, increase profits, reduce unused capacity, improve quality and product processes and eliminating waste. Kaizen has the means of perfection. In this case, Kaizen means continuous improvement involving all parties both managers and employees. Improvements in Kaizen are small and gradual and continuous, but the Kaizen process can have a large impact on its application (Imai, 2018)

Kaizen Costing can be used to make a description of a process of business and management culture on an ongoing basis with active involvement and commitment in the company's operations of employees as a whole (Sahri & Novita, 2019). According to Recht and Will Derom (Sahri & Novita, 2019), the characteristics that form the basis of success in implementing Kaizen Costing is that continuity in applying this method does not only lead to specific objectives, incremental nature of improvements made through small changes. The participatory approach involves employees in providing ideas for the company. The goal of kaizen costing, according to Ferdiansyah is to improve quality, cost, delivery, where the main goal is to increase customer loyalty and customer satisfaction. (Subawa, Application of Kaizen in Increasing Product Efficiency and Quality in the Bury Tires Section of PT Bridgestone Tire Indonesia, 2016)

Kaizen Costing Concept

The concept of kaizen costing is managing parts of the room or workplace, cleanliness, and comfort in the workplace discipline by applying the 5S concept. This concept is more focused on continuous improvement in the views of employees precisely in the environment and the world of work and not only increased self-awareness and self-discipline in the elimination of waste but more importantly is to produce more positive employee activities in maintaining clean work environment. Following 5S concepts according to (Imai, 2018):

- a. Seiri is making a distinction between what needs to be needed and not needed. After that, elimination or removal is not necessary so that the creation of space is safe and comfortable work. This process fosters a disciplined and disciplined attitude towards the person, improves the storage system, and increases the ability of employees to work more effectively.
- b. Seitons are grouping or uniting goods based on their use and arrangement properly to eliminate unproductive

search times. In this application, all goods must have a certain and appropriate address, a suitable name, and a certain amount. Other than that, not only the location but the maximum number of items obtained is also determined. With all these patterns, Seiton guarantees the flow of goods used in an orderly manner, with a small delay from one work post to another work post and the flow of goods based on the queue.

- c. Seiso is cleaning the workspace and environment, machinery and all equipment so that a clean and comfortable atmosphere is created so that it can provide satisfaction for both themselves and others.
- d. Seiketsu is giving a habit to always be clean and neat starting from yourself and supported by a standard that can manage maintenance and workspace. It aims to have the assessment benchmarks required for each company employee.
- e. Shitsuke is creating discipline and getting used to obeying company rules and standards. This is to train employees to always carry out their duties to completion.

Service Quality

Service quality is a condition related to human resources, products, services and processes and the environment that can at least meet or exceed the quality of service expected (Tjiptono, 2009). consumers (Kotler, Philip, & Keller, 2009). There are several types of criteria for service (Tjiptono, 2009):

- a. Timeliness of service; waiting time during transactions or payment processing.
- b. Service accuracy; reduce errors in services and transactions.
- c. Courtesy and friendliness when giving service
- d. Ease of getting services; the existence of human resources to help serve consumers, and supporting facilities such as computers.

- e. Consumer convenience; such as the availability of information, comfort in waiting, aspects of cleanliness, and so on.

Service Quality Dimensions

In the service quality dimension, this dimension is made to measure service quality using a questionnaire. Servqual (service quality) technique can find out how far the distance of customer expectations with customer expectations of the service received. It is said that servqual (service quality) has 5 dimensions (Parasuraman, 2004), there are:

- Tangibles; provide services in terms of the appearance of buildings, facilities, supporting equipment to the appearance of employees.
- Reliability; provide servants following consumer expectations related to sympathetic attitudes, speed, time-liness and so on.
- Responsiveness; by providing services that are responsive and also responsive.
- Assurance; have good manners, good communication, and knowledge.
- Empathy; give sincere and personal attention to customers.

How to Measure Service Quality

As for improving the quality of services, namely by conducting evaluations and improvements carried out regularly. Some ways that can be done to measure the quality of service, namely:

- Get feedback from customers; survey the customer.
- Conduct company evaluations, through the survey and focus on important matters such as knowing empathy for customers, the company's ability in reliability Tangibles, Reliability, Responsiveness, Assurance, and Empathy.
- Improve company services; provide clear company service standards to employees, train employees to be responsible and responsive.

Efficiency

According to Hadi (Subawa, 2016),

efficiency is an estimate of the expenditure (output) at a minimum cost or a ratio between the quantity and the source used with the expenditure sent. Work efficiency has benefits that can also be interpreted as achieving an efficient way of working so that there is no waste.

Effectiveness

According to Sondang (Prakoso, 2015), effectiveness is to use facilities and facilities to use certain amounts of resources that are consciously determined beforehand to obtain goods or services that they run. According to (Prakoso, 2015), effectiveness is a picture of the level of excellence or success in achieving planned goals and the existence of varied value relationships. According to Salim and Woodward (Prakoso, 2015), the organization's targets, mission, and long-term goals.

Kaizen Costing and Quality of Service for Students

Trilogy University has an Academic Administration Bureau information system in assisting students to carry out administrative processes from students, therefore the Trilogy University Academic Administration Bureau continues to improve the quality of services provided to students by prioritizing the effectiveness and efficiency of the work of the Academic Administration Bureau of the Trilogy University.

In helping the effectiveness and efficiency of the service of the Academic Administration Bureau of the Trilogy University towards students, kaizen costing is one method that can be used in achieving these goals. According to Radovic, Kaizen Costing is a concept that aims to reduce costs, strengthen brands, increase market share, increase information related to exchanges within the company, increase profits, reduce unused capacity, improve product quality and processes and eliminate waste (Sahri & Novita, 2019). To achieve this goal, the Trilogy University Academic Administration Bureau can apply the kaizen costing concept consisting of 5S (Seiri, Seiton, Seiso,

Seiketsu, Shitsuke) to improve the quality of services through improvements that are carried out gradually and continuously to provide more results good for the Trilogy University Academic Administration Bureau.

SEIRI

According to Imai (2018), Seiri is making a distinction between what is needed and not needed. After that, unnecessary removal or elimination to create a safe and comfortable workspace. This provides comfort in the work environment to improve the quality of services effectively and efficiently for Trilogy University students. (Mulyati & Darmawan, (2013)) said that the application of 5S can create and create a clean, safe and pleasant work environment for all, implementation of 5S management properly and correctly can increase employee productivity. (Supriyanto, 2014) shows that there is a positive influence between 5S and productivity. This means that increasing productivity is a form of increasing quality effectively and efficiently from the services performed. Based on the above theory, the H1 hypothesis proposed is:

H1: There is an influence between Seiri to improve the quality of service from the Academic Administration Bureau of the Trilogy University

SEITON

Seitons are grouping or uniting goods based on their use and structuring properly to eliminate unproductive search times (Imai, 2018). In this application, all goods must have a certain and appropriate address, a suitable name, and a certain amount. In facilitating and accelerating the activities carried out each item must be grouped properly and correctly. (Mulyati & Darmawan, (2013)) said that the application of 5S can create and create a clean, safe and pleasant work environment for all, implementation of 5S management properly and correctly can increase employee productivity. (Supriyanto, 2014) shows that there is a positive influence

between 5S and productivity. This means that increasing productivity is a form of increasing quality effectively and efficiently from the services performed. Based on the above theory, the H2 hypothesis proposed is:

H2: There is an influence between Seiton to improve the quality of service from the Academic Administration Bureau of the Trilogy University.

SEISO

Seiso is cleaning the space and work environment, machinery and all equipment so that a clean and comfortable atmosphere is created so that it can provide satisfaction both for themselves and others (Imai, 2018). In this application, all goods must have a certain and appropriate address, a suitable name, and a certain amount. With a clean environment that is maintained. Cleanliness from the environment is the beginning of convenience in carrying out activities, (Mulyati & Darmawan, 2013) it is said that the application of 5S can create and create a clean, safe and pleasant work environment for all, the implementation of 5S management properly and correctly can be improved employee productivity. Supriyanto (2014), shows that there is a positive influence between 5S and productivity. This means that increasing productivity is a form of increasing quality effectively and efficiently from the services performed. Based on the above theory, the proposed of H3 hypothesis is:

H3: There is an influence between Seiso to improve service quality from the Academic Administration Bureau of the Trilogy University.

SEIKETSU

Seiketsu is giving a habit to always be clean and neat starting from oneself and supported by a standard that can regulate maintenance and workspace (Imai, 2018). As written in seiso that comfort is the initial process of doing activities. Mulyati & Darmawan (2013), said that the application of 5S can create and create a clean, safe and pleasant work environment

for all, implementation of 5S management properly and correctly can increase employee productivity. (Supriyanto, 2014) shows that there is a positive influence between 5S and productivity. This means that increasing productivity is a form of increasing quality effectively and efficiently from the services performed. Based on the above theory, the proposed H4 hypothesis is:

H4: There is an influence between Seiketsu to improve the quality of service from the Academic Administration Bureau of the Trilogy University.

SHITSUKE

Shitsuke is creating discipline and accustomed to obeying company rules and standards (Imai, 2018). Discipline must be done to improve and provide effective and efficient service quality. (Mulyati & Darmawan, (2013)) said that the application of 5S can create and create a clean, safe and pleasant work environment for all, implementation of 5S management properly and correctly can increase employee productivity. (Supriyanto, 2014) shows that there is a positive influence between 5S and productivity. This means that increasing productivity is a form of increasing quality effectively and efficiently from the services performed. Based on the above theory, the proposed H5 hypothesis is:

H5: There is an influence between Shitsuke to improve the quality of service from the Academic Administration Bureau of the Trilogy University.

3. METHODS

Research Design

This research is a case study with a descriptive qualitative method, this method is used to obtain valid data to be found, developed and proven and used to understand, solve and anticipate problems (Sugiyono, 2012). Observed conditions regarding the activities in the Academic Administration Bureau of the Trilogy University.

Object of Research

The determination of research objects is needed to facilitate research in finding the information needed. The object of this research is the Academic Administration Bureau of the Trilogy University, located on Jl. TMP Kalibata No.4, RT.4 / RW.4, Duren Tiga, Kec. Pancoran, Kota Jakarta Selatan, DKI Jakarta, 12760.

Data Source

This research uses primary data and secondary data. Primary data obtained through questionnaires and interviews so that the accuracy of the data can be justified and can provide useful information in this study. Meanwhile, secondary data is data that refers to information collected from sources that have been available through books, the internet and field observations.

Research Limitation

The limitations of this study are as follows:

- a. The sample of employees of Academic Administration Bureau who filled out the questionnaire and interviewed was only the Head and Staff of the Academic Administration Bureau was only 6 people.
- b. The sample of students who filled out the questionnaire was active Trilogy University students from the class of 2014 to 2019.

Population and Sample

This research involved all employees of the Trilogy University Academic Administration Bureau and Trilogy University students from 2014-2019. For the determination of Academic Administration Bureau employee samples, this study uses saturated sampling, which means that all members of the population are used as research samples. Whereas for determining the sample of students in this study using proportional sampling with convenience sampling techniques that refer to populations who are willing to provide information (Sekaran & Bougie, 2016). This was determined by the consideration that the class of 2018 and 2019 had little interaction with the

Academic Administration Bureau of the Trilogy University. The sample size formula uses the Slovin formula which is:

$$n = \frac{N}{1 + N \cdot \alpha^2}$$

Information:

N = total population

n = number of samples

α = error tolerance limit

Variable Operations

Operational variables are used to determine the measurement variables that can be displayed in Table 1. The instrument used to measure research variables uses a *Likert Scale* which is a scale that shows how strong the level of agreement or disagreement with a statement (McDaniel & Gates, 2013).

Data Analysis Method

The data analysis method used in this research is quantitative descriptive analysis with STATA Software version 14 for windows. Preliminary data analysis is performed that is the validity test by comparing the r-count numbers with r-tables. If r-count is greater than r-table, the statement is said to be valid. In this study, alpha of 5% and r-table in research for students amounted to 0.1478 (df = 123; α = 5%) and for the Academic Administration Bureau of the Trilogy University by 0.6694 (df = 5; α = 5%). The reliability test is then performed by comparing Cronbach alpha with a minimum Cronbach alpha requirement of 0.5 (Anzwar, 2001). This means that if the Cronbach alpha value is more than 0.5, it can be concluded that the questionnaire is reliable. After that, hypothesis testing is done using the t-test, this test is done to see the relationship of each variable by comparing the t-count with alpha. If the t-count is smaller than alpha, the hypothesis is accepted.

4. RESULT AND DISCUSSION

The presentation of the data is already done in the form of a table that shows the results of testing using a questionnaire data processing program with STATA

Table 1. Operational Variables

Variable	Operational Variable	Indicator
Kaizen Costing	Seiri	Providing comfort in service Employee performance standards
	Seiton	Work efficiency
	Seiso	Cleanliness of the work environment Maintenance of operational assets
	Seiketsu	Work environment standards
	Shitsuke	Discipline to standards
	Service Quality of Academic Administration Bureau	Effectiveness Efficiency

Source: Yohendri et al (2017), Pamungkas & Fransiska (2018), Kadarningsih (2013)

version 14, 2019. The results of the questionnaire testing that has been distributed to employees of Academic Administration Bureau are 7 respondents and 125 service user respondents, namely students. Questionnaire statements for both respondents have the same context following the intended respondent. The following is Table 2 which illustrates the respondent's profile.

Validity test

A validity test is used to show the extent to which the measuring instrument used in measuring what is measured (Ghozali, 2009) and measure the validity of a questionnaire. The data can be considered to be valid if $r\text{-count} > r\text{-table}$. This study uses 7 samples with a total of 20 questions. $N = 7 - 2 = 5$ produces $r\text{-table} = 0.6694$. From the results of the validity, the test can be concluded that all questions produce $r\text{-count} > r\text{-table}$ which means the statement is valid.

A validity test is used to show the extent to which the measuring instrument used in measuring what is measured (Ghozali, 2009) and measure the validity of a questionnaire. The data can be considered to be valid if $r\text{-count} > r\text{-table}$. This study used 125 samples with a total of 21 questions. $N = 125 - 2 = 123$, then $r\text{-table} = 0.1478$. From the results of the validity, the test can be concluded that all questions

produce $r\text{-count} > r\text{-table}$ which means the statement is valid.

Reliability Test

The reliability test is used to determine the consistency of each respondent in answering the questionnaire. It can be considered to be a good statement if the Cronbach Alpha value > 0.5 . From the results of the valid reliability test, it can be concluded that all questions produce $r\text{-count} > \text{Cronbach alpha } 0.5$ which means the statement is reliable.

H1 Testing: Influence between Seiri to improve the service quality of the Academic Administration Bureau of the Trilogy University

Table 6 shows the results of testing the hypotheses for both respondents. Based on respondents' Academic Administration Bureau of 0.577. That is, it is not under the criteria so that it does not have any influence between Seiri and the Academic Administration Bureau service. The results shown by student respondents amounted to 0,000 meaning that Seiri had a significant positive effect on the service of the Academic Administration Bureau.

H2 Testing: Influence between Seiton to improve the quality of service of the Academic Administration Bureau of Trilogy University.

Table 2. **Respondent Information**

Employee	
Information	Presentase
Respondent	100%
Student	
Information	Presentase
Year	
2014	1,60%
2015	15,20%
2016	60%
2017	12,80%
2018	5,60%
2019	4,80%
Major	
Akuntansi	38,40%
Manajemen	20,70%
Ekonomi Pembangunan	2,40%
Sistem Informasi	6,40%
Teknik Informatika	5,60%
Desain Produk	2,40%
Desain Komunikasi Visual	10,40%
Pendidikan Anak Usia Dini	1,60%
Pendidikan Guru Sekolah Dasar	6,40%
Ilmu Teknologi Pangan	0,80%
Agroteknologi	0%
Agribisnis	4,80%

Source: Questionnaire of Data Processing, 2019

Table 3. **Employee Validity Test**

Questions	Quality of Services	Seiri	Seiton	Seiso	Seiketsu	Shitsuke
1	0,8962	0,8667	0,9102	0,7096	0,9661	0,9122
2	0,7922	0,8485	0,9102	0,7817	0,9661	0,9122
3	0,8836	0,9964	0,6920	0,7156	0,6831	0,9576
4	0,9894					0,8636

Source: Questionnaire of Data Processing with Stata Version 14, 2019

Table 6, shows the results of testing the hypotheses for both respondents. Based on respondents of the Academic Administration Bureau employee by 0.671. That is, it does not have a significant effect between Seiton with services quality. Student respondents showed different results from those of the Academic Administration Bureau employee, by

0.003 which means that it had a significant influence between the Seiton and the Academic Administration Bureau service.

H3 Testing: Influence between Seiso to improve the quality of services of the Academic Administration Bureau of the Trilogy University.

Table 4. Student Validity Test

Questions	Efficiency & Effectiveness	Seiri	Seiton	Seiso	Seiketsu	Shitsuke
1	0,4808	0,7216	0,8579	0,7096	0,8676	0,7006
2	0,5881	0,8499	0,8846	0,6738	0,9059	0,7702
3	0,6830	0,8358	0,4395	0,5520	0,8755	0,7908
4	0,7614	0,6861				0,7818

Source: Questionnaire of Data Processing with Stata Version 14, 2019.

Table 5. Reliability Tests

	Employee Student	
	Cronbach's Alpha	Cronbach's Alpha
SEIRI	0,8000	0,7799
SEITON	0,5306	0,6082
SEISO	0,5455	0,2846
SEIKATSU	0,8571	0,8537
SHIKETSU	0,8950	0,7565
QUALITY OF SERVICE	0,8996	0,5025

Source: Questionnaire of Data Processing with Stata Version 14, 2019.

Table 6. Effectiveness Hypothesis Test Results

	EMPLOYEE STUDENT	
	T-Statistic	T-Statistic
SEIRI >QUALITY OF SERVICES	0,577	0,000
SEITON >QUALITY OF SERVICES	0,671	0,003
SEISO >QUALITY OF SERVICES	0,495	0,330
SEIKETSU >QUALITY OF SERVICES	0,000	0,000
SHITSUKE >QUALITY OF SERVICES	0,000	0,000

Source: Questionnaire of Data Processing with Stata Version 14, 201

Table 6, shows the results of testing the hypotheses for both respondents. Based on Academic Administration Bureau respondents, the intended value is 0.495 and student respondents are 0.330 which indicates that there is a discrepancy with the criteria between Seiso and the Academic Administration Bureau service. This means that the two do not influence the service of the Academic Administration Bureau.

H4 Testing: Influence between Seiketsu to improve the service quality of the Academic Administration Bureau of the University of Trilogly.

Table 6, shows the results of testing the hypotheses for both respondents. Based on the Academic Administration Bureau respondents showed a value of 0,000 and student respondents showed a value of 0,000. That is, the two respondents have a significant influence on Seiketsu with the service of the Academic Administration Bureau. With the influence, it means that it can improve the services of the Academic Administration Bureau.

H5 Testing: Influence between Shitsuke to improve the service quality of the Academic Administration Bureau of the University of Trilogly.

Table 6, shows the results of testing the hypotheses for both respondents. Based on the Academic Administration Bureau respondents showed a value of 0,000 and the test results of student respondents amounted to 0,000. This means these two variables have a significant influence between Shitsuke and the Academic Administration Bureau service. By having a significant influence, it can improve the services of the Academic Administration Bureau.

5. CONCLUSION

The conclusions that can be drawn from this study are. For students, the Kaizen costing concept that significantly influences the service quality of the Trilogy University Academic Administration Service, which are Seiri, Seiton, Seiketsu, and Shitsuke. For the Academic Administration Bureau, the Kaizen costing concept that significantly influences the service quality of the Trilogy University Academic Administration Service which are Seiketsu and Shitsuke. The results of this study need to be a concern for the Trilogy University Academic Administration Bureau in improving quality related to the effectiveness and efficiency of services according to the kaizen costing concept. Where service improvement is carried out gradually and continuously supported by employees, leaders and related parties. Based on the research that has been done, the suggestions that can be given are as follows. The Academic Administration Bureau of the Trilogy University must make a clear jobdesk for each of its employees, must pay attention to the layout and cleanliness of the Academic Administration environment and must provide facilities to support Academic Administration services. In the object of research, researchers suggest that it is necessary to expand the object of research as a benchmark in assessing quality improvement related to the effectiveness and efficiency of services following the concept of kaizen costing.

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