FINAL PROJECT – TI 184833

EVALUATION OF *BIAYA KULIAH TUNGGAL*, *UANG KULIAH TUNGGAL* AND PRICING POLICY DETERMINATION (CASE STUDY: INSTITUT TEKNOLOGI SEPULUH NOPEMBER)

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FACULTY OF INDUSTRIAL TECHNOLOGY AND SYSTEM ENGINEERING
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SURABAYA
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Surabaya 2020

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APPROVAL SHEET

EVALUATION OF *BIAYA KULIAH TUNGGAL, UANG KULIAH TUNGGAL* AND PRICING POLICY DETERMINATION (CASE STUDY: INSTITUT TEKNOLOGI SEPULUH NOPEMBER)

FINAL PROJECT

Submitted to Acquire the Requirement of Bachelor Degree at
Undergraduate Program of Industrial and Systems Engineering Department
Faculty of Industrial Technology and Systems Engineering
Institut Teknologi Sepuluh Nopember
Surabaya, Indonesia

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Surabaya, August 2020

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EVALUATION OF *BIAYA KULIAH TUNGGAL, UANG KULIAH TUNGGAL* AND PRICING POLICY DETERMINATION (STUDY CASE: INSTITUT TEKNOLOGI SEPULUH NOPEMBER)

Name	: Asti Nur Khairunnisa
NRP	: 02411640000171
Supervisor	: Dr. Ir. Patdono Suwignjo, M. Eng. Sc.
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ABSTRACT

Higher education is the level of education after secondary education organized by universities. To ensure citizens can continue their education to higher education, the costs borne by students must be adjusted to the economic capabilities of those who finance them. *Perguruan Tinggi Negeri* (PTN) can collect *Uang Kuliah Tunggal* (UKT) which is to provide cross-subsidies based on the economic and social conditions of parents/guardians of students. To determine UKT, PTN needs to set a *Biaya Kuliah Tunggal* (BKT), which is the overall operational costs of students per semester in the study program at PTN. Operational costs will increase over time which caused by inflation annually. In consequence, BKT needs to be adjusted periodically. Institut Teknologi Sepuluh Nopember as PTN-BH applies the current UKT based on BKT calculation in 2013. These problems form the background of the final project research. Hence, with the adjustment of the BKT at ITS, the UKT can also be adjusted and the autonomy held by PTN-BH makes the adjustment more flexible. The method used in this research is financial modeling and pricing policy. The study begins by modeling the BKT using a reference comparison model as a reference for building models, then defining cost components and continuing with the calculations. After that, UKT modeling is done with two different schemes and later projected for the next four years to see the impact compared to the existing model. The pricing policy is used to decide which scheme is appropriate to be implemented and the result is Nine Levels Scheme has the lowest gap differences between BKT and UKT compared with As-Is Scheme and Eight Levels Scheme for all sample departments in which the UKT for regular students are divided into nine levels with UKT range of Rp 500,000 – Rp 12,500,000 and for PKM students are divided into four levels with UKT range of Rp 7,500,000 – Rp 15,000,000.

Keyword: *Biaya Kuliah Tunggal, Uang Kuliah Tunggal, Financial Modeling, Pricing Policy*

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PREFACE

All praises belong to Allah SWT because for His blessings and grace, the author can complete the final project with the title "Evaluation of *Uang Kuliah Tunggal* and Pricing Policy Determination (Case Study: Institut Teknologi Sepuluh Nopember)". This research is conducted as a requirement for completing a Bachelor's (S1) undergraduate study program in the Industrial and Systems Engineering Department, Faculty of Industrial Technology and System Engineering, Institut Teknologi Sepuluh Nopember. During this final project, the author gets a lot of guidance, support, criticism, and suggestions from various parties. Therefore, the author would like to thank:

1. Dr. Ir. Patdono Suwignjo, M. Eng. Sc., as the supervisor, who always guides, gives input with patience, and motivates the writer to complete this final project.
2. Yudha Andrian Saputra, S.T., M.BA., as the co-supervisor and Head of Sub Directorate of Budget Planning and Development Evaluation of ITS, under whose great guidance, direction, and supervision in tutoring for the whole time, this research can be completed.
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5. Sigit Mardiono and Bekti Iriani, my beloved parents and also Luthfi Arif Indrawan, my brother, whose support has been immense throughout the period of study morally and materially. May Allah’s Grace be with you, forever and after.
6. Satrio Samudro, Arum Indah Rahmawati, Revino B Akmaldi, and Stanley Simon as intern at the Sub Directorate of Budget Planning and Development Evaluation ITS who assisted the author in completing the Final Project.

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8. Friends from PSDM BEM ITS Gelora Aksi 2018/2019 and Kolaborapi 2019/2020 which I cannot mention one by one which has given the spirit and motivation to the author so that the author can complete the final project research.
9. All faculty members and academic staff of Industrial and Systems Engineering Department of Institut Teknologi Sepuluh Nopember, for all knowledge, experience, and help during the college years.

The author realizes that in this final project report there are still shortcomings. Therefore, the authors expect criticism and suggestions that can build from various parties. Hopefully, this final project can be useful for readers and subsequent research. Last, the writer would like to say thank you.

Bogor, July 30th, 2020

Asti Nur Khairunnisa

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CHAPTER 1
INTRODUCTION

This chapter will explain about background of research, problem formulation, objective, benefit, limitation and assumption, and research outline.

1.1 Background

According to Article 1 of Chapter 1 of the Law of the Republic of Indonesia Number 12 of 2012 concerning Higher Education, the definition of higher education is the level of education after secondary education which includes diploma programs, undergraduate programs, master programs, doctoral programs, and professional programs, as well as specialist programs, which organized by universities based on Indonesian culture. But in fact, not all secondary school graduates go on to higher education. In fact, according to data that the gross enrollment rate of higher education in 2019 was 25.13 and has increased from 2018 by 1.13% (BPS, 2020). One of the factors causing secondary school graduates not to go to tertiary education is constrained in the economic capacity of the family and it is proven by the gross enrollment rate of higher education based on expenditure cluster. In 2019, the first quintile which is 20% of the poorest population only 11.44% and it increases until the fifth quintile, respectively.

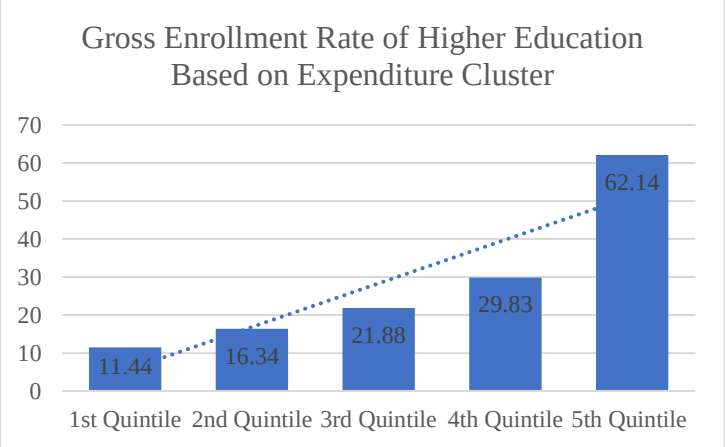

Figure 1. 1 Gross Enrollment Rate of Higher Education Based on Expenditure Cluster
(Source: BPS, 2020)

Essentially, every citizen has the right to get an education because it is regulated in Article 31 Paragraph (1) of the 1945 Constitution of the Republic of Indonesia. Therefore, any economic conditions of citizens should be able to

continue their education to a higher level. To ensure citizens can continue their education to tertiary education without being hindered by their economic conditions, the Indonesian government has regulated it under Article 88 of the Law of the Republic of Indonesia Number 12 of 2012 where the costs borne by students in which must be adjusted to the economic capabilities of those who finance them.

There are three types of public universities' status that are most familiar in Indonesia, namely PTN-Satker *(Perguruan Tinggi Negeri Satuan Kerja),* PTN-BLU *(Perguruan Tinggi Negeri Badan Layanan Umum)* and PTN-BH *(Perguruan Tinggi Negeri Badan Hukum)*. One of the basic differences is the basis for determining education service tariffs or tuition fee. PTN-Satker is a PTN as a ministry work unit. All income, including student tuition fees must be entered into the state account (Ministry of Finance) before being used. The basis in determining PTN-BLU education service tariffs is determined by the Ministry of Finance based on the proposal from the management of PTN-BLU by considering aspects of service continuity and development, people's purchasing power, principles of fairness and propriety, and healthy competition. In contrast to PTN-BH, the basis for determining the tuition fee is based on the Government Regulation No. 26 of 2015 concerning the Form and Mechanism of PTN-BH Funding. In determining tariffs, PTN-BH must consult with the Minister of Education and Culture. The tuition fee is determined by considering the economic capabilities of students, parents of students, or other parties that finance students. There are several types of tuition fees in higher education, namely *Uang Kuliah Tunggal* and entry tuition fees. Public University can collect entry tuition fees other than *Uang Kuliah Tunggal* only from foreign students, international classes, cooperation programs, and independent programs.

The function of *Uang Kuliah Tunggal* is to provide cross-subsidies based on the economic and social conditions of parents/guardians of students, which are expected to provide facilities for economically disadvantage families. Based on the Circular of the Director-General of Higher Education No. 272/E1.1/KU/2013 dated April 3, 2013, concerning *Uang Kuliah Tunggal* which provides clearer and more realistic directions regarding the type and calculation and grouping of the amount of UKT in a particular study program or faculty. In Regulation of the Minister of

Research, Technology and Higher Education Republic of Indonesia no. 39 of 2017, it is stated that *Uang Kuliah Tunggal* consists of several groups determined based on the economic ability of students, parents of students, or other parties who finance it.

To determine *Uang Kuliah Tunggal*, public universities need to set a *Biaya Kuliah Tunggal*. *Biaya Kuliah Tunggal* are the overall operational costs of students per semester in the study program at state university. *Biaya Kuliah Tunggal* are used as a basis for determining fees charged to the public and the Government. The basis for determining *Biaya Kuliah Tunggal* is stated in the Article 88 of the Law of the Republic of Indonesia Number 12 of 2012 where the Government must establish a standard unit of operational costs for Higher Education periodically by considering 3 aspects, namely: 1. Achievement of National Standards for Higher Education; 2. Type of study program; 3. Regional expensiveness index.

Institut Teknologi Sepuluh Nopember ─hereinafter referred to as ITS─ has been transformed from PTN-BLU into PTN-BH and stated in Government Regulation no. 54 of 2015. This means that ITS has the right to determine *Biaya Kuliah Tunggal* and *Uang Kuliah Tunggal* as regulated in government regulations. *Biaya Kuliah Tunggal* that is currently applied by ITS was compiled in 2013 which later published in the Regulation of the Minister of Research, Technology and Higher Education Republic of Indonesia No. 22 of 2015 concerning *Biaya Kuliah Tunggal* and *Uang Kuliah Tunggal* in Public universities in the Environment of the Ministry of Research, Technology and Higher Education.

Table 1. 1 *Biaya Kuliah Tunggal* and *Uang Kuliah Tunggal* of Institut Teknologi Sepuluh Nopember

7. INSTITUT TEKNOLOGI SEPULUH NOPEMBER

NAMA FAKULTAS	PROGRAM STUDI	JENJANG	BIAYA KULIAH TUNGGAL	UANG KULIAH TUNGGAL						
				KELOMPOK I	KELOMPOK II	KELOMPOK III	KELOMPOK IV	KELOMPOK V	KELOMPOK VI	KELOMPOK VII
MATEMATIKA DAN ILMU PENGETAHUAN ALAM	BIOLOGI	S1	6.499.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	FISIKA	S1	6.499.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	KIMIA	S1	6.499.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	MATEMATIKA	S1	5.077.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	STATISTIKA	D3	5.077.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
		S1	5.077.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
TEKNIK SIPIL DAN PERENCANAAN	ARSITEKTUR	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	GEOFISIKA	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	LINGKUNGAN	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	PERENCANAAN WILAYAH KOTA	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	SIPIL	D3	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
		S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	DESPRO	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	GEOMATIKA	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
TEKNOLOGI INFORMASI	INFORMATIKA	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	SISTEM INFORMASI	S1	5.077.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	ELEKTRO	D3	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
		S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	FISIKA	D3	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
		S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	INDUSTRI	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	KIMIA	D3	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
		S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	MESIN	D3	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
		S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	MATERIAL	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
TEKNOLOGI KELAUTAN	KELAUTAN	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	PERKAPALAN	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	SISTEM PERKAPALAN	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000
	TRANSPORTASI LAUT	S1	8.936.000	500.000	1.000.000	2.500.000	4.000.000	5.000.000	6.000.000	7.500.000

(Source: Regulation of the Minister of Research, Technology and Higher Education Republic of Indonesia No. 22 of 2015)

Referring to article 88 paragraph (1) of the Republic of Indonesia Law No. 12 of 2012 where the determination of the operational cost unit for Higher Education must be conducted periodically. There is also a regulation update, which is Minister of Education and Culture Regulation no. 25 of 2020 about SSBOPT in PTN, inflation occurring every year from 2013 to 2019 is between 3.02% to 8.39%; with an annual average of 5.35%, and other PTNBH have also changed their tuition fees. There are no facilities and infrastructure budgets from the last 5 years of APBN funds, so the development of facilities and infrastructures uses Non PNBP funds. Because of that, it is necessary to evaluate *Biaya Kuliah Tunggal* to adjust to current conditions so that *Uang Kuliah Tunggal* that is applied later in accordance with the new *Biaya Kuliah Tunggal*. The sample Departments for this final project are Industrial and Systems Engineering Department, Marine Transportation Engineering Department, and Informatics Engineering due to the completeness of data from the Departments. The purpose of this final project is to provide

recommendations to an institution related to the policy of *Uang Kuliah Tunggal* following the current *Biaya Kuliah Tunggal*.

1.2 Problem Formulation

Based on the background explanation in the previous sub-chapter, the formulation of the problem in this study are as follows:

1. What are the changes that make the current *Uang Kuliah Tunggal* model needs to modify?
2. How is the new *Biaya Kuliah Tunggal* model?
3. How is the leveling strategy of *Uang Kuliah Tunggal* for sample departments and students' economic group?
4. How is the recommendation on pricing policy of *Uang Kuliah Tunggal* for sample department and students' economic group?

1.3 Objective

Based on the problem formulation that has been compiled, the objectives of this study are as follow:

1. Understanding the changes that cause the need for model modification of *Uang Kuliah Tunggal*
2. Designing the new *Biaya Kuliah Tunggal* model
3. Determining the leveling strategy of *Uang Kuliah Tunggal* for sample departments and students' economic group
4. Providing recommendation on pricing policy of *Uang Kuliah Tunggal* for sample departments and students' economic group

1.4 Benefit

The benefits of this research are as follows:

1. The institution able to evaluate *Biaya Kuliah Tunggal* as a basis for determining the new *Uang Kuliah Tunggal*
2. The institution can evaluate the application of leveling *Uang Kuliah Tunggal*

3. Students get fairness in paying *Uang Kuliah Tunggal* based on their economic ability

1.5 Scope of Research

The following are the limitations and assumptions used in conducting this study:

1.5.1 Limitation

The limitations used in this study are as follows:

1. The time-period for fixed costs, variable costs, and non-direct costs in *Biaya Kuliah Tunggal* model is 5 years
2. Remodeling for projection uses a reference base from student batch 2019 data
3. *Uang Kuliah Tunggal* are only modeled with 2 different leveling schemes
4. There are 3 departments that are modeled as samples, which are Industrial and Systems Engineering Department, Marine Transportation Engineering Department, and Informatics Engineering

1.5.2 Assumption

The assumptions used in this study are as follows:

1. The *Biaya Operasional Perguruan Tinggi Negeri* (BOPTN) is assumed to be Rp 0
2. The escalation rate for fixed costs, variable costs, and non-direct costs assumed to be 3% annually
3. The Cost Capital Recovery (CCR) rate for the asset component is assumed to be 10% annually
4. The graduate students' rate is assumed to be 5% for odd semester and 20% for even semester

1.6 Research Outline

This Final Project Report consists of six (6) chapters with the writing systematic as follows:

CHAPTER 1 INTRODUCTION

In Chapter 1, the background and problem formulation of the topic to be explored will be explained, then the objectives to be achieved and the benefits to be gained from the implementation of this research are indicated. In addition, the scope of the research will also be explained which includes the limitations and assumptions used during the work of this Final Project report, as well as the systematic writing which explains the chapters contained in the Final Project report.

CHAPTER 2 LITERATURE REVIEW

Chapter 2 consists of several theories used in conducting research. The theoretical foundation used as a reference in conducting research was obtained from related books and journals. Following the problems and topics to be raised, then the literature review in this final project will contain about higher education, *Biaya Kuliah Tunggal*, *Uang Kuliah Tunggal*, financial modeling, pricing policy, and the causes of a single tuition policy needs to be adjusted.

CHAPTER 3 RESEARCH METHODOLOGY

Chapter 3 will be explained about the stages of conducting this Final Project research or commonly called research methodology. This stage will be shown in the form of a flowchart to make it more structured, then an explanation will be given which includes the preparation stage, the data collection stage, as well as the conclusion and suggestion stages.

CHAPTER 4 DATA COLLECTION AND PROCESSING

Chapter 4 will be explained regarding the collection and processing of data. This data collection and processing is carried out based on secondary data which includes capital cost recovery data; fixed and variable costs of operation and maintenance; variable costs salary, incentive, and remuneration; non-direct operational overhead and maintenance costs; data on vocational and undergraduate students batch 2019; income of parents of vocational and undergraduate students batch 2019; *Uang Kuliah Tunggal* grouping for vocational and undergraduate students for batch 2019. In this chapter, there will be formulation and calculation of *Biaya Kuliah Tunggal* and *Uang Kuliah Tunggal* concepts.

CHAPTER 5 ANALYSIS AND INTERPRETATION

Chapter 5 will analyze and discuss the results of data processing that carried out in the previous chapter. Analysis conducted to choose which scheme should be implemented.

CHAPTER 6 CONCLUSION AND RECOMMENDATION

Chapter 6 will be explained the conclusions and recommendations. The conclusions are explained following the objectives to be presented in chapter 1, while the recommendations are explained in the form of recommendations for improvement selected based on the results of the analysis conducted in chapter 5.

CHAPTER 2
LITERATURE REVIEW

This chapter will explain the study of literature on theories that are used as a basis for conducting Final Project research that includes higher education, *Biaya Kuliah Tunggal*, *Uang Kuliah Tunggal*, financial modeling, pricing policy, and the causes of a single tuition policy needs to be adjusted.

2.1 Higher Education

Based on the Law of the Republic of Indonesia no. 12 of 2012 concerning Higher Education, the definition of Higher education is defined as education carried out after secondary education which includes an education program diplomas, bachelor's, master's, specialist, and doctoral degrees held by universities. Higher education is a source of innovation and solutions for the growth and development of the nation along with the development of the times. As stated in the UNESCO declaration, higher education has an important mission and function which is to contribute to sustainable development and overall community development.

Higher education has a strategic role in educating the life of the nation and advancing science and technology by paying attention and applying the value of the humanities as well as the culture and sustainable empowerment of the Indonesian nation. The strategic role is carried out to fulfill the mandate of the 1945 Constitution Article 31 paragraph (5) concerning the development of science and technology which reads "The Government advances science and technology by supporting high religious values and national unity for the advancement of civilization and the welfare of mankind." Therefore, higher education is needed as an effort to continuously improve the nation's competitiveness in the face of globalization in all fields now and in the future.

2.1.1 Higher Education Classification Based on Ownership

In the world of education in Indonesia, the status of higher education divided into two namely *Perguruan Tinggi Negeri* or Public Universities and *Perguruan Tinggi Swasta* or Private Universities. *Perguruan Tinggi Negeri*, hereinafter abbreviated as PTN, are Universities established and/or organized by the

Government. *Perguruan Tinggi Swasta* hereinafter referred to as PTS, is a Higher Education Institution established and/or organized by the community.

In the process of admitting new students in both state and private universities is very different. The PTN selection process for new students is very strict, through several entrance examinations and requirements. There are three selection tracks for public universities, namely *Seleksi Nasional Masuk Perguruan Tinggi Negeri* (SNMPTN), *Seleksi Bersama Masuk Perguruan Tinggi Negeri* (SBMPTN) and Cooperation and Independence Programs. The commitment of PTN is to prioritize the quality of prospective students who are in accordance with their talents or intelligence, not according to their financial abilities. Meanwhile in PTS, the process of admitting new students is less strict because the entrance examination at PTS is only used as a non-primary procedure.

In terms of funding, there is a difference between funding for public universities and private universities. It is listed in article 89 of the Law of the Republic of Indonesia no. 12 of 2012 that Higher Education funds sourced from the State Revenue and Expenditure Budget and/or Regional Revenue and Expenditure Budget are allocated for PTN, as operational costs, lecturers and education personnel, as well as investment and development; PTS, as a professional allowance for lecturer allowance, honorary professor allowance, as well as investment and development.

2.1.2 Classification of Public Higher Education

Based on the Law of the Republic of Indonesia no.12 of 2012 concerning Higher Education Article 65 and Government Regulation no.4 of 2014 concerning the Implementation of Higher Education and Management of Higher Education article 27 divide the pattern of Public Higher Education or *Perguruan Tinggi Negeri* (PTN) management into three categories, which are:

a. PTN with general state financial management patterns or identified by PTN *Satuan Kerja* or PTN with PNBP (*Penerimaan Negara Bukan Pajak* or Non-Tax State Revenue) pattern,
b. PTN with the financial management pattern of public service bodies or PTN *Badan Layanan Umum* which is then abbreviated as PTN-BLU,

c. PTN as a public body or PTN Badan Hukum which is then abbreviated as PTN-BH.

PTN *Satuan Kerja* hereinafter abbreviated to as PTN Satker is a PTN as part of the Ministry of Education and Culture. The authority to carry out higher education is given by the government through the principle of delegation of authority, whereby the full responsibility lies with the PTN superiors namely the Minister of Education and Culture through the Director-General of Higher Education. Regarding PTN Satker, autonomy only covers autonomy in the academic field. Management in the non-academic sector is adjusted to the existing laws and regulations regarding government work units (for example, for the pattern of financial management based on the provisions of laws and regulations in the field of state finance). For PTN Satker, norms and policies, service rates, investment, cooperation, and debt are managed by the government. Employees are civil servants, and accountability is controlled by the Minister.

Article 65 paragraph (2) and paragraph (3) of the Higher Education Law no. 12 of 2012 explained that PTN that implemented *Badan Layanan Umum* which later abbreviated as BLU or Public Service had governance and management authority following the provisions of Government Regulation no. 23 of 2005 concerning Financial Management of Public Service Bodies which was later updated by Government Regulation no. 74 of 2012 concerning Amendments to Government Regulation no. 23 of 2005 concerning Financial Management of Public Service Bodies. Universities that implement BLU can apply flexible financial management patterns in the form of flexibility to implement sound business practices to improve services to the public in order to advance public welfare and educate the nation's life as an exception to the provisions of state financial management in general.

Public universities that implement BLU have the following characteristics: norms and policies governed by the government; stipulation of PTN-BLU budget included in the State Expenditure Budget or *Anggaran Pendapatan dan Belanja Negara* hereinafter abbreviated to as APBN; tariff determination that is withdrawn from the community is delegated by the Minister of Finance to the Ministry of Education and Culture and the relevant PTN; investment, cooperation, accounts

payable and managed by the government; integrated financial reporting with Central Government Ministry Institutions; assets are not separated from state assets; business unit development and cooperation are controlled by the Ministry of Finance; employment consists of Civil Servants or *Pegawai Negeri Sipil* and non-Civil Servants; mechanism for allocating APBN funds directly through the Ministry of Education and Culture; Non-tax state income can be used directly for the management of tertiary institutions; statute of higher education established by Ministerial Regulation; accountability is controlled by the Minister and the Minister of Finance.

PTN that implements BLU is PTN that has broader authority in the financial sector than PTN Satker. Funds obtained from the community, for example, can be used directly for the benefit of higher education management without first being deposited in the State treasury.

The third autonomy of higher education management is Public Universities with legal entity status (*Perguruan Tinggi Negeri Badan Hukum* hereinafter abbreviated to as PTN-BH). PTN-BH is separate from the government and is non-profit. Although it has been given the authority to manage its institutions, the responsibility for administering PTN-BH remains with the government.

The characteristics of PTN-BH according to the Higher Education Law no. 12 of 2012 Article 65 paragraph (4) are: norms and policies are fully regulated by the PTN concerned; initial assets in the form of separated state assets except land; governance and independent decision making; units that carry out the functions of accountability and transparency; the right to manage funds independently, transparently and accountably; authority to appoint and dismiss lecturers and education staff themselves; authority to establish business entities and develop endowments; authority to open, administer and close study program; accountability is controlled by stakeholders.

Although PTN-BH has the authority to carry out the full autonomy of higher education management, PTN-BH remains a state-owned higher education that cannot be transferred to individuals or the private sector. To carry out higher education functions that fall within the scope of government responsibilities, in this case, the Ministry of Education and Culture, PTN-BH receives compensation or

bears some of the costs incurred by PTN-BH (Elucidation of Article 65 of Higher Education Law no. 12 of 2012). PTN-BH is separate from the government and fully manages its institution, but can obtain higher education funding as stated in Article 89 paragraph (2) of Higher Education Law no. 12 of 2012 in the form of subsidies and/or other forms under statutory provisions.

Also, to avoid commercialization practices in PTN-BH, Article 65 paragraph (5) of the Higher Education Law no. 12 of 2012 emphasizes that PTN-BH must carry out higher education functions that are affordable to the public. This means PTN-BH which receives funding from the government has a social responsibility assigned by the State to continue to make its services affordable to the public, especially from economically disadvantage society. This is to ensure public access to a good quality of PTN-BH.

2.2 *Biaya Kuliah Tunggal*

According to the Regulation of the Minister of Research, Technology and Higher Education no. 39 of 2017 article 1, *Biaya Kuliah Tunggal* hereinafter abbreviated to as BKT is the overall operational costs of students per semester in the study program at PTN.

There are several ways to determine the operational costs of a college, one of which is to use Activity-Based Costing. Activity-Based Costing model can assist university or institutional management in identifying opportunities to maximize profits and implement growth strategies as a general framework of cost management (Program Costing Models at Institutions of Higher Education, 2010).

Activity-Based Costing model identifies activities as the basic cost object of the institution by utilizing the costs of these activities as the basis for assigning costs to other cost objects. The formulation to calculate the program costs is shown below.

$$Total\ Program\ Costs = Direct\ Costs + Indirect\ Costs + Overhead\ Costs \quad (2.1)$$

What included in the direct costs are salaries and incentives for lecturers, official travel, lecturer and teaching staff development, telephone and internet subscription fees, and equipment costs. And indirect costs included salaries and

benefits for institute officials and teaching staff. In addition, fees for student services such as re-registration, registration, counseling, health services, international students, study skills and academic development, curriculum development, and program development are included in indirect costs. Overhead costs include staff costs associated with activities such as fuel and facility maintenance, IT services, financial services, human resource services, central administration services, logistics, and public relations.

In Indonesia, BKT is used as a basis for determining the costs charged to the community and the Government where the Government establishes the standard operational costs unit for Higher Education periodically by considering three aspects, namely; National Higher Education Standard achievements, types of study programs, and regional expensiveness index which is stated in Article 88 Paragraph (1) of the Republic of Indonesia Law no. 12 of 2012. The standard operational cost unit of Higher Education becomes the basis for allocating the budget in the State Budget (APBN) as operational funding assistance for PTN.

The *Biaya Kuliah Tunggal* model that currently being implemented is using activity-based costing where the cost components come from non-operating costs and operating costs (General Director Secretary of Higher Education, 2013).

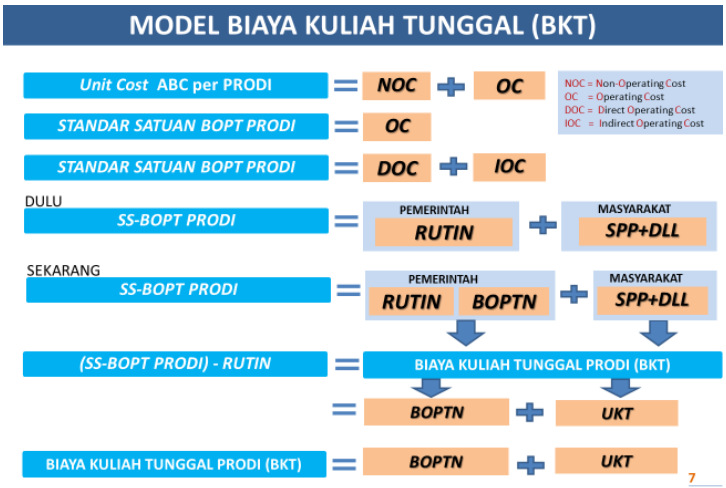

Figure 2. 1 Existing *Biaya Kuliah Tunggal* Model
(Source: General Director Secretary of Higher Education, 2014)

Continuing the Biaya Kuliah Tunggal model above, the following is the formula for calculating Biaya Kuliah Tunggal on which the basis for its forming is listed in Minister of Education and Culture Regulation no. 25 of 2020.

$$Biaya\ Kuliah\ Tunggal = SS\ BOPT \times K_1 \times (1 + APS + AIPT + AI) \qquad (2.2)$$

where K_1 is the regional expensiveness index, APS is Study Program Accreditation, AIPT is Institution Accreditation, and AI is International Accreditation. The following tables are a more detailed explanation of *Biaya Kuliah Tunggal* indices.

Table 2. 1 Regional Expensiveness Index

REGIONAL EXPENSIVENESS INDEX (K_1)	
K_1 Value	**Region**
1	Java, Bali, and West Nusa Tenggara
1.05	Sumatera
1.15	Kalimantan, Sulawesi, and East Nusa Tenggara
1.3	Maluku, Papua, and West Papua

(Source: Permendikbud no. 25, 2020)

Table 2. 2 Accreditation Index

ACCREDITATION INDEX	
Value	**Study Program and Institution Accreditation**
0.15	A/Excellence
0.1	B/Very Good
0.05	C/Good
Value	**International Accreditation**
0.15	Accredited
0.1	In Process
0	Not Accredited

(Source: Permendikbud no. 25, 2020)

2.3 *Uang Kuliah Tunggal*

Based on the Minister of Research, Technology and Higher Education Regulation no. 39 of 2017 what is meant by *Uang Kuliah Tunggal* hereinafter abbreviated to as UKT is part of the *Biaya Kuliah Tunggal* that is borne by each student based on their economic ability.

Uang Kuliah Tunggal is similar to tuition fees in overseas higher education. Tuition fees in the United States are higher education costs borne personally collected by higher education institutions in the United States, not including portions paid through taxes or from other government funds as subsidies. Four-year public higher education institutions in the United States spend an average of around $ 14,000 per year per student for undergraduate education (Johnson, 2014).

Meanwhile in Indonesia, Regulation of the Minister of Research, Technology and Higher Education no. 39 of 2017 is a change from the Regulation of the Minister of Education and Culture No. 55 of 2013 concerning *Biaya Kuliah*

Tunggal and *Uang Kuliah Tunggal* at Public Universities in the Environment of Ministry of Education and Culture, which subsequently changes to the Regulation of the Minister of Education and Culture no. 73 of 2014 and amendments to the Minister of Research, Technology and Higher Education no. 22 of 2015.

The birth of the regulation was based on a circular of the Director-General of Higher Education Number 97/E/KU/2013 dated February 5, 2013, which instructed all public universities in Indonesia to do two things which are to abolish *uang pangkal* or the entrance fee for new students of the 2013/2014 academic year S1 program and determine and implement *Uang Kuliah Tunggal* tariffs for new undergraduate students starting the academic year of 2013/2014.

The basis of forming Uang Kuliah Tunggal is stated in Article 88 paragraph (3) and (4) of the Law of the Republic of Indonesia no. 12 of 2012 in which PTN's Operational Cost Unit Standards, hereinafter abbreviated as SS-BOPTN, is used as a basis by PTN to determine costs borne by students and must be adjusted to the economic abilities of students, parents of students, or other parties who finance them.

The amount of *Uang Kuliah Tunggal* is different for each public university in Indonesia. The difference in Uang Kuliah Tunggal rates in each public university is influenced by several factors such as the achievement of national standards of higher education, regional expensiveness index, and study programs which calculated for its *Biaya Kuliah Tunggal*. In the Minister of Education and Culture Regulation no. 55 of 2013 said that the *Uang Kuliah Tunggal* was determined based on the *Biaya Kuliah Tunggal* subtracted with the costs borne by the government or also called *Bantuan Operasional Perguruan Tinggi Negeri* hereinafter abbreviated to as BOPTN.

$$Uang\ Kuliah\ Tunggal = Biaya\ Kuliah\ Tunggal - BOPTN \qquad (2.3)$$

Article 98 paragraph (6) of the Law of the Republic of Indonesia no. 12 of 2012 states that the Government allocates at least 30% of the BOPTN funds from the Education Function budget for research funds.

2.4 Financial Modeling

Financial modeling is a simplification of important factors representation in projected actions such as exploration, prediction, and control of the financial impact from the organization's decisions. By building the right financial model, an analyst can predict the results of various scenarios. Therefore, by modeling financial it is advantageous for organizations to study the impact of business actions that will be taken by reviewing the potential results of several scenarios before the action occurs (Osazevbaru, 2014).

To calculate the impact of future events or decisions, a process of summarizing company expenses and income is needed in the form of a spreadsheet which can be called as financial modeling (Kopp, 2020).

A financial model is a built-in tool from Excel to estimate the financial performance of a business in the future. These estimates are usually based on the historical performance of a company, assumptions about what is to come and require preparation of the statement models. The output of the financial model is used for decision making and financial analysis, both internal or external use (Corporate Finance Institute, 2020).

2.5 Pricing Concept

According to (De Toni, Milan, Saciloto, & Larentis, 2017), one of the most important management decisions is the price decision because it affects profitability and company returns along with their competitive position in the market. Therefore, to develop and determine prices is a complex and challenging task, because the parties involved must understand how their customers understand prices, how to develop perceived value, and consider the company's pricing objectives.

Price is considered as a tool to manage operations and improve performance. Pricing modes generally include static pricing and dynamic pricing based on whether prices change over time or not (Wang & Sun, 2019). Static prices mean that prices remain constant for a long time (Dumrongsiri, Fan, Jain, & Moinzadeh, 2008). According to (Wells, 2020), dynamic pricing is the study of determining the optimal selling price of a product or service, in a setting where prices can be easily and frequently adjusted.

One example of sectors that implement dynamic pricing is the electricity industry. One of the arising fields of research in the retail electricity industry is dynamic pricing. It can reduce peak loads by charging different prices at different times according to demand with a technique called demand-side management. The retail electricity market generally offers fixed prices or blocking prices. Prices remain unchanged regardless of demand in the first case, whereas in the second case, the rate per unit of electricity increases or decreases alongside with electricity consumption. Yet, generation costs to meet peak demand are high compared to costs for off-peak demand because most peak time generating units have higher operating costs than basic load units. As such, the price of electricity does not reflect the actual generation and distribution costs. Moreover to reducing peak demand, dynamic prices also give each consumer the opportunity to reduce their electricity bill at a constant level of consumption by changing its consumption patterns (Dutta & Mitra, 2017).

Other sector that implements dynamic pricing is oil and gas sector. One of the important issues in the energy market is pricing. Energy price movements are often seen as an important component that influences economic output. Market supply and demand are naturally considered the most relevant in determining energy prices since energy is a particular kind of commodity. The standard pricing mechanism has been challenged by the latest evidence of financialization. The development of new statistical models (e.g., Average dynamic model technique) enables people to empirically investigate the formation of energy prices dynamically (Zhang, 2018).

2.6 Pricing Policy

Pricing theory is a particular policy question and acquires quantitative decisions that spread a wide assortment of models depending on the alignment of prior proof or amounts that must be straightforwardly estimated by exact examination later on. A typical policy question is the ideal tax rate at a very high income. Estimates are significant for this examination and a great deal of consideration is paid to quantitative effects by overlooking different impacts that decide ends, for example, income effects or welfare weights are given to entirely

competent individuals, and that they are so liable to be of quantitative centrality to the last ends. Less consideration is paid to whether different approaches may be a higher priority than or beat the policies being contemplated or whether the way to accomplish parameter values can be depended on experimentally (Weyl, 2017).

Companies or organizations can make reasonable, practical, and effective pricing decisions by making a guideline and framework which is in the form of pricing policies. When certain situations arise, pricing policies are the managerial guidelines for any decision making in the future. Nonetheless, pricing policies are not the same as pricing strategies. Instead, pricing policy provides a guideline to develop and carry out pricing strategies. There are three main pricing policies, which are:

1. Price Flexibility Policy,
2. Price Differential Policy, and
3. Price Level Policy.

2.7 The Cause of *Uang Kuliah Tunggal* Policy Needs to be Adjusted

PTN-BH has the authority to carry out the full autonomy of higher education management. One aspect of autonomy from PTN-BH is related to funding. This funding autonomy has been regulated in Government Regulation of the Republic of Indonesia no. 26 of 2015 concerning the Form and Mechanism of PTN-BH Funding.

Article 65 paragraph (5) of the Higher Education Law no. 12 of 2012 emphasizes that PTN-BH must carry out higher education functions that are affordable to the public. To provide affordable education, PTN-BH can apply for financial assistance from the government as stipulated in Article of Government Regulation of the Republic of Indonesia no. 26 of 2015. This means PTN-BH which receives funding from the government has a social responsibility assigned by the State to continue to make its services affordable to the public, especially from economically disadvantage society. This is to ensure public access to a good quality of PTN-BH.

In Article 9 of Government Regulation of the Republic of Indonesia no. 26 of 2015 it is explained that PTN-BH can set tuition fees based on the technical

guidelines for setting tariffs determined by the Minister. In setting the tuition fee rate, PTN-BH must consult with the Minister. The tuition fees must be determined by considering the economic capabilities of students, parents of students, or other parties that finance students.

To determine the education tariffs or can be called *Uang Kuliah Tunggal*, it is necessary to prepare a *Biaya Kuliah Tunggal* as a basis for adjustment. *Biaya Kuliah Tunggal* is the overall operational costs of students per semester in the study program at PTN. Operational costs will increase over time, such as changes in funding needs for academic and non-academic activities, changes in salaries, incentives, and remuneration for lecturers, employees, and daily freelancers. Also, the inflation occurring every year from 2013 to 2019 is between 3.02% to 8.39%; with an annual average of 5.35%. Other PTN-BHs already adjust their *Uang Kuliah Tunggal*. In consequence, *Biaya Kuliah Tunggal* of ITS needs to be adjusted periodically so that operational needs continue to run without any obstacles from funding. Hence, with the adjustment of the *Biaya Kuliah Tunggal*, the *Uang Kuliah Tunggal* can also be adjusted following the BKT and with the autonomy held by PTN-BH makes the *Uang Kuliah Tunggal* adjustment more flexible.

CHAPTER 3
RESEARCH METHODOLOGY

This chapter will explain the stages or research methodology of the Final Project. This stage will be shown in the form of a flowchart and then the sub-section which includes the preparation stage, the stage of data collection, as well as the stages of conclusions and suggestions will be explained.

3.1 Research Flowchart

The following will explain the stages of the final project research shown in the form of a flowchart to be more structured, including the preparation stage, the stage of data collection and processing, the simulation and analysis phase as well as the conclusion and suggestion stages.

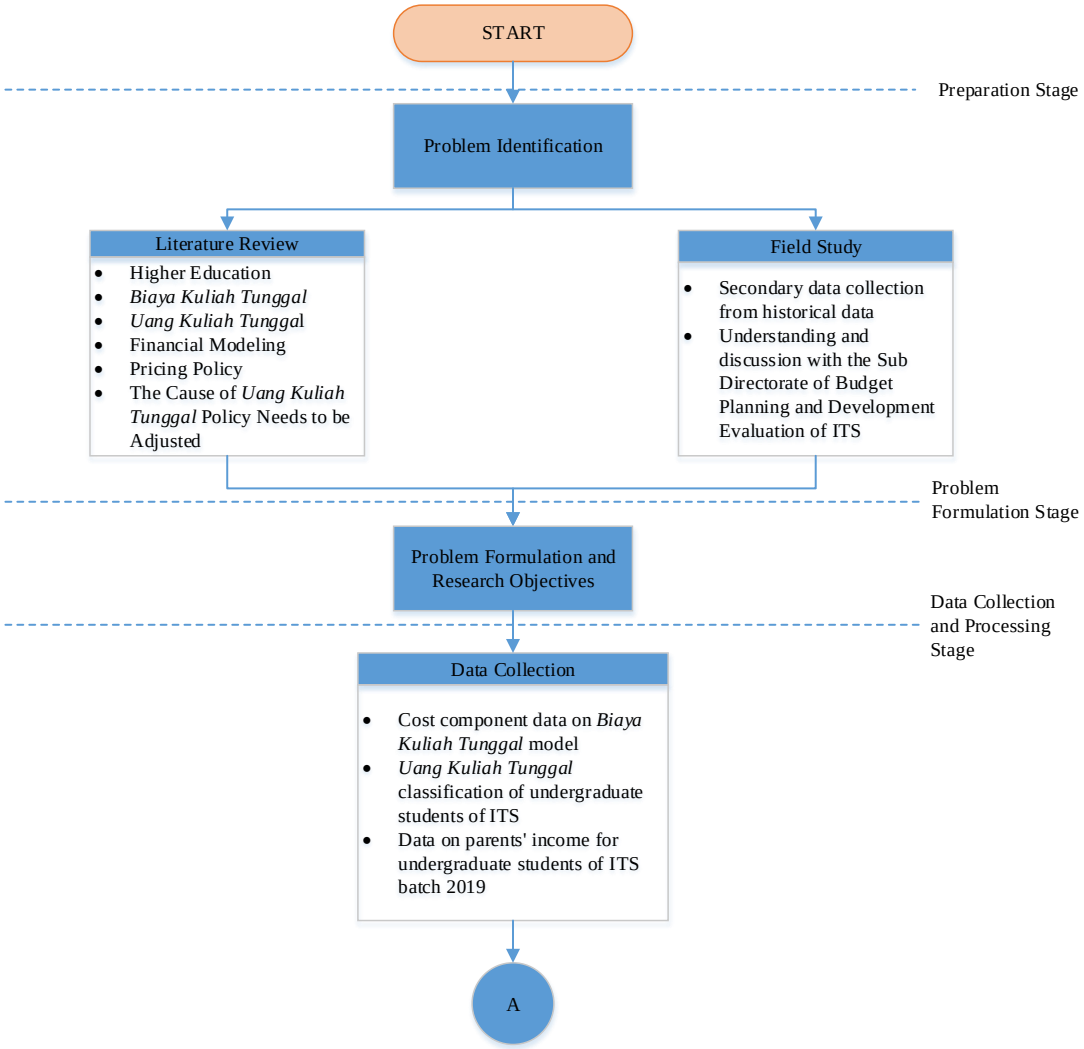

Figure 3. 1 Methodology Flowchart
(Source: Personal Document)

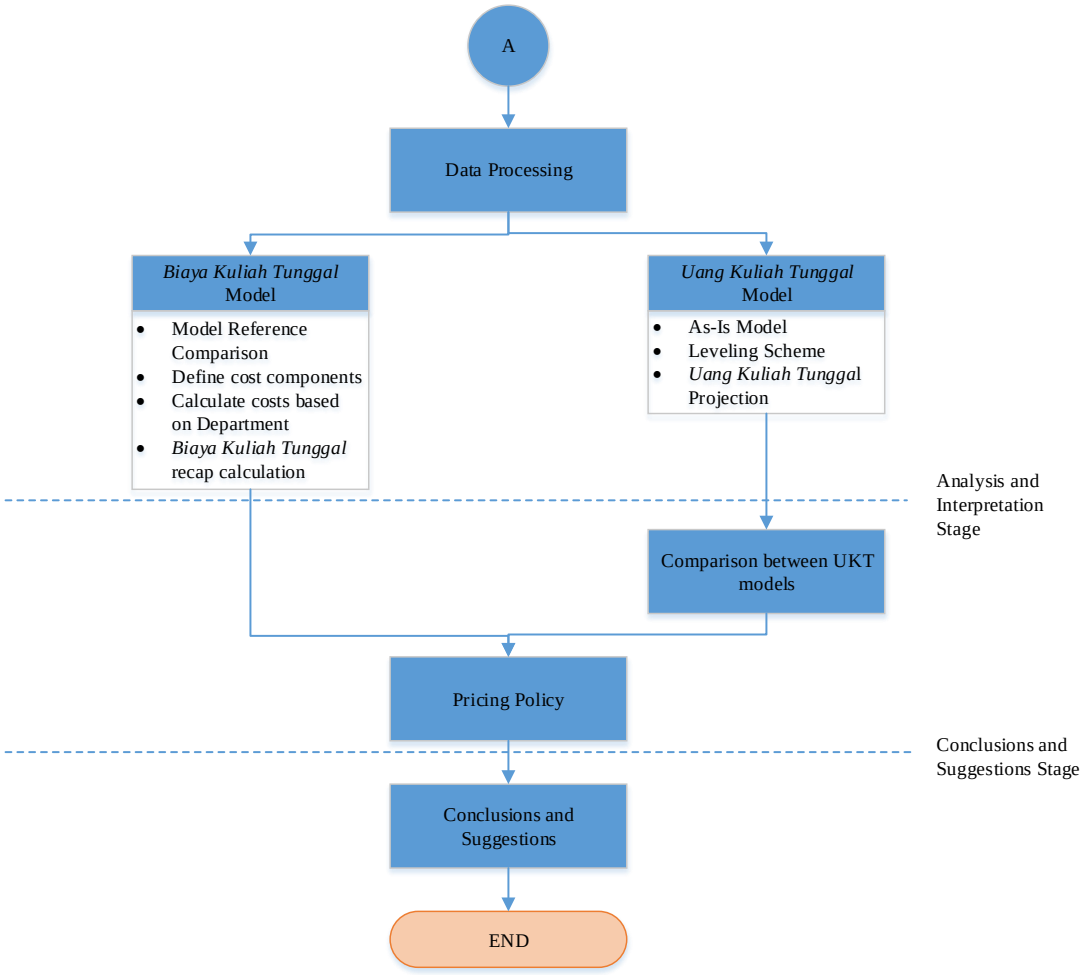

Figure 3. 2 Methodology Flowchart (con't)
(Source: Personal Document)

Based on the research methodology flowchart figures shown above, then the following will be given explanations of each of the stages mentioned.

3.2 Preparation Stage

The preparation phase is the initial stage of conducting research, which includes identifying problems, literature reviews, and field studies. The following will be explained about the sections of the preparation stage that have been mentioned.

3.2.1 Problem Identification

The purpose of identifying the problem is to determine the condition of the problems that occur at ITS based on the literature reviews and field studies.

3.2.2 Literature Review and Field Study

The purpose of doing literature reviews and field studies is as a supporter of conducted research by understanding the theories and conditions of the institution. The following will explain the literature reviews and field studies that will be conducted.

a. Literature reviews are explanations of the theories that are used as a basis or foundation for this research. These theories are obtained from various books, journals, and articles. Following are some of the theories used:

   - Higher Education

     Higher education is defined as education carried out after secondary education which includes an education program diplomas, bachelor's, master's, specialist, and doctoral degrees held by universities. Higher education is a source of innovation and solutions for the growth and development of the nation along with the development of the times.

   - *Biaya Kuliah Tunggal*

     Biaya Kuliah Tunggal hereinafter abbreviated to as BKT is the overall operational costs of students per semester in the study program at PTN. BKT is used as a basis for determining the costs charged to the community and the Government.

   - *Uang Kuliah Tunggal*

     Uang Kuliah Tunggal hereinafter abbreviated to as UKT is part of the *Biaya Kuliah Tunggal* that is borne by each student based on his economic ability.

   - Financial Modeling

     Financial modeling is a simplification of important factors representation in projected actions such as exploration, prediction, and control of the financial impact from the organization's decisions.

   - Pricing Concept

     Price is considered as a tool to manage operations and improve performance. Pricing modes generally include static pricing and dynamic pricing based on whether prices change over time or not.

Static prices mean that prices remain constant for a long time while dynamic pricing is the study of determining the optimal selling price of a product or service, in a setting where prices can be easily and frequently adjusted.

- Pricing Policy

  Companies or organizations can make reasonable, practical, and effective pricing decisions by making a guideline and framework which is in the form of pricing policies.

b. Field studies are studies conducted in the form of direct observation or taking secondary data in an institution related to the issues to be studied, this will better understand the conditions that occur in the institution. Following are some of the field studies that will be carried out:

   - Secondary Data Collection

     Secondary data collection is carried out to support the research conducted, secondary data needed are data cost components that include capital costs recovery, operational and maintenance fixed costs, operational and salary variable costs, and indirect costs. It also needed data on the distribution of *Uang Kuliah Tunggal* leveling of vocational and undergraduate students of ITS and parents' income data from batch 2019. These secondary data are needed to calculate the modeling that has been made.

   - Understanding and Discussion with the Sub Directorate of Budget Planning and Development Evaluation of ITS

     Understanding and discussion with related parties on research topics is carried out to better understand existing conditions and problems that occur based on more expert sources. It also can find out the purpose or desired results of the research to be carried out.

3.3 Problem Formulation Stage

After finding the conditions that need to be rectified from the institution, then the problem formulation is carried out and the determination of an appropriate

method in solving the problem. In addition, it will present the research objectives to be achieved following the issues raised.

Formulating the problem is done to show how to solve the priority problem to be fixed, solving this problem is done by applying the right method so that it can achieve the goals desired by the researcher and institution.

3.4 Data Collection and Processing Stage

This stage is carried out after determining the problem formulation and research objectives to be achieved. This stage is divided into two, which are *Biaya Kuliah Tunggal* modeling and *Uang Kuliah Tunggal* modeling. The following will be given explanations of *Biaya Kuliah Tunggal* modeling and *Uang Kuliah Tunggal* Modeling.

3.4.1 Biaya Kuliah Tunggal *Modeling*

Biaya Kuliah Tunggal modeling is the initial stage to make an adjustment to *Uang Kuliah Tunggal*. There are two processes in modeling *Biaya Kuliah Tunggal*, namely define cost components and calculate costs based on the Department or Study Program. The following will explain in more detail related to model reference comparison, define cost components, and calculate costs based on the Department or Study Program.

a. Model Reference Comparison

   Before conducting *Biaya Kuliah Tunggal* modeling, it is necessary to make a comparison of model from reference with the aim of comparing whether the new model is more effectively used than the previous model which is adjusted to the existing costs.

b. Define Cost Components

   Determination of cost components is taken from the comparison of reference models and adjusted for the grouping of these costs whether it includes assets, fixed costs, or variable costs.

c. Calculate Costs Based on the Department or Study Program

   Calculation of the cost components of each Department using various data sources such as Asset Reports, Department Operational Expenditure Reports, Lecturer and Employee Salary Reports, etc. which grouped by sub-

component of the cost component. The output of this calculation is how much the cost is borne by each student for a semester of each expenditure which already grouped as sub-component.

d. *Biaya Kuliah Tunggal* Calculation

Biaya Kuliah Tunggal calculation is an accumulation of each cost component from one department that results in how much each student costs in that department for one semester, regardless of their economic capability.

3.4.2 Uang Kuliah Tunggal *Modeling*

There are three *Uang Kuliah Tunggal* models in this study, namely the As-Is Model, Leveling Scheme, Continuous Scheme, and Projection Scheme. The following will explain in more detail related to the four models previously mentioned.

a. As-Is Scheme

As-Is scheme is a *Uang Kuliah Tunggal* scheme currently implemented by ITS which has seven levels. This scheme is a grouping level scheme where students will be charged *Uang Kuliah Tunggal* according to the economic ability of their parents which is based on parents' occupation, parents' income, house electrical power, and vehicle tax.

b. Leveling Scheme

The leveling scheme is a scheme with a grouping of parents' economic capabilities to several *Uang Kuliah Tunggal* levels. In contrast to the As-Is scheme, which is the basis for measuring the economic ability of parents in this leveling scheme is only based on parental income. The Leveling Scheme is divided into two sub-schemes, namely the 8 level scheme and the 9 level scheme where students with SNMPTN and SBMPTN admission paths added 1 and 2 levels respectively while for students with PKM lecture entry paths added 3 new levels to a total of 4 levels.

c. Projection Scheme

After modeling *Uang Kuliah Tunggal*, it is necessary to project the revenue derived from *Uang Kuliah Tunggal* each semester. *Uang Kuliah Tunggal* income projections aim to see the impact of each new scheme towards the As-Is scheme.

3.5 Analysis and Interpretation Stage

This stage is done based on data collection and processing. After calculating the UKT from several models, a gap is calculated between BKT and the revenue from UKT. After that, the analysis and interpretation of UKT schemes are conducted to decide on which model should be implemented. Then the conclusion can be drawn based on the research objectives.

3.5.1 Pricing Policy

In the pricing policy, a comparison of the determination of the *Uang Kuliah Tunggal* level of several PTN-BHs in Indonesia is made as one of the considerations to determine which *Uang Kuliah Tunggal* scheme policy will be implemented.

3.6 Conclusion and Suggestion Stage

The conclusion and suggestion stage are the last step taken. The conclusions contain explanations of the entire contents of the research based on the results of data processing and the results of the analysis that has been done. While the suggestions contain alternative improvements selected for implementation of the institution following alternative decisions that have been selected based on the previous stage.

CHAPTER 4
DATA COLLECTION AND PROCESSING

In chapter 4 will be explained about the data collection and processing. This data collection and processing are done based on cost component data on *Biaya Kuliah Tunggal* model, *Uang Kuliah Tunggal* classification of undergraduate students. This chapter is divided into two parts, which are *Biaya Kuliah Tunggal* modeling and *Uang Kuliah Tunggal* modeling.

4.1 *Biaya Kuliah Tunggal* Modeling

Biaya Kuliah Tunggal modeling is required as a first step in evaluating *Uang Kuliah Tunggal*. The existing *Biaya Kuliah Tunggal* model is using Activity-Based Costing model where costs are identified from activities in an organization for all products and services based on actual consumption. Below is the current model applied of *Biaya Kuliah Tunggal* at ITS sourced from General Director Secretary of Higher Education of Ministry of Education and Culture.

$$Unit\ Cost\ ABC\ per\ Department\ or\ SS\ BOPT\ Prodi = Direct\ Operating\ Cost + Indirect\ Operating\ Cost \quad (4.1)$$

$$SS\ BOPT\ Prodi = Rutin + BOPTN + UKT \quad (4.2)$$

$$Direct\ Operating\ Cost + Indirect\ Operating\ Cost - Rutin = BKT \quad (4.3)$$

$$BKT = BOPTN + UKT \quad (4.4)$$

Where direct costs are unit operational costs directly related to the administration of the study program curriculum. Direct costs are calculated in sufficient detail at the activity level, as well as considering the good practices that have been running so far. Indirect costs are unit operational costs that are not directly related to the administration of the study program curriculum but are necessary in the management of higher education institutions to support the implementation of the study program.

Since Activity-Based Costing model uses unit price/activity costs, the remuneration standard at ITS already changed into an index of performance payments in which difficult to calculate into unit cost/activity and tends to be

miscalculated. With the overhead costs which tend to be high, so that *Biaya Kuliah Tunggal* model can be changed into a new model.

There are three steps to modeling a *Biaya Kuliah Tunggal*, which are comparing reference models, defining cost components, and calculating costs based on Departments. The following is the big picture of *Biaya Kuliah Tunggal.*

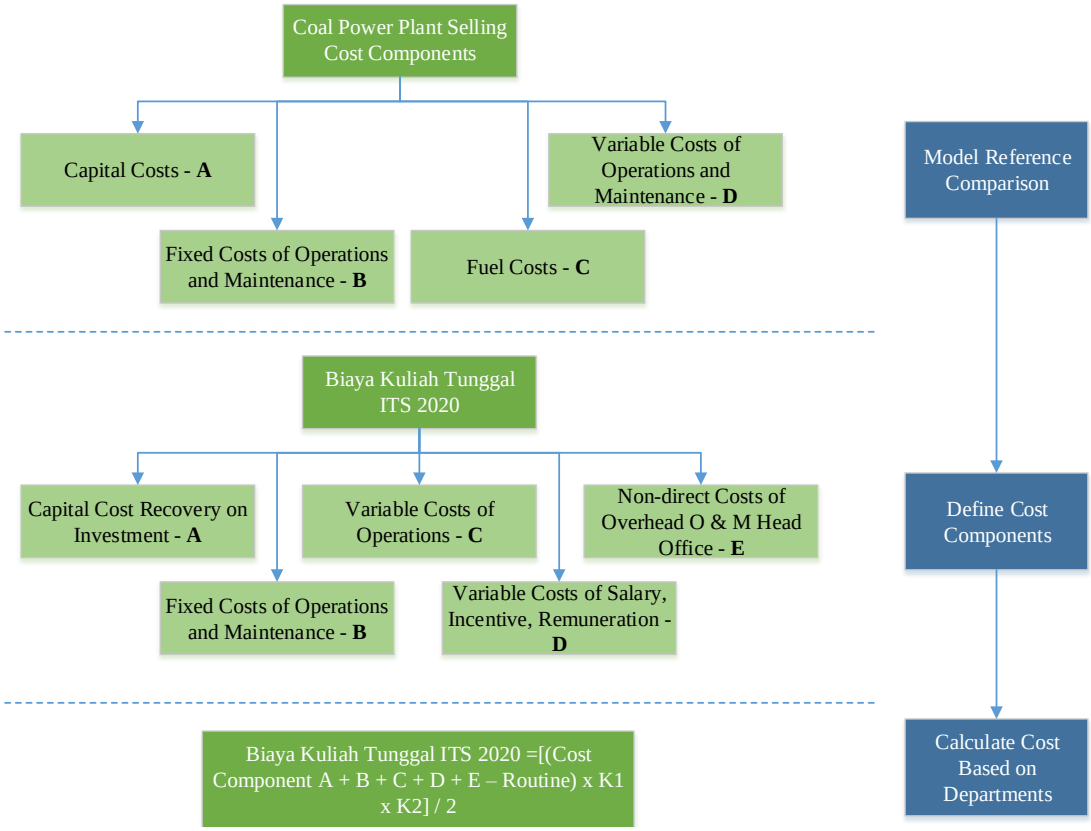

Figure 4. 1 *Biaya Kuliah Tunggal* Big Picture
(Source: Personal Document)

4.1.1 Reference Model Comparison

The reference model for *Biaya Kuliah Tunggal* is cost of electricity prices for small-scale coal power plants sourced from Center of Research and Technological Development of Electricity, Renewable Energy, and Conservation Energy (Maksum & Rivai, 2015). Below is the cost of electricity prices for small-scale coal power plants model.

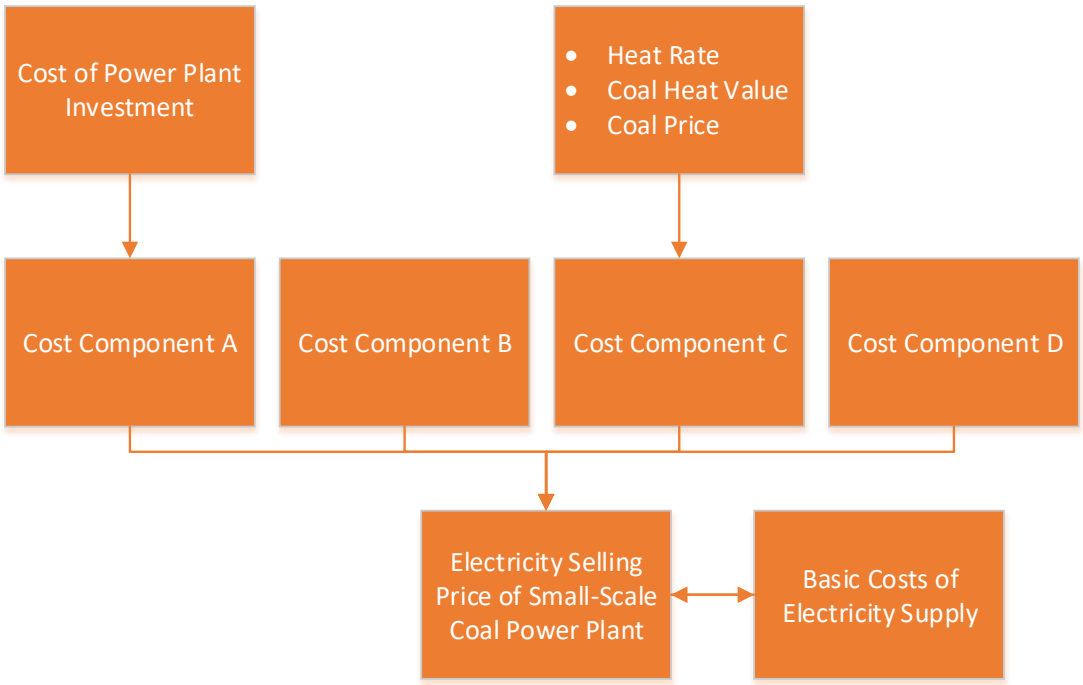

Figure 4. 2 Cost of Electricity Price for Small-Scale Coal Power Plant
(Source: Maksum & Rivai, 2015)

There are four different cost components from the reference model. Each component represents the group of costs needed in preparing the selling price of electricity. Cost component A is investment costs which is the total investment cost of the plant from planning to completion of construction of a plant. It is used to represent investment components that do not have to be repaid in one year plus benefits. The investment costs also include the capital recovery. Cost components B, C, and D are the actual cost incurred and divided into fixed and variable costs, especially in cost component C for Fuel Cost which has a greater cost. Cost component B is fixed costs of operational and maintenance incurred for the operation and maintenance of the plant, such as employee salaries, administrative costs, management costs, and others. Cost component C is a variable cost that is related to production and electricity, in this case fuel costs. And lastly cost component D is variable costs of operation and maintenance, such as costs for lubricants, replacement of spare parts, overhauls, and so on.

The basic idea of determining the cost component carried out by the coal power plant is that it can be applied to all business sectors. With fixed and variable

costs for operational and maintenance per year can be applied to any sector related to investment.

4.1.2 Cost Component Determination

The determination of cost components is based on the results of the model comparison described in the previous section. There are modifications to some components adjusting to the costs incurred for all operational costs charged to students. Below are cost components as a basis for calculating *Biaya Kuliah Tunggal.*

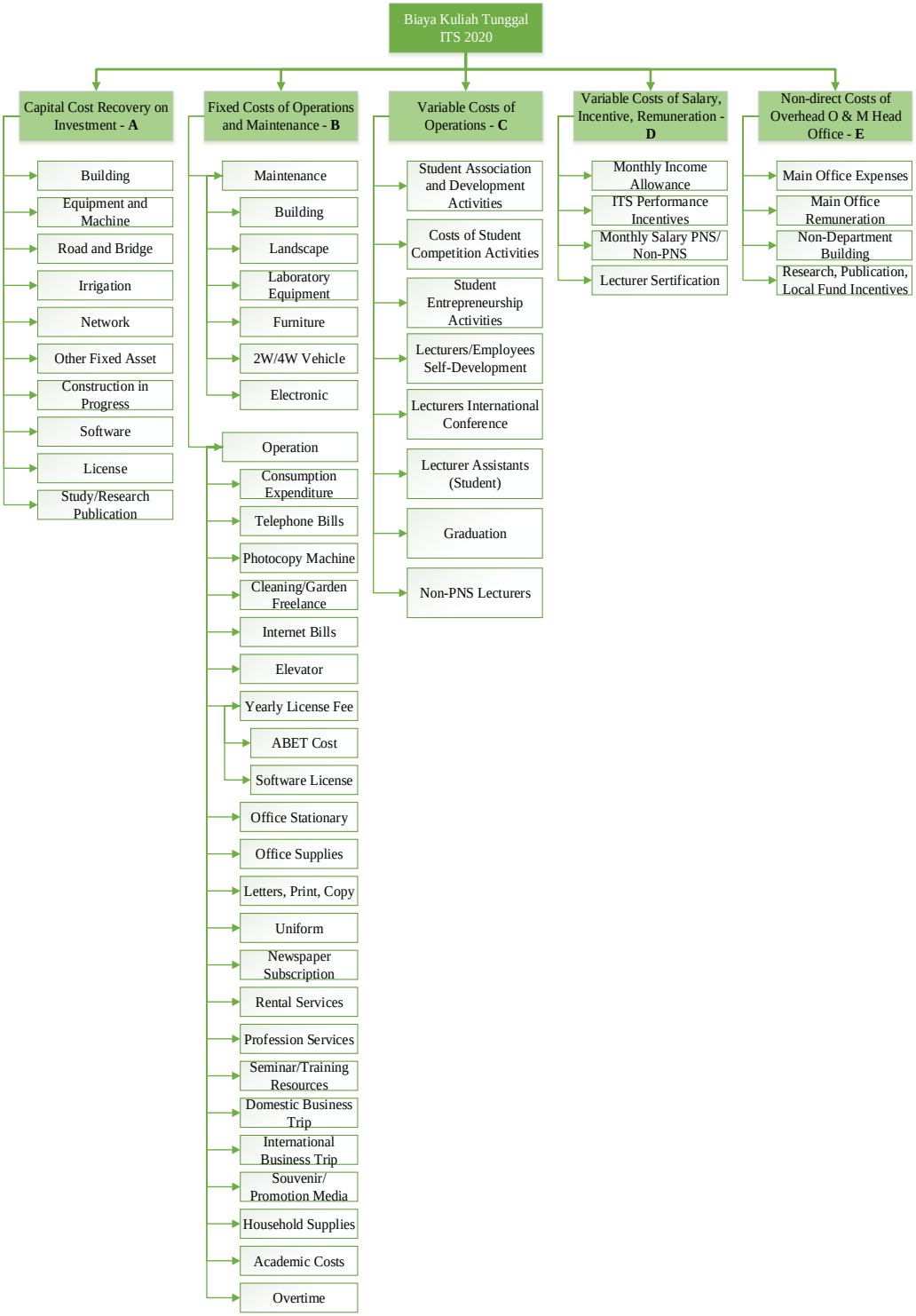

Figure 4. 3 Cost Components of *Biaya Kuliah Tunggal*
(Source: Personal Document)

The data used in the cost components of *Biaya Kuliah Tunggal* are based on several related reports from ITS. For cost component A which is related to investment, the data used is ITS Asset Report up to 2019. The data for cost

component B and C are both from the NON-PNBP and BPPTNBH Department's Budget Spending Report of 2019 in which will be differed as fixed or variable cost. For cost component D, the data used is Expenditure Reports of Salary, Incentives, and Remuneration of PNS Staff and Lecturer. Lastly, the data used for cost component E is Head Office Funds Absorption Budget Report 2019. Some other supporting data are the number of students per department sample and the amount of BOPTN receives for ITS in 2019.

4.1.3 Cost Component Calculation

At this stage, the cost components that have been determined in the previous stage is calculated to get *Biaya Kuliah Tunggal* in a Department. The departments that become the sample of cost component calculations are Industrial and Systems Engineering Department, Marine Transportation Engineering Department, and Informatics Engineering Department. The following is the calculations of each cost component.

4.1.3.1 Cost Component A

Based on cost component determination, cost component A is the capital cost recovery of investment. The data used in this cost component is the ITS Asset Report until 2019. The asset data is categorized into several sub-components as shown in Figure 4.3 where not all sample departments have all as defined.

The values used for the calculation of cost component A in the data are the acquisition value and the regular depreciation value. The cost component A is calculated using the equation:

$$Cost\ Component\ A\ (Rp/Year) = \frac{P}{100\%/i} \tag{4.5}$$

Where:

- $P = Total\ Depreciation\ Value - Total\ Acquisition\ Value$
- i = 10%

Since BKT is a cost per student, therefore the cost component A is calculated using the equation:

$$Cost\ Component\ A\ (Rp/Student) = \frac{Cost\ Component\ A\ (Rp/Year)}{Total\ S1\ Student} \tag{4.6}$$

The following is the calculation of component cost A for Industrial and Systems Engineering Department with 756 undergraduate students.

Table 4. 1 Cost Component A Calculation of Industrial and Systems Engineering Department

Capital Cost Recovery

Cost Component A	Rp / year (S1)	Rp / student (S1)
Building	Rp 4,039,786,594	Rp 5,914,768
Equipment and Machine	Rp 809,613,753	Rp 1,185,379
Road and Bridge	Rp -	Rp -
Irrigation	Rp -	Rp -
Network	Rp -	Rp -
Other Fixed Asset	Rp 13,532,207	Rp 19,813
Construction in Progress	Rp 91,260,958	Rp 133,618
Software	Rp 34,084,917	Rp 49,905
License	Rp -	Rp -
Study/Research Publication	Rp -	Rp -
TOTAL	**Rp 4,988,278,427**	**Rp 7,303,482**

The following is the calculation of component cost A for Marine Transportation Engineering Department with 256 undergraduate students.

Table 4. 2 Cost Component A Calculation of Marine Transportation Engineering Department

Capital Cost Recovery

Cost Component A	Rp / year (S1)	Rp / student (S1)
Building	Rp 1,408,755,388	Rp 7,656,279
Equipment and Machine	Rp 116,369,791	Rp 632,445
Road and Bridge	Rp -	Rp -
Irrigation	Rp -	Rp -
Network	Rp -	Rp -
Other Fixed Asset	Rp 4,313,045	Rp 23,440
Construction in Progress	Rp 117,850,900	Rp 640,494
Software	Rp -	Rp -
License	Rp -	Rp -
Study/Research Publication	Rp -	Rp -
Total	**Rp 1,647,289,124**	**Rp 8,952,658**

The following is the calculation of component cost A for Informatics Engineering Department with 787 undergraduate students.

Table 4. 3 Cost Component A Calculation of Informatics Engineering Department

Capital Cost Recovery

Cost Component A	Rp / year (S1)	Rp / student (S1)
Building	Rp 1,541,399,832	Rp 2,346,118
Equipment and Machine	Rp 761,906,423	Rp 1,159,675
Road and Bridge	Rp -	Rp -
Irrigation	Rp -	Rp -
Network	Rp 12,236,350	Rp 18,625

Capital Cost Recovery

Cost Component A	Rp / year (S1)	Rp / student (S1)
Other Fixed Asset	Rp 31,197,116	Rp 47,484
Construction in Progress	Rp -	Rp -
Software	Rp 3,402,119	Rp 5,178
License	Rp -	Rp -
Study/Research Publication	Rp -	Rp -
Total	**Rp 2,350,141,841**	**Rp 3,577,080**

4.1.3.2 Cost Component B

Based on cost component determination, cost component B is the fixed cost of operation and maintenance. The data used are the NON-PNBP and BPPTNBH Department's Budget Spending Report of 2019. The data will be categorized based on sub-components that have been described in the previous sub-section. For the calculation of cost component B begins by calculating the baseline cost. Following is the formula of the baseline cost.

$$Baseline\ Cost = Total\ fixed\ cost\ in\ "Realization\ Data\ of\ 2019" \quad (4.7)$$

After calculating the baseline cost, it is necessary to calculate the escalation per year to be used to forecast costs for 5 years. After escalation calculation, it is needed to get the total cost of component B. The following is the after-escalation equation.

$$After\ Escalation\ (Rp/Year) = \frac{Baseline\ Cost\ of\ Sub\ Component}{Total\ Baseline\ Cost} \times (Avg\ Forecast\ Cost \times \%\ of\ S1\ Students) \quad (4.8)$$

$$After\ Escalation\ (Rp/Student) = \frac{After\ Escalation\ (Rp/Year)}{Total\ S1\ Students} \quad (4.9)$$

The following is the calculation of cost component B for Industrial and Systems Engineering Department.

Table 4. 4 Cost Component B Calculation of Industrial and Systems Engineering Department

Fixed Cost O&M		**After Escalation (S1)**	
Cost Component B	**Baseline Cost (Rp)**	**Rp / Year**	**Rp / Student**
Maintenance Cost			
Building	Rp 230,994,672	Rp 195,634,361	Rp 286,434
Landscape	Rp -	Rp -	Rp -
Laboratory Equipment	Rp -	Rp -	Rp -
Furniture	Rp 124,151,716	Rp 105,146,761	Rp 153,948

Fixed Cost O&M			**After Escalation (S1)**			
Cost Component B	**Baseline Cost (Rp)**		**Rp / Year**		**Rp / Student**	
Vehicle R2/R4/R6	Rp	16,420,415	Rp	13,906,803	Rp	20,361
Electronics	Rp	-	Rp	-	Rp	-
Operation Cost						
Consumption Expenditure	Rp	156,167,122	Rp	132,261,298	Rp	193,648
Telephone Bills	Rp	-	Rp	-	Rp	-
Photocopy Machine	Rp	-	Rp	-	Rp	-
Cleaning/Garden Freelance	Rp	145,090,000	Rp	122,879,845	Rp	179,912
Internet Bills	Rp	-	Rp	-	Rp	-
Elevator	Rp	-	Rp	-	Rp	-
Yearly License Fee						
ABET	Rp	172,364,940	Rp	145,979,579	Rp	213,733
Software	Rp	-	Rp	-	Rp	-
Office Stationaries	Rp	2,962,700	Rp	2,509,174	Rp	3,674
Office Supplies	Rp	41,470,175	Rp	35,121,984	Rp	51,423
Laboratory Supplies	Rp	99,295,476	Rp	84,095,477	Rp	123,127
Mail, Print, Copy	Rp	41,765,500	Rp	35,372,101	Rp	51,789
Uniform	Rp	-	Rp	-	Rp	-
Newspaper Subscription	Rp	3,706,000	Rp	3,138,691	Rp	4,595
Rental Service	Rp	62,009,690	Rp	52,517,342	Rp	76,892
Profession Service	Rp	58,701,000	Rp	49,715,141	Rp	72,789
Seminar/Training Resources	Rp	400,000	Rp	338,769	Rp	496
Domestic Business Trip	Rp	203,138,259	Rp	172,042,165	Rp	251,892
Souvenir / Promotion Media	Rp	-	Rp	-	Rp	-
Household Supplies	Rp	750,000	Rp	635,191	Rp	930
Overtime	Rp	19,584,000	Rp	16,586,111	Rp	24,284
Academic Cost	Rp	-	Rp	-	Rp	-

Fixed Cost O&M		After Escalation (S1)	
Cost Component B	**Baseline Cost (Rp)**	**Rp / Year**	**Rp / Student**
Overseas Business Trip	Rp 55,406,661	Rp 46,925,094	Rp 68,704
Total	**Rp 1,434,378,326**	**Rp 1,214,805,888**	**Rp 1,778,632**

The following is the calculation of cost component B for Marine Transportation Engineering Department.

Table 4. 5 Cost Component B Calculation of Marine Transportation Engineering Department

Fixed Cost O&M		After Escalation (S1)	
Cost Component B	**Baseline Cost (Rp)**	**Rp / Year**	**Rp / Student**
Maintenance Cost			
Building	Rp 67,998,643	Rp 74,368,890	Rp 404,179
Landscape	Rp -	Rp -	Rp -
Laboratory Equipment	Rp 2,000,000	Rp 2,187,364	Rp 11,888
Furniture	Rp 22,957,775	Rp 25,108,505	Rp 136,459
Vehicle R2/R4/R6	Rp -	Rp -	Rp -
Electronics	Rp -	Rp -	Rp -
Operation Cost			
Consumption Expenditure	Rp 100,282,647	Rp 109,677,324	Rp 596,072
Telephone Bills	Rp 2,140,656	Rp 2,341,197	Rp 12,724
Photocopy Machine	Rp -	Rp -	Rp -
Cleaning/Garden Freelance	Rp 139,562,500	Rp 152,636,991	Rp 829,549
Internet Bills	Rp 1,000,000	Rp 1,093,682	Rp 5,944
Elevator	Rp -	Rp -	Rp -
Yearly License Fee	Rp -	Rp -	Rp -
ABET	Rp -	Rp -	Rp -
Software	Rp -	Rp -	Rp -
Office Stationaries	Rp 25,608,950	Rp 28,008,047	Rp 152,218
Office Supplies	Rp 17,431,412	Rp 19,064,421	Rp 103,611
Laboratory Supplies	Rp -	Rp -	Rp -
Mail, Print, Copy	Rp 65,075,785	Rp 71,172,213	Rp 386,806
Uniform	Rp -	Rp -	Rp -
Newspaper Subscription	Rp -	Rp -	Rp -

Fixed Cost O&M			After Escalation (S1)				
Cost Component B	**Baseline Cost (Rp)**		**Rp / Year**		**Rp / Student**	
Rental Service	Rp	1,600,000	Rp	1,749,891	Rp	9,510
Profession Service	Rp	11,800,000	Rp	12,905,447	Rp	70,138
Seminar/Training Resources	Rp	-	Rp	-	Rp	-
Domestic Business Trip	Rp	7,609,581	Rp	8,322,462	Rp	45,231
Souvenir / Promotion Media	Rp	-	Rp	-	Rp	-
Household Supplies	Rp	-	Rp	-	Rp	-
Overtime	Rp	2,414,000	Rp	2,640,148	Rp	14,349
Academic Cost	Rp	54,581,000	Rp	59,694,256	Rp	324,425
Overseas Business Trip	Rp	-	Rp	-	Rp	-
Total	**Rp**	**522,062,949**	**Rp**	**570,970,838**	**Rp**	**3,103,102**

The following is the calculation of cost component B for Informatics Engineering Department.

Table 4. 6 Cost Component B Calculation of Informatics Engineering Department

Fixed Cost O&M			After Escalation (S1)			
Cost Component B	**Baseline Cost (Rp)**		**Rp / Year**		**Rp / Student**	
Maintenance Cost						
Building	Rp	780,337,512	Rp	690,530,523	Rp	1,051,036
Landscape	Rp	-	Rp	-	Rp	-
Laboratory Equipment	Rp	-	Rp	-	Rp	-
Furniture	Rp	198,546,500	Rp	175,696,306	Rp	267,422
Vehicle R2/R4/R6	Rp	41,335,018	Rp	36,577,880	Rp	55,674
Electronics	Rp	-	Rp	-	Rp	-
Operation Cost						
Consumption Expenditure	Rp	124,756,069	Rp	110,398,222	Rp	168,034
Telephone Bills	Rp	13,060,668	Rp	11,557,550	Rp	17,591
Photocopy Machine	Rp	-	Rp	-	Rp	-
Cleaning/Garden Freelance	Rp	34,750,000	Rp	30,750,714	Rp	46,805
Internet Bills	Rp	-	Rp	-	Rp	-
Elevator	Rp	-	Rp	-	Rp	-

Fixed Cost O&M			After Escalation (S1)			
Cost Component B	**Baseline Cost (Rp)**		**Rp / Year**		**Rp / Student**	
Yearly License Fee	Rp	-	Rp	-	Rp	-
ABET	Rp	-	Rp	-	Rp	-
Software	Rp	-	Rp	-	Rp	-
Office Stationaries	Rp	78,650,736	Rp	27,839,351	Rp	42,373
Office Supplies	Rp	99,645,480	Rp	69,599,030	Rp	105,935
Laboratory Supplies	Rp	38,158,400	Rp	88,177,544	Rp	134,212
Mail, Print, Copy	Rp	31,977,000	Rp	33,766,850	Rp	51,396
Uniform	Rp	-	Rp	28,296,851	Rp	43,070
Newspaper Subscription	Rp	63,945,000	Rp	-	Rp	-
Rental Service	Rp	6,575,641	Rp	56,585,738	Rp	86,127
Profession Service	Rp	78,650,736	Rp	5,818,868	Rp	8,857
Seminar/Training Resources	Rp	-	Rp	-	Rp	-
Domestic Business Trip	Rp	161,003,515	Rp	142,474,045	Rp	216,855
Souvenir / Promotion Media	Rp	-	Rp	-	Rp	-
Household Supplies	Rp	2,400,000	Rp	2,123,790	Rp	3,233
Overtime	Rp	104,177,000	Rp	92,187,543	Rp	140,316
Academic Cost	Rp	-	Rp	-	Rp	-
Overseas Business Trip	Rp	6,077,400	Rp	5,377,968	Rp	8,186
Total	**Rp1,816,855,939**		**Rp1,607,758,775**		**Rp 2,447,121**	

4.1.3.3 Cost Component C

Based on cost component determination, cost component C is the variable cost of operation. The data used are the NON-PNBP and BPPTNBH Department's Budget Spending Report of 2019. The data will be categorized based on sub-components that have been described in the previous sub-section and only calculates the variable cost category. Since it is variable costs, the sub-components will increase in number if the number of lecturers and students increases and depends on the cost driver. For the calculation of cost component C begins by calculating the baseline cost as explained in the previous section.

The following is the calculation of cost component C for Industrial and Systems Engineering Department.

Table 4. 7 Cost Component C Calculation of Industrial and Systems Engineering Department

Variable Cost - Operation			**After Escalation (S1)**			
Cost Component C	**Baseline Cost (Rp)**		**Rp / Year**		**Rp / Student**	
Student Affairs	Rp	70,029,450	Rp	59,309,449	Rp	86,837
Competition	Rp	62,549,200	Rp	52,974,264	Rp	77,561
Entrepreneurship	Rp	-	Rp	-	Rp	-
Lecturer/Employee Development	Rp	261,214,923	Rp	221,228,542	Rp	323,907
International Conference	Rp	-	Rp	-	Rp	-
Non-PNS Lecturer	Rp	16,800,000	Rp	14,228,282	Rp	20,832
Lecturer Assistant	Rp	95,264,704	Rp	80,681,729	Rp	118,128
Graduation	Rp	-	Rp	-	Rp	-
Total	Rp	505,858,277	Rp	428,422,266	Rp	627,265

The following is the calculation of cost component C for Marine Transportation Engineering Department.

Table 4. 8 Cost Component C Calculation of Marine Transportation Engineering Department

Variable Cost Operation			**After Escalation (S1)**			
Cost Component C	**Baseline Cost (Rp)**		**Rp / Year**		**Rp / Student**	
Student Affairs	Rp	25,226,625	Rp	27,589,905	Rp	149,945
Competition	Rp	2,400,000	Rp	2,624,837	Rp	14,265
Entrepreneurship	Rp	-	Rp	-	Rp	-
Lecturer/Employee Development	Rp	67,191,294	Rp	73,485,907	Rp	399,380
International Conference	Rp	-	Rp	-	Rp	-
Non-PNS Lecturer	Rp	26,400,000	Rp	1,861,588	Rp	10,117
Lecturer Assistant	Rp	1,702,129	Rp	28,873,204	Rp	156,920
Graduation	Rp	-	Rp	-	Rp	-
Total	**Rp**	**122,920,048**	**Rp**	**134,435,441**	**Rp**	**730,627**

The following is the calculation of cost component C for Informatics Engineering Department.

Table 4. 9 Cost Component C Calculation of Informatics Engineering Department

Variable Cost Operation			After Escalation (S1)	
Cost Component C	**Baseline Cost (Rp)**		**Rp / Year**	**Rp / Student**
Student Affairs	Rp	34,064,030	Rp 30,143,691	Rp 45,881
Competition	Rp	57,564,576	Rp 50,939,621	Rp 77,534
Entrepreneurship	Rp	-	Rp -	Rp -
Lecturer/Employee Development	Rp	239,665,000	Rp 212,082,586	Rp 322,805
International Conference	Rp	-	Rp -	Rp -
Non-PNS Lecturer	Rp	109,380,000	Rp 96,791,744	Rp 147,324
Lecturer Assistant	Rp	76,800,000	Rp 67,961,290	Rp 103,442
Graduation	Rp	-	Rp -	Rp -
Total	**Rp**	**517,473,606**	**Rp 457,918,932**	**Rp 696,985**

4.1.3.4 Cost Component D

Based on cost component determination, cost component D is the variable cost of salary, incentives, and remuneration. The data used is Expenditure Report of Salary, Incentives, and Remuneration of PNS Staff and Lecturer. The salary, incentive, and remuneration are from TPB, IKITS, and other benefits paid from non-PNBP ITS funds. The calculation of cost component D begins by calculating the baseline cost as explained in the previous section.

The following is the calculation of cost component D for Industrial and Systems Engineering Department.

Table 4. 10 Cost Component D Calculation of Industrial and Systems Engineering Department

Variable Cost Salary, Incentive, Remuneration			After Escalation (S1)	
Cost Component D	**Baseline Cost (Rp)**		**Rp / Year**	**Rp / Student**
Staffs	Rp	547,465,900	Rp 463,660,658	Rp 678,859
Lecturers	Rp	4,473,921,448	Rp3,789,060,402	Rp 5,547,673
Total	Rp	5,021,387,349	Rp4,252,721,061	Rp 6,226,532

The following is the calculation of cost component D for Marine Transportation Engineering Department.

Table 4. 11 Cost Component D Calculation of Marine Transportation Engineering Department

Variable Cost Salary, Incentive, Remuneration		After Escalation (S1)	
Cost Component D	**Baseline Cost (Rp)**	**Rp / Year**	**Rp / Student**
Staffs	Rp 1,467,684,713	Rp1,605,180,318	Rp 8,723,806
Lecturers	Rp 864,786,757	Rp 945,801,690	Rp 5,140,227
Total	**Rp 1,012,471,470**	**Rp1,107,321,799**	**Rp 5,502,562**

The following is the calculation of cost component D for Informatics Engineering Department.

Table 4. 12 Cost Component D Calculation of Informatics Engineering Department

Variable Cost Salary, Incentive, Remuneration		After Escalation (S1)	
Cost Component D	**Baseline Cost (Rp)**	**Rp / Year**	**Rp / Student**
Staffs	Rp 700,569,010	Rp 640,126,501	Rp 813,375
Lecturers	Rp 4,775,081,897	Rp4,363,105,450	Rp 5,543,971
Total	Rp 5,475,650,907	Rp5,003,231,951	Rp 6,357,347

4.1.3.5 Cost Component E

Based on cost component determination, cost component E is the non-direct costs of overhead operation and maintenance head office. The data used for cost component E is Head Office Funds Absorption Budget Report 2019. For the calculation of cost component E begins by calculating the baseline cost as explained in the previous section. The cost component E has same amount for all departments because the costs come from the head office and borne equally for each student. The following are the results of the calculation of cost component E.

Table 4. 13 Cost Component E Calculation

Non-Direct Overhead O&M Head Office		After Escalation (S1)	
Cost Component E	**Baseline Cost (Rp)**	**Rp / Year**	**Rp / Student**
Head Office Expenses	Rp 211,944,107,957	Rp 231,799,450,974	Rp 11,810,233
Head Office Remuneration	Rp 37,950,300,365	Rp 41,505,559,526	Rp 2,114,717
Research, Publication, Local Fund Incentives	Rp 34,439,873,795	Rp 37,666,269,255	Rp 1,919,105

Non-Direct Overhead O&M Head Office		After Escalation (S1)	
Cost Component E	**Baseline Cost (Rp)**	**Rp / Year**	**Rp / Student**
Non-Department Building	Rp 43,844,970,250	Rp 43,844,970,250	Rp 2,233,911
Total	Rp 328,179,252,367	Rp 354,816,250,005	Rp 18,077,967

4.1.4 Biaya Kuliah Tunggal *Calculation*

After calculating the cost component in the previous section, this section will recapitulate BKT calculations for each department sample. The equation used to calculate BKT/semester/student is based on Minister of Education and Culture Regulation no. 25 of 2020.

$$Biaya\ Kuliah\ Tunggal = \frac{(Total\ Cost\ Components - Routine)}{2} \times K_1 \times K_2 \quad (4.10)$$

Where:

- Routine is government subsidies for each student per semester
- K_1 is the regional expensiveness index
- K_2 is the PTN quality index

$$Routine = \frac{Government\ Subsidies\ per\ Year}{Number\ of\ S1\ Students\ at\ ITS} \quad (4.11)$$

$$Routine = \frac{Rp\ 48{,}780{,}500{,}000}{19{,}627} = Rp\ 2{,}485{,}377 \quad (4.12)$$

$$K_2 = (1 + APS + AIPT + AI) \quad (4.13)$$

Where:

- APS is the study program accreditation index
- AIPT is the institution accreditation index
- AI is international accreditation index

4.1.4.1 *Biaya Kuliah Tunggal* of Industrial and Systems Engineering Department

The following is the recapitulation of *Biaya Kuliah Tunggal* of Industrial and Systems Engineering Department.

Table 4. 14 *Biaya Kuliah Tunggal* Calculation of Industrial and Systems Engineering Department

BKT/Year/Student		
Component	**Rp / Student**	
A	Rp	7,303,482
B	Rp	1,778,632
C	Rp	627,265

BKT/Year/Student

Component		Rp / Student
D	Rp	6,226,532
E	Rp	18,077,967
Routine	-Rp	2,485,377
Total	Rp	31,528,501

Index	Weight
K1	1
K2	1.45
BKT/Semester/Student	**Rp 22,858,163**

4.1.4.2 *Biaya Kuliah Tunggal* of Marine Transportation Engineering Department

The following is the recapitulation of *Biaya Kuliah Tunggal* of Marine Transportation Engineering Department

Table 4. 15 *Biaya Kuliah Tunggal* Calculation of Marine Transportation Engineering Department

BKT/Year/Student

Component		Rp / Student
A	Rp	8,952,658
B	Rp	3,103,102
C	Rp	6,018,053
D	Rp	5,502,562
E	Rp	18,077,967
Routine	-Rp	2,485,377
Total	**Rp**	**39,168,966**

Index	Weight
K1	1
K2	1.45
BKT/Semester/Student	**Rp 28,397,500**

4.1.4.3 *Biaya Kuliah Tunggal* of Informatics Engineering Department

The following is the recapitulation of *Biaya Kuliah Tunggal* of Informatics Engineering Department

Table 4. 16 *Biaya Kuliah Tunggal* Calculation of Informatics Engineering Department

BKT/Year/Student

Component		Rp / Student
A	Rp	3,577,080
B	Rp	2,447,121
C	Rp	696,985
D	Rp	7,375,149

BKT/Year/Student		
E	Rp	18,077,967
Routine	-Rp	2,485,377
Total	**Rp**	**32,174,302**

Index	Weight
K1	1
K2	1.45
BKT/Semester/Student	**Rp 23,326,369**

4.2 *Uang Kuliah Tunggal* Modeling

After the modeling phase of *Biaya Kuliah Tunggal*, the next step is modeling the *Uang Kuliah Tunggal*. There are three major schemes in modeling UKT, namely As-Is Scheme, Leveling Scheme, and Projection Scheme. The following is the big picture of the modeling scheme for *Uang Kuliah Tunggal.*

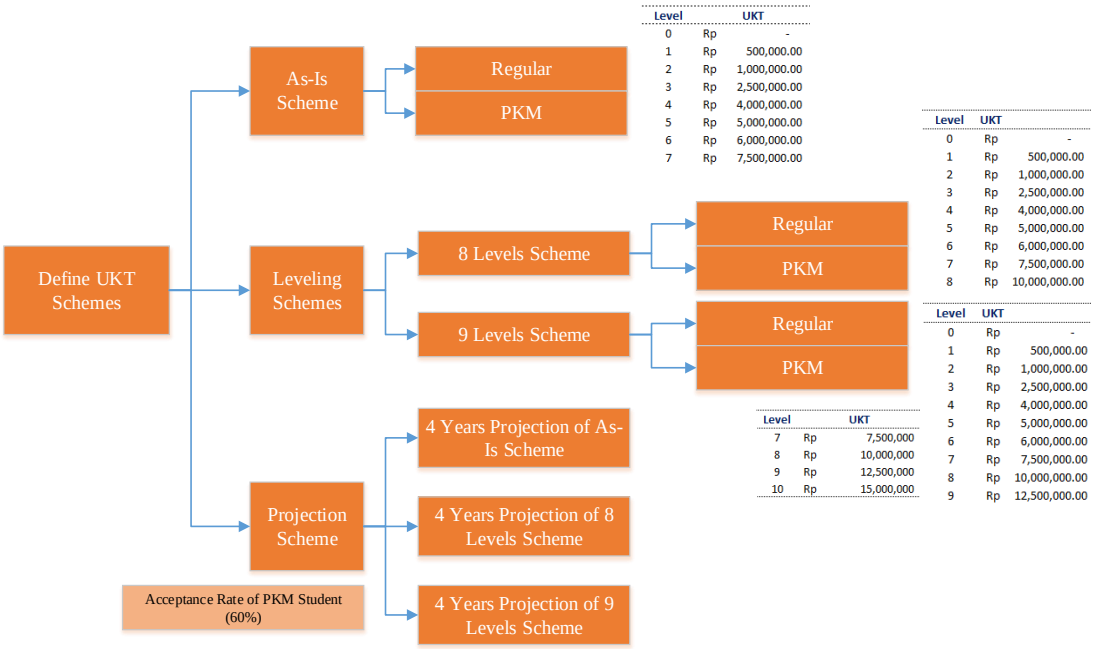

Figure 4. 4 *Uang Kuliah Tunggal* Big Picture
(Source: Personal Document)

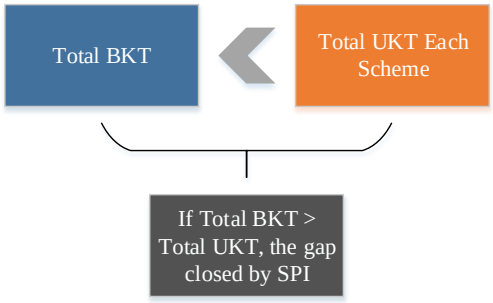

Figure 4. 5 *Biaya Kuliah Tunggal* and *Uang Kuliah Tunggal* Adjustment
(Source: Personal Document)

4.2.1 As-Is Scheme

As-Is scheme is a *Uang Kuliah Tunggal* scheme currently implemented by ITS. This scheme is a grouping level scheme where students will be charged *Uang Kuliah Tunggal* according to the economic ability of their parents. The following is the *Uang Kuliah Tunggal* calculation formula for the As-Is scheme.

$$Y = (A \times 20\%) + (B \times 60\%) + (C \times 5\%) + (D \times 15\%)$$

Where:

- Y is index of parental economic ability
- A is maximum score of parents' occupations
- B is total income of parents score
- C is house electrical power score
- D is 2-wheeled and 4-wheeled vehicle tax score

The following are the breakdown of each of the index calculation UKT formula.

Table 4. 17 Score of Parents' Occupation Index

A – Score of Parents' Occupation	
Score	Occupation
1	Orphan
2	Retired Non-commissioned Officer, retired Enlisted Rank, retired Civil Servants class III and II
3	Retired High Non-commissioned Officer (TNI/POLRI), retired Civil Servant class IV, Civil Servant class III and II
4	Civil Servant echelon IV, Civil Servant class IV, Lecturer, Teacher, Head of Squad, Head of Section

A – Score of Parents' Occupation	
Score	Occupation
5	Retired Middle Officer (TNI/POLRI), First Officer, Head of Sub-district, Head of Division, Head of Sub-Directorate, Head of Department/Department Secretary
6	Retired High Officer (TNI/POLRI), Middle Officer, Head of Bureaucracy, Head of Body, Head of Department
7	Minister, Head of Embassy, Ministry Expert Staff, Ministry Echelon Official

Table 4. 18 Score of Parents' Income Index

B – Score of Parents' Income	
Score	**Income**
1	≤ Rp 1,740,000
2	Rp 1,740,001 – Rp 2,500,000
3	Rp 2,500,001 – Rp 5,000,000
4	Rp 5,000,001 – Rp 7,500,000
5	Rp 7,500,001 – Rp 10,000,000
6	Rp 10,000,001 – Rp 15,000,000
7	>Rp 15,000,000

Table 4. 19 Score of House Electrical Power Index

C – Score of House Electrical Power	
Score	**House Electrical Power**
1	0 Watt
2	Stay at someone else's house
3	450 Watt
4	900 Watt
5	1300 Watt
7	≥ 2200 Watt

Table 4. 20 Score of Vehicle Tax Index

D – Score of 2-wheeled and 4-wheeled Vehicle Tax	
Score	**Vehicle Tax**
1	< Rp 250,000
2	Rp 250,000 – Rp 750,000
3	Rp 750,001 – Rp 1,250,000
4	Rp 1,250,001 – Rp 2,000,000
5	Rp 2,000,001 – Rp 2,500,000
6	Rp 2,500,001 – Rp 3,000,000
7	>Rp 3,000,000

The results of the calculation of the index of parental economic ability will determine the amount of *Uang Kuliah Tunggal* to be paid each semester. Below is a breakdown of the *Uang Kuliah Tunggal* level and its nominal value.

Table 4. 21 *Uang Kuliah Tunggal* Level of As-Is Scheme

Level	***Uang Kuliah Tunggal***
1	Rp 500,000
2	Rp 1,000,000
3	Rp 2,500,000
4	Rp 4,000,000
5	Rp 5,000,000
6	Rp 6,000,000
7	Rp 7,500,000

The following is the *Uang Kuliah Tunggal* recap of the As-Is scheme of Industrial and Systems Engineering Department.

Table 4. 22 As-Is Scheme of Industrial and Systems Engineering Department

Level	UKT		Number of Students	Percentage
0	Rp	-	69	10%
1	Rp	500,000	4	1%
2	Rp	1,000,000	25	4%
3	Rp	2,500,000	50	7%
4	Rp	4,000,000	55	8%
5	Rp	5,000,000	54	8%
6	Rp	6,000,000	47	7%

Level	UKT		Number of Students	Percentage
7	Rp	7,500,000	379	55%

Total	**UKT**	**Rp**	**3,766,500,000**
	Total Students		683
Average	**UKT**	**Rp**	**5,514,641**

The following is the *Uang Kuliah Tunggal* recap of the As-Is scheme of Marine Transportation Engineering Department.

Table 4. 23 As-Is Scheme of Marine Transportation Engineering Department

Level	UKT		Number of Students	Percentage
0	Rp	-	13	7%
1	Rp	500,000	4	2%
2	Rp	1,000,000	15	8%
3	Rp	2,500,000	17	9%
4	Rp	4,000,000	24	13%
5	Rp	5,000,000	15	8%
6	Rp	6,000,000	10	5%
7	Rp	7,500,000	86	47%

Total	**UKT**	**Rp**	**935,500,000**
	Total Students		184
Average	**UKT**	**Rp**	**5,084,239**

The following is the *Uang Kuliah Tunggal* recap of the As-Is scheme of Informatics Engineering Department.

Table 4. 24 As-Is Scheme of Informatics Engineering Department

Level	UKT		Number of Students	Percentage
0	Rp	-	66	10%
1	Rp	500,000	3	0%
2	Rp	1,000,000	18	3%
3	Rp	2,500,000	37	6%
4	Rp	4,000,000	46	7%
5	Rp	5,000,000	64	10%
6	Rp	6,000,000	51	8%
7	Rp	7,500,000	372	57%

Total	**UKT**	**Rp**	**3,712,000,000**
	Total Students		657
Average	**UKT**	**Rp**	**5,649,924**

4.2.1.1 Comparison between the new BKT and As-Is Scheme

The comparison between the new *Biaya Kuliah Tunggal* and the As-Is scheme is to see the gap between the total BKT and the total UKT revenue for one department. Below is a comparison for Industrial and Systems Engineering Department.

Table 4. 25 Comparison of the new BKT and UKT As-Is Scheme of Industrial and Systems Engineering Department

Biaya Kuliah Tunggal		***Uang Kuliah Tunggal***	
BKT/Semester/ Student	Rp 25,743,196	Average UKT	Rp 5,514,641
Number of Students	683	Number of Students	683
Total BKT	Rp 18,303,871,208	Total UKT + SPI 2019	Rp 9,565,250,000
Difference	**-Rp 6,046,875,442**		

The following is a comparison between the new *Biaya Kuliah Tunggal* and the As-Is scheme of *Uang Kuliah Tunggal* for Marine Transportation Engineering Department.

Table 4. 26 Comparison of the new BKT and UKT As-Is Scheme of Marine Transportation Engineering Department

Biaya Kuliah Tunggal		***Uang Kuliah Tunggal***	
BKT/Semester/ Student	Rp 33,293,621	Average UKT	Rp 5,084,239
Number of Students	184	Number of Students	184
Total BKT	Rp 6,126,026,212	Total UKT + SPI 2019	Rp 2,554,900,000
Difference	**-Rp 2,670,240,004**		

The following is a comparison between the new *Biaya Kuliah Tunggal* and the As-Is scheme of *Uang Kuliah Tunggal* for Informatics Engineering Department.

Table 4. 27 Comparison of the new BKT and UKT As-Is Scheme of Informatics Engineering Department

Biaya Kuliah Tunggal		***Uang Kuliah Tunggal***	
BKT/Semester/ Student	Rp 27,348,156	Average UKT	Rp 5,649,924
Number of Students	657	Number of Students	657
Total BKT	Rp 17,967,738,817	Total UKT + SPI 2019	Rp 10,349,750,000

Biaya Kuliah Tunggal		*Uang Kuliah Tunggal*
Difference	**-Rp**	**4,975,674,285**

Looking at the large gap between the new *Biaya Kuliah Tunggal* and the As-Is scheme of *Uang Kuliah Tunggal* indicates that the need for *Uang Kuliah Tunggal* adjustments is to avoid deficits. The next section will discuss the adjustment of *Uang Kuliah Tunggal* using leveling schemes.

4.2.2 Leveling Scheme

The leveling scheme is a scheme with a grouping of parents' economic capabilities to several *Uang Kuliah Tunggal* levels. In contrast to the As-Is scheme, which is the basis for measuring the economic ability of parents in this leveling scheme is only based on parental income. The data used for conducting this scheme are parents' income for undergraduate students of batch 2019. There are 2 sub-schemes including the eight levels scheme and the nine levels scheme.

4.2.2.1 Eight Levels Scheme

The eight levels scheme is a modification of the As-Is scheme where in this scheme only adds an *Uang Kuliah Tunggal* level for students with SNMPTN and SBMPTN entry path or Regular and adds three new levels for students with PKM entry path. The following is the *Uang Kuliah Tunggal* level for the eight levels scheme.

Table 4. 28 Uang Kuliah Tunggal Level for the Eight Levels Scheme

Entry Path	Level	UKT	
Regular	0	Rp	-
	1	Rp	500,000
	2	Rp	1,000,000
	3	Rp	2,500,000
	4	Rp	4,000,000
	5	Rp	5,000,000
	6	Rp	6,000,000
Regular and PKM	7	Rp	7,500,000
	8	Rp	10,000,000
PKM	9	Rp	12,500,000

Entry Path	Level	UKT
	10	Rp 15,000,000

There are several changes in the range of student parents' income for regular and PKM adjust to existing levels. Below is a detailed range of student parents' income.

Table 4. 29 Range of Student Parents' Income for the Eight Levels Scheme

Entry Path	UKT Level	Range of Student Parents' Income
Regular	1	≤ Rp 1,740,000
	2	Rp 1,740,000 – Rp 2,500,000
	3	Rp 2,500,000 – Rp 5,000,000
	4	Rp 5,000,000 – Rp 7,500,000
	5	Rp 7,500,000 – Rp 10,000,000
	6	Rp 10,000,000 – Rp 15,000,000
	7	Rp 15,000,000 – Rp 20,000,000
	8	> Rp 20,000,000
PKM	7	≤ Rp 15,000,000
	8	Rp 15,000,000 – Rp 30,000,000
	9	Rp 25,000,000 – Rp 30,000,000
	10	> Rp 30,000,000

The following is the calculation results of the UKT eight levels scheme of Industrial and Systems Engineering Department.

Table 4. 30 Calculation Results of Eight Levels Scheme UKT of Industrial and Systems Engineering Department

Regular				
Level		UKT	Number of Students	Percentage
0	Rp	-	16	11.51%
1	Rp	500,000	5	3.60%
2	Rp	1,000,000	7	5.04%
3	Rp	2,500,000	22	15.83%
4	Rp	4,000,000	13	9.35%
5	Rp	5,000,000	20	14.39%
6	Rp	6,000,000	23	16.55%
7	Rp	7,500,000	12	8.63%
8	Rp	10,000,000	21	15.11%

Total	**UKT**	**Rp**	**654,500,000**
	Students		139
Average	**UKT**	**Rp**	**4,708,633**

PKM				
Level		**UKT**	**Number of Students**	**Percentage**
7	Rp	7,500,000	16	40.00%
8	Rp	10,000,000	13	32.50%
9	Rp	12,500,000	3	7.50%
10	Rp	15,000,000	24	60.00%

Total	Students		56
	UKT	**Rp**	**527,500,000**
	SPI	**Rp**	**5,798,750,000**
Average	**UKT**	**Rp**	**9,419,643**
	SPI	**Rp**	**103,549,107**
End Total UKT + SPI	**Rp**	**6,980,750,000**	

The following is the calculation results of the UKT eight levels scheme of Marine Transportation Engineering Department.

Table 4. 31 Calculation Results of Eight Levels Scheme UKT of Marine Transportation Engineering Department

Regular				
Level		**UKT**	**Number of Students**	**Percentage**
0	Rp	-	5	14.29%
1	Rp	500,000	4	11.43%
2	Rp	1,000,000	2	5.71%
3	Rp	2,500,000	7	20.00%
4	Rp	4,000,000	2	5.71%
5	Rp	5,000,000	1	2.86%
6	Rp	6,000,000	7	20.00%
7	Rp	7,500,000	4	11.43%
8	Rp	10,000,000	3	8.57%

Total	**UKT**	**Rp**	**136,500,000**
	Students		35
Average	**UKT**	**Rp**	**3,900,000**

PKM				
Level		**UKT**	**Number of Students**	**Percentage**
7	Rp	7,500,000	14	66.67%
8	Rp	10,000,000	2	9.52%
9	Rp	12,500,000	0	0.00%
10	Rp	15,000,000	5	23.81%

Total	Students		21
	UKT	**Rp**	**95,000,000**

PKM				
	SPI	**Rp**	**1,619,400,000**	
Average	**UKT**	**Rp**	**4,523,810**	
	SPI	**Rp**	**77,114,286**	
End Total UKT + SPI	**Rp**	**1,850,900,000**		

The following is the calculation results of the UKT eight levels scheme of Informatics Engineering Department.

Table 4. 32 Calculation Results of Eight Levels Scheme UKT of Informatics Engineering Department

Regular				
Level		**UKT**	**Number of Students**	**Percentage**
0	Rp	-	32	18.39%
1	Rp	500,000	5	2.87%
2	Rp	1,000,000	7	4.02%
3	Rp	2,500,000	24	13.79%
4	Rp	4,000,000	12	6.90%
5	Rp	5,000,000	22	12.64%
6	Rp	6,000,000	28	16.09%
7	Rp	7,500,000	12	6.90%
8	Rp	10,000,000	32	18.39%

Total	**UKT**	**Rp**	**805,500,000**	
	Students		174	
Average	**UKT**	**Rp**	**4,629,310**	

PKM				
Level		**UKT**	**Number of Students**	**Percentage**
7	Rp	7,500,000	25	39.06%
8	Rp	10,000,000	13	20.31%
9	Rp	12,500,000	5	7.81%
10	Rp	15,000,000	21	32.81%

Total	Students		64	
	UKT	**Rp**	**507,500,000**	
	SPI	**Rp**	**6,637,750,000**	
Average	**UKT**	**Rp**	**7,929,688**	
	SPI	**Rp**	**103,714,844**	
End Total UKT+SPI	**Rp**	**7,950,750,000**		

4.2.2.2 Nine Levels Scheme

The nine levels scheme is a modification of the As-Is scheme where in this scheme adds two *Uang Kuliah Tunggal* levels for Regular students and adds three new levels for students with PKM entry path. The following is the *Uang Kuliah Tunggal* level for the nine levels scheme.

Table 4. 33 Uang Kuliah Tunggal Level for the Nine Levels Scheme

Entry Path	Level	UKT	
Regular	0	Rp	-
	1	Rp	500,000
	2	Rp	1,000,000
	3	Rp	2,500,000
	4	Rp	4,000,000
	5	Rp	5,000,000
	6	Rp	6,000,000
Regular and PKM	7	Rp	7,500,000
	8	Rp	10,000,000
	9	Rp	12,500,000
PKM	10	Rp	15,000,000

There are several changes in the range of student parents' income for regular and PKM adjust to existing levels. Below is a detailed range of student parents' income.

Table 4. 34 Range of Student Parents' Income for the Nine Levels Scheme

Entry Path	UKT Level	Range of Student Parents' Income
Regular	1	≤ Rp 1,740,000
	2	Rp 1,740,000 – Rp 2,500,000
	3	Rp 2,500,000 – Rp 5,000,000
	4	Rp 5,000,000 – Rp 7,500,000
	5	Rp 7,500,000 – Rp 10,000,000
	6	Rp 10,000,000 – Rp 15,000,000
	7	Rp 15,000,000 – Rp 20,000,000
	8	Rp 20,000,000 – Rp 25,000,000
	9	> Rp 25,000,000
PKM	7	≤ Rp 15,000,000
	8	Rp 15,000,000 – Rp 30,000,000
	9	Rp 25,000,000 – Rp 30,000,000

Entry Path	UKT Level	Range of Student Parents' Income
	10	> Rp 30,000,000

The following is the calculation results of the UKT nine levels scheme of Industrial and Systems Engineering Department.

Table 4. 35 Calculation Results of Nine Levels Scheme UKT of Industrial and Systems Engineering Department

Regular				
Level		**UKT**	**Number of Students**	**Percentage**
0	Rp	-	16	11.51%
1	Rp	500,000	5	3.60%
2	Rp	1,000,000	7	5.04%
3	Rp	2,500,000	22	15.83%
4	Rp	4,000,000	13	9.35%
5	Rp	5,000,000	20	14.39%
6	Rp	6,000,000	23	16.55%
7	Rp	7,500,000	12	8.63%
8	Rp	10,000,000	7	5.04%
9	Rp	12,500,000	14	10.07%

Total	**UKT**	**Rp**	**689,500,000**	
	Students		139	
Average	**UKT**	**Rp**	**4,960,432**	

PKM				
Level		**UKT**	**Number of Students**	**Percentage**
7	Rp	7,500,000	16	40.00%
8	Rp	10,000,000	13	32.50%
9	Rp	12,500,000	3	7.50%
10	Rp	15,000,000	24	60.00%

Total	Students		56	
	UKT	**Rp**	**527,500,000**	
	SPI	**Rp**	**5,798,750,000**	
Average	**UKT**	**Rp**	**9,419,643**	
	SPI	**Rp**	**103,549,107**	
End Total UKT+SPI	**Rp**	**7,015,750,000**		

The following is the calculation results of the UKT nine levels scheme of Marine Transportation Engineering Department.

Table 4. 36 Calculation Results of Nine Levels Scheme UKT of Marine Transportation Engineering Department

Regular				
Level		**UKT**	**Number of Students**	**Percentage**
0	Rp	-	5	14.29%
1	Rp	500,000	4	11.43%
2	Rp	1,000,000	2	5.71%
3	Rp	2,500,000	7	20.00%
4	Rp	4,000,000	2	5.71%
5	Rp	5,000,000	1	2.86%
6	Rp	6,000,000	7	20.00%
7	Rp	7,500,000	4	11.43%
8	Rp	10,000,000	0	0.00%
9	Rp	12,500,000	3	8.57%
Total	**UKT**		**Rp**	**144,000,000**
	Students		35	
Average	**UKT**		**Rp**	**4,114,286**
PKM				
Level		**UKT**	**Number of Students**	**Percentage**
7	Rp	7,500,000	14	66.67%
8	Rp	10,000,000	2	9.52%
9	Rp	12,500,000	0	0.00%
10	Rp	15,000,000	5	23.81%
Total	Students		21	
	UKT		**Rp**	**95,000,000**
	SPI		**Rp**	**1,619,400,000**
Average	**UKT**		**Rp**	**4,523,810**
	SPI		**Rp**	**77,114,286**
End Total UKT+SPI	**Rp**	**1,858,400,000**		

The following is the calculation results of the UKT nine levels scheme of Informatics Engineering Department.

Table 4. 37 Calculation Results of Nine Levels Scheme UKT of Informatics Engineering Department

Regular				
Level		**UKT**	**Number of Students**	**Percentage**
0	Rp	-	32	18.39%
1	Rp	500,000	5	2.87%
2	Rp	1,000,000	7	4.02%
3	Rp	2,500,000	24	13.79%

Regular				
4	Rp	4,000,000	12	6.90%
5	Rp	5,000,000	22	12.64%
6	Rp	6,000,000	28	16.09%
7	Rp	7,500,000	12	6.90%
8	Rp	10,000,000	11	6.32%
9	Rp	12,500,000	21	12.07%

Total	**UKT**	**Rp**	**858,000,000**
	Students		174
Average	**UKT**	**Rp**	**4,931,034**

PKM				
Level		**UKT**	**Number of Students**	**Percentage**
7	Rp	7,500,000	25	39.06%
8	Rp	10,000,000	13	20.31%
9	Rp	12,500,000	5	7.81%
10	Rp	15,000,000	21	32.81%

Total	Students		64
	UKT	**Rp**	**507,500,000**
	SPI	**Rp**	**6,637,750,000**
Average	**UKT**	**Rp**	**7,929,688**
	SPI	**Rp**	**103,714,844**
End Total UKT+SPI	**Rp**	**8,003,250,000**	

4.2.3 Uang Kuliah Tunggal *Projection*

After modeling *Uang Kuliah Tunggal* as explained in the previous section, it is necessary to project the revenue derived from *Uang Kuliah Tunggal* each semester. *Uang Kuliah Tunggal* income projections aim to see the impact of each new scheme towards the As-Is scheme. This projection uses an *Uang Kuliah Tunggal* database of undergraduate students in the sample department. The number of students in the following year is obtained based on the number of undergraduate students' batch 2019. Because this projection is carried out for the next 4 years which needs to consider the students who graduated, therefore it is assumed that the first term and second term each year have a graduation rate of 5% and 20% respectively.

The January income is the income from UKT of even semester and it is obtained from the UKT of students above batch 2020 and added with the next batch following the estimated year. For the September income is the income from UKT of odd semester and it is obtained from the UKT and SPI of new students each year and the UKT of the remaining students which differs between the students above batch 2020 and the students with the next batch following the estimated year. So that the total income each year is the January income added with the September income.

4.2.3.1 Projection of Industrial and Systems Engineering Department

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from As-Is Scheme of Industrial and Systems Engineering Department.

Table 4. 38 As-Is Scheme UKT Projection in 2020 of Industrial and Systems Engineering Department

Estimated 2020 As-Is Scheme						
Jan-20						
Students >2020		683			TOTAL	
Average UKT	Rp	5,514,641	**January Income**		**Rp**	**3,766,500,000**
New Students - 2020						
Regular		139	Rp	5,079,137	**Rp**	**706,000,000**
SKM		56	Rp	7,500,000	**Rp**	**420,000,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020						
Graduate		20%		137		
Remaining						
Students		546				
UKT Income					**Rp**	**3,010,994,143**
September Income					**Rp**	**9,935,744,143**
TOTAL INCOME - 2020					**Rp**	**13,702,244,143**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from As-Is Scheme of Industrial and Systems Engineering Department.

Table 4. 39 As-Is Scheme UKT Projection in 2021 of Industrial and Systems Engineering Department

Estimated 2021 As-Is Scheme		
Jan-21		
Students >2020	546	TOTAL

Estimated 2021 As-Is Scheme						
Graduate		5%		35		
Average UKT	Rp	5,514,641			**Rp**	**2,817,981,698**
Batch 2020						
Regular		139	Rp	5,079,137	**Rp**	**706,000,000**
SKM		56	Rp	7,500,000	**Rp**	**420,000,000**
			January Income		**Rp**	**3,943,981,698**
New Students - 2021						
Regular		139	Rp	5,079,137	**Rp**	**706,000,000**
SKM		56	Rp	7,500,000	**Rp**	**420,000,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020						
Graduate		20%		137		
Remaining Students		374				
UKT Income					**Rp**	**2,062,475,842**
Batch 2020						
Regular		139	Rp	5,079,137	**Rp**	**706,000,000**
SKM		56	Rp	7,500,000	**Rp**	**420,000,000**
September Income					**Rp**	**10,113,225,842**
TOTAL INCOME - 2021					**Rp**	**14,057,207,540**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from As-Is Scheme of Industrial and Systems Engineering Department.

Table 4. 40 As-Is Scheme UKT Projection in 2022 of Industrial and Systems Engineering Department

Estimated 2022 As-Is Scheme						
Jan-22						
Students >2020		374			TOTAL	
Graduate		5%		19		
Average UKT	Rp	5,514,641			**Rp**	**1,957,697,657**
Batch 2020-2021						
Regula		278	Rp	5,079,137	**Rp**	**1,412,000,000**
SKM		112	Rp	7,500,000	**Rp**	**840,000,000**

Estimated 2022 As-Is Scheme					
			January Income	**Rp**	**4,209,697,657**
New Students - 2022					
Regular	139	Rp	5,079,137	**Rp**	**706,000,000**
SKM	56	Rp	7,500,000	**Rp**	**420,000,000**
SPI	56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020					
Graduate	20%		75		
Remaining Students	280				
UKT Income				**Rp**	**1,544,099,561**
Batch 2020-2021					
Regular	278	Rp	5,079,137	**Rp**	**1,412,000,000**
SKM	112	Rp	7,500,000	**Rp**	**840,000,000**
September Income				**Rp**	**10,720,849,561**
TOTAL INCOME - 2022				**Rp**	**14,930,547,218**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from As-Is Scheme of Industrial and Systems Engineering Department.

Table 4. 41 As-Is Scheme UKT Projection in 2023 of Industrial and Systems Engineering Department

Estimated 2023 As-Is Scheme						
Jan-23						
Students >2020		280			TOTAL	
Graduate		5%		14		
Average UKT	Rp	5,514,641			**Rp**	**1,466,894,583**
Batch 2020-2022						
Regular		417	Rp	5,079,137	**Rp**	**2,118,000,000**
SKM		168	Rp	7,500,000	**Rp**	**1,260,000,000**
			January Income		**Rp**	**4,844,894,583**
New Students - 2023						
Regular		139	Rp	5,079,137	**Rp**	**706,000,000**
SKM		56	Rp	7,500,000	**Rp**	**420,000,000**

Estimated 2023 As-Is Scheme					
SPI	56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020 Graduate	20%		56		
Remaining Students	210				
UKT Income				**Rp**	**1,158,074,671**
Batch 2020-2022					
Regular	417	Rp	5,079,137	**Rp**	**2,118,000,000**
SKM	168	Rp	7,500,000	**Rp**	**1,260,000,000**
September Income				**Rp**	**11,460,824,671**
TOTAL INCOME - 2023				**Rp**	**16,305,719,253**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from Eight Levels Scheme of Industrial and Systems Engineering Department.

Table 4. 42 Eight Levels Scheme UKT Projection in 2020 of Industrial and Systems Engineering Department

Estimated 2020 Eight Levels Scheme						
Jan-20						
Students >2020		683			TOTAL	
Average UKT	Rp	5,514,641	**January Income**		**Rp**	**3,766,500,000**
New Students - 2020						
Regular		139	Rp	4,708,633	**Rp**	**654,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020 Graduate		20%		137		
Remaining Students		546				
UKT Income					**Rp**	**3,010,994,143**
September Income					**Rp**	**10,111,744,143**
TOTAL INCOME - 2020					**Rp**	**13,878,244,143**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from Eight Levels Scheme of Industrial and Systems Engineering Department.

Table 4. 43 Eight Levels Scheme UKT Projection in 2021 of Industrial and Systems Engineering Department

Estimated 2021 Eight Levels Scheme						
Jan-21						
Students >2020		546			TOTAL	
Graduate		5%		35		
Average UKT	Rp	5,514,641			**Rp**	**2,817,981,698**
Batch 2020						
Reguler		139	Rp	4,708,633	**Rp**	**654,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
			January Income		**Rp**	**4,119,981,698**
New Students - 2021						
Regular		139	Rp	4,708,633	**Rp**	**654,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020						
Graduate		20%		137		
Remaining Students		374				
UKT Income					**Rp**	**2,062,475,842**
Batch 2020						
Regular		139	Rp	4,708,633	**Rp**	**654,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
September Income					**Rp**	**10,465,225,842**
TOTAL INCOME - 2021					**Rp**	**14,585,207,540**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from Eight Levels Scheme of Industrial and Systems Engineering Department.

Table 4. 44 Eight Levels Scheme UKT Projection in 2022 of Industrial and Systems Engineering Department

Estimated 2022 Eight Levels Scheme
Jan-22

Estimated 2022 Eight Levels Scheme						
Students >2020		374			TOTAL	
Graduate		5%		19		
Average UKT	Rp	5,514,641			**Rp**	**1,957,697,657**
Batch 2020-2021						
Regula		278	Rp	4,708,633	**Rp**	**1,309,000,000**
SKM		112	Rp	11,562,500	**Rp**	**1,295,000,000**
			January Income		**Rp**	**4,561,697,657**
New Students - 2022						
Regular		139	Rp	4,708,633	**Rp**	**654,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020						
Graduate		20%		75		
Remaining						
Students		280				
UKT Income					**Rp**	**1,544,099,561**
Batch 2020-2021						
Regular		278	Rp	4,708,633	**Rp**	**1,309,000,000**
SKM		112	Rp	11,562,500	**Rp**	**1,295,000,000**
September Income					**Rp**	**11,248,849,561**
TOTAL INCOME - 2022					**Rp**	**15,810,547,218**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from Eight Levels Scheme of Industrial and Systems Engineering Department.

Table 4. 45 Eight Levels Scheme UKT Projection in 2023 of Industrial and Systems Engineering Department

Estimated 2023 Eight Levels Scheme						
Jan-23						
Students >2020		280			TOTAL	
Graduate		5%		14		
Average UKT	Rp	5,514,641			**Rp**	**1,466,894,583**
Batch 2020-2022						

Estimated 2023 Eight Levels Scheme					
Regular	417	Rp	4,708,633	**Rp**	**1,963,500,000**
SKM	168	Rp	11,562,500	**Rp**	**1,942,500,000**
		January Income		**Rp**	**5,372,894,583**
New Students - 2023					
Regular	139	Rp	4,708,633	**Rp**	**654,500,000**
SKM	56	Rp	11,562,500	**Rp**	**647,500,000**
SPI	56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020					
Graduate	20%		56		
Remaining Students	210				
UKT Income				**Rp**	**1,158,074,671**
Batch 2020-2022					
Regular	417	Rp	4,708,633	**Rp**	**1,963,500,000**
SKM	168	Rp	11,562,500	**Rp**	**1,942,500,000**
September Income				**Rp**	**12,164,824,671**
TOTAL INCOME - 2023				**Rp**	**17,537,719,253**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from Nine Levels Scheme of Industrial and Systems Engineering Department.

Table 4. 46 Nine Levels Scheme UKT Projection in 2020 of Industrial and Systems Engineering Department

Estimated 2020 Nine Levels Scheme						
Jan-20						
Students >2020		683			TOTAL	
Average UKT	Rp	5,514,641	**January Income**		**Rp**	**3,766,500,000**
New Students - 2020						
Regular		139	Rp	4,960,432	**Rp**	**689,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020						

Estimated 2020 Nine Levels Scheme				
Graduate	20%	137		
Remaining Students	546			
UKT Income			**Rp**	**3,010,994,143**
September Income			**Rp**	**10,146,744,143**
TOTAL INCOME - 2020			**Rp**	**13,913,244,143**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from Nine Levels Scheme of Industrial and Systems Engineering Department.

Table 4. 47 Nine Levels Scheme UKT Projection in 2021 of Industrial and Systems Engineering Department

Estimated 2021 Nine Levels Scheme						
Jan-21						
Students >2020		546			TOTAL	
Graduate		5%		35		
Average UKT	Rp	5,514,641			**Rp**	**2,817,981,698**
Batch 2020						
Regular		139	Rp	4,960,432	**Rp**	**689,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
			January Income		**Rp**	**4,154,981,698**
New Students - 2021						
Regular		139	Rp	4,960,432	**Rp**	**689,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020						
Graduate		20%		137		
Remaining Students		374				
UKT Income					**Rp**	**2,062,475,842**
Batch 2020						
Regular		139	Rp	4,960,432	**Rp**	**689,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
September Income					**Rp**	**10,535,225,842**

Estimated 2021 Nine Levels Scheme		
TOTAL INCOME - 2021	**Rp**	**14,690,207,540**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from Nine Levels Scheme of Industrial and Systems Engineering Department.

Table 4. 48 Nine Levels Scheme UKT Projection in 2022 of Industrial and Systems Engineering Department

Estimated 2022 Nine Levels Scheme						
Jan-22						
Students >2020		374			TOTAL	
Graduate		5%		19		
Average UKT	Rp	5,514,641			**Rp**	**1,957,697,657**
Batch 2020-2021						
Regular		278	Rp	4,960,432	**Rp**	**1,379,000,000**
SKM		112	Rp	11,562,500	**Rp**	**1,295,000,000**
			January Income		**Rp**	**4,631,697,657**
New Students - 2022						
Regular		139	Rp	4,960,432	**Rp**	**689,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020						
Graduate		20%		75		
Remaining Students		280				
UKT Income					**Rp**	**1,544,099,561**
Batch 2020-2021						
Regular		278	Rp	4,960,432	**Rp**	**1,379,000,000**
SKM		112	Rp	11,562,500	**Rp**	**1,295,000,000**
September Income					**Rp**	**11,353,849,561**
TOTAL INCOME - 2022					**Rp**	**15,985,547,218**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from Nine Levels Scheme of Industrial and Systems Engineering Department.

Table 4. 49 Nine Levels Scheme UKT Projection in 2023 of Industrial and Systems Engineering Department

Estimated 2023 Nine Levels Scheme						
Jan-23						
Students >2020		280			TOTAL	
Graduate		5%		14		
Average UKT	Rp	5,514,641			**Rp**	**1,466,894,583**
Batch 2020-2022						
Regular		417	Rp	4,960,432	**Rp**	**2,068,500,000**
SKM		168	Rp	11,562,500	**Rp**	**1,942,500,000**
				January Income	**Rp**	**5,477,894,583**
New Students - 2023						
Regular		139	Rp	4,960,432	**Rp**	**689,500,000**
SKM		56	Rp	11,562,500	**Rp**	**647,500,000**
SPI		56	Rp	103,549,107	**Rp**	**5,798,750,000**
Students >2020						
Graduate		20%		56		
Remaining						
Students		210				
UKT Income					**Rp**	**1,158,074,671**
Batch 2020-2022						
Regular		417	Rp	4,960,432	**Rp**	**2,068,500,000**
SKM		168	Rp	11,562,500	**Rp**	**1,942,500,000**
September Income					**Rp**	**12,304,824,671**
TOTAL INCOME - 2023					**Rp**	**17,782,719,253**

4.2.3.2 Projection of Marine Transportation Engineering Department

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from As-Is Scheme of Marine Transportation Engineering Department.

Table 4. 50 As-Is Scheme UKT Projection in 2020 of Marine Transportation Engineering Department

Estimated 2020 As-Is Scheme					
Jan-20					
Students >2020		184		TOTAL	
Average UKT	Rp	5,084,239	**January Income**	**Rp**	**935,500,000**

Estimated 2020 As-Is Scheme					
New Students - 2020					
Regular	35	Rp	4,428,571	**Rp**	**155,000,000**
SKM	21	Rp	7,500,000	**Rp**	**157,500,000**
SPI	21	Rp	77,114,286	**Rp**	**1,619,400,000**
Students >2020					
Graduate	20%		37		
Remaining Students	147				
UKT Income				**Rp**	**747,383,152**
September Income				**Rp**	**2,679,283,152**
TOTAL INCOME - 2020				**Rp**	**3,614,783,152**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from As-Is Scheme of Marine Transportation Engineering Department.

Table 4. 51 As-Is Scheme UKT Projection in 2021 of Marine Transportation Engineering Department

Estimated 2021 As-Is Scheme						
Jan-21						
Students >2020		147			TOTAL	
Graduate		5%		10		
Average UKT	Rp	5,084,239			**Rp**	**696,540,761**
Batch 2020						
Regular		35	Rp	4,428,571	**Rp**	**155,000,000**
SKM		21	Rp	7,500,000	**Rp**	**157,500,000**
			January Income		**Rp**	**1,009,040,761**
New Students - 2021						
Regular		35	Rp	4,428,571	**Rp**	**155,000,000**
SKM		21	Rp	7,500,000	**Rp**	**157,500,000**
SPI		21	Rp	77,114,286	**Rp**	**1,619,400,000**
Students >2020						
Graduate		20%		37		
Remaining Students		100				

Estimated 2021 As-Is Scheme						
UKT Income					**Rp**	**508,423,913**
Batch 2020						
Regular		35	Rp	4,428,571	**Rp**	**155,000,000**
SKM		21	Rp	7,500,000	**Rp**	**157,500,000**
September Income					**Rp**	**2,752,823,913**
TOTAL INCOME - 2021					**Rp**	**3,761,864,674**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from As-Is Scheme of Marine Transportation Engineering Department.

Table 4. 52 As-Is Scheme UKT Projection in 2022 of Marine Transportation Engineering Department

Estimated 2022 As-Is Scheme						
Jan-22						
Students >2020		100			TOTAL	
Graduate		5%		5		
Average UKT	Rp	5,084,239			**Rp**	**483,002,717**
Batch 2020-2021						
Regular		70	Rp	4,428,571	**Rp**	**310,000,000**
SKM		42	Rp	7,500,000	**Rp**	**315,000,000**
				January Income	**Rp**	**1,108,002,717**
New Students - 2022						
					Rp	
Regular		35	Rp	4,428,571	**155,000,000**	
SKM		21	Rp	7,500,000	**Rp**	**157,500,000**
SPI		21	Rp	4,428,571	**Rp**	**93,000,000**
Students >2020						
Graduate		20%		20		
Remaining Students		75				
UKT Income					**Rp**	**381,317,935**
Batch 2020-2021						
Regular		70	Rp	4,428,571	**Rp**	**310,000,000**
SKM		42	Rp	7,500,000	**Rp**	**315,000,000**

Estimated 2022 As-Is Scheme		
September Income	**Rp**	**1,411,817,935**
TOTAL INCOME - 2022	**Rp**	**2,519,820,652**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from As-Is Scheme of Marine Transportation Engineering Department.

Table 4. 53 As-Is Scheme UKT Projection in 2023 of Marine Transportation Engineering Department

Estimated 2023 As-Is Scheme						
Jan-23						
Students >2020		75			TOTAL	
Graduate		5%		4		
Average UKT	Rp	5,084,239			**Rp**	**360,980,978**
Batch 2020-2022						
Regular		105	Rp	4,428,571	**Rp**	**465,000,000**
SKM		63	Rp	7,500,000	**Rp**	**472,500,000**
			January Income		**Rp**	**1,298,480,978**
New Students - 2023						
Regular		35	Rp	4,428,571	**Rp**	**155,000,000**
SKM		21	Rp	7,500,000	**Rp**	**157,500,000**
SPI		21	Rp	4,428,571	**Rp**	**93,000,000**
Students >2020						
Graduate		20%		15		
Remaining Students		56				
UKT Income					**Rp**	**284,717,391**
Batch 2020-2022						
Regular		105	Rp	4,428,571	**Rp**	**465,000,000**
SKM		63	Rp	7,500,000	**Rp**	**472,500,000**
September Income					**Rp**	**1,627,717,391**
TOTAL INCOME - 2023					**Rp**	**2,926,198,370**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from Eight Levels Scheme of Marine Transportation Engineering Department.

Table 4. 54 Eight Levels Scheme UKT Projection in 2020 of Marine Transportation Engineering Department

Estimated 2020 Eight Levels Scheme						
Jan-20						
Students >2020		184			TOTAL	
Average UKT	Rp	5,084,239	**January Income**		**Rp**	**935,500,000**
New Students - 2020						
Regular		35	Rp	3,900,000	**Rp**	**136,500,000**
SKM		21	Rp	9,523,810	**Rp**	**200,000,000**
SPI		21	Rp	77,114,286	**Rp**	**1,619,400,000**
Students >2020						
Graduate		20%		37		
Remaining						
Students		147				
UKT Income					**Rp**	**747,383,152**
September Income					**Rp**	**2,703,283,152**
TOTAL INCOME - 2020					**Rp**	**3,638,783,152**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from Eight Levels Scheme of Marine Transportation Engineering Department.

Table 4. 55 Eight Levels Scheme UKT Projection in 2021 of Marine Transportation Engineering Department

Estimated 2021 Eight Levels Scheme						
Jan-21						
Students >2020		147			TOTAL	
Graduate		5%		10		
Average UKT	Rp	5,084,239			**Rp**	**696,540,761**
Batch 2020						
Regular		35	Rp	3,900,000	**Rp**	**136,500,000**
SKM		21	Rp	9,523,810	**Rp**	**200,000,000**
			January Income		**Rp**	**1,033,040,761**
New Students - 2021						
Regular		35	Rp	3,900,000	**Rp**	**136,500,000**
SKM		21	Rp	9,523,810	**Rp**	**200,000,000**

Estimated 2021 Eight Levels Scheme						
SPI	21	Rp	77,114,286	**Rp**	**1,619,400,000**
Students >2020					
Graduate	20%		37		
Remaining Students	100				
UKT Income				**Rp**	**508,423,913**
Batch 2020					
Regular	35	Rp	3,900,000	**Rp**	**136,500,000**
SKM	21	Rp	9,523,810	**Rp**	**200,000,000**
September Income				**Rp**	**2,800,823,913**
TOTAL INCOME - 2021				**Rp**	**3,833,864,674**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from Eight Levels Scheme of Marine Transportation Engineering Department.

Table 4. 56 Eight Levels Scheme UKT Projection in 2021 of Marine Transportation Engineering Department

Estimated 2022 Eight Levels Scheme							
Jan-22							
Students >2020		100				TOTAL	
Graduate		5%			5		
Average UKT	Rp	5,084,239				**Rp**	**483,002,717**
Batch 2020-2021							
Regular		70	Rp	3,900,000		**Rp**	**273,000,000**
SKM		42	Rp	9,523,810		**Rp**	**400,000,000**
				January Income		**Rp**	**1,156,002,717**
New Students - 2022							
Regular		35	Rp	3,900,000		**Rp**	**136,500,000**
SKM		21	Rp 9,523,810			**Rp**	**200,000,000**
SPI		21	Rp	77,114,286		**Rp**	**1,619,400,000**
Students >2020							

Estimated 2022 Eight Levels Scheme						
Jan-22						
Graduate	20%			20		
Remaining Students	75					
UKT Income					**Rp**	**381,317,935**
Batch 2020-2021						
Regular	70	Rp	3,900,000		**Rp**	**273,000,000**
SKM	42	Rp	9,523,810		**Rp**	**400,000,000**
September Income					**Rp**	**3,010,217,935**
TOTAL INCOME - 2022					**Rp**	**4,166,220,652**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from Eight Levels Scheme of Marine Transportation Engineering Department.

Table 4. 57 Eight Levels Scheme UKT Projection in 2023 of Marine Transportation Engineering Department

Estimated 2023 Eight Levels Scheme							
Jan-23							
Students >2020		75				TOTAL	
Graduate		5%		4			
Average UKT	Rp	5,084,239				**Rp**	**360,980,978**
Batch 2020-2022							
Regular		105	Rp	3,900,000		**Rp**	**409,500,000**
SKM		63	Rp	9,523,810		**Rp**	**600,000,000**
				January Income		**Rp**	**1,370,480,978**
New Students - 2023							
Regular		35	Rp	3,900,000		**Rp**	**136,500,000**
SKM		21	Rp	9,523,810		**Rp**	**200,000,000**
SPI		21	Rp	77,114,286		**Rp**	**1,619,400,000**
Students >2020							
Graduate		20%		15			
Remaining Students		56					
UKT Income						**Rp**	**284,717,391**

Estimated 2023 Eight Levels Scheme					
Batch 2020-2022					
Regular	105	Rp	3,900,000	**Rp**	**409,500,000**
SKM	63	Rp	9,523,810	**Rp**	**600,000,000**
September Income				**Rp**	**3,250,117,391**
TOTAL INCOME - 2023				**Rp**	**4,620,598,370**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from Nine Levels Scheme of Marine Transportation Engineering Department.

Table 4. 58 Nine Levels Scheme UKT Projection in 2020 of Marine Transportation Engineering Department

Estimated 2020 Nine Levels Scheme						
Jan-20						
Students >2020		184			TOTAL	
Average UKT	Rp	5,084,239	**January Income**		**Rp**	**935,500,000**
New Students - 2020						
Regular		35	Rp	4,114,286	**Rp**	**144,000,000**
SKM		21	Rp	9,523,810	**Rp**	**200,000,000**
SPI		21	Rp	77,114,286	**Rp**	**1,619,400,000**
Students >2020						
Graduate		20%		37		
Remaining						
Students		147				
UKT Income					**Rp**	**747,383,152**
September Income					**Rp**	**2,710,783,152**
TOTAL INCOME - 2020					**Rp**	**3,646,283,152**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from Nine Levels Scheme of Marine Transportation Engineering Department.

Table 4. 59 Nine Levels Scheme UKT Projection in 2021 of Marine Transportation Engineering Department

Estimated 2021 Nine Levels Scheme			
Jan-21			
Students >2020	147		TOTAL
Graduate	5%	10	

Estimated 2021 Nine Levels Scheme						
Average UKT	Rp	5,084,239			**Rp**	**696,540,761**
Batch 2020						
Regular		35	Rp	4,114,286	**Rp**	**144,000,000**
SKM		21	Rp	9,523,810	**Rp**	**200,000,000**
			January Income		**Rp**	**1,040,540,761**
New Students - 2021						
Regular		35	Rp	4,114,286	**Rp**	**144,000,000**
SKM		21	Rp	9,523,810	**Rp**	**200,000,000**
SPI		21	Rp	77,114,286	**Rp**	**1,619,400,000**
Students >2020						
Graduate		20%		37		
Remaining						
Students		100				
UKT Income					**Rp**	**508,423,913**
Batch 2020						
Regular		35	Rp	4,114,286	**Rp**	**144,000,000**
SKM		21	Rp	9,523,810	**Rp**	**200,000,000**
September Income					**Rp**	**2,815,823,913**
TOTAL INCOME - 2021					**Rp**	**3,856,364,674**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from Nine Levels Scheme of Marine Transportation Engineering Department.

Table 4. 60 Nine Levels Scheme UKT Projection in 2022 of Marine Transportation Engineering Department

Estimated 2022 Nine Levels Scheme						
Jan-22						
Students >2020		100			TOTAL	
Graduate		5%		5		
Average UKT	Rp	5,084,239			**Rp**	**483,002,717**
Batch 2020-2021						
Regular		70	Rp	4,114,286	**Rp**	**288,000,000**
SKM		42	Rp	9,523,810	**Rp**	**400,000,000**

Estimated 2022 Nine Levels Scheme					
			January Income	**Rp**	**1,171,002,717**
New Students - 2022					
Regular	35	Rp	4,114,286	**Rp**	**144,000,000**
SKM	21	Rp	9,523,810	**Rp**	**200,000,000**
SPI	21	Rp	77,114,286	**Rp**	**1,619,400,000**
Students >2020					
Graduate	20%		20		
Remaining Students	75				
UKT Income				**Rp**	**381,317,935**
Batch 2020-2021					
Regular	70	Rp	4,114,286	**Rp**	**288,000,000**
SKM	42	Rp	9,523,810	**Rp**	**400,000,000**
September Income				**Rp**	**3,032,717,935**
TOTAL INCOME - 2022				**Rp**	**4,203,720,652**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from Nine Levels Scheme of Marine Transportation Engineering Department.

Table 4. 61 Nine Levels Scheme UKT Projection in 2023 of Marine Transportation Engineering Department

Estimated 2023 Nine Levels Scheme						
Jan-23						
Students >2020		75			TOTAL	
Graduate		5%		4		
Average UKT	Rp	5,084,239			**Rp**	**360,980,978**
Batch 2020-2022						
Regular		105	Rp	4,114,286	**Rp**	**432,000,000**
SKM		63	Rp	9,523,810	**Rp**	**600,000,000**
				January Income	**Rp**	**1,392,980,978**
New Students - 2023						
Regular		35	Rp	4,114,286	**Rp**	**144,000,000**

Estimated 2023 Nine Levels Scheme					
SKM	21	Rp	9,523,810	**Rp**	**200,000,000**
SPI	21	Rp	77,114,286	**Rp**	**1,619,400,000**
Students >2020 Graduate	20%		15		
Remaining Students	56				
UKT Income				**Rp**	**284,717,391**
Batch 2020-2022					
Regular	105	Rp	4,114,286	**Rp**	**432,000,000**
SKM	63	Rp	9,523,810	**Rp**	**600,000,000**
September Income				**Rp**	**3,280,117,391**
TOTAL INCOME - 2023				**Rp**	**4,673,098,370**

4.2.3.3 Projection of Informatics Engineering Department

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from As-Is Scheme of Informatics Engineering Department.

Table 4. 62 As-Is Scheme UKT Projection in 2020 of Informatics Engineering Department

Estimated 2020 As-Is Scheme						
Jan-20						
Students >2020		657			TOTAL	
Average UKT	Rp	5,649,924	**January Income**		**Rp**	**3,712,000,000**
New Students - 2020						
Regular		174	Rp	4,856,322	**Rp**	**845,000,000**
SKM		64	Rp	7,500,000	**Rp**	**480,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020 Graduate		20%		132		
Remaining Students		525				
UKT Income					**Rp**	**2,966,210,046**
September Income					**Rp**	**10,928,960,046**
TOTAL INCOME - 2020					**Rp**	**14,640,960,046**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from As-Is Scheme of Informatics Engineering Department.

Table 4. 63 As-Is Scheme UKT Projection in 2021 of Informatics Engineering Department

Estimated 2021 As-Is Scheme						
Jan-21						
Students >2020		525			TOTAL	
Graduate		5%		33		
Average UKT	Rp	5,649,924			**Rp**	**2,779,762,557**
Batch 2020						
Regular		174	Rp	4,856,322	**Rp**	**845,000,000**
SKM		64	Rp	7,500,000	**Rp**	**480,000,000**
			January Income		**Rp**	**4,104,762,557**
New Students - 2021						
Regular		174	Rp	4,856,322	**Rp**	**845,000,000**
SKM		64	Rp	7,500,000	**Rp**	**480,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020						
Graduate		20%		132		
Remaining						
Students		360				
UKT Income					**Rp**	**2,033,972,603**
Batch 2020						
Regular		174	Rp	4,856,322	**Rp**	**845,000,000**
SKM		64	Rp	7,500,000	**Rp**	**480,000,000**
September Income					**Rp**	**11,321,722,603**
TOTAL INCOME - 2021					**Rp**	**15,426,485,160**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from As-Is Scheme of Informatics Engineering Department.

Table 4. 64 As-Is Scheme UKT Projection in 2022 of Informatics Engineering Department

Estimated 2022 As-Is Scheme			
Jan-22			
Students >2020	360		TOTAL
Graduate	5%	18	

Estimated 2022 As-Is Scheme						
Average UKT	Rp	5,649,924			**Rp**	**1,932,273,973**
Batch 2020-2021						
Regular		348	Rp	4,856,322	**Rp**	**1,690,000,000**
SKM		128	Rp	7,500,000	**Rp**	**960,000,000**
				January Income	**Rp**	**4,582,273,973**
New Students - 2022						
Regular		174	Rp	4,856,322	**Rp**	**845,000,000**
SKM		64	Rp	7,500,000	**Rp**	**480,000,000**
SPI		64	Rp	4,856,322	**Rp**	**310,804,598**
Students >2020						
Graduate		20%		72		
Remaining						
Students		270				
UKT Income					**Rp**	**1,525,479,452**
Batch 2020-2021						
Regular		348	Rp	4,856,322	**Rp**	**1,690,000,000**
SKM		128	Rp	7,500,000	**Rp**	**960,000,000**
September Income					**Rp**	**5,811,284,050**
TOTAL INCOME - 2022					**Rp**	**10,393,558,022**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from As-Is Scheme of Informatics Engineering Department.

Table 4. 65 As-Is Scheme UKT Projection in 2023 of Informatics Engineering Department

Estimated 2023 As-Is Scheme						
Jan-23						
Students >2020		270			TOTAL	
Graduate		5%		14		
Average UKT	Rp	5,649,924			**Rp**	**1,446,380,518**
Batch 2020-2022						
Regular		522	Rp	4,856,322	**Rp**	**2,535,000,000**
SKM		192	Rp	7,500,000	**Rp**	**1,440,000,000**

Estimated 2023 As-Is Scheme					
				Rp	
		January Income		5,421,380,518	
New Students - 2023					
Regular	174	Rp	4,856,322	**Rp**	**845,000,000**
SKM	64	Rp	7,500,000	**Rp**	**480,000,000**
SPI	64	Rp	4,856,322	**Rp**	**310,804,598**
Students >2020					
Graduate	20%		54		
Remaining Students	202				
UKT Income				**Rp**	**1,141,284,627**
Batch 2020-2022					
Regular	522	Rp	4,856,322	**Rp**	**2,535,000,000**
SKM	192	Rp	7,500,000	**Rp**	**1,440,000,000**
September Income				**Rp**	**6,752,089,225**
TOTAL INCOME - 2023				**Rp**	**12,173,469,742**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from Eight Levels Scheme of Informatics Engineering Department.

Table 4. 66 Eight Levels Scheme UKT Projection in 2020 of Informatics Engineering Department

Estimated 2020 Eight Levels Scheme						
Jan-20						
Students >2020		657			TOTAL	
Average UKT	Rp	5,649,924	**January Income**		**Rp**	**3,712,000,000**
New Students - 2020						
Regular		174	Rp	4,629,310	**Rp**	**805,500,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020						
Graduate		20%		132		
Remaining Students		525				

Estimated 2020 Eight Levels Scheme		
UKT Income	**Rp**	**2,966,210,046**
September Income	**Rp**	**11,104,460,046**
TOTAL INCOME - 2020	**Rp**	**14,816,460,046**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from Eight Levels Scheme of Informatics Engineering Department.

Table 4. 67 Eight Levels Scheme UKT Projection in 2021 of Informatics Engineering Department

Estimated 2021 Eight Levels Scheme						
Jan-21						
Students >2020		525			TOTAL	
Graduate		5%		33		
Average UKT	Rp	5,649,924			**Rp**	**2,779,762,557**
Batch 2020						
Regular		174	Rp	4,629,310	**Rp**	**805,500,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
			January Income		**Rp**	**4,280,262,557**
New Students - 2021						
Regular		174	Rp	4,629,310	**Rp**	**805,500,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020						
Graduate		20%		132		
Remaining Students		360				
UKT Income					**Rp**	**2,033,972,603**
Batch 2020						
Regular		174	Rp	4,629,310	**Rp**	**805,500,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
September Income					**Rp**	**11,672,722,603**
TOTAL INCOME - 2021					**Rp**	**15,952,985,160**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from Eight Levels Scheme of Informatics Engineering Department.

Table 4. 68 Eight Levels Scheme UKT Projection in 2022 of Informatics Engineering Department

Estimated 2022 Eight Levels Scheme						
Jan-22						
Students >2020		360			TOTAL	
Graduate		5%		18		
Average UKT	Rp	5,649,924			**Rp**	**1,932,273,973**
Batch 2020-2021						
Regular		348	Rp	4,629,310	**Rp**	**1,611,000,000**
SKM		128	Rp	10,859,375	**Rp**	**1,390,000,000**
			January Income		**Rp**	**4,933,273,973**
New Students - 2022						
Regular		174	Rp	4,629,310	**Rp**	**805,500,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020						
Graduate		20%		72		
Remaining						
Students		270				
UKT Income					**Rp**	**1,525,479,452**
Batch 2020-2021						
Regular		348	Rp	4,629,310	**Rp**	**1,611,000,000**
SKM		128	Rp	10,859,375	**Rp**	**1,390,000,000**
September Income					**Rp**	**12,664,729,452**
TOTAL INCOME - 2022					**Rp**	**17,598,003,425**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from Eight Levels Scheme of Informatics Engineering Department.

Table 4. 69 Eight Levels Scheme UKT Projection in 2023 of Informatics Engineering Department

Estimated 2023 Eight Levels Scheme						
Jan-23						
Students >2020		270			TOTAL	
Graduate		5%		14		
Average UKT	Rp	5,649,924			**Rp**	**1,446,380,518**
Batch 2020-2022						

Estimated 2023 Eight Levels Scheme					
Regular	522	Rp	4,629,310	**Rp**	**2,416,500,000**
SKM	192	Rp	10,859,375	**Rp**	**2,085,000,000**
		January Income		**Rp**	**5,947,880,518**
New Students - 2023					
Regular	174	Rp	4,629,310	**Rp**	**805,500,000**
SKM	64	Rp	10,859,375	**Rp**	**695,000,000**
SPI	64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020					
Graduate	20%		54		
Remaining Students	202				
UKT Income				**Rp**	**1,141,284,627**
Batch 2020-2022					
Regular	522	Rp	4,629,310	**Rp**	**2,416,500,000**
SKM	192	Rp	10,859,375	**Rp**	**2,085,000,000**
September Income				**Rp**	**13,781,034,627**
TOTAL INCOME - 2023				**Rp**	**19,728,915,145**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2020 from Nine Levels Scheme of Informatics Engineering Department.

Table 4. 70 Nine Levels Scheme UKT Projection in 2020 of Informatics Engineering Department

Estimated 2020 Nine Levels Scheme						
Jan-20						
Students >2020		657			TOTAL	
Average UKT	Rp	5,649,924	**January Income**		**Rp**	**3,712,000,000**
New Students - 2020						
Regular		174	Rp	4,931,034	**Rp**	**858,000,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020						
Graduate		20%		132		

Estimated 2020 Nine Levels Scheme				
Remaining Students	525			
UKT Income			**Rp**	**2,966,210,046**
September Income			**Rp**	**11,156,960,046**
TOTAL INCOME - 2020			**Rp**	**14,868,960,046**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2021 from Nine Levels Scheme of Informatics Engineering Department.

Table 4. 71 Nine Levels Scheme UKT Projection in 2021 of Informatics Engineering Department

Estimated 2021 Nine Levels Scheme						
Jan-21						
Students >2020		525			TOTAL	
Graduate		5%		33		
Average UKT	Rp	5,649,924			**Rp**	**2,779,762,557**
Batch 2020						
Regular		174	Rp	4,931,034	**Rp**	**858,000,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
			January Income		**Rp**	**4,332,762,557**
New Students - 2021						
Regular		174	Rp	4,931,034	**Rp**	**858,000,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020						
Graduate		20%		132		
Remaining Students		360				
UKT Income					**Rp**	**2,033,972,603**
Batch 2020						
Regular		174	Rp	4,931,034	**Rp**	**858,000,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
September Income					**Rp**	**11,777,722,603**
TOTAL INCOME - 2021					**Rp**	**16,110,485,160**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2022 from Nine Levels Scheme of Informatics Engineering Department.

Table 4. 72 Nine Levels Scheme UKT Projection in 2022 of Informatics Engineering Department

Estimated 2022 Nine Levels Scheme						
Jan-22						
Students >2020		360			TOTAL	
Graduate		5%		18		
Average UKT	Rp	5,649,924			**Rp**	**1,932,273,973**
Batch 2020-2021						
Regular		348	Rp	4,931,034	**Rp**	**1,716,000,000**
SKM		128	Rp	10,859,375	**Rp**	**1,390,000,000**
			January Income		**Rp**	**5,038,273,973**
New Students - 2022						
Regular		174	Rp	4,931,034	**Rp**	**858,000,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020						
Graduate		20%		72		
Remaining Students		270				
UKT Income					**Rp**	**1,525,479,452**
Batch 2020-2021						
Regular		348	Rp	4,931,034	**Rp**	**1,716,000,000**
SKM		128	Rp	10,859,375	**Rp**	**1,390,000,000**
September Income					**Rp**	**12,822,229,452**
TOTAL INCOME - 2022					**Rp**	**17,860,503,425**

The following is the calculation recap of *Uang Kuliah Tunggal* Projection in 2023 from Nine Levels Scheme of Informatics Engineering Department.

Table 4. 73 Nine Levels Scheme UKT Projection in 2023 of Informatics Engineering Department

Estimated 2023 Nine Levels Scheme			
Jan-23			
Students >2020	270		TOTAL
Graduate	5%	14	

Estimated 2023 Nine Levels Scheme						
Average UKT	Rp	5,649,924			**Rp**	**1,446,380,518**
Batch 2020-2022						
Regular		522	Rp	4,931,034	**Rp**	**2,574,000,000**
SKM		192	Rp	10,859,375	**Rp**	**2,085,000,000**
			January Income		**Rp**	**6,105,380,518**
New Students - 2023						
Regular		174	Rp	4,931,034	**Rp**	**858,000,000**
SKM		64	Rp	10,859,375	**Rp**	**695,000,000**
SPI		64	Rp	103,714,844	**Rp**	**6,637,750,000**
Students >2020						
Graduate		20%		54		
Remaining						
Students		202				
UKT Income					**Rp**	**1,141,284,627**
Batch 2020-2022						
Regular		522	Rp	4,931,034	**Rp**	**2,574,000,000**
SKM		192	Rp	10,859,375	**Rp**	**2,085,000,000**
September Income					**Rp**	**13,991,034,627**
TOTAL INCOME - 2023					**Rp**	**20,096,415,145**

CHAPTER 5
ANALYSIS AND INTERPRETATION

In this chapter will explain the analysis and interpretation of the results for each stage carried out in the previous chapter, which are the comparison of the new *Biaya Kuliah Tunggal* model with *Uang Kuliah Tunggal* schemes and pricing policy determination.

5.1 Comparison Analysis of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* Schemes

Based on the Minister of Research, Technology and Higher Education Regulation no. 39 of 2017, *Uang Kuliah Tunggal* is part of the *Biaya Kuliah Tunggal* that is borne by each student based on his economic ability. Therefore, it is necessary to compare *Biaya Kuliah Tunggal* with income from *Uang Kuliah Tunggal* to find out whether it can meet the needs of operational costs borne per student each semester.

5.1.1 Comparison between BKT and UKT of Industrial and Systems Engineering Department

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of As-Is Scheme of Industrial and Systems Engineering Department.

Table 5. 1 As-Is Scheme Comparison between BKT and UKT of Industrial and Systems Engineering Department

Comparison of BKT and UKT 2020			**Comparison of BKT and UKT 2021**		
UKT			UKT		
January	Rp	3,766,500,000	January	Rp	3,943,981,698
September	Rp	9,935,744,143	September	Rp	10,113,225,842
TOTAL	Rp	13,702,244,143	**TOTAL**	Rp	14,057,207,540
BKT			BKT		
Student/Semester	Rp	22,130,807	Student/Semester	Rp	21,867,227
Even Semester	Rp	15,115,340,997	Even Semester	Rp	15,438,262,480
Odd Semester	Rp	16,398,927,787	Odd Semester	Rp	16,706,561,664
TOTAL	Rp	31,514,268,784	**TOTAL**	Rp	32,144,824,145
DIFFERENCE	-Rp	17,812,024,641	**DIFFERENCE**	-Rp	18,087,616,604

Comparison of BKT and UKT 2022			Comparison of BKT and UKT 2023		
UKT			UKT		
January	Rp	4,209,697,657	January	Rp	4,844,894,583
September	Rp	10,720,849,561	September	Rp	11,460,824,671
TOTAL	Rp	14,930,547,218	**TOTAL**	Rp	16,305,719,253
BKT			BKT		
Student/Semester	Rp	20,847,516	Student/Semester	Rp	19,829,689
Even Semester	Rp	15,531,399,484	Even Semester	Rp	16,875,065,473
Odd Semester	Rp	18,033,101,414	Odd Semester	Rp	19,631,392,266
TOTAL	Rp	33,564,500,898	**TOTAL**	Rp	36,506,457,739
DIFFERENCE	-Rp	18,633,953,680	**DIFFERENCE**	-Rp	20,200,738,485

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of Eight Levels Scheme of Industrial and Systems Engineering Department.

Table 5. 2 Eight Levels Scheme Comparison between BKT and UKT of Industrial and Systems Engineering Department

Comparison of BKT and UKT 2020			Comparison of BKT and UKT 2021		
UKT			UKT		
January	Rp	3,766,500,000	January	Rp	4,119,981,698
September	Rp	10,111,744,143	September	Rp	10,465,225,842
TOTAL	Rp	13,878,244,143	**TOTAL**	Rp	14,585,207,540
BKT			BKT		
Student/Semester	Rp	22,130,807	Student/Semester	Rp	21,867,227
Even Semester	Rp	15,115,340,997	Even Semester	Rp	15,438,262,480
Odd Semester	Rp	16,398,927,787	Odd Semester	Rp	16,706,561,664
TOTAL	Rp	31,514,268,784	**TOTAL**	Rp	32,144,824,145
DIFFERENCE	-Rp	17,636,024,641	**DIFFERENCE**	-Rp	17,559,616,604
Comparison of BKT and UKT 2022			**Comparison of BKT and UKT 2023**		
UKT			UKT		
January	Rp	4,561,697,657	January	Rp	5,372,894,583
September	Rp	11,248,849,561	September	Rp	12,164,824,671
TOTAL	Rp	15,810,547,218	**TOTAL**	Rp	17,537,719,253
BKT			BKT		
Student/Semester	Rp	20,847,516	Student/Semester	Rp	19,829,689
Even Semester	Rp	15,531,399,484	Even Semester	Rp	16,875,065,473
Odd Semester	Rp	18,033,101,414	Odd Semester	Rp	19,631,392,266

Comparison of BKT and UKT 2022			Comparison of BKT and UKT 2023		
TOTAL	Rp	33,564,500,898	**TOTAL**	Rp	36,506,457,739
DIFFERENCE	-Rp	17,753,953,680	**DIFFERENCE**	-Rp	18,968,738,485

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of Nine Levels Scheme of Industrial and Systems Engineering Department.

Table 5. 3 Nine Levels Scheme Comparison between BKT and UKT of Industrial and Systems Engineering Department

Comparison of BKT and UKT 2020			Comparison of BKT and UKT 2021		
UKT			UKT		
January	Rp	3,766,500,000	January	Rp	4,154,981,698
September	Rp	10,146,744,143	September	Rp	10,535,225,842
TOTAL	Rp	13,913,244,143	**TOTAL**	Rp	14,690,207,540
BKT			BKT		
Student/Semester	Rp	22,130,807	Student/Semester	Rp	21,867,227
Even Semester	Rp	15,115,340,997	Even Semester	Rp	15,438,262,480
Odd Semester	Rp	16,398,927,787	Odd Semester	Rp	16,706,561,664
TOTAL	Rp	31,514,268,784	**TOTAL**	Rp	32,144,824,145
DIFFERENCE	-Rp	17,601,024,641	**DIFFERENCE**	-Rp	17,454,616,604
Comparison of BKT and UKT 2022			**Comparison of BKT and UKT 2023**		
UKT			UKT		
January	Rp	4,631,697,657	January	Rp	5,477,894,583
September	Rp	11,353,849,561	September	Rp	12,304,824,671
TOTAL	Rp	15,985,547,218	**TOTAL**	Rp	17,782,719,253
BKT			BKT		
Student/Semester	Rp	20,847,516	Student/Semester	Rp	19,829,689
Even Semester	Rp	15,531,399,484	Even Semester	Rp	16,875,065,473
Odd Semester	Rp	18,033,101,414	Odd Semester	Rp	19,631,392,266
TOTAL	Rp	33,564,500,898	**TOTAL**	Rp	36,506,457,739
DIFFERENCE	-Rp	17,578,953,680	**DIFFERENCE**	-Rp	18,723,738,485

As can be seen in the table above, the difference between the new *Biaya Kuliah Tunggal* model and all *Uang Kuliah Tunggal* schemes of Industrial and Systems Engineering Department shows negative numbers where *Uang Kuliah*

Tunggal's income still cannot meet the total operational costs borne by students. The following is the comparison graph of all schemes.

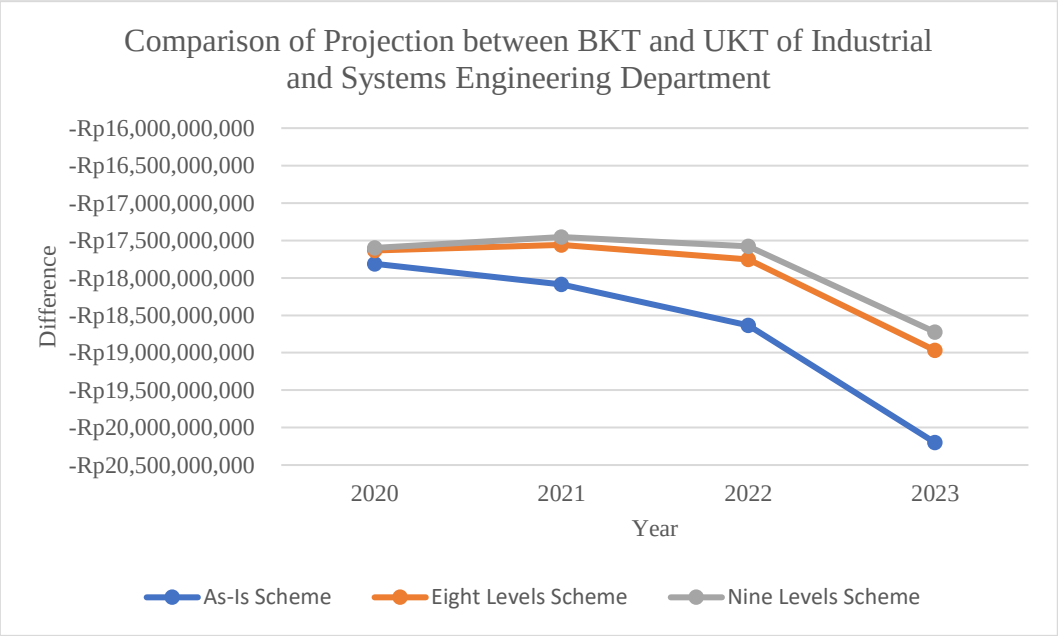

Figure 5. 1 Comparison of Projection between BKT and UKT of Industrial and Systems Engineering Department
(Source: Personal Document)

From the three *Uang Kuliah Tunggal* schemes above, the scheme that has the smallest difference is the nine levels scheme.

5.1.2 Comparison between BKT and UKT of Marine Transportation Engineering Department

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of As-Is Scheme of Marine Transportation Engineering Department.

Table 5. 4 As-Is Scheme Comparison between BKT and UKT of Marine Transportation Engineering Department

Comparison of BKT and UKT 2020			**Comparison of BKT and UKT 2021**		
UKT			UKT		
January	Rp	935,500,000	January	Rp	1,009,040,761
September	Rp	2,679,283,152	September	Rp	2,752,823,913
TOTAL	Rp	3,614,783,152	**TOTAL**	Rp	3,761,864,674
BKT			BKT		
Student/Semester	Rp	26,797,674	Student/Semester	Rp	24,802,862
Even Semester	Rp	4,930,772,106	Even Semester	Rp	4,786,952,277

Comparison of BKT and UKT 2020			Comparison of BKT and UKT 2021		
Odd Semester	Rp	5,439,927,922	Odd Semester	Rp	5,258,206,646
TOTAL	Rp	10,370,700,028	**TOTAL**	Rp	10,045,158,923
DIFFERENCE	-Rp	6,755,916,876	**DIFFERENCE**	-Rp	6,283,294,249
Comparison of BKT and UKT 2022			**Comparison of BKT and UKT 2023**		
UKT			UKT		
January	Rp	1,108,002,717	January	Rp	1,298,480,978
September	Rp	2,938,217,935	September	Rp	3,154,117,391
TOTAL	Rp	4,046,220,652	**TOTAL**	Rp	4,452,598,370
BKT			BKT		
Student/Semester	Rp	24,247,379	Student/Semester	Rp	22,537,086
Even Semester	Rp	5,019,207,380	Even Semester	Rp	5,386,363,672
Odd Semester	Rp	5,892,113,011	Odd Semester	Rp	6,310,384,219
TOTAL	Rp	10,911,320,391	**TOTAL**	Rp	11,696,747,891
DIFFERENCE	-Rp	6,865,099,739	**DIFFERENCE**	-Rp	7,244,149,522

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of Eight Levels Scheme of Marine Transportation Engineering Department.

Table 5. 5 Eight Levels Scheme Comparison between BKT and UKT of Marine Transportation Engineering Department

Comparison of BKT and UKT 2020			Comparison of BKT and UKT 2021		
UKT			UKT		
January	Rp	935,500,000	January	Rp	1,033,040,761
September	Rp	2,703,283,152	September	Rp	2,800,823,913
TOTAL	Rp	3,638,783,152	**TOTAL**	Rp	3,833,864,674
BKT			BKT		
Student/Semester	Rp	26,797,674	Student/Semester	Rp	24,802,862
Even Semester	Rp	4,930,772,106	Even Semester	Rp	4,786,952,277
Odd Semester	Rp	5,439,927,922	Odd Semester	Rp	5,258,206,646
TOTAL	Rp	10,370,700,028	**TOTAL**	Rp	10,045,158,923
DIFFERENCE	-Rp	6,731,916,876	**DIFFERENCE**	-Rp	6,211,294,249
Comparison of BKT and UKT 2022			**Comparison of BKT and UKT 2023**		
UKT			UKT		
January	Rp	1,156,002,717	January	Rp	1,370,480,978
September	Rp	3,010,217,935	September	Rp	3,250,117,391
TOTAL	Rp	4,166,220,652	**TOTAL**	Rp	4,620,598,370

Comparison of BKT and UKT 2022			Comparison of BKT and UKT 2023		
BKT			BKT		
Student/Semester	Rp	24,247,379	Student/Semester	Rp	22,537,086
Even Semester	Rp	5,019,207,380	Even Semester	Rp	5,386,363,672
Odd Semester	Rp	5,892,113,011	Odd Semester	Rp	6,310,384,219
TOTAL	Rp	10,911,320,391	**TOTAL**	Rp	11,696,747,891
DIFFERENCE	-Rp	6,745,099,739	**DIFFERENCE**	-Rp	7,076,149,522

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of Nine Levels Scheme of Marine Transportation Engineering Department.

Table 5. 6 Nine Levels Scheme Comparison between BKT and UKT of Marine Transportation Engineering Department

Comparison of BKT and UKT 2020			Comparison of BKT and UKT 2021		
UKT			UKT		
January	Rp	935,500,000	January	Rp	1,040,540,761
September	Rp	2,710,783,152	September	Rp	2,815,823,913
TOTAL	Rp	3,646,283,152	**TOTAL**	Rp	3,856,364,674
BKT			BKT		
Student/Semester	Rp	26,797,674	Student/Semester	Rp	24,802,862
Even Semester	Rp	4,930,772,106	Even Semester	Rp	4,786,952,277
Odd Semester	Rp	5,439,927,922	Odd Semester	Rp	5,258,206,646
TOTAL	Rp	10,370,700,028	**TOTAL**	Rp	10,045,158,923
DIFFERENCE	-Rp	6,724,416,876	**DIFFERENCE**	-Rp	6,188,794,249
Comparison of BKT and UKT 2022			**Comparison of BKT and UKT 2023**		
UKT			UKT		
January	Rp	1,171,002,717	January	Rp	1,392,980,978
September	Rp	3,032,717,935	September	Rp	3,280,117,391
TOTAL	Rp	4,203,720,652	**TOTAL**	Rp	4,673,098,370
BKT			BKT		
Student/Semester	Rp	24,247,379	Student/Semester	Rp	22,537,086
Even Semester	Rp	5,019,207,380	Even Semester	Rp	5,386,363,672
Odd Semester	Rp	5,892,113,011	Odd Semester	Rp	6,310,384,219
TOTAL	Rp	10,911,320,391	**TOTAL**	Rp	11,696,747,891
DIFFERENCE	-Rp	6,707,599,739	**DIFFERENCE**	-Rp	7,023,649,522

As can be seen in the table above, the difference between the new *Biaya Kuliah Tunggal* model and all *Uang Kuliah Tunggal* schemes of Marine Transportation Engineering Department shows negative numbers where *Uang Kuliah Tunggal's* income still cannot meet the total operational costs borne by students. The following is the comparison graph of all schemes.

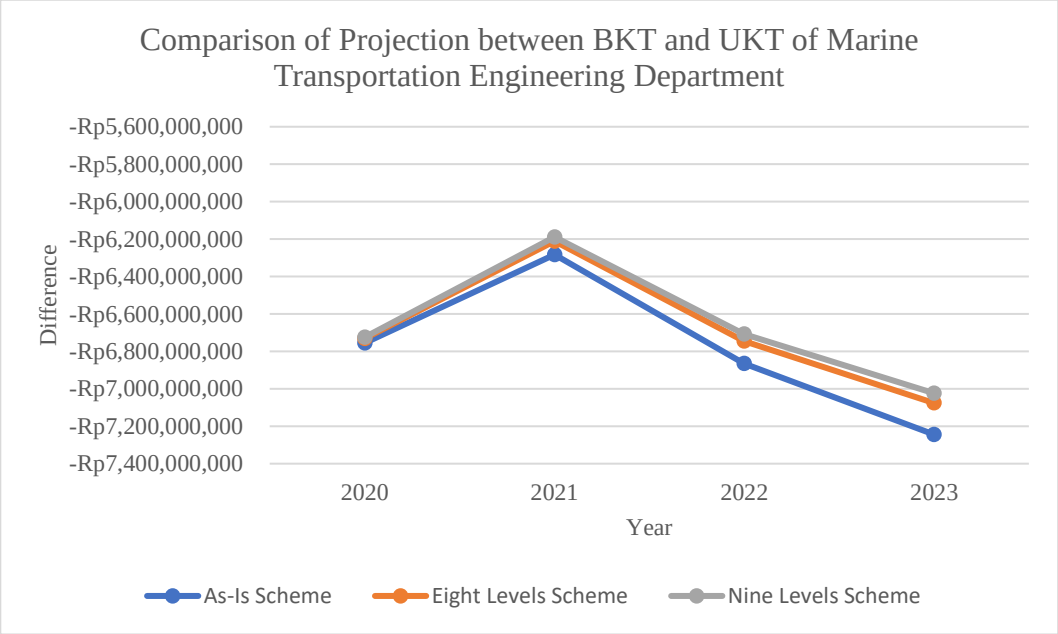

Figure 5. 2 Comparison of Projection between BKT and UKT of Marine Transportation Engineering Department
(Source: Personal Document)

From the three *Uang Kuliah Tunggal* schemes above, the scheme that has the smallest difference is the nine levels scheme.

5.1.3 Comparison between BKT and UKT of Informatics Engineering Department

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of As-Is Scheme of Informatics Engineering Department.

Table 5. 7 As-Is Scheme Comparison between BKT and UKT of Informatics Engineering Department

Comparison of BKT and UKT 2020		**Comparison of BKT and UKT 2021**	
UKT		UKT	
January	Rp 3,712,000,000	January	Rp 4,104,762,557
September	Rp 10,928,960,046	September	Rp 11,321,722,603
TOTAL	Rp 14,640,960,046	**TOTAL**	Rp 15,426,485,160
BKT		BKT	

Comparison of BKT and UKT 2020			Comparison of BKT and UKT 2021		
Student/Semester	Rp	22,146,300	Student/Semester	Rp	21,480,403
Even Semester	Rp	14,550,118,940	Even Semester	Rp	15,680,694,326
Odd Semester	Rp	16,897,626,714	Odd Semester	Rp	17,957,617,064
TOTAL	Rp	31,447,745,654	**TOTAL**	Rp	33,638,311,390
DIFFERENCE	-Rp	16,806,785,609	**DIFFERENCE**	-Rp	18,211,826,230
Comparison of BKT and UKT 2022			**Comparison of BKT and UKT 2023**		
UKT			UKT		
January	Rp	4,582,273,973	January	Rp	5,421,380,518
September	Rp	12,138,229,452	September	Rp	13,079,034,627
TOTAL	Rp	16,720,503,425	**TOTAL**	Rp	18,500,415,145
BKT			BKT		
Student/Semester	Rp	20,392,314	Student/Semester	Rp	19,446,108
Even Semester	Rp	16,680,912,655	Even Semester	Rp	18,862,724,301
Odd Semester	Rp	20,066,036,739	Odd Semester	Rp	22,440,808,085
TOTAL	Rp	36,746,949,394	**TOTAL**	Rp	41,303,532,386
DIFFERENCE	-Rp	20,026,445,969	**DIFFERENCE**	-Rp	22,803,117,241

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of Eight Levels Scheme of Informatics Engineering Department.

Table 5. 8 Eight Levels Scheme Comparison between BKT and UKT of Informatics Engineering Department

Comparison of BKT and UKT 2020			Comparison of BKT and UKT 2021		
UKT			UKT		
January	Rp	3,712,000,000	January	Rp	4,280,262,557
September	Rp	11,104,460,046	September	Rp	11,672,722,603
TOTAL	Rp	14,816,460,046	**TOTAL**	Rp	15,952,985,160
BKT			BKT		
Student/Semester	Rp	22,146,300	Student/Semester	Rp	21,480,403
Even Semester	Rp	14,550,118,940	Even Semester	Rp	15,680,694,326
Odd Semester	Rp	16,897,626,714	Odd Semester	Rp	17,957,617,064
TOTAL	Rp	31,447,745,654	**TOTAL**	Rp	33,638,311,390
DIFFERENCE	-Rp	16,631,285,609	**DIFFERENCE**	-Rp	17,685,326,230
Comparison of BKT and UKT 2022			**Comparison of BKT and UKT 2023**		
UKT			UKT		
January	Rp	4,933,273,973	January	Rp	5,947,880,518
September	Rp	12,664,729,452	September	Rp	13,781,034,627

Comparison of BKT and UKT 2022			Comparison of BKT and UKT 2023		
TOTAL	Rp	17,598,003,425	**TOTAL**	Rp	19,728,915,145
BKT			BKT		
Student/Semester	Rp	20,392,314	Student/Semester	Rp	19,446,108
Even Semester	Rp	16,680,912,655	Even Semester	Rp	18,862,724,301
Odd Semester	Rp	20,066,036,739	Odd Semester	Rp	22,440,808,085
TOTAL	Rp	36,746,949,394	**TOTAL**	Rp	41,303,532,386
DIFFERENCE	-Rp	19,148,945,969	**DIFFERENCE**	-Rp	21,574,617,241

The following is the comparison of the New *Biaya Kuliah Tunggal* Model with *Uang Kuliah Tunggal* of Nine Levels Scheme of Informatics Engineering Department.

Table 5. 9 Nine Levels Scheme Comparison between BKT and UKT of Informatics Engineering Department

Comparison of BKT and UKT 2020			Comparison of BKT and UKT 2021		
UKT			UKT		
January	Rp	3,712,000,000	January	Rp	4,332,762,557
September	Rp	11,156,960,046	September	Rp	11,777,722,603
TOTAL	Rp	14,868,960,046	**TOTAL**	Rp	16,110,485,160
BKT			BKT		
Student/Semester	Rp	22,146,300	Student/Semester	Rp	21,480,403
Even Semester	Rp	14,550,118,940	Even Semester	Rp	15,680,694,326
Odd Semester	Rp	16,897,626,714	Odd Semester	Rp	17,957,617,064
TOTAL	Rp	31,447,745,654	**TOTAL**	Rp	33,638,311,390
DIFFERENCE	-Rp	16,578,785,609	**DIFFERENCE**	-Rp	17,527,826,230
Comparison of BKT and UKT 2022			**Comparison of BKT and UKT 2023**		
UKT			UKT		
January	Rp	5,038,273,973	January	Rp	6,105,380,518
September	Rp	12,822,229,452	September	Rp	13,991,034,627
TOTAL	Rp	17,860,503,425	**TOTAL**	Rp	20,096,415,145
BKT			BKT		
Student/Semester	Rp	20,392,314	Student/Semester	Rp	19,446,108
Even Semester	Rp	16,680,912,655	Even Semester	Rp	18,862,724,301
Odd Semester	Rp	20,066,036,739	Odd Semester	Rp	22,440,808,085
TOTAL	Rp	36,746,949,394	**TOTAL**	Rp	41,303,532,386
DIFFERENCE	-Rp	18,886,445,969	**DIFFERENCE**	-Rp	21,207,117,241

As can be seen in the table above, the difference between the new *Biaya Kuliah Tunggal* model and all *Uang Kuliah Tunggal* schemes of Informatics Engineering Department shows negative numbers where *Uang Kuliah Tunggal's* income still cannot meet the total operational costs borne by students. The following is the comparison graph of all schemes.

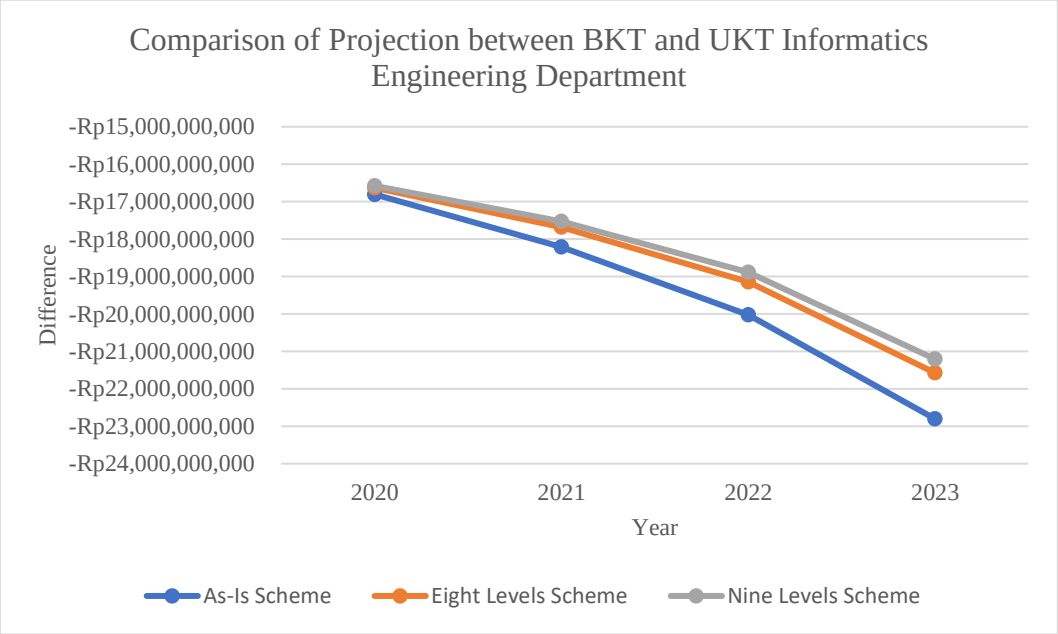

Figure 5. 3 Comparison of Projection between BKT and UKT of Informatics Engineering Department (Source: Personal Document)

From the three *Uang Kuliah Tunggal* schemes above, the scheme that has the smallest difference is the 9 levels scheme.

5.2 Pricing Policy Determination

In this subchapter will be discussed about the benchmarking of UKT level determination at other PTN-BHs as a pricing policy determination. The aim is to decide on which UKT scheme is appropriate for implementation at ITS.

Based on the data obtained on the website usm.itb.ac.id, all ITB students will automatically be subject to UKT level 5, according to the Faculty/School. However, students who object to UKT level 5 fees can apply for UKT scholarships in accordance with Circular no. 2061/I1.B01.4/KM/2020 by uploading economic capability data documents as proof of submission of applications for UKT Scholarships. ITB will determine the amount of UKT students must pay based on

verification of the economic capability data documents. Documents needed to apply for UKT scholarships are proof of electricity payments, land and building tax bills, photos of residence, and parents' statement letter. The following is UKT levels of ITB.

Table 5. 10 UKT Levels of ITB

UKT Level	Faculty/ School	
	Besides *Sekolah Bisnis Manajemen* (SBM)	*Sekolah Bisnis Manajemen* (SBM)
1	Rp 0	Rp 0
2	Rp 1,000,000	Rp 1,000,000
3	Rp 5,000,000	Rp 8,000,000
4	Rp 8,750,000	Rp 14,000,000
5	Rp 12,500,000	Rp 20,000,000

The UKT policy at Universitas Indonesia is listed in UI Chancellor's Decree no. 513/SK/ R/UI/2020 which are divided into two, namely BOP-Fair and BOP-Options. BOP-Fair only applies to the Regular Bachelor program. Other educational programs (Vocational, Parallel, Extension, International and Postgraduate) are not eligible for the BOP-Fair scheme. UKT at UI is divided into 6 levels for BOP-Fair and 5 levels for BOP-Options. The following is BOP-Fair Levels of UI.

Table 5. 11 BOP-Fair Levels of UI

UKT Level	Cluster	
	Technology and Health Science	*Social Humanities*
1	Rp 0 – Rp 500,000	Rp 0 – Rp 500,000
2	Rp 500,000 – Rp 1,000,000	Rp 500,000 – Rp 1,000,000
3	Rp 1,000,000 – Rp 2,000,000	Rp 1,000,000 – Rp 2,000,000
4	Rp 2,000,000 – Rp 4,000,000	Rp 2,000,000 – Rp 3,000,000
5	Rp 4,000,000 – Rp 6,000,000	Rp 3,000,000 – Rp 4,000,000
6	Rp 6,000,000 – Rp 7,500,000	Rp 4,000,000 – Rp 5,000,000

The following is BOP-Options levels of UI.

Table 5. 12 BOP-Options Levels of UI

UKT Level	Cluster	
	Technology and Health Science	*Social Humanities*
1	Rp 10,000,000	Rp 7,500,000
2	Rp 12,500,000	Rp 10,000,000
3	Rp 15,000,000	Rp 12,500,000
4	Rp 17,500,000	Rp 15,000,000
5	Rp 20,000,000	Rp 17,500,000

After benchmarking other PTNs, the UKT that can be implemented in ITS is the Nine Levels Scheme. Not only because it has the smallest difference between BKT and UKT as explained in subchapter 5.1, but also compared to the PTN above it is still equal with others' UKT level and can be accessed by students from all economic groups.

CHAPTER 6
CONCLUSION AND SUGGESTION

This chapter includes the conclusion obtained from analysis based on the research objectives. It also consists of suggestion for further study.

6.1 Conclusion

After conducting this research, several conclusions can be drawn are:

1. PTN-BH has the authority to carry out the full autonomy of higher education management. PTN-BH can set tuition fees based on the technical guidelines for setting tariffs determined by the Minister of Education and Culture. To determine the *Uang Kuliah Tunggal*, it is necessary to prepare a *Biaya Kuliah Tunggal* as a basis for adjustment. *Biaya Kuliah Tunggal* is the overall operational costs of students per semester in the study program at PTN. Operational costs will increase over time because of the inflation occurring every year from 2013 to 2019 is between 3.02% to 8.39%; with an annual average of 5.35%. Other PTN-BHs already adjust their *Uang Kuliah Tunggal.* In consequence, *Biaya Kuliah Tunggal* needs to be adjusted periodically so that operational needs continue to run without any obstacles from funding. Hence, with the adjustment of the *Biaya Kuliah Tunggal*, the *Uang Kuliah Tunggal* can also be adjusted following the BKT and with the autonomy held by PTN-BH makes the *Uang Kuliah Tunggal* adjustment more flexible.
2. The new *Biaya Kuliah Tunggal* adopts the cost components of electricity prices for small-scale coal power plants where the old model uses the Activity-Based Costing Model. There is a change in the BKT model from ABC to cost of electricity prices for small-scale coal power plants because Activity-Based Costing Model uses unit price/activity costs which can no longer be used. After all, one of them is the remuneration standard that changes into an index of performance payments. Meanwhile, the Coal Power Plant model divides the fixed and variable costs component for operational and maintenance costs per year which can be applied to all sectors related to investment.

3. There are three leveling strategies in which 2 is the new proposed model. The first scheme is As-Is Model or the existing model with 7 levels UKT for regular students and the highest level is applied for PKM students. The second scheme is the Eight Levels Scheme in which the regular students divided into 8 levels of UKT and there are 3 additional levels for PKM students. The last scheme is the Nine Levels Scheme in which the regular students divided into 9 levels of UKT and for PKM students are the same as the eight levels scheme.
4. After benchmarking with ITB and UI, the UKT that can be implemented in ITS is the Nine Levels Scheme. Not only because it has the smallest difference between BKT and UKT, but also compared to the other PTNs it is still equal with their UKT level and can be accessed by students from all economic groups.

6.2 Suggestion

For future research, it is advisable from this research to:

1. Consider another model reference for *Biaya Kuliah Tunggal* modeling
2. Get more representative and accurate data, both for *Biaya Kuliah Tunggal* and *Uang Kuliah Tunggal*
3. *Uang Kuliah Tunggal* modeling can apply clusters, faculties, or the highest income from a particular Department or Faculty in determining the leveling of *Uang Kuliah Tunggal*

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APPENDIX

Appendix 1: Industrial and Systems Engineering Department NON-PNBP Department's Budget Spending Report and BPPTNBH Department's Budget Spending Report of 2019

S1 TEKNIK INDUSTRI

Laporan Penyerapan Anggaran Belanja Dana NON PNBP

Periode Januari s.d. Desember TA 2019

Mata Anggaran	SPJ
525111.5113.01 - Biaya Gaji Pegawai Lepas/Kontrak Prodi, Jurusan, dan Fakultas	95,175,000
525111.5113.02 - Honorarium Pelatih	400,000
525111.5114.02 - Biaya Tunjangan Uang Makan pegawai Lepas/Kontrak Prodi, Jurusan, dan Fakultas	27,940,000
525111.5115.01 - Biaya Lembur	19,584,000
525111.5115.06 - Honorarium Dosen Pembimbing KP, TA, Thesis dan Desertasi Dari Luar	0
525111.5115.07 - Honorarium Dosen Penguji KP, TA, Thesis dan Desertasi dari Luar	0
525111.5115.08 - Honorarium Mengajar Dosen Luar Biasa	14,400,000
525111.5115.09 - Honorarium Asisten Dosen dan Asisten Laboratorium	95,264,704
525111.5115.11 - Honorarium Pembantu Pengawas (Mahasiswa)	0
525111.5115.12 - Biaya Kelebihan Jam Kerja Pegawai Lepas/Kontrak Departemen	21,975,000
525112.5121.03 - Biaya ATK Kegiatan UKM dan Ormawa	9,064,200
525112.5121.15 - Biaya ATK Kegiatan Pendidikan Mahasiswa (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	1,136,000
525112.5121.18 - Biaya ATK Kegiatan Administrasi Pendidikan Mahasiswa	1,826,700
525112.5122.03 - Biaya Konsumsi Kegiatan UKM dan Ormawa	18,229,600
525112.5122.15 - Biaya Konsumsi Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	27,693,950
525112.5122.18 - Biaya Konsumsi Kegiatan Administrasi Pendidikan Mahasiswa	125,095,572
525112.5122.23 - Biaya Konsumsi Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	0
525112.5123.01 - Biaya Bahan Habis Pakai Laboratorium	99,295,476
525112.5123.05 - Biaya Bahan Habis Pakai Kegiatan Penerimaan Mahasiswa Baru (Keg. Promosi, Publikasi, Sosialisasi, Seleksi Penerimaan, Orientasi Mhs Baru dan Matrikulasi)	0
525112.5123.06 - Biaya Bahan Habis Pakai Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	4,089,050
525112.5123.08 - Biaya Bahan Habis Pakai Kegiatan Administrasi Pendidikan	37,381,125
525112.5123.09 - Biaya Bahan Habis Pakai Kegiatan UKM dan Ormawa	3,257,800
525112.5123.11 - Biaya Bahan Habis Pakai Kegiatan Mahasiswa dalam kompetisi/lomba	2,000,000
525112.5123.21 - Biaya materai dan benda pos lainnya departemen	1,005,000
525112.5124.14 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Penerimaan Mahasiswa Baru (Keg. Promosi, Publikasi, Sosialisasi, Seleksi Penerimaan, Orientasi Mhs Baru dan Matrikulasi)	39,965,000

Mata Anggaran	SPJ
525112.5124.15 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	0
525112.5129.05 - Biaya langganan surat kabar Departemen	3,706,000
525113.5135.21 - Biaya Jasa sewa Kegiatan Administrasi Pendidikan Mahasiswa	62,009,690
525113.5135.22 - Biaya Jasa sewa Kegiatan UKM dan Ormawa Mahasiswa	21,681,700
525113.5135.25 - Biaya Jasa Sewa Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	0
525113.5136.03 - Biaya Jasa Profesi Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	24,551,000
525113.5136.05 - Biaya Jasa Profesi Kegiatan Administrasi Pendidikan Mahasiswa	2,500,000
525113.5136.11 - Biaya Jasa Profesi Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	0
525114.5141.02 - Biaya Pemeliharaan Gedung Dan Bangunan Perkuliahan dan Laboratorium	230,994,672
525114.5142.01 - Biaya Pemeliharaan Kendaraan Roda 4/6/10	9,501,315
525114.5142.02 - Biaya Pemeliharaan Kendaraan Roda 2	6,031,000
525114.5142.04 - Biaya Pemeliharaan Peralatan Pembelajaran	124,151,716
525114.5142.07 - Biaya Pengurusan/Perpanjangan Surat Kendaraan Roda 2/4/6 Departemen	888,100
525115.5151.26 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Pendidikan Mahasiswa (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	85,108,326
525115.5151.30 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Mahasiswa dalam kompetesi/lomba	51,419,950
525115.5151.33 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	62,140,000
525115.5151.34 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Seminar/Pelatihan/Workshop Pengembangan Mutu SDM Tenaga Pendidik	144,086,212
525115.5151.50 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Administrasi Pendidikan Mahasiswa	49,477,369
525115.5151.52 - Transport Mengajar Dosen Luar Biasa	2,400,000
525115.5152.11 - Biaya Perjalanan Dinas Luar Negeri Kegiatan Pendidikan Mahasiswa (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	1,500,000
525115.5152.13 - Biaya Perjalanan Dinas Luar Negeri Kegiatan Kemahasiswaan (termasuk workshop, pekan olahraga dan seni, mawapres, pameran dan keg. Minat bakat)	0
525115.5152.14 - Biaya Perjalanan Dinas Luar Negeri Kegiatan Mahasiswa Dalam Kompetisi Lomba	9,129,250
525115.5152.17 - Biaya Perjalanan Dinas Luar Negeri Kegiatan Seminar/Pelatihan/Workshop Pengembangan Mutu SDM Tenaga Pendidik	33,356,426
525115.5152.28 - Biaya Perjalanan Dinas Luar Negeri Kegiatan Administrasi Pendidikan Mahasiswa	49,535,026
525115.5552.02 - Biaya Perjalanan Dinas Luar Negeri dalam rangka Kegiatan Seminar/Pelatihan/Workshop Penjaminan Mutu Kelembagaan/Organisasi	0
525119.5156.02 - Transport Mengajar Dosen Luar Biasa	0
525119.5161.03 - Biaya Pendaftaran Seminar dan Publikasi bagi Tenaga Pendidik	8,807,000
525119.5191.12 - Biaya Akademik Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	0
525119.5191.13 - Biaya Akademik Kegiatan Pembinaan Karir Mahasiswa (Career development center dan tracer study)	0
525119.5191.16 - Biaya Akademik Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	0
525119.5195.28 - Biaya pendaftaran/registrasi/Keanggotaan asosiasi profesi untuk Pengembangan Mutu SDM Tenaga Pendidik	74,965,285
525119.5196.08 - Biaya Kegiatan Operasional Untuk UKM dan Ormawa	17,796,150

Mata Anggaran	SPJ
525119.5199.19 - Biaya pendaftaran/registrasi/Keanggotaan untuk keg. Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik	172,364,940
525119.5199.21 - Biaya Karangan bunga Departemen	750,000
TOTAL	**3,885,579,602**

S1 TEKNIK INDUSTRI

Laporan Penyerapan Anggaran Belanja Dana BPPTNBH

Periode Januari s.d. Desember TA 2019

Mata Anggaran	SPJ
521211.5122.09 - Biaya Konsumsi Kegiatan Penjaminan Mutu Tata Kelola Kelembagaan dan Pendidikan	3,377,600
521211.5124.09 - Biaya Surat, Cetak, Penerbitan dan Penggandaan Kegiatan Penjaminan Mutu Tata Kelola Kelembagaan dan Pendidikan	795,500
522151.5136.32 - Biaya Jasa Profesi Kegiatan Penjaminan Mutu Tata Kelola Kelembagaan dan Pendidikan	31,650,000
524111.5151.08 - Biaya Perjalanan Dinas Biasa Kegiatan Penjaminan Mutu Tata Kelola Kelembagaan dan Pendidikandan Pendidikan	6,412,564
524219.5152.08 - Biaya Perjalanan Dinas Luar Negeri Kegiatan Penjaminan Mutu Tata Kelola Kelembagaan dan Pendidikan	4,371,635
TOTAL	**46,607,299**

Appendix 2: Marine Transportation Engineering Department NON-PNBP Department's Budget Spending Report of 2019

S1 TRANSPORTASI LAUT

Laporan Penyerapan Anggaran Belanja Dana NON PNBP

Periode Januari s.d. Desember TA 2019

Mata Anggaran	SPJ
525111.5113.01 - Biaya Gaji Pegawai Lepas/Kontrak Prodi, Jurusan, dan Fakultas	98,320,000
525111.5114.02 - Biaya Tunjangan Uang Makan pegawai Lepas/Kontrak Prodi, Jurusan, dan Fakultas	30,200,000
525111.5115.01 - Biaya Lembur	2,414,000
525111.5115.08 - Honorarium Mengajar Dosen Luar Biasa	26,400,000
525111.5115.10 - Honorarium Asisten Penilai (Grader)	1,702,129
525111.5115.12 - Biaya Kelebihan Jam Kerja Pegawai Lepas/Kontrak Departemen	11,042,500
525112.5121.14 - Biaya ATK Kegiatan Penerimaan Mahasiswa Baru (Keg. Promosi, Publikasi, Sosialisasi, Seleksi Penerimaan, Orientasi Mhs Baru dan Matrikulasi)	0
525112.5121.18 - Biaya ATK Kegiatan Administrasi Pendidikan Mahasiswa	12,359,265
525112.5121.27 - Biaya ATK Kegiatan Seminar dan Publikasi Penelitian	13,249,685
525112.5122.03 - Biaya Konsumsi Kegiatan UKM dan Ormawa	11,386,600
525112.5122.14 - Biaya Konsumsi Kegiatan Penerimaan Mahasiswa Baru (Keg. Promosi, Publikasi, Sosialisasi, Seleksi Penerimaan, Orientasi Mhs Baru dan Matrikulasi)	13,024,000
525112.5122.15 - Biaya Konsumsi Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	8,979,500
525112.5122.18 - Biaya Konsumsi Kegiatan Administrasi Pendidikan Mahasiswa	50,796,735

Mata Anggaran	SPJ
525112.5122.19 - Biaya Konsumsi Kegiatan Kemahasiswaan (termasuk workshop, pekan olahraga dan seni, mawapres, pameran dan keg. Minat bakat)	0
525112.5122.27 - Biaya Konsumsi Kegiatan Seminar dan Publikasi Penelitian	27,482,412
525112.5123.06 - Biaya Bahan Habis Pakai Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	0
525112.5123.08 - Biaya Bahan Habis Pakai Kegiatan Administrasi Pendidikan	17,431,412
525112.5123.09 - Biaya Bahan Habis Pakai Kegiatan UKM dan Ormawa	13,840,025
525112.5123.10 - Biaya Bahan Habis Pakai Kegiatan Mahasiswa (termasuk workshop, pekan olahraga dan seni, mawapres, pameran dan keg. Minat bakat)	0
525112.5123.21 - Biaya materai dan benda pos lainnya departemen	939,000
525112.5124.03 - Biaya Surat, Cetak, Penerbitan dan Penggandaan Kegiatan UKM dan Ormawa	0
525112.5124.14 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Penerimaan Mahasiswa Baru (Keg. Promosi, Publikasi, Sosialisasi, Seleksi Penerimaan, Orientasi Mhs Baru dan Matrikulasi)	997,325
525112.5124.15 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	15,125,060
525112.5124.19 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Mahasiswa (termasuk workshop, pekan olahraga dan seni, mawapres, pameran dan keg. Minat bakat)	0
525112.5124.23 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	0
525112.5124.27 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Seminar dan Publikasi Penelitian	40,104,500
525112.5124.41 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Administrasi Pendidikan	7,909,900
525112.5129.06 - Biaya Kostum dan Atribut dalam rangka Dies Natalis Departemen	0
525112.5529.03 - Biaya Kostum dan Atribut dalam rangka Dies Natalis	0
525113.5131.02 - Biaya Langganan Telephon	2,140,656
525113.5131.03 - Biaya Langganan Internet	1,000,000
525113.5135.15 - Biaya Sewa kegiatan perkuliahan	1,600,000
525113.5135.25 - Biaya Jasa Sewa Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	0
525113.5135.30 - Biaya Sewa Kegiatan Seminar dan Publikasi Penelitian	0
525113.5136.03 - Biaya Jasa Profesi Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	0
525113.5136.15 - Biaya Jasa Profesi Kegiatan Seminar dan Publikasi Penelitian	11,800,000
525114.5141.02 - Biaya Pemeliharaan Gedung Dan Bangunan Perkuliahan dan Laboratorium	67,998,643
525114.5142.03 - Biaya Pemeliharaan Peralatan Laboratorium	2,000,000
525114.5142.04 - Biaya Pemeliharaan Peralatan Pembelajaran	22,957,775
525115.5151.26 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Pendidikan Mahasiswa (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	7,609,581
525115.5151.33 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	0
525115.5151.34 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Seminar/Pelatihan/Workshop Pengembangan Mutu SDM Tenaga Pendidik	2,960,000
525115.5151.38 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Seminar dan Publikasi Penelitian	11,029,942
525115.5152.19 - Biaya Perjalanan Dinas Luar Negeri Kegiatan Seminar dan Publikasi Penelitian	8,916,352
525119.5161.02 - Biaya Kegiatan Pelaksanaan Penelitian	30,000,000
525119.5162.02 - Biaya Pengabdian Masyarakat Sekitar	0

Mata Anggaran	SPJ
525119.5191.12 - Biaya Akademik Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	54,581,000
525119.5191.16 - Biaya Akademik Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	0
525119.5193.12 - Biaya Kegiatan Pelaksanaan Penelitian	0
525119.5194.04 - Biaya Pengabdian Masyarakat Sekitar	0
525119.5195.18 - Biaya Kegiatan seminar, workshop, lokarya, Diklat Pengembangan Mutu SDM Tenaga Pendidik	0
525119.5195.28 - Biaya pendaftaran/registrasi/Keanggotaan asosiasi profesi untuk Pengembangan Mutu SDM Tenaga Pendidik	14,285,000
525119.5196.12 - Biaya Kegiatan untuk kompetisi/lomba mahasiswa	2,400,000
TOTAL	**658,972,997**

Appendix 3: Informatics Engineering Department NON-PNBP Department's Budget Spending Report of 2019

S1 Informatika

Laporan Penyerapan Anggaran Belanja Dana NON PNBP

Periode Januari s.d. Desember TA 2019

Mata Anggaran	SPJ
525111.5113.01 - Biaya Gaji Pegawai Lepas/Kontrak Prodi, Jurusan, dan Fakultas	30,900,000
525111.5114.02 - Biaya Tunjangan Uang Makan pegawai Lepas/Kontrak Prodi, Jurusan, dan Fakultas	3,850,000
525111.5115.01 - Biaya Lembur	104,177,000
525111.5115.08 - Honorarium Mengajar Dosen Luar Biasa	76,800,000
525111.5115.09 - Honorarium Asisten Dosen dan Asisten Laboratorium	109,380,000
525112.5121.03 - Biaya ATK Kegiatan UKM dan Ormawa	3,529,530
525112.5121.18 - Biaya ATK Kegiatan Administrasi Pendidikan Mahasiswa	0
525112.5121.19 - Biaya ATK Kegiatan Kemahasiswaan (termasuk workshop, pekan olahraga dan seni, mawapres, pameran dan keg. Minat bakat)	0
525112.5121.27 - Biaya ATK Kegiatan Seminar dan Publikasi Penelitian	31,460,000
525112.5122.03 - Biaya Konsumsi Kegiatan UKM dan Ormawa	28,019,000
525112.5122.15 - Biaya Konsumsi Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	80,723,068
525112.5122.18 - Biaya Konsumsi Kegiatan Administrasi Pendidikan Mahasiswa	26,209,001
525112.5122.19 - Biaya Konsumsi Kegiatan Kemahasiswaan (termasuk workshop, pekan olahraga dan seni, mawapres, pameran dan keg. Minat bakat)	0
525112.5122.27 - Biaya Konsumsi Kegiatan Seminar dan Publikasi Penelitian	17,824,000
525112.5122.29 - Biaya Konsumsi Kegiatan Penerbitan Jurnal	0
525112.5123.01 - Biaya Bahan Habis Pakai Laboratorium	99,645,480
525112.5123.08 - Biaya Bahan Habis Pakai Kegiatan Administrasi Pendidikan	71,156,886
525112.5123.18 - Biaya Bahan Habis Pakai Kegiatan Seminar dan Publikasi Penelitian	7,493,850
525112.5123.21 - Biaya materai dan benda pos lainnya departemen	2,400,000
525112.5124.03 - Biaya Surat, Cetak, Penerbitan dan Penggandaan Kegiatan UKM dan Ormawa	2,515,500

Mata Anggaran	SPJ
525112.5124.19 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Mahasiswa (termasuk workshop, pekan olahraga dan seni, mawapres, pameran dan keg. Minat bakat)	0
525112.5124.27 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Seminar dan Publikasi Penelitian	19,123,500
525112.5124.29 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Penerbitan Jurnal	0
525112.5124.41 - Biaya Surat, Cetak, Penerbitan, dan Penggandaan Kegiatan Administrasi Pendidikan	19,034,900
525112.5129.06 - Biaya Kostum dan Atribut dalam rangka Dies Natalis Departemen	31,977,000
525112.5529.03 - Biaya Kostum dan Atribut dalam rangka Dies Natalis	0
525113.5131.02 - Biaya Langganan Telephon	13,060,668
525113.5135.21 - Biaya Jasa sewa Kegiatan Administrasi Pendidikan Mahasiswa	36,201,000
525113.5135.25 - Biaya Jasa Sewa Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	12,800,000
525113.5135.30 - Biaya Sewa Kegiatan Seminar dan Publikasi Penelitian	14,944,000
525113.5136.03 - Biaya Jasa Profesi Kegiatan Pendidikan (Kegiatan perkuliahan, UTS dan UAS, KP dan Ujian)	2,825,641
525113.5136.05 - Biaya Jasa Profesi Kegiatan Administrasi Pendidikan Mahasiswa	0
525113.5136.15 - Biaya Jasa Profesi Kegiatan Seminar dan Publikasi Penelitian	3,750,000
525114.5141.02 - Biaya Pemeliharaan Gedung Dan Bangunan Perkuliahan dan Laboratorium	499,221,512
525114.5141.03 - Biaya Pemeliharaan Kebersihan Gedung Pembelajaran dan laboratorium	281,116,000
525114.5142.01 - Biaya Pemeliharaan Kendaraan Roda 4/6/10	32,121,618
525114.5142.02 - Biaya Pemeliharaan Kendaraan Roda 2	6,924,700
525114.5142.04 - Biaya Pemeliharaan Peralatan Pembelajaran	198,546,500
525114.5142.07 - Biaya Pengurusan/Perpanjangan Surat Kendaraan Roda 2/4/6 Departemen	2,288,700
525115.5151.30 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Mahasiswa dalam kompetesi/lomba	57,564,576
525115.5151.33 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Pengembangan Kurikulum, Akreditasi, dan Mutu Akademik (termasuk borang dan angka kredit)	105,400,000
525115.5151.38 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Seminar dan Publikasi Penelitian	2,641,338
525115.5151.50 - Biaya Perjalanan Dinas Dalam Negeri Kegiatan Administrasi Pendidikan Mahasiswa	52,962,177
525115.5152.19 - Biaya Perjalanan Dinas Luar Negeri Kegiatan Seminar dan Publikasi Penelitian	6,077,400
525115.5551.04 - Biaya Perjalanan Dinas Dalam Negeri dalam rangka Keg. Seminar/Pelatihan/Workshop Pengembangan Mutu SDM Tenaga Kependidikan	0
525119.5132.03 - Biaya Langganan On Line E-Journal Pendukung Pembelajaran	0
525119.5161.03 - Biaya Pendaftaran Seminar dan Publikasi bagi Tenaga Pendidik	28,565,000
525119.5162.02 - Biaya Pengabdian Masyarakat Sekitar	174,000,000
525119.5191.14 - Biaya Akademik Kegiatan Administrasi Pendidikan Mahasiswa	0
525119.5194.04 - Biaya Pengabdian Masyarakat Sekitar	0
525119.5195.18 - Biaya Kegiatan seminar, workshop, lokarya, Diklat Pengembangan Mutu SDM Tenaga Pendidik	0
525119.5195.20 - Biaya Kegiatan Seminar, Workshop, Lokakarya, Diklat Pengembangan Mutu SDM Tenaga Kependidikan	0
525119.5195.28 - Biaya pendaftaran/registrasi/Keanggotaan asosiasi profesi untuk Pengembangan Mutu SDM Tenaga Pendidik	12,100,000
525119.5195.29 - Biaya Studi Lanjut Pengembangan Mutu SDM Tenaga Pendidik	25,000,000

Mata Anggaran	SPJ
525119.5195.30 - Biaya pendaftaran/registrasi/Keanggotaan asosiasi profesi untuk Pengembangan Mutu SDM Tenaga Kependidikan	0
TOTAL	**5,186,667,898**

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AUTHOR BIOGRAPHY

Asti Nur Khairunnisa was born in Bogor, December 8th, 1999 and started her formal education in SD Bina Insani Bogor. Then, the author went to SMP Negeri 1 Bogor and SMA Negeri 9 Yogyakarta before enrolled in Industrial and Systems Engineering Department of Institut Teknologi Sepuluh Nopember, Surabaya. During the period of study in the department, the author was involved in several organizations, including Himpunan Mahasiswa Teknik Industri ITS (HMTI ITS) and Badan Eksekutif Mahasiswa ITS (BEM ITS). In HMTI ITS, the author was involved as the staff of Student Resource Development Department in 2017-2018, before continuing as the Secretary of Freshmen Student Resource Development Department in 2018-2019. The author started involvement in BEM ITS as the staff of Ministry of Student Resource Development in 2018-2019 and continuing as the Secretary of Ministry of Student Resource Development in 2019-2020. Additionally, the author also had 2 months internship in PT Telkom Indonesia as the Marketing Management intern for Directorate of Consumer in 2019. Also, the author took part in a short program at Istanbul Aydin University, Turkey in 2019. For further discussion about this research or any formal inquiry, the author can be contacted through khairunnisaasti@gmail.com or direct message through LinkedIn: Asti Nur Khairunnisa.