ANALYSIS OF STUDENT'S SATISFACTION TOWARDS SERVICE QUALITY DURING DISTANCE LEARNING AT THE UNDERGRADUATE PROGRAM IN INDUSTRIAL ENGINEERING UNIVERSITAS ISLAM INDONESIA

THESIS

Submitted to International Program
Department of Industrial Engineering
the Requirement for the degree of
Sarjana Teknik Industri
at
Universitas Islam Indonesia
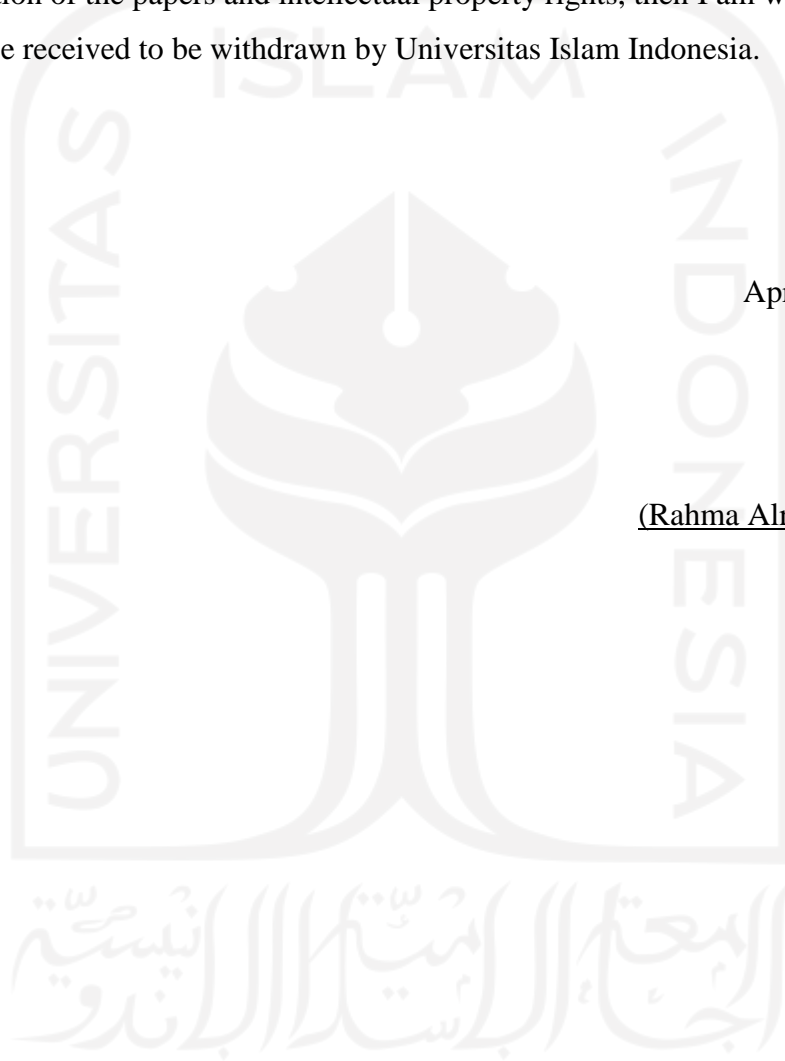
By
Rahma Alrosdi Wira Putri (16522042)

INTERNATIONAL PROGRAM
DEPARTMENT OF INDUSTRIAL ENGINEERING
UNIVERSITAS ISLAM INDONESIA
YOGYAKARTA
April 2021

AUTHENTICITY STATEMENT

For the sake of Allah SWT, I confess this work is on my own work except for the summaries of the sources that had been cited and mentioned. If someday in the future my confession is proved to be wrong and dishonest that resulting in the violence of academic misconduct and legal regulation of the papers and intellectual property rights, then I am willing to return my degree I have received to be withdrawn by Universitas Islam Indonesia.

April, 2021

(Rahma Alrosdi Wira Putri)

THESIS APPROVAL OF SUPERVISOR

ANALYSIS OF STUDENT'S SATISFACTION TOWARDS SERVICE QUALITY DURING DISTANCE LEARNING AT THE UNDERGRADUATE PROGRAM IN INDUSTRIAL ENGINEERING UNIVERSITAS ISLAM INDONESIA

THESIS

By

Name   : Rahma Alrosdi Wira Putri

Student Number   : 16522042

April, 2021

(Bambang Suratno, S.T., M.T., Ph. D.)

THESIS APPROVAL OF EXAMINATION COMMITTEE

ANALYSIS OF STUDENT'S SATISFACTION TOWARDS SERVICE QUALITY DURING DISTANCE LEARNING AT THE UNDERGRADUATE PROGRAM IN INDUSTRIAL ENGINEERING UNIVERSITAS ISLAM INDONESIA

THESIS

By

Name   : Rahma Alrosdi Wira Putri

Student Number   : 16522042

Has been defended in front of Examination Committee in Partial Fulfillment of the Requirement for Bachelor Degree of Industrial Engineering Department Universitas Islam Indonesia

Examination Committee

Bambang Suratno, S.T., M.T., Ph.D.
Examination Committee Chair

Muhammad Ridwan Andi Purnomo, S.T., M.Sc., Ph.D.
Member I

Winda Nur Cahyo, S.T., M.T., Ph.D.
Member II

Acknowledged by,
Head of Undergraduate Program-Department of Industrial Engineering
Faculty of Industrial Technology
Universitas Islam Indonesia

(Dr. Taufiq Immawan, ST., MM.)

DEDICATION

This thesis is dedicated to my beloved parents who always give me prays and supports that make me able to through all the journeys.

This thesis also would not be possible to be completed without the assistance of my supervisor, Bambang Suratno, S.T., M.T., Ph. D.

MOTIVATIONAL QUOTES

لَا يُكَلِّفُ ٱللَّهُ نَفْسًا إِلَّا وُسْعَهَا

ALLAH DOES NOT BURDEN A SOUL BEYOND THAT IT CAN BEAR

(Q.S. Al-Baqarah; 286)

PREFACE

Assalamu'alaikum Warahmatullahi Wabarakatuh

Al-hamdu lillahi rabbil 'alamin all of the gratitude are presented to Allah as the strength and the guidance which blessing the author to complete this thesis in acquiring the degree of Sarjana Teknik entitled "Analysis of Student's Satisfaction Towards Service Quality during Distance Learning in Undergraduate Program Industrial Engineering Department Universitas Islam Indonesia" and Also greeting devoted to our beloved Prophet Muhammad SAW, which has brought humankind to the world full of knowledge as it is today.

This thesis is dedicated to my family and all the readers. Therefore, the author would like to thank those who have been constantly sending supports and motivation in the completing of this thesis report to the author:

1. Prof. Dr. Ir. Hari Purnomo, M.T. as the Dean of Faculty of Industrial Technology.
2. Dr. Taufiq Immawan, S.T., M.M. as the Head of Undergraduate Program Department of Industrial Engineering Faculty of Industrial Technology Universitas Islam Indonesia.
3. Mr. Muhammad Ridwan Andi Purnomo, S.T., M.Sc., Ph. D. as Head of the Department of Industrial Engineering, Faculty of Industrial Technology, Universitas Islam Indonesia
4. Mr. Bambang Suratno, S.T., M.T., Ph.D. as my thesis supervisor who always provides guidance and knowledge to assist the author.
5. My parents, who always prayed for me and support me both financially and morally in every condition.
6. Mrs. Devy, IP's administrative staff who patiently help the IP students, especially the author.
7. All parties that have been involved in the process of completing this Undergraduate Thesis, that cannot be mentioned one by one. May God repay all the good they did with grace and additional guidance so that they can receive goodness for all of us.

The author realizes that there are still shortcomings as well as weaknesses in this report. Therefore, the author apologizes and expects criticism and suggestions for the perfection of this Thesis report. The author hopes this report would bring advantages for everyone who reads this.

Waasalamu'alaikum Warahmatullahi Wabarakatuh

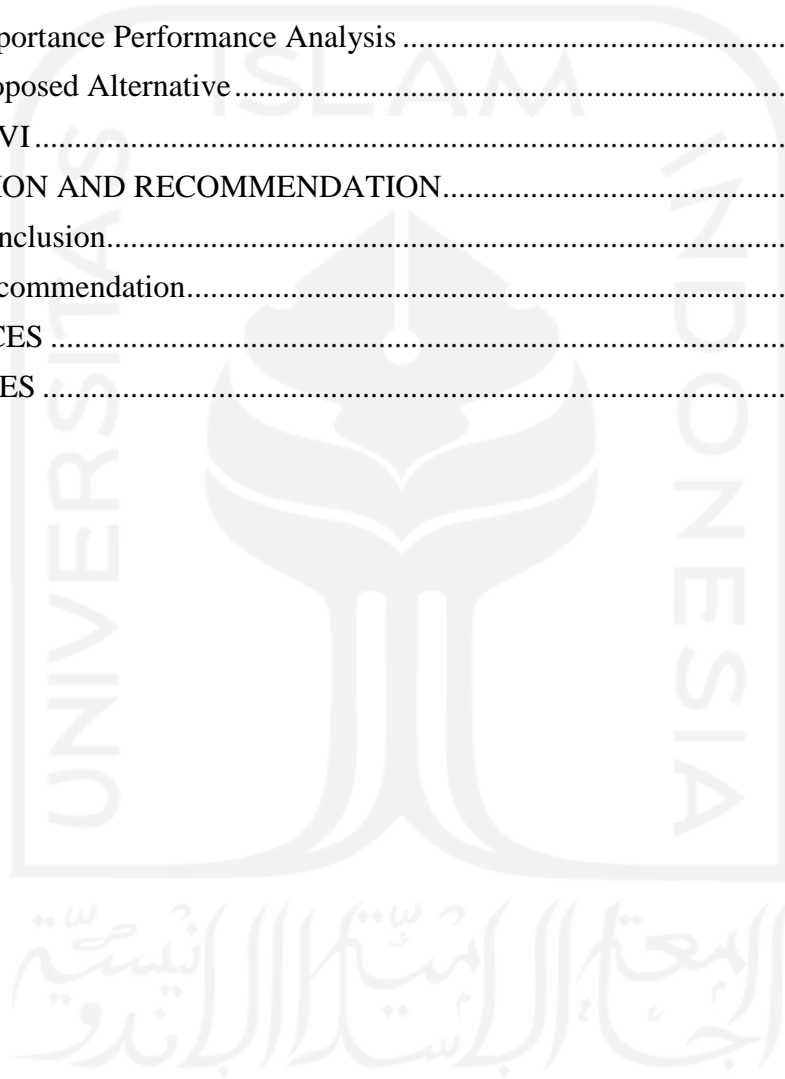April, 2021

(Rahma Alrosdi Wira Putri)

ABSTRACT

The outbreak of Covid-19 that occurred is giving a great impact on education. Almost all universities around the world have to change all programs and teaching-learning activities into distance learning. As a service provider, university has to maintain their service quality and customer satisfaction in all conditions. If customer expectations are not met by adequate delivery or standards of the service quality shortfalls can lead to possible loss-of-reputation costs and negative word of mouth about the university. Therefore, universities have always to monitor the satisfaction level of their students. This paper aimed to know the level of student satisfaction to maintain and improve the service quality. The method of CSI is applied to determine the satisfaction level. The service item that was measured is based on HEdPERF with adjustment with an existing condition. Finally, the service item is classified based on its importance and performance using the IPA method. The result shows that the CSI score is 79,98 which is categorized as satisfied and 5 service items require immediate improvement.

Keywords: CSI, IPA, HEdPERF, Customer Satisfaction

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

In this chapter, the background of why the research on service quality is chosen, how the problem regarding service quality for distance learning is formulated, the research objectives, the limitation of conducting this research, the benefits that this research can give, and the structure of this research are described.

1.1 Background of The Problem

The presence of the COVID-19 outbreak which has infected more than 25 million people worldwide on August 31, 2020, has led to major changes in human life, due to the necessity to do physical distancing to avoid the spreading of the virus. UNESCO, for its part, is monitoring the impact of Coronavirus on education. As of March 30, over 166 countries have implemented nationwide closures, impacting over 87% of the world's student population, 1.52 billion students. In addition, nearly 60.2 million teachers are no longer in the classroom. A growing number of universities around the world also have to postpone or cancel all campus events such as workshops, conferences, sports (both intra- and inter-university), and other activities for indefinite periods. Universities have moved quickly to change various courses and programs from traditional learning to distance learning, including the Universitas Islam Indonesia (UII).

According to Anthea (2020) Distance learning is educational learning that is conducted beyond physical space and time and is aided by technology that allows students and lecturers to interact synchronously or asynchronously. The existence of distance learning has led to many changes in academic technical and service systems. Students can only communicate with the lecturer and the academic staff through email, phone calls, and other online platforms. Laboratory activities and practical work also cannot be conducted properly. Some of them have to be replaced by other activities and some of them have to be completely removed.

Catherine et al. (2019, p.10) stated that several risks may occur while conducting distance learning, one of which is the difference capacity of every student and lecturer to access online learning features and facilities. Aside from that, Sahu (2020) stated that students who do not have an Internet facility will suffer clear disadvantage while participating in distance learning and evaluation process, which would adversely affect their grade point averages (GPAs). Moreover, Mackay and Tymon (2014) also said that the difference in the level of knowledge and understanding between each lecturer in delivering the lecture can lead to misunderstanding and misinterpretation for the students while conducting distance learning. According to Alchamdhani et al. (2020), many students also experience some obstacles and shortcomings during conducting distance learning such as excessive workload compared to offline learning, difficulties in understanding the material because they feel the lecture is less interactive and communicative during distance learning rather than offline class, and other obstacles as can be seen in figure 1.1 below.
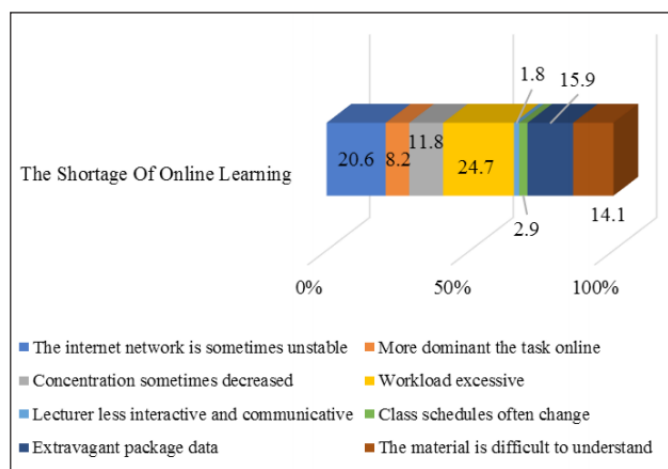
Figure 1.1 The Obstacle and Shortcoming during Distance Learning

(Source: Alchamdhani et al., 2020)

These conditions certainly will affect and reduce the quality of teaching-learning processes that will lead to the decline of service quality. However, even in this critical situation universities still have to maintain their service quality. Quality of service is the key to success in marketing and business strategy. In educational services, improving service quality is something that has to be prioritized by universities, because it is closely related to increasing competitive advantage.

According to Arambewela and Hall (2006), student satisfaction is the best barometer of educational service quality, because in educational institutions, students are the primary customers and their satisfaction will lead towards loyalty, retention, and positive word of mouth. If customer expectations are not met by adequate delivery or standards of the service quality shortfalls can lead to possible loss-of-reputation costs, including negative word of mouth about the university. According to Harahap et al. (2017), word of mouth is one of the important factors that affect and influence new students as the customer in choosing the university and making a purchasing decision. Positive word of mouth is very important in the service industry including in educational services by reason of the recommendation of

other customers are seen as more credible and trustworthy than the promotional of the organization itself (Lovelock as cited in Dora, 2016).

According to Ozdemir et all. (2016) word-of-mouth communications have the effect on two factors which are satisfaction and loyalty also dissatisfaction and disloyalty. When the students satisfied with the service quality they will definitely recommend the university to others. However, when the universities' quality does not satisfy student's expectations, they also will definitely warn other people. Moreover, word of mouth also giving a big influence for students in student's preference and decision in choosing a university, as it can be seen in Table 1.1 below. Therefore, positive word of mouth is very effective and would be very helpful for the institution in performing the promotion. Especially in the pandemic situation the world facing now, where many sectors are forced to do work from home including the educational sector that implements distance learning.

Table1. 1 The Impact of Word-of-Mouth in University Preferences concerning Satisfaction and Loyalty and Dissatisfaction and Disloyalty

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
		%	%	%	%	%
Satisfaction and Loyalty	If the university satisfies my expectations, then I will definitely recommend it to others	36,1	47,8	14,0	1,8	3
	Positive evaluation and suggestion from others about the university definitely affect my university preference	34,9	46,1	15,1	3,0	3

Dissatisfaction and Disloyalty	If the university does not satisfy my expectations, then I will definitely warn others	34,6	52,7	10,7	1,9	1
	Negative evaluation and complaints from others about the university definitely affect my university preferences or influence my decision to no longer consider the university	34,9	42,0	16,8	5,9	4

The major concern for an educational institution is the students. The student's satisfaction shows how the institution works and the success or failure of the institution itself (Austin & Pervaiz, 2017). Furthermore, student satisfaction plays an important role in determining the quality of the educational service system, because the higher the level of satisfaction experienced by the student, the better the student's ability to groom their skill development, course knowledge, and mentality (Wei & Ramalu, 2011). According to Rodie and Klein in Wei et al. (2011), students who are satisfied with the quality of services that they perceived, will most likely be more motivated, loyal, and become good performer in their academics. Student Loyalty is defined as a student's favorable attitude toward the higher educational institution through the positive word-of-mouth by recommending the institution to others (Sim as cited in Austin, 2017). Moreover, students' loyalty influences graduate to continue their education at a higher level in the same higher education institution (Marrzo-Navarro et al., as cited in Bakrie et al., 2019). Increasing customer loyalty is very crucial for any type of company including educational institutions as it will help in cost saving by reducing marketing costs (Austin & Pervaiz, 2017).

Based on the description above, monitoring student's satisfaction to maintain educational service quality has become a fundamental component of managing a university. Abouchedid and Nasser (2002) stated that customers' (i.e. students) perceived service quality

and the institutions' (i.e. universities) perceptions may not coincide. Especially in the current condition, where the teaching-learning process suddenly changed into online which has never been carefully planned before. Therefore, it is necessary to measure the level of student's satisfaction of service quality during the distance learning period at the Undergraduate Program in Industrial Engineering Universitas Islam Indonesia and design how the department can maintain the service quality levels of their teaching-learning activity. The Customer Satisfaction Index is carried out as the method on this research because this is the most commonly used method that has been applied widely in measuring the level of customer satisfaction and had proved its compatibility in various types of industry including educational service. However, in maintaining and improving the service quality knowing the level of customer satisfaction is not enough. CSI method only analyses overall satisfaction level based on the performance of the service providers and the importance of the service given to students from a customer point of view. The institutions have to know which service items that require immediate improvement and or replacement based on the importance and the performance of each service item from the student's point of view. So, the importance-performance analysis will also be conducted. Nevertheless, both the CSI and IPA method do not have fixed dimensions that must be used in measuring customer satisfaction. Therefore, this research will use HEdPERF dimension and service items that were specifically designed to measure service quality in higher education. By using these methods, the university can determine the level of student satisfaction and prioritizing the service with appropriate measured dimensions based on student's perspectives, so that this research will meet its objective.

1.2 Problem Formulation

Based on the description above, the problems of this research would be:

1. What is the level of student satisfaction towards service quality during distance learning in the undergraduate program industrial engineering department UII?

2. What dimensions and service items should be prioritized regarding the service quality level?

3. What approaches can be done by the industrial engineering department UII in order to increase student satisfaction levels?

1.3 Research Objectives

The objectives of this research are as follows:

1. Determining the level of student satisfaction towards service quality during the distance learning in the undergraduate industrial engineering department UII.

2. Determining the dimensions and service items that are important for undergraduate program industrial engineering department UII's service quality.

3. Designing approaches to increase the student satisfaction level for distance learning in undergraduate program industrial engineering department UII.

1.4 Scopes of Research

There are some limitations of this research in order to be more focused on the problem, the limitations of this research are as follows:

1. This research was conducted in the Undergraduate Program in Industrial Engineering Universitas Islam Indonesia.

2. The items in this study will adopt service items from HEdPERF instruments in the measurement of service quality.

3. Data collection is conducted by spreading questionnaires to random samples of active Undergraduate Industrial Engineering Department students in UII

4. Data collection is conducted on November 2020

5. Assumed that all of the service given has fulfilled its standard so that the quality of service received by all students are the same.

6. The questionnaire used in this study is a closed-questionnaire. Thus for each question, an alternative answer is provided. The respondent is allowed to choose the appropriate answer based on their opinion.

7. Data processing is done using the Customer Satisfaction Index and Important Performance Analysis.

8. This research is only focused on student's satisfaction levels during distance learning.

1.5 Research Benefits

The benefits that are expected to be obtained from this research are as follows:

1. The relevant agencies can implement and use the result of this research to evaluate and improve the performance of their service system.

2. The result of this study can be used as a guidance and reference especially for educational institutions to improve and determine the proper model of the education service system in distance learning desired by students.

3. The result of this study can be used to add knowledge and also can be used as a reference for further research related to service quality and customer satisfaction.

1.6 Thesis Structure

This research is divided into six chapters, each of which consists of several sub-chapters. The series of thesis structure is as follows:

CHAPTER I   INTRODUCTION

This chapter briefly describes the background of why the research on service quality in higher education is chosen and how the problem regarding service quality for distance learning is formulated.

Moreover, this chapter also describes the objective of this research in assessing and analyzing student's satisfaction levels also the limitation of this research in conducting the service quality analysis during distance learning in the Undergraduate Program in Industrial Engineering UII. The benefits that will be provided to the Industrial Engineering Department UII and possibly other parties related to service quality and customer satisfaction will also be described in this chapter. Lastly, this chapter will also explain the structure of this research.

CHAPTER II   LITERATURE REVIEW

This chapter contains the basic theories from journals, proceedings, books, websites, and other references related to service quality in higher education, customer satisfaction, and other theories related to this research to support the study and as a reference for problem-solving in order to find out what appropriate methods that will be used in this research, and also what parameter, dimension, and items that must be considered in assessing the service quality. This chapter will also include a brief description of previous research that similar and related to service quality in higher education and the student's satisfaction level.

CHAPTER III   RESEARCH METHODOLOGY

This chapter consists of the flow chart of how this research will be conducted and also describes the framework of this research. This chapter will also include the research procedure on how data collecting using online questionnaires will be conducted and how the method of HEdPERF, Customer Satisfaction Index (CSI), and

Important Analysis Method (IPA) will be used in this study with systematic ways of conducting the research.

CHAPTER IV   DATA COLLECTING AND PROCESSING

This chapter contains data collections of this research and data processing using predetermined methods. The data collection is gathered by distributing online questionnaires designed by the researcher by adopting service items from HEdPERF instruments to a random sample of active undergraduate students in the Industrial Engineering Department Universitas Islam Indonesia. The data from the questionnaire will be proceeded and analyzed using the Customer Satisfaction Index (CSI) in order to know the level of student's satisfaction and Importance Performance Analysis method to group the service items into four different quadrants based on their importance and performance.

CHAPTER V   RESULT AND DISCUSSION

This chapter contains the discussion of the result obtained from processed data that has been done in the fourth chapter which is the level of student's satisfaction toward service quality during the distance learning in the undergraduate program industrial engineering department UII. The dimensions and service items that are important for service quality of the Industrial Engineering department UII and what approaches can be done to increase the student satisfaction level will also be discussed in this chapter.

CHAPTER VI **CONCLUSION AND RECOMMENDATION**

This chapter contains the conclusion of this research which contains the student's satisfaction level of service quality in Undergraduate Program Industrial Engineering Department UII during distance learning, the service items that have been classified into a different type of importance and performance, also the improvement that can be done for service items to increase students satisfaction level. This chapter also contains the suggestion on the results attained in the problems identified during research for development in future research related to service quality, especially in higher education.

REFERENCES

APPENDICES
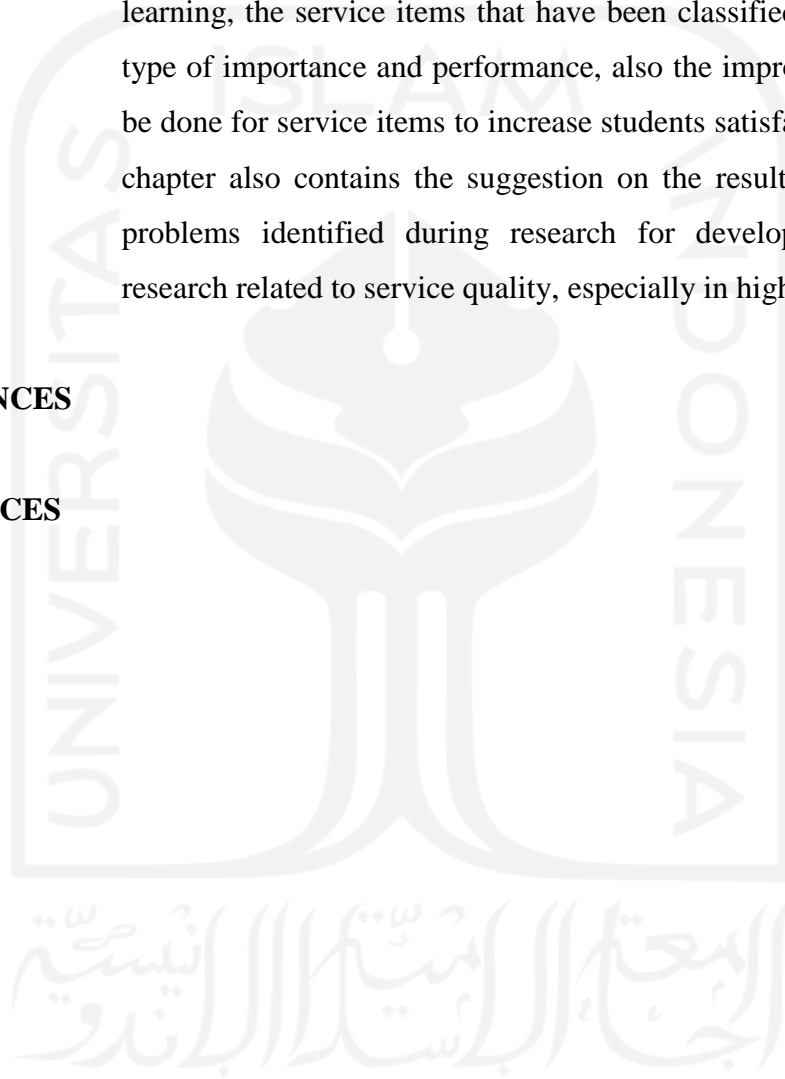
CHAPTER II

LITERATURE REVIEW

In this chapter, an explanation of the literature review is presented, which is divided into two studies: inductive study and deductive study. An inductive study is a study from a previous researcher that shas similar topics with this research. An inductive study was conducted to be a reference of theory and methods that have been used by the previous researcher in conducting research. Aside from that, the deductive study is a study that will explain the basic theory related to service quality in higher education, student satisfaction, and other theories related to this research from journals, proceedings, books, websites, and other references to support the study and as a reference for problem-solving with appropriate methods. Inductive and deductive studies need to be done to find out the gap between the previous study and this research to avoid plagiarism. This literature review will be divided into several sub-chapters.

2.1 Inductive Study

Quality of service has become an important subject of discussion among Higher Education Institutions and has been extensively studied in recent years. Delivering excellent quality service is vibrant and closely related to the success and growth of the organization. Therefore, organizations need to possess knowledge about the students' behavior and satisfaction in order to develop an independent evaluation to deliver better educational service quality to its students.

Muhammad et al. (2018) studied the relationship between service quality and student satisfaction in 28 universities in Khyber Pakhunkhwa (Pakistan). This research proposed the application of HEdPERF model using a proportionate stratified random sampling method. The five dimensions of HEdPERF model namely, academic, non-academic, access, program, and reputation aspects of service quality are used to formulate the questionnaire in obtaining the data. The data of this research was analyzed with the help of SPSS and AMOS to measure service quality and student's satisfaction. The result showed that among five dimensions of service quality, academic aspects ranked as the most important and influential dimension of service quality.

Ardhyani & Singgih (2017) studied the importance of measuring the quality of education to develop resources for increasing competitive advantage. This research aims to know the service quality of UMAHA by measuring the customer expectations and perceptions as well as the gap between those two to improve the quality of education. The method used to evaluate the service quality as well as the gap value between customer expectation and perception is SERVQUAL. The data were obtained from the questionnaire given to lecturers, administration staff, and students of the Industrial Engineering department UMAHA. The questionnaire consists of 7 dimensions and 38 service items adopting HEdPERF and HiEdQUAL dimension and service item by considering the actual conditions in UMAHA. The result showed that HEdPERF and HiEdQUAL are the right measuring tools in assessing the quality of services of higher education, so that the result can help the institution to design better services.

Daryanto (2016) measured the level of student satisfaction in higher education. This study aims to make a sustainable service quality improvement. The method used in this study is the Higher Education Performance (HEdPERF) approach to measure the quality of service from the student perspective. This research also used five dimensions of HEdPERF. However, out of 41 HEdPERF service items only 37 service items were used in this research because this research considering the narrower scope of service which is not for university level but department level. After that, the dimension of service quality that is still considered

weak is analyzed using the TRIZ method to find an idea or solution to improve service quality. The result showed that HEdPERF method can help to identify service attributes that still need to be improved in higher education and TRIZ can help in designing a more detailed solution for the dimension specifically discussed.

Yanova (2015) conducted research about the public examination of education quality. This study aims to evaluate public satisfaction with the quality of educational services. The method used to analyze satisfaction with the quality of education is the Customer Satisfaction Index (CSI). The study is performed with the use of parallel forms surveys by the direct questionnaire with 16 parameters and by online survey with 25 parameters. Then the data are processed using statistical analysis by Statistica 6.0 software. The result showed that the Customer Satisfaction Index (CSI) is an effective tool to monitor the opinions of consumers of educational services so the management can make decisions to optimize the educational policy in feedback mode. Continuous improvement of public assessment measurement tools provides more accurate and reliable feedbacks from consumers of educational services.

Wijaya (2017) conducted research about increasing students' satisfaction level of campus administration services in STIKOM Bali. The Customer Satisfaction Index (CSI) method was used in this study to measure satisfaction level because this method determines the overall level of customer satisfaction by considering the importance level of the measured service quality attributes. The result showed that the level of satisfaction of STIKOM Bali students in total is in the neutral category with a 3.49 score value. By measuring the level of student's satisfaction, the university can be aware of whether the students are satisfied or not with the services that have been provided, so that the university can improve the performance of their service and formulate the strategy of their quality to compete with other universities.

Silva & Fernandes (2011) conducted research about evaluating higher education service quality. This study aims to identify the strengths and weaknesses of the School of Technology and Management of Bragança services, from the perspectives and perceptions of students. The method used in this research is Importance Performance Analysis (IPA) to

determine the relationship between the perceived service quality and student satisfaction. IPA approach examines not only the performance of an item but also the importance of that item as a determining factor in satisfaction to the respondent. The result showed that IPA approach can be adapted as an alternative framework for evaluating students' satisfaction.

Noviyanti et al. (2018) studied student's perceptions on the importance of the university services and student's satisfaction towards those provided services. This study aims to evaluate the facility of academic and non-academic services and the organization's features performance of Universitas Terbuka Indonesia. This research proposed the application of the Importance-Performance Analysis (IPA) method to map the relationship between expectations and the performance of each offered statement and the gap between performance and expectations of the statement into a Cartesian diagram that is divided into four parts. The data were obtained by distributing questionnaires to the active student in distance learning by adapting the instrument that was developed based on five services provided by UT. The result showed that the learning materials are located in Quadrant II that is quite distinct from the student's perception of the importance and their satisfaction, which means UT needs to improve its learning material related academic services.

Suroto, Nindiani & Purba (2016) conducted research about measuring students' satisfaction in the educational service system. This research aimed to determine the students' satisfaction level towards the academic services provided by the accounting program at a private university in Jakarta and to evaluate attributes that should be improved. The method used in this research are Customer Satisfaction Index (CSI) to determine the level of customer satisfaction, and also Importance-Performance Analysis (IPA) to determine the attributes of service be repaired and maintained. The data were obtained from questionnaires by using 5 quality dimensions which are tangible, reliability, responsiveness, assurance, and empathy. The result showed that the Customer Satisfaction Index (CSI) is effective to calculate the level of student satisfaction and the Importance Performance Analysis (IPA) method successfully prioritizes the attributes for improvement so that the management can allocate resources better to improve service quality for customer satisfaction.

The summary of previous research is shown in Table 2.1 below:

Table 2. 1 Summary Table of Previous Research

Researcher (year)	Title	Methodologies	Criteria/Dimension
Muhammad et al. (2018)	Service Quality the Road Ahead for Student's Satisfaction	HEdPERF model using a proportionate stratified random sampling method.	Non-academic aspects, academic aspects, access, program issues, reputation
Daryanto (2016)	Upaya Perbaikan Layanan dengan Menggunakan Higher Education Performance (HEdPERF) dan Metode TRIZ	HEdPERF and TRIZ	Non-academic aspects, academic aspects, access, program issues, reputation
Ardhyani & Singgih (2017)	Pengukuran Kualitas Layanan dengan Higher Education	HEdPERF and HiEdQUAL	Academic aspects, Administration service, academic facilities,

			program issues, reputation, campus infrastructure, supporting service
Yanova (2015)	Assessment of Satisfaction with the Quality of Education: Customer Satisfaction Index	CSI	The reputation of the institution and its rating, information about the services provided, Diversity of educational services, The quality of the educational result, The quality of the educational process, The cost of paid services, Pedagogical, administrative, and support staff, etc.
Wijaya (2017)	Analisis Tingkat Kepuasan Mahasiswa Terhadap Pelayanan Bagian Keuangan dengan Metode Customer Satisfaction Index	CSI	Tangibles, Reliability, Responsiveness, Assurance, Empathy
Silva & Fernandes (2011)	Using Importance-Performance Analysis in Evaluating	IPA	Quality of General Aspects, Quality of the

The first row continues from the previous page, with the Performance (HEdPERF) dan Higher Education Service Quality (HiEdQUAL) shown in the method column.

	Institution of Higher Education: A Case Study		Library, Quality of Computer Laboratory Facilities, Quality of Academic Services, Quality of Teaching Aspects, Quality of Undergraduate Programs, and Quality of External Relations.
Noviyanti et al. (2018)	The Importance-Performance Analysis (IPA) on Academic and Non-Academic Services to enhance Student Motivation	IPA	General services, registration services, tutorial services, practical services, learning services, examination services
Suroto, Nindiani & Purba (2016)	Students Satisfaction on Academic Services in Higher Education Using Importance-Performance Analysis	CSI and IPA	Assurance, Empathy, Reliability, Responsiveness, Tangibles
Author	Analysis of Student's Satisfaction Towards	CSI, IPA, and HEdPERF	Academic aspects, Non-academic aspects,

Service Quality during Distance Learning in Undergraduate Program Industrial Engineering Department Universitas Islam Indonesia	Reputation, Access, Programme issue

By considering the previous research that studied educational service quality in higher education and student satisfaction, this research proposed to use HEdPERF, Customer Satisfaction Index, and Important Performance Analysis as the most suitable method in solving the problem. As most previous researchers said, HEdPERF is the most appropriate quality measurement method applied to higher education as it is specially designed to measure higher education service quality, so it will be used in this research to design the questionnaire to assess student's satisfaction by considering the condition in Undergraduate Program Industrial Engineering Department Universitas Islam Indonesia. Aside from that, the Customer Satisfaction Index method was also chosen because according to the previous researchers, this method is effective to calculate the level of student satisfaction and this method can determine the overall level of customers in this case students' satisfaction by considering the importance of the attributes of service quality. Moreover, the Importance Performance Analysis method is also used because this method examines not only the performance of an item but also the importance of that item as a determining factor in satisfaction to the respondent. IPA method also can successfully prioritize the attributes for improvement, so that the campus management can allocate resources better to improve service quality for their student.

2.2 Deductive Study

Education is one of the service industries that provide services for students. University as an educational service institution should provide good quality of services to fulfill the needs and desires of consumers. Student satisfaction is the best barometer to evaluate educational services quality. Since in educational institutions, students are the primary customers. Customer Satisfaction Index (CSI) can be used to measure the student's satisfaction level toward service quality. HEdPERF is a quality measurement method for measuring service quality in higher education. Moreover, Importance Performance Analysis is a method to prioritize the attributes that require service quality improvement. The deductive study explains the theories that support the research. This deductive study will be the basis for the analysis and help in solving problems in this research. The deductive study will be discussed in this research are Service, Quality, Student Satisfaction, HEdPERF, Customer Satisfaction Index (CSI), and Important Performance Analysis (IPA).

2.2.1   Service

Lovelock (1991) defined service as "a process or performance rather than a thing". Vargo and Lusch (2004) define service as the application of specialized competencies (skills and knowledge), through deeds, processes, and performances for the benefit of another entity or the entity itself (self-service). Meanwhile, according to Tjiptono (2011) services are activities, benefits, or satisfaction that are offered for sale.

Zeithaml, Parasuraman, and Berry (1985) identified 4 characteristics of service namely as follows:

1. Intangibility—lacking the palpable or tactile quality of goods
2. Heterogeneity—the relative inability to standardize the output of services in comparison to goods

3. The inseparability of production and consumption—the simultaneous nature of service production and consumption compared with the sequential nature of production, purchase, and consumption that characterizes physical products

4. Perishability—the relative inability to inventory services as compared to goods

According to Bhasin (2018) Classification of services can be done on the basis of two points. These two points or factors are further sub divided into 2 further variables (see Figure 2.1). All in all, service classification considers four types of people or objects.

1. Classification of service based on tangible action

    Wherever people or products are involved directly, the service classification can be done based on tangibility.

    a. Services for people–Where the service is delivered by people to people. For example health care, restaurants, and saloons,

    b. Services for goods–Where services are given by people for objects or goods. For example transportation, repair, and maintenance, etc.
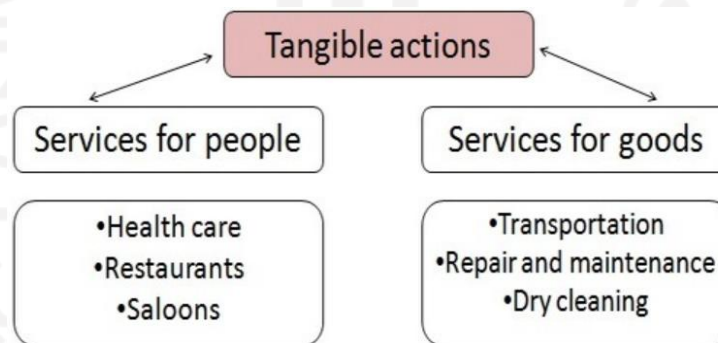
Figure 2. 1Classification of service based on tangible action

(Source: Bhasin, 2018)

2. Classification of service based on intangibility

    There are objects in this world that cannot be tangibly quantified. For example – the number of algorithms it takes to execute your banking order correctly, or the value of

your life which is forecasted by insurance agents. These services are classified based on intangibility (see Figure 2.2).

    a. Services directed at people's minds – Services sold through influencing the creativity of humans are classified based on intangibility. For example education, theater, etc.

    b. Services directed at intangible assets – Banking, legal services, and insurance services are some of the services most difficult to price and quantify.
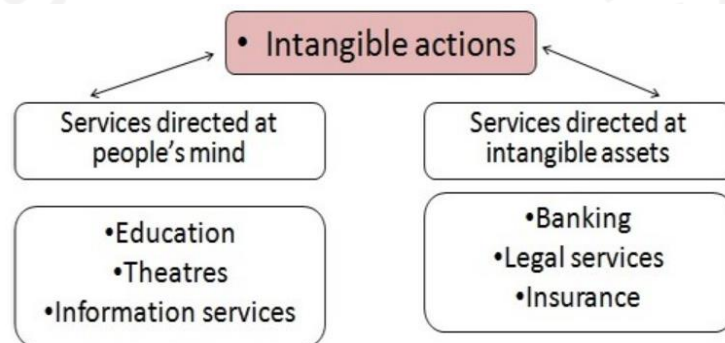
Figure 2. 2 Classification of service based on intangibility

(Source: Bhasin, 2018)

2.2.2 Quality

Philip Crosby (1978) stated the definition of quality as "conformance to requirements". The Rational Unified Process (RUP) as cited in Wideman, R. (2013) defines quality as "The characteristics of an artifact that satisfies or exceeds a defined and accepted set of requirements, is assessed using defined and accepted measures and criteria, and is produced using a defined and accepted process". According to Edward (1968) as cited in Smith, G (1993), quality is an abstract characteristic that encompasses a variety of more or less physical attributes and cannot be measure directly. Because quality cannot be directly measured, its assessment is a judgmental process. Human judgment is "a scaling activity that

involves comparison, mental weighing, and the consolidation of partial results into conclusions" (Smith et al., cited in Smith, G., 1993).

In conclusion, Smith, G. (1993) proposed the definition of quality as "Quality is the goodness or excellence of something. It is assessed against accepted standards of merit for such things and against the interest/needs of users and other stakeholders". Quality cannot be measured directly but must be judgmentally assessed by considering entity attributes that are more directly perceptible. Such assessment varies with the stakeholder involved and with the standard of merit being employed.

2.2.3 Students Satisfaction

The "satisfaction" comes from Latin "satis" which means good enough, to content and "facio" which means do or make. According to Weerasinghe et al. (2017) satisfaction is a feeling of happiness that obtain when a person fulfilled his or her needs and desires, it is a state felt by a person who has experienced performance or an outcome that fulfilled his or her expectations. When a person perceives that service encountered as good, he would satisfy on the other hand person will dissatisfy when his or her perception crash with the service expectation (Oliver, 1997). Therefore, satisfaction is a perception of the pleasurable fulfillment of service.

McDougall and Levesque (2000) defined customer satisfaction as "a cognitive or affective reaction that emerges in response to a single or prolonged set of service encounters". In the context of education, students' satisfaction is a situation when all the wishes, expectations, and importance of students are fulfilled (Srinadi cited in Noviyanti et al., 2018). Elliot & Shin (2002) define student satisfaction as students' disposition by subjective evaluation of educational outcomes and experience. Therefore, student satisfaction can be defined as a function of the relative level of experiences and perceived performance of educational service.

Student satisfactions play an important role in determining the originality and accuracy of the education system because the higher the level of satisfaction experienced by the student, the better the student's ability to groom their skill development, course knowledge, and mentality (Wei & Ramalu, 2011). According to Musahadi (2014), the criterion of student's satisfaction includes: (1) If the performance is under expectation, students' will be dissatisfied, (2) if the performance happens as expected, students will be satisfied, (3) if the performance is beyond expectation, students will be very satisfied. This feeling of dissatisfaction, satisfaction and great satisfaction will affect the next performance. Satisfied students will describe respond positively to the services that they perceived. Rodie and Klein in Wei et al. (2011), posited that if an institution possesses essential educational facilities with effective teaching and training staff, the student will most likely be more motivated, loyal, and become good performer in their academic.

2.2.4   Validity and Reliability Test

The correct data will lead to good conclusions that accordance with the actual situation. The data is considered correct or not is depends on whether the instrument for collecting data and object for measuring research variable is good or not (Arikunto cited in Yusup, F., 2018). The instrument is considered good or not is determined by its validity and reliability (Yusup, F., 2018).

A validity test is conducted to determine whether the research instrument truly measures that which it was intended to measure (Joppe, cited in Sarmah et al., 2012). A test is said to be valid if it serves the purpose for which it is designed. A measure can be reliable without being valid but it cannot be valid without being reliable. So, before measuring the validity of a test, one must test its reliability. Otherwise, there will be no use in measuring validity. According to Yusup (2018), the validity test is conducted by calculating the correlation coefficient between the instruments and their criteria with the following formula:

$$r_{xy} = \frac{N(\Sigma XY) - (\Sigma X)(\Sigma Y)}{\sqrt{\{N\Sigma X^2 - (\Sigma X)^2\}\{N\Sigma Y^2 - (\Sigma Y)^2\}}}$$

Where:

r_{xy} : Correlation coefficient

N   : Number of respondent

X   : Score of each item on the instrument

Y   : Score of each item on the criteria

According to Soegiyono (as cited in Tjoeng, C., & Indriyani, R., 2014) the instrument of research is considered to be valid if the correlation coefficient score is more than 0,30 (rxy>0,3). Moreover, Yusup (2018) stated that the higher the score of the correlation coefficient of an instrument, the better the instrument.

Reliability is the consistency throughout a series of measurements (Goswani, cited in Sarmah et al., 2012). One of the important characteristics of any instrument is how reliably it measures. A measure should produce similar or the same results consistently if it measures the same 'thing' again and again. The questions should be so stated that the answer to each one is definite and its correctness is not subject to personal opinion. The more objective the test is, the more reliable it is likely to be. A test that produces highly consistent, stable results, i.e. relatively free from random error, is said to be highly reliable (Sarmah, Hemanta & Hazarika, B., 2012).

Reliability testing has several different techniques. However, each technique has criteria for what kind of instrument can be tested with this certain type of technique. Some examples of reliability test techniques are internal consistency that consists of split-half tests, KR 20, KR 21, and Cronbach's Alfa. In this research, the reliability test will be carried out using Cronbach's alpha. Reliability testing using the Cronbach Alpha technique was carried out for instruments that have more than 1 correct answer, for example, instruments in the form of essays and questionnaires (Adamson & Prion, cited

in Yusup, F., 2013). The formula to calculate the Cronbach Alpha reliability coefficient is as follows (Yusup, F., 2018).

$$r_i = \frac{k}{(k-1)} \left\{ 1 - \frac{\sum s_i^2}{s_t^2} \right\}$$

Where:

r_i : Cronbach's alpha reliability coefficient

k   : Number of item questions in the test

Σs_i^2 : The sum of the variances of the item scores.

s_t^2 : Variance of the test scores.

According to Tjoeng C. and Indriyani R. (2014), the instruments of research are considered to be reliable if the Cronbach's alpha reliability coefficient score is more than 0,60 ($ri > 0,60$).

2.2.5 HEdPERF

The higher education performance model called HEdPERF that developed by Firdaus Abdullah (2005) is a new measuring instrument of service quality that captures the authentic determinants of service quality within the higher education sector. Considering the global development of the educational market, Abdullah (2005) trialed a new measurement scale in Malaysia called HEdPERF that was created based on the SERVPERF model. Abdullah (2005) concluded that HEdPERF is the most appropriate quality measurement method applied to higher education compared to other quality measurement methods such as SERVQUAL.

Initially, in 2005 Abdullah in his journal with the title of "The development of HEdPERF: a new measuring instrument of service quality for the higher education sector" argued that there are six dimensions used in the HEdPERF method, namely non-academic aspects, academic aspects, reputation, access, program issues, and understanding. However, in his next research, in a journal with the title of "Measuring service quality in higher education: HEdPERF versus SERVPERF" the dimension of understanding was no longer used because it did not pass the reliability test. In that journal, Abdullah (2006) concluded that HEdPERF which had been modified into five dimensions was more appropriate to be applied in higher education service quality measurement. The five dimensions of HEdPERF Method that have been modified are as follows (Abdullah, 2006):

1. Non-academic aspects: This dimension consists of items that are essential to enable students to fulfill their study obligations, and it relates to duties carried out by non-academic staff.

2. Academic aspects: The items that describe this factor are solely the responsibilities of academics.

3. Reputation: This dimension is loaded with items that suggest the importance of higher learning institutions in projecting a professional image.

4. Access: This dimension consists of items that relate to such issues as approachability, ease of contact, availability, and convenience.

5. Program issues: This dimension emphasizes the importance of offering wide-ranging and reputable academic programs/specializations with a flexible structure and syllabus

2.2.6 Customer Satisfaction Index (CSI)

Customer Satisfaction Index (CSI) is an approach to measure the level of customer satisfaction based on certain attributes. Tjiptono (2012) stated that CSI was a measurement to determine the overall level of customers' satisfaction by considering the importance of the

attributes of service quality. The results of CSI can be used as a reference to determine the target to improve services for the consumers.

According to Dickson in Fitriana et al. (2014), there are 4 steps to calculate Customer Satisfaction Index. The steps to calculate Customer Satisfaction Index are as follow:

1. First, determine the Mean Importance Score (MIS) and Mean Satisfaction Score (MSS). This value comes from the average level of importance and performance of each respondent.

$$MIS = \frac{\sum_{i=1}^{n} Yi}{n}$$

$$MSS = \frac{\sum_{i=1}^{n} Xi}{n}$$

Where:

n   : Number of respondents

Yi : Importance value of i attribute

Xi : Performance value of i attribute

2. Second, calculate the Weight Factor (WF). It presents a percentage value of MIS in each attribute to the total MIS of all the attributes. The equation can be:

$$WF = \frac{MIS}{\sum_{i=1}^{p} MISi} \times 100\%$$

Where:

p   : Number of importance attributes

i   : Service attributes

3. Third, calculate the Weight Score (WS). This value is derived from the multiplication of the Weight Factor (WF) with the average level of satisfaction (MSS). The equation can be seen as:

$$WSi = WFi \times MSSi$$

4. Fourth, is determining the CSI value. The customer satisfaction scale is commonly used to interpret the index scale of zero to one, or zero to one hundred. The equation is:

$$CSI = \frac{\sum_{i=1}^{n} WSi}{j} \times 100\%$$

Where:

j : Maximum number of points on a measurement scale (e.g., 5, if 1 to 5 scale is used)

The CSI value is divided into 5 categories. The categories are shown in Table 2.2 below (Fitriana et al., 2014):

Table 2. 2 Customer Satisfaction Index (CSI)Scale

No	Index Value	Remark
1	81%-100%	Very satisfied
2	66%-80,99%	Satisfied
3	51%-65,99%	Quite satisfied
4	35%-50,99%	Less satisfied
5	0%-34,99%	Not satisfied

2.2.7 Important Performance Analysis

The Importance-Performance Analysis (IPA) was first proposed and introduced by Martilla and James (1977) is a tool to identify the strength and weakness of a company by measuring client satisfaction with a product or service and has been applied to different areas of services, thus becoming a good approach to measure customer or user satisfaction. The IPA approach recognizes satisfaction as the function of two components: the importance of a product or service to a client and the performance of a business in providing that service or product (Martilla & James, 1977). Using both importance and performance assigned by customers to all relevant aspects of a given service and the perceived performance of the institution in providing the service, a matrix or graph with four quadrants is generated.

The IPA method consists of a pair of coordinate axis where the "importance" (y-axis) and the "performance" (x-axis) of the different elements involved in the service are compared. According to Suroto, Nindiani & Purba (2016) the first step to analyze IPA is to calculate the average level of importance and performance for each attribute with the equation:

$$\underline{Xi} = \frac{\sum_{i=1}^{k} Xi}{n}$$

$$\underline{Yi} = \frac{\sum_{i=1}^{k} Yi}{n}$$

Where:

n   : Number of respondents

Yi   : Average weight of importance level for i item

Xi   : Average weight of performance level for i item

After that, the next step is to calculate the average level of importance and performance for the entire item. The equation is as follows:

$$X\bar{\imath} = \frac{\sum_{i=1}^{k} \underline{Xi}}{p}$$

$$Y\bar{\imath} = \frac{\sum_{i=1}^{k} \underline{Yi}}{p}$$

Where:

p   : Number of items

Yi   : Value of average importance item

Xi   : Value of average performance item

The $X\bar{\imath}$ value cuts perpendicular to the horizontal axis, while the value of $Y\bar{\imath}$ is perpendicular to the vertical axis. After obtaining performance and importance weight, and the average value of performance and importance items, then illustrate the values in a Cartesian diagram. The Cartesian diagram of Importance-Performance Analysis (IPA) as seen in Figure 2.3 consists of 4 quadrants. Each of the quadrants combines the importance and the performance assigned by customers to a specific element of the service and possesses a different value in terms of management. The four quadrants in the importance-performance analysis are characterized as (Martilla & James, 1977):

1. A. Concentrate here - high importance, low performance: requires immediate attention for improvement and are major weaknesses;

2. - B. Keep up with the good work: high importance, high performance, indicates opportunities for achieving or maintaining competitive advantage and are major strengths;

3. - C. Low priority - low importance, low performance: are minor weaknesses and do not require additional effort;

4. - D. Possible overkill - low importance, high performance: indicates that business resources committed to these attributes would be overkill and should be deployed elsewhere".
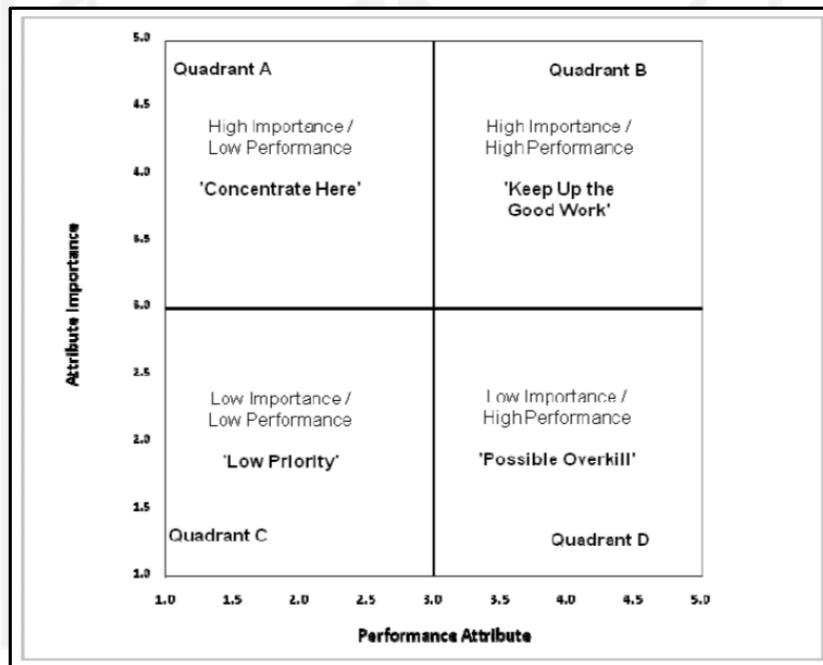
Figure 2. 3 Four Quadrants of Importance-Performance Analysis

(Source: Adapted from Martilla & James, 1977)

CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the steps of how this research will be conducted and the framework of this research. This chapter also contains the flowchart and its explanation of this research. Aside from that, the research procedure and how the method of HEdPERF, Customer Satisfaction Index (CSI), and Important Analysis Method (IPA) will be used in this study with systematic ways of conducting the research also will be explained in this chapter. This chapter will be divided into several sub chapter.

3.1 Problem Identification

This research is conducted in Undergraduate Program Industrial Engineering Department Universitas Islam Indonesia. It is located in Kaliurang Street Km 14.5, Besi, Umbulmartani, Kecamatan Ngemplak, Kabupaten Sleman, and Daerah Istimewa Yogyakarta 55584. One of the challenges in this Covid-19 outbreak situation is to adapt to changes including the change of the educational system that has to be held virtually. However, with this unpredictable situation, the quality of educational services still has to be maintained. Hence, this research is aimed to analyze the level of student's satisfaction toward service quality during distance learning in the undergraduate program industrial engineering department, determine the dimensions and service items that are important for the industrial engineering department UII's service quality, and also design the approaches to increase the student satisfaction level for distance learning in Undergraduate Program Industrial Engineering Department UII.

This study uses HEdPERF dimension as an attribute of service quality assessment. HEdPERF is a quality measurement method that was first introduced by Firdaus Abdulllah (2005). In his research, Firdaus Abdullah concluded that HEdPERF is the most suitable method for measuring service quality in higher education because HEdPERF dimensions are exclusively designed for measuring service quality in higher education. Data collection is gathered by distributing questionnaires that designed by the researcher to measure service quality parameters in higher education organization. The questionnaire will be distributed to a random sample of active undergraduate students in the Industrial Engineering Department Universitas Islam Indonesia.

Moreover, the data from the questionnaire will be analyzed using the Customer Satisfaction Index (CSI) to know the student's satisfaction level toward service quality. This research will also use the Importance Performance Analysis method to prioritize the attributes that require service quality improvement. The result of this research is to know the level of student satisfaction toward service quality and suggest approaches to increase student satisfaction level by considering which dimensions and service items that important or require immediate improvement.

3.2 Problem Formulation

The problem formulation is set as a basis to limit the research area and clearly define the issues that the researcher tries to address also as the basis to make a conclusion and recommendation. The main concern and focus of this research are defining student satisfaction level to design the solution or alternative to increase student satisfaction level by considering which dimensions and service items that are important and require immediate improvement.

3.3 Literature Review

In this research, the literature review is categorized into two parts which are inductive study and deductive study. An inductive study is performed to obtain the information and used as a reference of theory and methods from the previous study that related to this research. Moreover, the previous studies performed to show the position of this research to show the uniqueness of this research and to find the distinctive differences between this research and previous research to avoid plagiarism. Meanwhile, the deductive study explains the fundamental theory of this research gained from journals, books, web, or other references with the keyword of service, student satisfaction, HEdPERF, Customer Satisfaction Index, and Important Performance Analysis.

3.4 Data Collecting

This research uses primary data in conducting data collection. Primary data are defined as the data that is obtained by the researcher directly from main sources including the data from the survey, observation, experiment, questionnaire, personal interview, etc. In this research, the data were collected from distributing online questionnaires to random samples of active Undergraduate Program Industrial Engineering Department students in UII. This data is used to know the student's satisfaction level of service quality during distance learning.

The questionnaire is designed by adapting HEdPERF instruments. Although the questionnaire adapts all of the 5 dimensions of HEdPERF, the questionnaire will only adapt 35 service items out of 41, because considering and adjusting with the real condition during distance learning that exists in Undergraduate Program in Industrial Engineering, UII. The service items that are excluded fromthis research are Hostel facilities and equipment; academic facilities; recreational facilities; minimal class size; ideal campus location/layout; and health services. The questionnaire will consist of short statements related to the quality

of service in the Industrial Engineering Department UII. Then, the respondents have to fulfill the answer based on their own experience on a 1-5 Likert scale as shown in Table 3.1.

Table 3. 1 Likert Scale

Option	Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

In order to ensure that the questionnaire that has been prepared is good at measuring symptoms and producing valid data, the validity and reliability test will be conducted. In particular, a validity test is to know the accuracy of an instrument in measuring what it claims to measure while a reliability test is utilized to identify the consistency of a measure whether the measuring instrument used remains consistent if the measurement is repeated. The validity and reliability test will be conducted using SPS software. Moreover, in order to maintain respondent perception and avoiding response bias, according to Aprameya (2015) in designing the questionnaire several things have to be considered which are make the question or the statement short and clear, use precise and simple language, avoid make leading question or statement, and keep the time period short and relevant so that the data collecting process will be conducted no more than 1 month period.

3.5 Data Processing

In this research, there are several stages in processing the data. Firstly after the data obtained from the questionnaire, then have to conduct the validity and reliability test using SPSS software. If all the data is considered valid and reliable then can continue to calculate the customer satisfaction index.

The first step in calculating the customer satisfaction index by determining the Mean Importance Score (MIS) and Mean Satisfaction Score (MSS). This score is obtained from calculating the average level of importance and performance from the respondent's answer. After that calculate the Weight Factor (WF) which represents the total percentage value of MIS. Then, calculate the Weight Score (WS) by multiplying the value of Weight Factor (WF) with the average level of satisfaction (MSS). Lastly, calculate the CSI and determine the category of CSI. The calculation of the customer satisfaction index will be conducted using Microsoft excel. After finishing calculating CSI then define the importance-performance analysis. The Importance-Performance Analysis method is used to know the position of each service quality item in the importance-performance diagram. Importance-performance analysis will be conducted using SPSS software.

3.6 Result and Discussion

After all the data processing is finished, then the next step is to conduct analysis and discussion from the result of data that have been calculated and processed using CSI and IPA. In discussion, it will also be explained the proposed solution to improve the quality of service for each service item by considering their position in the importance-performance analysis diagram.

3.7 Conclusion and Recommendation

In the conclusion and suggestion section, the problem formulations which have been formulated at the beginning of this research are being answered. Moreover, there are also several recommendations for further research.

3.8 Research Flowchart

The step of conducting research from the beginning until the end of the research is depicted in the Figure 3.1 below:
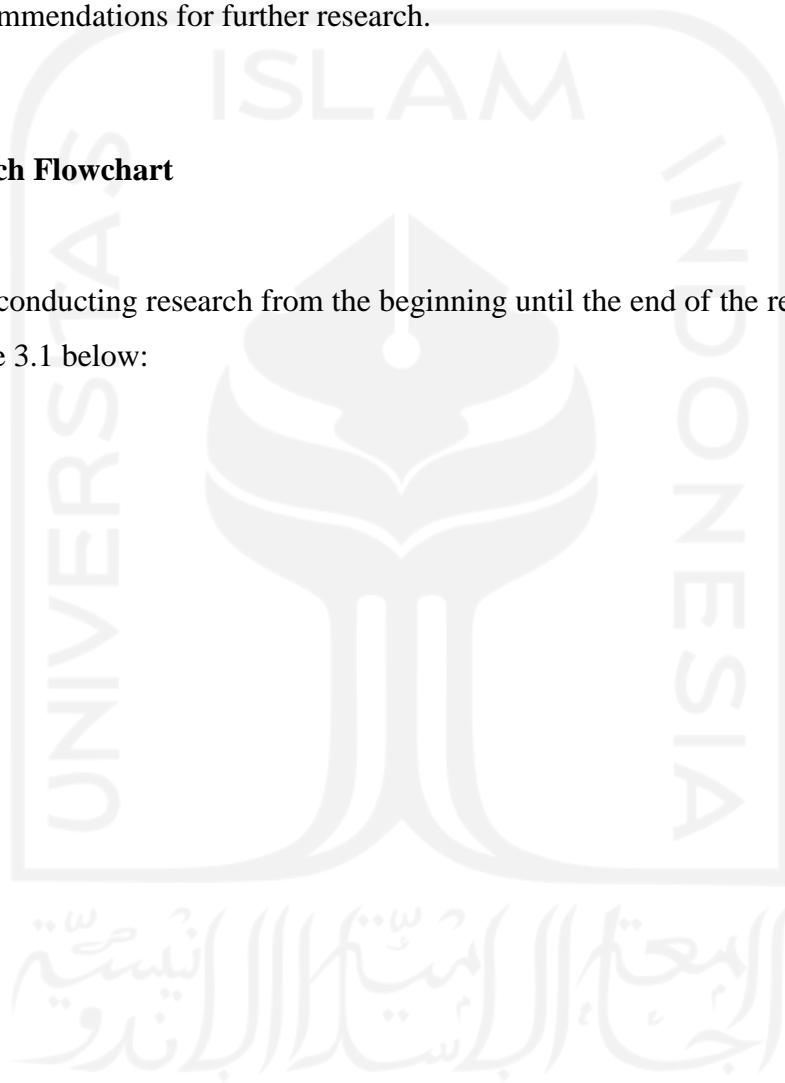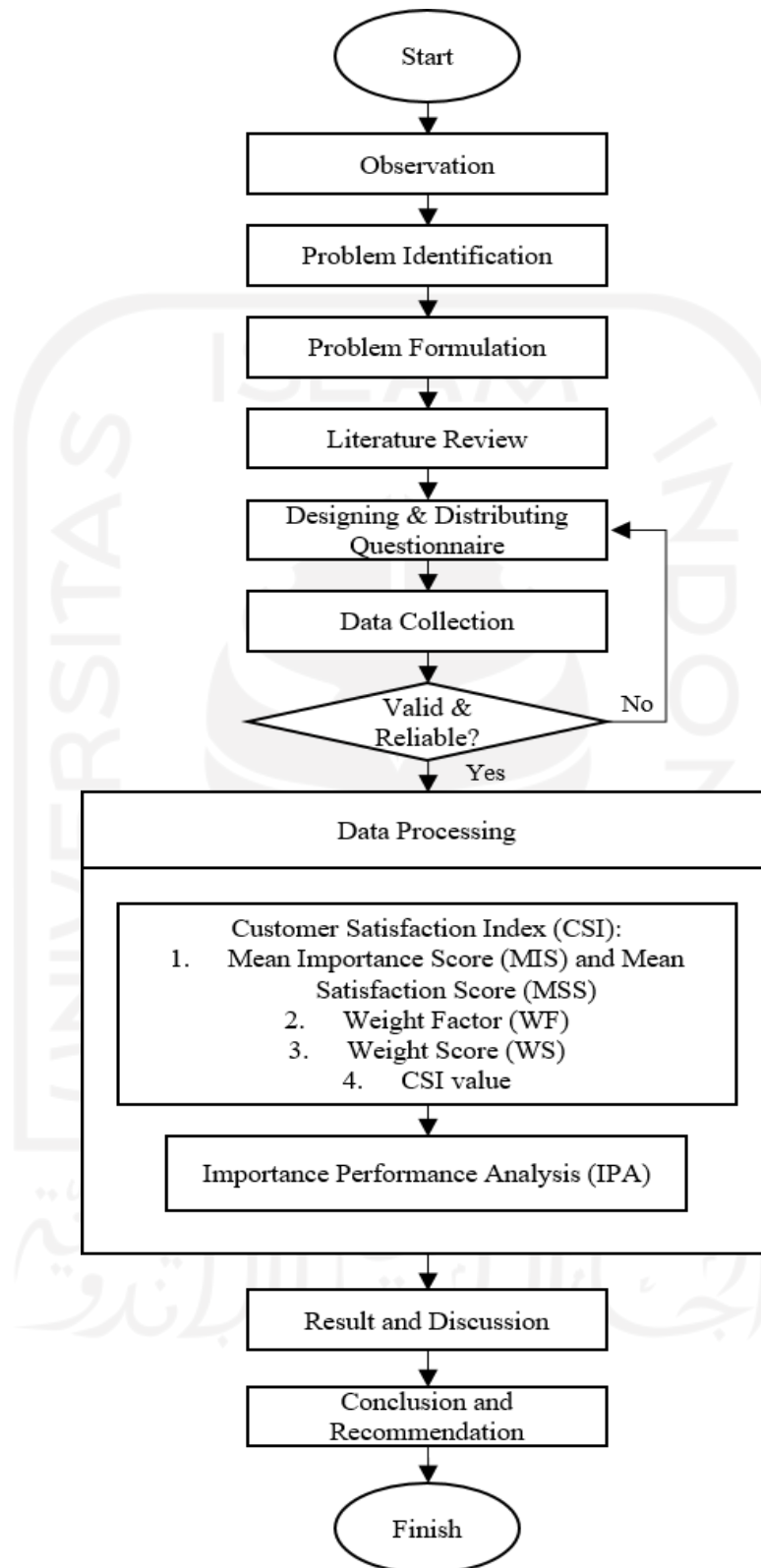
Figure 3. 1 Research Flowchart

CHAPTER IV

DATA COLLECTING AND PROCESSING

This chapter explains data collecting and processing. The data that have been collected will be processed with several steps. The first step is a validity and reliability test that will use SPSS software. If the data is already considered to be valid and reliable, then the data can be used for the next process which is calculating the level of students' satisfaction level using the customer satisfaction index method. The calculation of CSI is conducted using Microsoft Excel. Then the last process is defining the position of each service quality item in the importance-performance diagram using SPSS software to know which service items that require immediate improvement.

4.1 Data Collecting

Before distributing the questionnaire, the number of samples to be taken is calculated. The number of samples is determined using Slovin's formula. Slovin's formula allows a researcher to sample the population with a desired degree of accuracy. Slovin's formula works for simple random sampling. Slovin's formula is written as (Ellen, 2018):

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

Where:

n   : number of samples

d²   : significance value 90% or 0.10

N   : population

According to the formula above, the number of samples to be taken are:

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

$$n = \frac{1381}{1 + (1381 \ . \ 0{,}10^2)}$$

$$n = \ 93{,}2478 \approx 94$$

Based on the calculation above, the minimum sample to be taken in this study are 94 samples and in this study, the data that will be used is derived from 95 respondent. The data is taken from random samples of active Undergraduate Program Industrial Engineering Department students in UII.

4.2 Validity Test

A validity test is conducted to determine whether the research instrument truly measures that which it was intended to measure (Joppe, cited in Sarmah et al., 2012). According to Soegiyono (as cited in Tjoeng, C., & Indriyani, R., 2014) the instrument of research is considered to be valid if the correlation coefficient score is more than 0,30 (rxy>0,3). In this study, the validity test was analyzed using SPSS 16.0 for Windows. Table 4.1 and 4.2 show the results of the validity test of each service item of its importance and performance.

Table 4. 1 Validity Test Result of Importance

No	Dimension	Service Item	Correlation Coeficient (r_{xy})	Status
1		Knowledgeable in course content	0.422	Valid
2		Caring and courteous	0.487	Valid
3		Responding to request for assistance	0.576	Valid
4		Sincere interest in solving a problem	0.524	Valid
5	Academic Aspect	Positive attitude	0.820	Valid
6		Good communication	0.731	Valid
7		Feedback on progress	0.654	Valid
8		Sufficient and convenient consultation	0.732	Valid
9		Educated and experienced academicians	0.680	Valid
10	Non-academic Aspect	Sincere interest in solving problem	0.696	Valid

11		Caring and individualized attention	0.732	Valid
12		Efficient/prompt dealing with complaints	0.488	Valid
13		Responding to request for assistance	0.678	Valid
14		Accurate and retrievable records	0.672	Valid
15		Promises kept	0.751	Valid
16		Convenient opening hours	0.639	Valid
17		Positive attitude	0.778	Valid
18		Good communication	0.809	Valid
19		Knowledgeable of systems/procedures	0.723	Valid
20		Feeling secured and confident	0.812	Valid
21		Service within a reasonable time frame	0.639	Valid

22	Reputation	Professional appearance/image	0.794	Valid
23		Internal quality programs	0.862	Valid
24		Reputable academic programs	0.682	Valid
25		Graduates Employability	0.788	Valid
26	Access	Equal treatment and respect	0.792	Valid
27		A fair amount of freedom	0.825	Valid
28		Confidentiality of information	0.671	Valid
29		Easily contacted by telephone	0.637	Valid
30		Counseling services	0.694	Valid
31		Student's union	0.840	Valid
32		Feedback for improvement	0.732	Valid
33		Service delivery procedures	0.707	Valid
34	Programe issues	Variety of programmes/specializations	0.803	Valid

35		Flexible syllabus and structure	0.775	Valid

Table 4. 2 Validity Test Results of Performance

No	Dimension	Service Item	Correlation Coefficient (r_{xy})	Status
1		Knowledgeable in course content	0.404	Valid
2		Caring and courteous	0.337	Valid
3		Responding to request for assistance	0.578	Valid
4	Academic Aspect	Sincere interest in solving a problem	0.722	Valid
5		Positive attitude	0.438	Valid
6		Good communication	0.594	Valid
7		Feedback on progress	0.589	Valid

8		Sufficient and convenient consultation	0.703	Valid
9		Educated and experienced academicians	0.400	Valid
10		Sincere interest in solving a problem	0.507	Valid
11		Caring and individualized attention	0.676	Valid
12		Efficient/prompt dealing with complaints	0.595	Valid
13	Non-academic Aspect	Responding to request for assistance	0.606	Valid
14		Accurate and retrievable records	0.659	Valid
15		Promises kept	0.620	Valid
16		Convenient opening hours	0.509	Valid
17		Positive attitude	0.456	Valid

18		Good communication	0.365	Valid
19		Knowledgeable of systems/proced ures	0.525	Valid
20		Feeling secured and confident	0.553	Valid
21		Service within a reasonable time frame	0.515	Valid
22		Professional appearance/ima ge	0.629	Valid
23	Reputation	Internal quality programs	0.641	Valid
24		Reputable academic programs	0.653	Valid
25		Graduates Employability	0.797	Valid
26	Access	Equal treatment and respect	0.714	Valid
27		A fair amount of freedom	0.730	Valid

28		Confidentiality of information	0.617	Valid
29		Easily contacted by telephone	0.684	Valid
30		Counseling services	0.818	Valid
31		Student's union	0.659	Valid
32		Feedback for improvement	0.760	Valid
33		Service delivery procedures	0.695	Valid
34		Variety of programmes/specialization	0.611	Valid
35	Program issues	Flexible syllabus and structure	0.661	Valid

Based on Table 4.1 and 4.2 above, it can be seen that all service items of importance and performance are considered to be valid. Since the correlation coefficient score of all service items is more than 0,30 (rxy>0,3). Thus, it can be concluded that all questions of service items of importance and performance are appropriate to be used and are feasible for analysis.

4.3 Reliability Test

Reliability testing is the process of measuring the accuracy (consistency) of an instrument. This test is intended to ensure that the tool used is an instrument that is reliable, consistent, stable, and dependable so that when used multiple times it can produce the same data (Husaini, 2003).

This research used Cronbach's Alpha as the technique to test the reliability because the data collecting is using a questionnaire. According to Tjoeng C. and Indriyani R. (2014), the instruments of research are considered to be reliable if the Cronbach's alpha reliability coefficient score is more than 0,60 (ri > 0,60). The result of the reliability test is shown in Table 4.3 below:

Table 4. 3 Reliability Test Result

Aspect	Cronbach's Alpha	N of items	Status
Importance	0.969	35	Reliable
Performance	0.948	35	Reliable

According to table 4.3 above, it can be seen that all of the Cronbach's Alpha coefficient value is more than 0,60 (ri>0,60) for all aspects. Therefore, each item asked in the questionnaire is considered to be reliable.

Based on the results of testing the validity and reliability of the instrument. All of the instruments both for importance and performance used in this study are considered to be valid and reliable. Therefore, the data that had been collected from 95 respondents that answer 35 questions in the questionnaire were sufficient.

4.4 Customer Satisfaction Index (CSI)

The application of the Customer Satisfaction Index method was intended to measure student satisfaction level by calculating the satisfaction index. There are four steps in calculating the customer satisfaction index. The first step is to calculate the Mean Importance Score (MIS) and Mean Satisfaction Score (MSS). After that, calculate Weight Factor (WF). The third step is to calculate the Weight Score (WS). The last step is to calculate the Customer Satisfaction Index.

1. Mean Importance Score (MIS) and Mean Satisfaction Score (MSS)

    The formula to calculate MIS is as follows:

    $$MIS = \frac{\sum_{i=1}^{n} Yi}{n}$$

    Where:

    n   : Number of respondents

    Yi : Importance value of i attribute

    $$MIS \ of \ attribute \ 1 = \frac{453}{95}$$

    $$MIS \ of \ attribute \ 1 = \ 4,77$$

    The formula to calculate MSS is as follows:

    $$MSS = \frac{\sum_{i=1}^{n} Xi}{n}$$

Where:

n   : Number of respondents

Xi   : Performance value of i attribute

$$MSS \ of \ attribute \ 1 = \frac{402}{95}$$

$$MSS \ of \ attribute \ 1 = \ 4,23$$

Table 4. 4 MIS and MSS score result

No	Service Item	MIS	MSS
1	Knowledgeable in course content	4,77	4,23
2	Caring and courteous	4,67	4,02
3	Responding to request for assistance	4,61	3,83
4	Sincere interest in solving problem	4,58	3,82
5	Positive attitude	4,72	4,27
6	Good communication	4,54	3,86
7	Feedback on progress	4,51	3,65
8	Sufficient and convenient consultation	4,47	3,65
9	Educated and experience academicians	4,73	4,40
10	Sincere interest in solving problem	4,66	3,97
11	Caring and individualized attention	4,47	3,74
12	Efficient/prompt dealing with complaints	4,72	3,72
13	Responding to request for assistance	4,74	3,92

14	Accurate and retrievable records	4,65	4,04
15	Promises kept	4,62	3,86
16	Convenient opening hours	4,71	4,17
17	Positive attitude	4,73	4,23
18	Good communication	4,68	4,05
19	Knowledgeable of systems/procedures	4,69	4,20
20	Feeling secured and confident	4,62	3,89
21	Service within reasonable time frame	4,56	4,08
22	Professional appearance/image	4,81	4,26
23	Internal quality programs	4,75	4,01
24	Reputable academic programs	4,79	4,23
25	Graduates Emploayability	4,68	3,94
26	Equal treatment and respect	4,71	3,94
27	Fair amount of freedom	4,68	4,03
28	Confidentiality of information	4,82	4,29
29	Easily contacted by telephone	4,62	3,64
30	Counseling services	4,61	3,84
31	Student's union	4,68	3,91
32	Feedback for improvement	4,66	3,87
33	Service delivery procedures	4,62	4,14
34	Variety of programmes/specializations	4,77	4,05

35	Flexible syllabus and structure	4,64	4.11
	Total	4,67	4,00

2. Weight Factor (WF)

The Formula to calculate the weight factor is as follows:

$$WF = \frac{MIS}{\sum_{i=1}^{p} MISi} \times 100\%$$

Where:

p : Number of importance attributes

i : Service attributes

$$WF \ of \ attribute \ 1 = \frac{4,77}{4,67} \times 100\%$$

$$WF \ of \ attribute \ 1 = 2,92$$

3. Weight Score (WS)

The formula to calculate the weight score is as follows:

$$WSi = WFi \times MSSi$$

$$WS \ of \ attribute \ 1 = 2,92 \times 4,23$$

$$WS \ of \ attribute \ 1 = 12,36$$

Table 4. 5 weight Factor and Weight Score Result

No	Service Item	Weight Factor (WF)	MSS	Weight Score (WS)
1	Knowledgeable in course content	2,92	4,23	12,36
2	Caring and courteous	2,86	4,02	11,51
3	Responding to request for assistance	2,82	3,83	10,82
4	Sincere interest in solving problem	2,80	3,82	10,71
5	Positive attitude	2,89	4,27	12,34
6	Good communication	2,78	3,86	10,73
7	Feedback on progress	2,76	3,65	10,08
8	Sufficient and convenient consultation	2,74	3,65	10,01
9	Educated and experience academicians	2,89	4,40	12,74
10	Sincere interest in solving problem	2,86	3,97	11,33
11	Caring and individualized attention	2,74	3,74	10,24
12	Efficient/prompt dealing with complaints	2,89	3,72	10,73

13	Responding to request for assistance	2,90	3,92	11,36
14	Accurate and retrievable records	2,85	4,04	11,52
15	Promises kept	2,83	3,86	10,93
16	Convenient opening hours	2,88	4,17	12,01
17	Positive attitude	2,89	4,23	12,25
18	Good communication	2,87	4,05	11,63
19	Knowledgeable of systems/procedures	2,88	4,20	12,08
20	Feeling secured and confident	2,83	3,89	11,02
21	Service within reasonable time frame	2,79	4,08	11,40
22	Professional appearance/image	2,95	4,26	12,56
23	Internal quality programmes	2,91	4,01	11,66
24	Reputable academic programmes	2,93	4,23	12,41
25	Graduates Employability	2,87	3,94	11,29
26	Equal treatment and respect	2,88	3,94	11,34
27	Fair amount of freedom	2,87	4,03	11,56
28	Confidentiality of information	2,95	4,29	12,68

29	Easily contacted by telephone	2,83	3,64	10,31
30	Counseling services	2,82	3,84	10,85
31	Student's union	2,87	3,91	11,20
32	Feedback for improvement	2,86	3,87	11,06
33	Service delivery procedures	2,83	4,14	11,71
34	Variety of programmes/specializations	2,92	4,05	11,83
35	Flexible syllabus and structure	2,84	4.11	11,67
	Total			399,92

4. Customer Satisfaction Index

   The formula to calculate the customer satisfaction index is as follows:

$$CSI = \frac{\sum_{i=1}^{n} WSi}{j}$$

Where:

J   : Maximum number of points on a measurement scale (e.g., 5, if 1 to 5 scale is used)

$$CSI = \frac{399,92}{5}$$

$$CSI = 79,98$$

The customer satisfaction index score is 79,98, which means the student's satisfaction level for service quality during distance learning categorize to be satisfying.

4.5 Important Performance Analysis (IPA)

The importance-performance analysis method is used to classify the service items into an importance-performance diagram to know their position and decide what action that has to be taken for each service item. The first step to analyze IPA is to calculate the average level of importance and performance for each attribute which has been done in the CSI method. After that, calculate the average level of importance and performance for the entire item. The equation is as follows:

$$\bar{X\iota} = \frac{\sum_{i=1}^{k} \underline{Xi}}{p}$$

$$\bar{Y\iota} = \frac{\sum_{i=1}^{k} \underline{Yi}}{p}$$

Where:

p : Number of items

Yi : Value of average importance item

Xi : Value of average performance item

The calculation for Performance is as follows:

$$\bar{X\iota} = \frac{139,88}{35}$$

$$\bar{X\iota} = 4$$

The Calculation for importance is as follows:

$$Y\bar{\imath} = \frac{163,29}{35}$$

$$Y\bar{\imath} = 4,67$$

The average level of importance and performance for the entire item is calculated to determine the axis of the importance-performance diagram. The performance (Xi) value cuts perpendicular to the horizontal axis, while the importance (Yi) value is perpendicular to the vertical axis. After obtaining performance and importance weight, and the average value of performance and importance items, then illustrate the values in a Cartesian diagram. The illustration of the importance-performance Cartesian diagram is using SPSS 16.0 for windows that can be seen in figure 4.1 below:
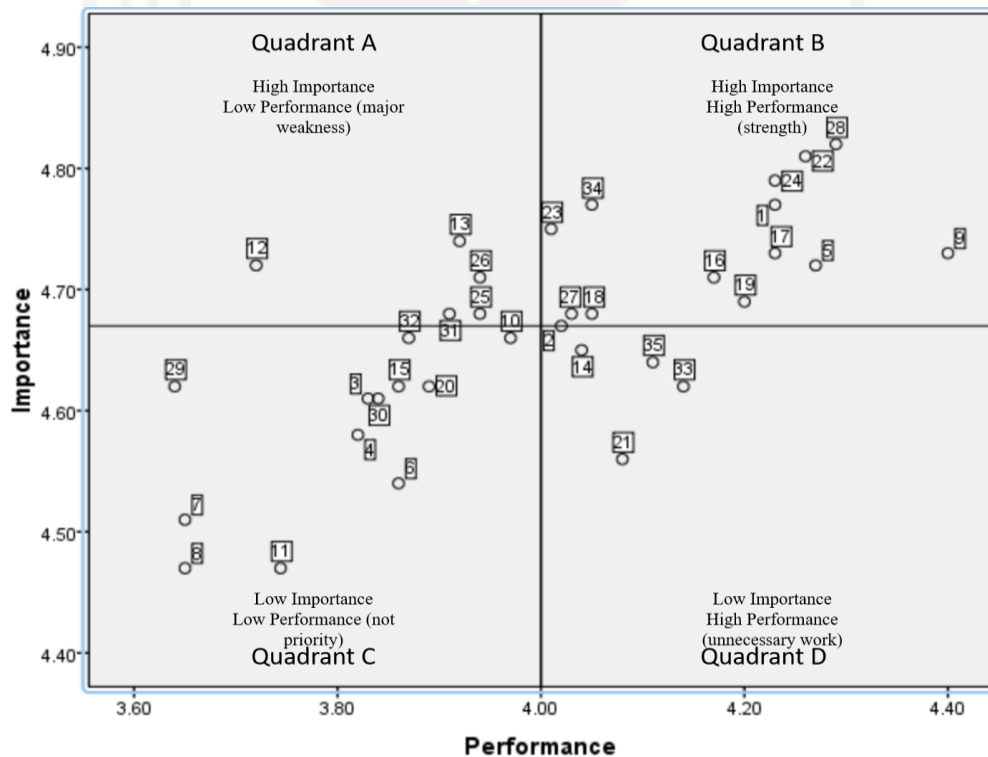
Figure 4. 1 Importance-Performance Cartesian Diagram Result

CHAPTER V

DISCUSSION

This chapter describes and explains the result of the processed data that have been obtained in the fourth chapter. This chapter contains the explanation and interpretation of the result of the CSI and IPA method. This chapter will be divided into several subchapters.

5.1 Customer Satisfaction Index

Service quality is fundamental and significantly contributes to creating positioning, differentiation, and competitive strategy for an organization, whether for service providers or manufacturing companies (Tjiptono, 2011). In educational services, the quality of service is determined by measuring student's satisfaction level with the services provided by the educational institution.

The customer satisfaction index was measured to know the student's satisfaction level of perceived service quality. The students satisfaction level are classified into five different category, which are very satisfied (100-81); satisfied (80,99-66); quite satisfied (65,99-51); less satisfied (50,99-35); and not satisfied (34,99>). Based on the analysis of 95 respondents as the sample, it is known that the CSI score is 79,98 which means the student's satisfaction level for service quality during distance learning categorize to be satisfying overall.

However, to maintain and also improve the quality of the service, only knowing the satisfaction level is not enough. The university has to know which aspect of their services already have good performance and satisfies the customer and which one is less satisfying and needs to be improved. Therefore, an important performance analysis was carried out.

5.2 Importance Performance Analysis

The importance-performance analysis diagram divides the service aspect into 4 different quadrant categories. The result and the analysis of IPA is explained as follows:

1. Quadrant A

   This quadrant represents the major weakness of services given by the university. The service items included in this quadrant are known to have high importance but the performance is low, so that service items included in this quadrant require immediate improvement (see Figure 5.1).
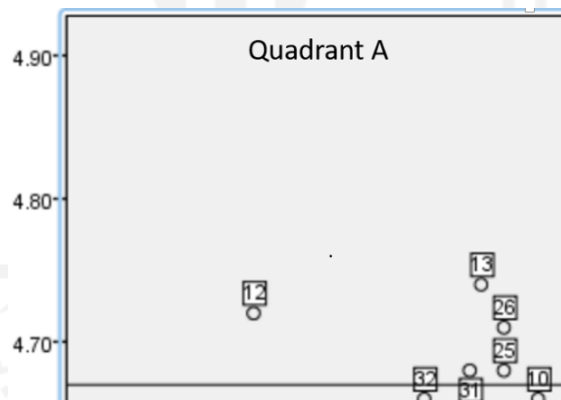
   Figure 5. 1 Quadrant A of IPA Diagram

   There are 5 service item that categorized in quadrant A which are service item number (12) Efficient/prompt dealing with complaints (Administrative staff), (13) Responding to request for assistance (Administrative staff), (25) Graduates Employability, (26) Equal treatment and respect, and (31) Student's union.

2. Quadrant B

The service items included in quadrant B are known to have high importance and also high performance, which means this is the strength of the organization and the performance of the work for this items need to be maintained so the student's satisfaction level remains high.
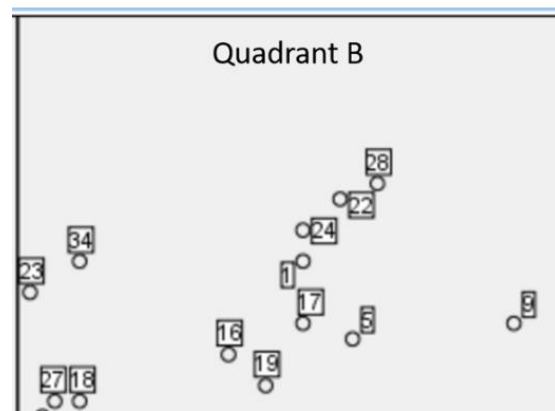
Figure 5. 2 Quadrant B of IPA Diagram

Figure 5.2 shows the service items that included in quadrant B are service item number (1) Knowledgeable in course content, (5) Positive attitude, (9) Educated and experienced academicians, (16) Convenient opening hours, (17) Positive attitude, (18) Good communication, (19) Knowledgeable of systems/procedures, (22) Professionals appearance/image, (23) Internal quality programs, (24) Reputable academic programs, (27) Fair amount of freedom, (28) Confidentiality of information, and (34) Variety of programs/specializations.

3. Quadrat C

Service items that are included in quadrant C have low priority to be improved. Although the performance of service items is low, the importance of the service items in this quadrant is also low. So, since service items are not significantly important, it does not require immediate improvement.
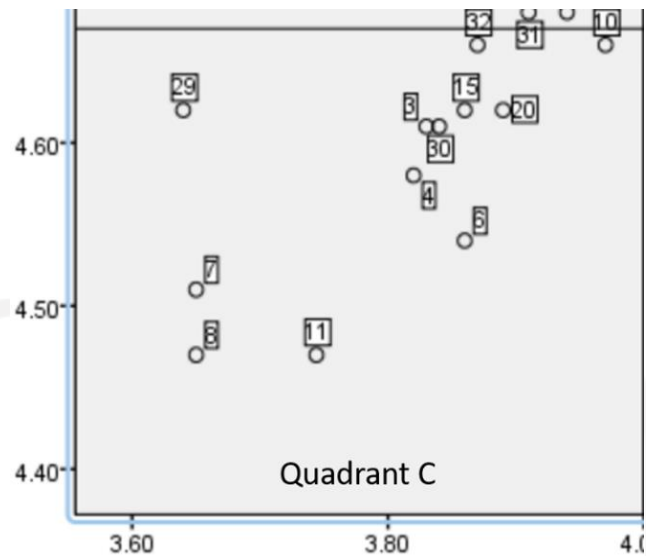
Figure 5. 3 Quadrant C of IPA Diagram

Service items that are included in quadrant C are service item number (3) Responding to request for assistance, (4) Sincere interest in solving the problem (lecture), (6) Good communication (lecturer), (7) Feedback on progress, (8) Sufficient and convenient consultation, (10) Sincere interest in solving the problem (administrative staff), (11) Caring and individualized attention, (15) Promises kept, (20) Feeling secured and confident, (29) Easily contacted by telephone, (30) Counseling services, and (32) Feedback for improvement (see Figure 5.3).

4. Quadrant D

The quadrant D represents a service item that has a high performance even though it has low importance. This resulting in unnecessary work. The resources that are spent for these service items can be allocated for other service items that more important which require improvement.
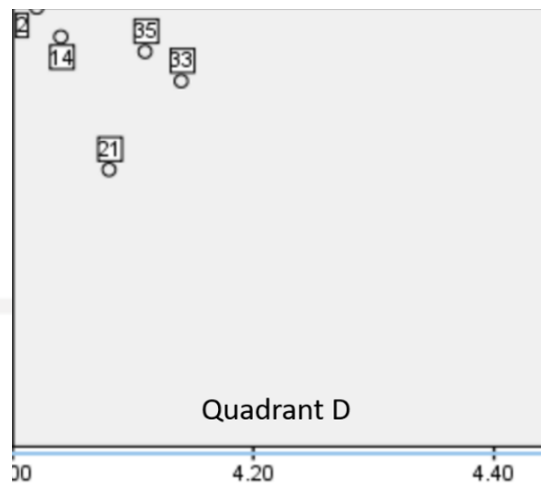
Figure 5. 4 Quadrant D of IPA Diagram

Figure 5.2 shows service items that are categorized in quadrant D are service item number (2) Caring and courteous, (14) Accurate and retrievable records, (21) Service within the reasonable time frame, (33) Service delivery procedures, and (35) Flexible syllabus and structure.

5.3 Proposed Alternative

Based on the analysis of the IPA diagram, 5 service items are included in quadrant A. This means, if the institution wants to improve their service quality and increase student's satisfaction level, the institution needs to improve these 5 service items immediately.

For service items number (12) Efficient/prompt dealing with complaints (Administrative staff) and (13) Responding to request for assistance (Administrative staff) is the first and second service items that have high importance but have the lowest performance. This means the students feel not satisfied with the quality of performance by administrative staff even though the staff is one of the most important things that play a major role for higher education institutions in achieving the objectives of the organization.

According to Rowley (1996), several things can be done to improve staff performance in order to increase the student's satisfaction level. first is the work scheme. The department needs to have a clear work scheme in communication between students and the staff during distance learning. Clear information regarding the platform used for communication, the template of how to communicate regarding different types of requests, what time to contact, estimation time the staff needed in doing the request and complaint, need to be informed to all of the students. Moreover, the most important thing is to put all of the links and information in one place for example a poster or one website so the student can easily find the link and don't have to ask the staff multiple times, for example like the poster shown in figure 5.5 below.

Figure 5. 5 Example of Information Poster

If the links and contact are placed in one poster or the same website page, the students who want to ask for any information and request could easily identify what link can be used and know how to contact the staff with an appropriate template. So that the communication between staff and students can run smoothly and neatly, and the staff can carry out their duties easily.

The second is organizational structures and roles. The department must have a clear organizational structure, job description, and roles for each staff. So that the staff can do their work and communicate with each other effectively. A clear organizational structure is also possible by having a figure of supervisor that will supervise staff work performance to ensure task accomplishment, even if the work is carried out from home, each staff does their job and there are no requests or complaints from students who feel neglected.

Another service item that needs to be improved is (25) Graduates Employability. Professor Mantz Yorke (2004) stated that employability is a set of achievements-skills, understandings, and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community, and the economy. Employability is not simply getting a job, but employability is drawing on a range of skills, abilities, and attributes that are developed in a whole range of settings for ongoing success in the future whatever career the student chooses. According to Simon Birmingham (2018) to increase the employment prospects of graduates, the most important thing that shas to be considered is Universities have always to keeping up with the rapid changing of era and technology to update their curriculum and the way to deliver it. So that, graduates will be prepared for jobs of the future.

Making collaboration with the company industry could also be done to create a program for projects and internships so the students can build on their skills and gain experience to work-integrated learning. On the other hand, big companies and industries tend to hire fewer fresh graduates nowadays, because they prefer skilled and experienced employees. Therefore, having work collaboration with Small Medium Enterprises (SME) is

equally important as working with big companies. Simon Birmingham (2018) proposed that universities can have a simulation workplace for students and industry partners so the students not only will learn and build their skills but also help the SME to build their business productivity and competitiveness.

The fourth service item that requires immediate improvement is (26) Equal treatment and respect. Giving the same treatment for all students is important for both lecture and the staff because all students are considered as the same. Unfortunately, there are still many students that felt they were not treated equally as others. According to Edsys (2015), 4 major causes led to unequal treatment at school and university which are gender, racial, economic, and academic inequality. The equal treatment problem things are a wide problem that has to be seen from every side because it deals with people feeling which are complex and different from each other. The things that can be done are to have a standardized work scheme in dealing with students and clear rules in the interaction between the student with the lecture and staff.

The last service item that is categorized in quadrant A and is prioritized to be improved is (31) Student's union. According to Pertiwi et al. (2014), there are 5 contributions of the students union for the students are to acquire the skills of leadership, develop time management skills, networking, and social skills, develop a wide perspective and develop problem-solving skill. The existence of students union in this pandemic situation is quite important since it is a self-development place for the student to train their social skills and forum to widen their insight when the student can only do the learning at home. The students union can also be the forum to accommodate students' aspirations and be the liaison between the student and the university. Unfortunately, it turns out that student does not feel satisfied with the students union and feel that the department does not support the student's union fully. Therefore, the department should pay more attention to student organizations and monitor their performance by reviewing the report periodically. The department also has to ensure that the organization has sufficient sources in their activities so that they can be carried out smoothly.

CHAPTER VI

CONCLUSION AND RECOMMENDATION

This chapter the conclusion and based on the results of the analysis and discussion referring to the research objectives and recommendations as input.

6.1 Conclusion

Based on the data processing and analysis that have been discussed above, it could be summed up that:

1. Overall the student's satisfaction level of service quality given by the Undergraduate Program in Industrial Engineering UII during distance learning is identified based on the calculation of the Customer Satisfaction Index with the result score is 79,98 which means categorized to be satisfying.

2. To maintain and improve the quality of service given. the Importance-Performance Analysis has also been conducted. Based on the result of IPA, service items are represented into 4 different diagrams, 5 service items are categorized in quadrant A with high importance and low performance indicates a major weakness that requires immediate improvement. Those service items are:

   a. Efficient/prompt dealing with complaints (Administrative staff)

    b. Responding to request for assistance (Administrative staff)

    c. Graduates Employability

    d. Equal treatment and respect

    e. Student's union.

3. The proposed improvement can be given to service items that require immediate improvement in order to increase the student's satisfaction level, which are:

    a. Having a clear work scheme and clear organizational structure and role is things that can be done to increase the work performance of staff.

    b. In order to increase the employability of graduates, the management can make a work collaboration with both big company industries and small-medium enterprises and make some projects or programs such as an internship in order to increase the student's skill.

    c. To make sure all students are treated equally the department should make clear rules on how to interact between lecture, staff, and students.

    d. The department also has to pay more attention and make a periodic report about student union work and ensure that they can run the organization with enough resources.

6.2 Recommendation

This research is only focused to find out the student's satisfaction level and to group which service items require improvement. As for the recommendation, further research can use additional tools such as fishbone diagram, 5 whys process, or cause maps to find out the root causes that make the students not satisfy with those service items so the institution can implement the appropriate and efficient ways in fixing the root problem to improve the service quality and students satisfaction level.

REFERENCES

Abdullah, F. (2006). Measuring service quality in higher education: HEdPERF versus SERVPERF. Marketing Intelligence & Planning, 24(1), 31-47. doi:10.1108/02634500610641543

Abdullah, F. (2006). The development of HEdPERF: A new measuring instrument of service quality for the higher education sector. International Journal of Consumer Studies, 30(6), 569-581. doi:10.1111/j.1470-6431.2005.00480.x

Abouchedid, K., & Nasser, R. (2002). Assuring quality service in higher education: Registration and advising attitudes in a private university in Lebanon. Quality Assurance in Education, 10(4), 198-206.

Alchamdani, Fatmasari, Rahmadani, Sari, Putri, & Astina. (2020). The Impact of Covid 19 Pandemic on Online Learning Process in The College at Southeast Sulawesi. *Journal of Environmental Health, 12(1), 129-136.* doi: 10.20473/jkl.v12i1si.2020.129-136

Aprameya, A. (2015). Are You Following These 6 Steps to Avoid Response Bias In Your Survey?. Retrieved July, 2021, from https://humansofdata.atlan.com/2015/11/following-6-steps-avoid-response-bias-survey/

Arambewela & Hall (2006). A comparative analisys of International Education Satisfaction using SERVQUAL. *J Serv,* 6 (141).

Ardhyani, I. W., & Singgih, M. L. (2017). Pengukuran Kualitas Layanan dengan Higher Education Performance (HEdPERF) dan Higher Education Service Quality (HiEdQUAL). Teknika : Engineering and Sains Journal, 1(1), 25–32.

Austin, A. J., & Pervaiz, S. (2017). The Relation Between 'Student Loyalty' and 'Student Satisfaction' (A case of College/Intermediate Students at Forman Christian College).

European Scientific Journal. Retrieved February, 2021, from https://core.ac.uk/download/pdf/328025771.pdf

Bentley, D. (2018). How universities can make graduates employable with connections to industry. Retrieven March, 2021, from https://theconversation.com/how-universities-can-make-graduates-employable-with-connections-to-industry-91838

Bhasin, H. (2018). Classification of services. Retrieved September, 2020, from https://www.marketing91.com/classification-of-services/

Cahyawati, D., Yahdin S., & Puspitasari, Y. (2013). Analisis Tingkat Kepuasan Mahasiswa Terhadap Pelayanan Bimbingan Tugas Akhir Di Jurusan Matematika Fakultas MIPA Universitas Sriwijaya. *Prosiding Semirata FMIPA Universitas Lampung*. Retrieved August, 2020, from https://jurnal.fmipa.unila.ac.id/semirata/article/view/869

Coronavirus COVID-19 and Higher Edication: Impact and Recommendations (2020). Retrieved August, 2020, from https://www.iesalc.unesco.org/en/2020/03/09/coronavirus-covid-19-and-higher-education-impact-and-recommendations/

Daryanto, Y. (2016). UPAYA PERBAIKAN LAYANAN DENGAN MENGGUNAKAN HIGHER EDUCATION PERFORMANCE (HEDPERF) DAN METODE TRIZ. Retrieved September, 2020, from https://publikasiilmiah.ums.ac.id/bitstream/handle/11617/7086/IENACO_029-Yosef%20Daryanto.pdf?sequence=1&isAllowed=y

Edsys (2015). Solving Problems of Inequality in Schools. Retrieved March, 2021, from https://www.edsys.in/solving-problems-inequality-schools/

Ellen, S. (2020). Slovin's Formula Sampling Techniques. Retrieved December, 2020, from https://sciencing.com/slovins-formula-sampling-techniques-5475547.html

Elliott, K. & Shin, D., 2002. Student satisfaction: an alternative approach to assessing this Important Concept. Journal of Higher Education Policy and Management,, pp. 97-109

Fitriana, D., Florencia Y. K. O., Jati, U. D. H., & Tanto, D. S. (2014). Pengukuran kepuasan kontraktor terhadap kinerja klien pada proyek kontruksi swasta. Jurnal Karya Teknik Sipil, 3(1), 283-295.

Ghozi, S., Rakim, A. R., & Mahfud, M. (2019). Analisis Kinerja Layanan Perguruan Tinggi Menggunakan Customer Satisfaction Index (CSI) dan Importance Performance Analysis (IPA). *Journal of Data Analysis, 2*(1), 31-42. doi:10.24815/jda.v2i1.14287

Harahap, D., Hurriyati, R., Gaffar, V., Wibowo, L. and Amanah, D. Effect of Word of Mouth on Students Decision to Choose Studies in College. In 1st International Conference on Islamic Economics, Business, and Philanthropy (ICIEBP 2017), pages 793-797

Hartono (2017). The Importance of Students' Satisfaction on Service Quality in Universities to Optimize The Word of Mouth Advertising: a Case Study of Private Universities in Jakarta. European Journal of Research in Social Science, 5(3).

Irawati, D. Y., & Jonatan. (2020). Evaluasi Kualitas Pembelajaran Online Selama Pandemi Covid-19: Studi Kasus di Fakultas Teknik, Universitas Katolik Darma Cendika. Jurnal Rekayasa Sistem Industri, 9(2), 135-143. doi: https://doi.org/10.26593/jrsi.v9i2.4014.135-144

Mackay, M., & Tymon, A. (2014). Taking a risk to develop reflective skills in business practitioners. Journal of Education and Work, 1–20.

Martilla, J. A., & James, J. C. (1977). Importance-Performance Analysis. Journal of Marketing, 41(1), 77. doi:10.2307/1250495

Maya Dora, Yenny & Lisdayanti, Annisa. (2019). Word of Mouth Implications of Service Quality Mediated Student Satisfaction: A Study on a Private University in Bandung. Journal of Adv Reasearch in Dynamical and Control Systems, 11(3).

McDougall, G. H. G., & Levesque, T. (2000). Customer satisfaction with services: putting perceived value into the equation. Journal of Service Marketing, 14(5), 392 - 410. http://dx.doi.org/10.1108/08876040010340937

Muhammad, N., Kakakhel, S. J., Baloch, Q. B., & Ali, F. (2018). Service Quality the Road Ahead for Student's Satisfaction. Review of Public Administration and Management, 06(01). doi:10.4172/2315-7844.1000250

Musahadi. 2014. Survey Kepuasan Mahasiswa Terhadap Pelayanan IAIN Walisongo. Semarang: LP2M IAN Walisongo

Noviyanti, M., Sudarwo, R., Mardiana, A., & Budima, M. H. (2018). THE IMPORTANCE-PERFORMANCE ANALYSIS (IPA) ON ACADEMIC AND NON-ACADEMIC SERVICES TO ENHANCE STUDENT MOTIVATION. The Online Journal of Distance Education and eLearning, 6(1), 78

Oliver, R., 1997. Satisfaction: A Behavioral Perspective on the Consumer. New York: McGraw-Hill.

Özdemira, A., Tozlu, E., Şen, E., & Ateşoğlud, H. (2016). Analyses of word-of-mouth communication and Its effect on students' university preferences. *Procedia – Social and Behavioral Sciences,* 235(2016), 22-35. doi:https://doi.org/10.1016/j.sbspro.2016.11.022

Pertiwi, M. C., Silistyawan, A., Rahmawati, I., & Kaltsum, H. U. (2014). Hubungan Organisasi dengan Mahasiswan dalam Menciptakan Leadership. Prosiding Seminar Nasional. Retrieved March, 2021 from https://publikasiilmiah.ums.ac.id/bitstream/handle/11617/6041/Mustika%20Cahyaning%20Pertiwi.pdf;sequence=1

Rowley, J. (1996), "Motivation and academic staff in higher education", Quality Assurance in Education, Vol. 4 No. 3, pp. 11-16. https://doi.org/10.1108/09684889610125814

Sahu, P. (2020). Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff. Cureus. doi:10.7759/cureus.7541

Santos, G., Marques, C. S., Justino, E., & Mendes, L. (2020). Understanding social responsibility's influence on service quality and student satisfaction in higher education. *Journal of Cleaner Production, 256*, 120597.

Sarmah, Hemanta & Hazarika, B. (2012). Determination of Reliability and Validity measures of a questionnaire. Indian Journal of Education and Information Management, 1(11), 508-517.

Silva, F. & Fernandes, Paula. (2011). Importance-performance analysis as a tool in evaluating higher education service quality: the empirical results of ESTiG (IPB). Retrieved September, 2020, from https://www.researchgate.net/publication/277035463_Importance-performance_analysis_as_a_tool_in_evaluating_higher_education_service_quality_the_empirical_results_of_ESTiG_IPB

Smith, Gerald. (1993). The meaning of quality. Total Quality Management. 4. 235-244. doi:10.1080/09544129300000038.

Suroto, S., Nindiani, A., & Purba, H. H. (2016). Students' Satisfaction on Academic Services in Higher Education Using Importance-Performance Analysis. ComTech: Computer, Mathematics and Engineering Applications, 8(1), 37. doi:10.21512/comtech.v8i1.3776

Sutartiah, F (2017). Evaluasi Kepuasan Mahasiswa Terhadap Kualitas Pelayanan Pendidikan Lembaga Pendidikan Tinggi ABC di Cikarang. *Jurnal Formatif, 7*(1), 56-65.

Sylvia, C., Handoko, H., Woen, A., & Yang, C. (2019). Analisis Manajemen Risiko Sistemm Pembelajaran Berbasis Elektronik pada Perguruan Tinggi XYZ. *Seminar Nasional* Teknologi Informasi dan Komunikasi 2019. Retrieved August, 2020, from

https://www.researchgate.net/publication/334027559_ANALISIS_MANAJEMEN_R ISIKO_SISTEM_PEMBELAJARAN_BERBASIS_ELEKTRONIK_PADA_PERGU RUAN_TINGGI_XYZ

Tjiptono, F. (2012). Mewujudkan layanan prima, service management. Yogyakarta: Andi.

Tjiptono, F. and Gregorius, C. (2011). Service, Quality & Satisfaction. Penerbit Andi, Yogyakarta.

Tjoeng, C., & Indriyani, R. (2014). Pengaruh Perceived Organizational Support Terhadap Corporate Entrepreneurship Pada Perusahaan Keluarga Di Jawa Timur. Agora, 2(1).

Vargo, S. L., & Lusch, R. F. (2004). The Four Service Marketing Myths. Journal of Service Research, 6(4), 324-335. doi:10.1177/1094670503262946

Weerasinghe, Salinda & Lalitha, S & Fernando, R.L.s. (2017). Students' Satisfaction in Higher Education Literature Review. doi:10.12691/education-5-5-9.

Wei, C. C., & Ramalu, S. S. (2011). Students Satisfaction towards the University: Does Service Quality Matters? International Journal of Education, 3(2). doi:10.5296/ije.v3i2.1065

Wideman, R. (2013). What is quality?. Retrieved October, 2020, from http://www.maxwideman.com/papers/quality/quality.pdf

Wijaya, S. (2017).Analisis Tingkat Kepuasan Mahasiswa Terhadap Pelayanan Bagian Keuangan Dengan Metode Customer Satisfaction Index. Jurnal Ilmiah Rekayasa dan Manajemen Sistem Informasi, 3(1), 11-17.

Yanova, N. (2015). Assessment of Satisfaction with the Quality of Education: Customer Satisfaction Index. *Procedia - Social and Behavioral Sciences, 182*, 566-573. doi:10.1016/j.sbspro.2015.04.782

Yusup, F. (2018). Uji Validitas dan reliabilitas instrumen penelitian kuantitatif. Jurnal Tarbiyah: Jurnal Ilmiah Kependidikan, 7(1), 17-23.

APPENDICES

APPENDIX I

List of Questionnaire Statement for Every Service Items

No	Dimension	Service Item	Service Items for Questionnaire	
1	Academic aspects	Knowledgeable in course content	Lecturers have good and adequate knowledge in answering student questions related to course material	Dosen mempunyai pengetahuan yang baik dan memadai dalam menjawab pertanyaan mahasiswa, yang berhubungan dengan materi kuliah
2		Caring and courteous	Lectures communicate and treat the students politely and courteously	Dosen berhubungan dan memperlakukan mahasiswa secara santun dan dengan kepedulian
3		Responding to request for assistance	Lectures always respond to request for assistance from students	Dosen selalu menanggapi permintaan bantuan dari mahasiswa
4		Sincere interest in solving problem	Lecturers show their full attention and sincere interest to helping students solve a problem	Dosen menunjukan perhatian yang penuh untuk membantu mahasiswa dalam memecahkan suatu masalah
5		Positive attitude	Lecturers show positive attitude towards students	Dosen menunjukkan sikap yang positif terhadap mahasiswa
6		Good communication	Lecturers have good communication with students while teaching and outside teaching hours	Dosen dapat berkomunikasi dengan baik dengan mahasiswa saat mengajar maupun diluar jam mengajar
7		Feedback on progress	Lecturers provide feedback on student progress	Dosen memberikan feedback mengenai kemajuan mahasiswa
8		Sufficient and convenient consultation	Lecturers provide sufficient time and convenient consultation for students	Dosen menyediakan jadwal bimbingan dengan waktu yang mencukupi dan sesuai bagi mahasiswa
9		Educated and experience academicians	Lecturers have high education and experience in their respective fields	Dosen memiliki pendidikan yang tinggi dan berpengalaman pada bidangnya masing-masing

10	Non-academic aspects	Sincere interest in solving problem	Administrative staff show their full attention and sincere interest to helping students solve a problem	Staff Administrasi menunjukan perhatian yang penuh untuk membantu mahasiswa dalam memecahkan suatu masalah
11		Caring and individualized attention	Administrative staff care and gives attention to every student	Staff Administrasi memberikan kepedulian dan perhatian kepada setiap mahasiswa
12		Efficient/prompt dealing with complaints	Administrative staff handle queries and complaints efficiently and promptly	Staff administrasi menangani pertanyaan dan komplain secara efisien dan tepat
13		Responding to request for assistance	Admnistrative staff always respond to request for assistance from students	Staff administrasi selalu menanggapi permintaan bantuan dari mahasiswa
14		Accurate and retrievable records	The administrative office has accurate and retrievable record of information	Kantor administrasi memiliki pencatatan informasi yang akurat dan mudah didapatkan kembali informasinya
15		Promises kept	Administrative staff always keep their promises	Ketika staff berjanji untuk melakukan sesuatu selama waktu tertentu, mereka akan menepati janjinya dan melakukannya seperti itu
16		Convenient opening hours	The administrative office service hours are rational and convenient for students	Jam waktu pelayanan kantor administrasi rasional dan memberikan kenyamanan bagi mahasiswa
17		Positive attitude	Administrative staff show positive attitude towards students	Staff administrasi menunjukkan sikap yang positif terhadap mahasiswa
18		Good communication	Administrative staff have good communication with students	Staff administrasi dapat berkomunikasi dengan baik dengan mahasiswa
19		Knowledgeable of systems/procedures	Administrative staff are knowledgeable of systems and procedure	Staff administrasi memiliki pengetahuan yang baik mengenai sistem dan prosedur

20		Feeling secured and confident	Student feel secured and confident in dealing with industrial engineering department	Mahasiswa merasa aman dan percaya diri dalam berhubungan atau berurusan dengan Program Studi Teknik Industri
21		Service within reasonable time frame	The services provided have a reasonable and understandable time frame	Layanan-layanan yang diberikan memiliki kerangka waktu yang wajar atau dapat dipahami
22	Reputation	Professional appearance/image	Industrial engineering department have professional appearance and image	Program Studi Teknik Industri memiliki image/kesan profesional
23		Internal quality programmes	Industrial engineering department provides and runs high quality programs for students	Program Studi Teknik Industri menyediakan dan menjalankan program-program yang sangat berkualitas untuk mahasiswa
24		Reputable academic programmes	The academic programmes offered have good reputation	Program studi yang ditawarkan memiliki reputasi dan dibutuhkan dalam dunia kerja dan masyarakat
25		Graduates Employability	Industrial Engineering graduates can easily find jobs	Lulusan Program Studi Teknik Industri dapat dengan mudah mendapatkan pekerjaan
26	Access	Equal treatment and respect	Students are treated fairly and are respectably	Mahasiswa diperlakukan secara adil dan dihargai
27		Fair amount of freedom	Students have fair amount of freeedom in obtaining their rights and carrying out their obligations	Mahasiswa diberikan kebebasan yang cukup dalam memperoleh hak dan menjalankan kewajibannya
28		Confidentiality of information	Lecturers and administrative staff appreciate and respect students privacy when students pass on information to them	Dosen dan staff menghargai unsur kerahasiaan pribadi saat mahasiswa menyampaikan informasi kepada mereka

			Lecturers and administrative staff ensure that they are reachable and easily contacted by students	Dosen dan staff memastikan bahwa mereka mudah dihubungi melalui telepon
29		Easily contacted by telephone	Lecturers and administrative staff ensure that they are reachable and easily contacted by students	Dosen dan staff memastikan bahwa mereka mudah dihubungi melalui telepon
30		Counseling services	Industrial engineering department provide sufficient and convenient counseling services for students	Tersedia layanan bimbingan atau konseling yang sangat baik
31		Student's union	Industrial engineering department supports student organization activities	Program Studi mendukung dan mendorong organisasi atau himpunan mahasiswa
32		Feedback for improvement	Industrial engineering department considers and appreciates input and feedback from students to improve their quality of service performance	Program Studi mepertimbangkan dan menghargai masukan serta umpan balik dari mahasiswa terkait peningkatan performa layanan
33		Service delivery procedures	Industrial engineering department has standardized service procedures	Program Studi memiliki prosedur pelayanan yang sederhana dan telah terstandarkan
34	Programme issues	Variety of programmes/specializations	Industrial engineeering department provides various kinds of programs and activities that support student development	Program studi menyediakan berbagai macam program dan kegiatan yang mendukung perkembangan mahasiswa
35		Flexible syllabus and structure	Industrial engineeering department provides programs with complete and structured syllabus	Program studi menyediakan program dengan silabus yang lengkap dan terstruktur

APPENDIX II

Example of Online Questionnaire Distributed to Respondent

Questionnaire of Student's Satisfaction towards Service Quality during Online Learning Period in Industrial Engineering Department Universitas Islam Indonesia

Assalamualaikum warahmatullahi wabarakatuh

Hello, my name is Rahma Alrosdi Wira Putri. This questionnaire is part of my thesis project related to student's satisfaction towards service quality during online learning period in Industrial Engineering Department Universitas Islam Indonesia. This study will take approximately 5 minutes to complete. All data you provide will be strictly confidential. If you have any questions about this study, please contact me at 16522042@students.uii.ac.id

Best regards,
Rahma Alrosdi Wira Putri

Kuesioner Mengenai Kepuasan Mahasiswa Terhadap Kualitas Pelayan Pendidikan Selama Masa Pembelajaran Daring di Jurusan Teknik Industri Universitas Islam Indonesia

Assalamualaikum warahmatullahi wabarakatuh

Salam Sejahtera untuk kita semua

Halo, perkenalkan nama saya Rahma Alrosdi Wira Putri, mahasiswi Fakultas Teknologi Industri Jurusan Teknik Industri Internasional Program di Universitas Islam Indonesia. Saat ini saya sedang melakukan penelitian mengenai "Analisis Kepuasan Mahasiswa Terhadap Kualitas Pelayan Pendidikan Selama Masa Pembelajaran Daring di Jurusan Teknik Industri Universitas Islam Indonesia". Untuk itu, dengan ini saya memohon kesediaan Saudara/i untuk berkenan meluangkan waktu sejenak untuk mengisi kuesioner di bawah ini sesuai dengan pengalaman yang dirasakan terhadap kualitas pelayanan pendidikan di Jurusan Teknik Industri Universitas Islam Indonesia

Perlu diketahui bahwa kerahasiaan data yang Saudara/i isi akan dijamin kerahasiaannya dan hanya akan digunakan untuk kepentingan penelitian semata. Apabila ada pertanyaan lebih lanjut silahkan menghubungi saya melalui email 16522042@students.uii.ac.id

Atas perhatiannya, saya ucapkan terimakasih.

Yogyakarta, Oktober 2020

Rahma Alrosdi Wira Putri

Berikutnya

Jangan pernah mengirimkan sandi melalui Google Formulir.

Konten ini tidak dibuat atau didukung oleh Google. Laporkan Penyalahgunaan - Persyaratan Layanan - Kebijakan Privasi

Google Formulir

Questionnaire of Student's Satisfaction towards Service Quality during Online Learning Period in Industrial Engineering Department Universitas Islam Indonesia

* Wajib

Academic aspects (Aspek akademis)

For each statements of service item, respondents are expected to choose between value 1 (Least Important) up to 5 (Very Important) based on how important service quality from expectation and value 1 (least satisfying) and 5 (most satisfying) based on how service quality from reality.

Untuk setiap pernyataan, responden diharapkan untuk memilih antara nilai 1 (Paling Tidak Penting) hingga 5 (Sangat Penting) berdasarkan seberapa penting kualitas layanan dari ekspektasi dan nilai 1 (paling tidak memuaskan) dan 5 (paling memuaskan) berdasarkan bagaimana kualitas layanan yang dirasakan dalam realitanya.

Lecturers have good and adequate knowledge in answering student questions related to course material

Dosen mempunyai pengetahuan yang baik dan memadai dalam menjawab pertanyaan mahasiswa, yang berhubungan dengan materi kuliah

Tingkat Kepentingan (Importance) *

	1	2	3	4	5	
Least Important (Sangat tidak penting)	○	○	○	○	○	Very Important (Sangat penting)

Tingkat Kinerja (Performance) *

	1	2	3	4	5	
Least Satisfying (Sangat tidak memuaskan)	○	○	○	○	○	Most Satisfying (Sangat memuaskan)

APPENDIX III

The Data of Questionnaire for Importance

NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1	5	5	5	5	5	5	5	5	4	4	4	5	5	5	5	5	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
2	5	4	4	4	5	5	5	4	4	4	5	5	5	5	5	5	4	5	4	5	5	4	5	5	5	5	5	5	3	5	5	5	5	5	5
3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7	5	4	4	4	4	4	3	4	5	4	3	4	3	3	4	3	4	4	4	3	3	4	4	5	5	4	4	4	5	4	3	4	3	4	4

8	4	5	5	5	4	3	5	4	5	4	3	5	5	4	4	4	5	4	3	3	3	5	3	5	5	3	5	4	4	3	4	3	5	5	3
9	5	5	5	4	5	4	5	4	5	5	4	5	5	5	5	5	4	4	5	4	5	4	4	4	4	5	5	5	3	5	4	5	5	5	5
10	5	5	5	5	4	4	4	4	5	4	4	4	4	4	4	4	5	4	4	4	5	4	5	5	4	4	4	5	4	4	4	4	4	4	4
11	5	5	4	4	5	4	5	4	4	4	4	4	5	4	3	4	4	4	4	4	5	5	4	4	4	4	5	4	4	4	4	4	4	4	5
12	5	5	5	5	5	5	4	4	5	5	4	5	5	4	4	5	5	5	5	4	4	5	5	5	5	5	4	5	5	4	5	4	5	5	4
13	5	4	4	4	5	4	4	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
14	5	4	5	5	4	4	5	5	5	5	4	4	5	4	5	4	5	5	5	5	4	5	4	5	4	5	5	5	5	4	5	4	4	5	4
15	5	4	4	3	3	2	1	3	2	3	2	5	4	4	1	5	3	2	4	3	4	3	3	4	2	4	2	5	3	3	2	4	4	3	2
16	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
17	3	3	4	2	5	5	5	5	5	5	5	5	5	4	5	5	5	4	4	4	5	5	5	4	5	5	4	5	5	5	5	5	5	5	5
18	5	5	5	4	5	4	3	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
19	4	5	5	4	5	4	5	4	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	5	5	4
20	5	4	3	5	3	5	5	4	5	5	3	5	5	5	4	4	4	3	3	4	5	5	4	3	4	4	4	4	5	5	4	4	4	5	4

21	4	5	5	4	5	4	3	4	5	4	3	4	4	5	5	4	4	5	5	5	4	5	5	5	5	4	4	5	5	5	5	5	4	5	5
22	4	4	5	5	4	4	4	4	4	4	4	5	5	4	5	4	4	5	4	5	4	5	4	5	4	4	4	4	5	5	5	4	4	5	4
23	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
24	5	4	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
25	5	5	5	5	5	5	4	4	5	5	4	5	5	4	4	5	5	5	5	4	4	5	5	5	5	5	4	5	5	4	5	4	5	5	4
26	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
27	5	5	5	3	4	5	4	5	4	5	4	4	4	4	5	5	4	5	4	5	4	5	4	5	5	5	5	5	5	5	5	5	5	4	4
28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3
29	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
30	5	5	4	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
31	4	4	4	4	4	4	4	4	4	5	5	5	5	5	4	5	4	5	4	4	5	4	5	4	5	4	5	4	4	5	4	4	3	5	4
32	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
33	5	5	5	5	5	4	4	4	5	5	5	4	4	4	4	4	5	5	5	5	4	5	5	5	5	5	5	5	4	4	5	5	4	4	5

34	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
35	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
36	5	5	4	5	4	4	5	4	5	5	5	4	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
37	4	5	5	5	5	3	5	3	4	3	2	3	4	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
38	5	3	5	4	5	5	4	3	4	3	4	3	4	3	5	4	5	5	4	4	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5
39	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	5	5	
40	5	5	3	4	5	4	5	5	4	4	5	5	5	5	5	4	5	4	5	4	5	4	4	5	5	4	5	4	3	5	5	4	5	5	
41	4	4	5	5	4	3	3	5	5	3	4	4	5	4	5	5	4	5	5	5	4	3	3	3	5	3	3	4	2	3	2	4	5	5	5
42	5	5	3	5	3	3	1	4	3	3	3	2	2	3	4	4	5	5	5	5	4	5	5	5	4	5	5	5	5	4	4	4	5	5	5
43	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5
44	4	5	4	4	5	5	5	4	5	5	4	4	4	4	4	4	5	4	5	4	4	5	5	5	4	5	5	4	4	4	4	4	5	5	5
45	5	4	4	4	5	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5
46	5	5	4	5	5	5	4	4	4	5	5	5	5	4	5	5	5	4	5	4	4	5	5	5	5	5	5	5	3	5	5	5	4	5	5

47	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
48	5	5	5	5	4	4	4	4	5	5	5	5	5	5	5	5	5	4	5	4	4	5	5	4	5	4	4	5	4	5	5	5	5	4	4		
49	4	5	5	5	5	4	4	5	4	5	5	5	5	5	5	5	4	4	5	5	5	5	5	4	4	5	4	5	4	5	4	5	4	5	5		
50	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
51	5	4	5	4	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
52	5	4	4	5	5	4	4	3	5	4	3	4	3	3	3	4	4	5	4	4	4	5	4	5	3	3	4	4	3	4	4	4	4	5	4		
53	5	5	4	4	5	5	4	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
54	5	5	4	3	4	4	5	3	5	5	4	5	4	5	5	5	5	5	5	5	5	4	5	5	5	4	5	4	5	5	4	5	5	4			
55	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
56	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
57	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	4	4	3			
58	5	4	5	4	5	4	5	5	5	4	4	5	5	5	4	4	5	4	5	5	5	5	5	5	5	5	5	5	4	4	5	5	4	4	4		
59	5	4	4	4	4	4	4	4	5	4	5	5	5	4	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5		

60	4	4	3	3	4	4	5	4	5	4	3	4	4	3	3	3	3	3	5	3	3	5	5	5	3	3	3	3	3	3	3	4
61	4	4	5	4	5	5	4	4	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
62	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	4	4	4	4	4
63	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
64	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
65	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
66	5	5	4	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	4	5
67	5	4	5	4	4	4	4	4	5	5	4	5	4	4	4	5	5	4	4	4	4	4	4	4	5	4	5	4	4	4	5	4
68	5	5	4	5	5	4	4	4	5	5	4	5	4	5	5	5	4	4	5	4	5	4	5	4	5	5	5	5	5	5	5	5
69	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
70	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
71	5	5	5	5	5	5	5	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
72	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

73	4	5	5	4	4	5	5	4	5	5	5	4	5	4	5	5	5	4	4	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4	4
74	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
75	4	4	4	5	5	4	5	5	4	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
76	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	4	4	5	5	5	5	5	5
77	5	5	5	5	5	5	5	5	4	5	4	4	4	5	5	5	5	5	5	4	4	5	5	5	5	4	5	5	5	4	5	5	4	5	5
78	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
79	5	4	4	4	5	4	5	4	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	4	4
80	4	4	4	4	4	3	5	5	5	5	5	4	5	4	4	4	5	5	4	5	4	5	5	5	5	5	4	5	5	4	5	4	4	5	5
81	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	4	5	5	4	5	5	5	5
82	5	5	5	4	4	5	4	4	5	4	4	5	4	5	3	5	5	5	5	4	4	5	5	5	5	4	5	5	5	5	5	5	5	5	4
83	5	5	5	5	5	5	5	4	5	5	4	4	4	5	4	4	5	5	4	4	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4
84	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5
85	5	5	5	5	5	5	5	4	5	5	4	5	5	5	5	5	5	4	5	5	4	5	5	5	4	5	5	5	5	4	5	5	4	5	5

86	5	5	4	5	5	5	4	5	5	4	5	5	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5
87	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	4	5	5	5	5
88	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
89	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5
90	5	5	5	5	5	5	4	5	5	4	5	5	4	4	4	4	4	5	5	5	5	5	4	5	5	5	5	5	4	5	5	4	5
91	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	4	4	5	5	5	5	5	5	4	4	4
92	5	5	4	4	4	4	3	4	5	5	5	5	5	5	5	4	5	4	3	4	5	5	3	4	5	4	5	4	5	4	4	5	5
93	4	4	5	4	5	5	4	4	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	5	4	
94	5	4	5	4	5	5	3	5	5	4	3	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
95	5	5	5	5	5	5	4	5	5	5	3	5	5	4	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5

APPENDIX IV

The Data of Questionnaire for Performance

No	SERVICE ITEM																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1	5	5	5	5	5	5	5	5	4	4	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
2	3	3	5	5	5	5	5	5	4	3	4	4	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
4	4	3	4	3	3	4	3	4	3	5	5	5	5	5	5	5	5	5	5	5	5	3	2	3	4	3	4	4	3	3	4	3	4	3	4
5	5	4	4	4	4	5	4	5	5	4	4	4	4	4	4	4	5	4	5	3	4	3	3	4	4	4	3	5	3	4	3	4	4	4	4
6	4	3	4	4	5	5	5	5	5	3	4	4	5	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5
7	4	4	3	3	4	3	2	3	5	4	4	4	4	3	4	4	4	4	4	3	3	4	4	3	3	3	4	4	3	3	3	4	3	3	3
8	3	4	5	3	4	5	4	3	3	5	2	2	2	3	2	3	5	5	4	4	3	3	3	4	2	3	4	4	3	4	3	4	4	4	5

9	4	5	5	4	5	5	5	5	4	5	4	5	5	5	5	5	4	4	5	4	4	4	4	4	4	5	5	5	3	5	4	5	5	5	5
10	4	5	5	4	4	4	4	4	5	5	4	4	4	4	4	4	4	4	4	4	4	5	4	5	4	4	4	5	4	4	4	4	4	4	4
11	4	5	3	4	5	4	3	2	4	2	3	3	2	4	3	3	4	4	4	4	5	4	4	4	4	3	3	5	3	2	4	4	4	4	5
12	5	3	3	4	5	2	3	4	4	5	4	4	5	3	3	5	4	5	5	2	4	4	3	5	4	4	3	3	3	3	4	5	4	3	4
13	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
14	4	4	3	4	4	3	3	3	5	5	4	4	5	4	4	4	5	5	5	5	4	5	4	5	5	5	5	5	5	4	5	5	5	5	4
15	5	3	4	2	3	3	5	3	2	3	1	5	3	2	5	4	5	5	3	2	5	2	5	3	3	3	3	4	4	3	5	4	4	2	1
16	5	4	4	4	5	4	4	4	5	4	3	3	3	4	4	4	3	4	4	5	5	5	5	5	4	4	4	5	3	4	5	5	5	4	5
17	3	4	4	2	5	4	3	3	5	1	1	1	1	3	3	3	4	3	3	2	2	4	3	3	2	3	3	4	3	2	4	4	4	4	3
18	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	3	5	5	5	4	5	5	4	4	5	4	5	5	5	5	5	5	5	5	4
19	4	4	3	3	4	4	5	4	4	3	3	3	4	4	3	4	3	3	3	4	4	3	3	3	4	3	4	3	3	3	3	3	3	3	3
20	4	4	5	4	5	5	4	5	5	4	3	3	5	4	5	3	4	3	5	4	4	5	4	4	4	3	3	3	5	5	3	4	4	5	4
21	4	4	4	4	5	4	4	4	4	4	3	5	4	5	5	4	4	4	4	3	3	4	3	4	4	3	4	5	3	4	3	4	3	3	4

22	4	4	4	4	4	3	4	3	4	3	3	3	3	4	4	4	4	3	4	3	4	4	4	4	4	4	4	3	4	4	4	4	4
23	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	3	4	5	5	4	5	5
24	4	4	3	3	4	4	4	3	5	3	3	3	3	4	3	3	3	2	4	4	3	5	5	5	4	5	5	4	3	4	4	4	5
25	5	3	3	4	5	2	3	4	4	5	4	4	5	3	3	5	4	5	5	2	4	4	3	5	4	4	3	3	3	3	4	5	4
26	4	2	2	3	4	4	4	4	4	4	4	3	3	5	5	4	5	5	4	4	5	5	3	3	3	4	5	4	4	4	5	4	4
27	5	4	4	5	5	5	5	5	4	4	5	5	5	5	5	5	4	4	4	4	5	4	4	5	4	5	5	5	5	5	5	5	5
28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	2	3	3	3	3	3	3	3	3	3
29	4	5	1	3	3	2	1	1	5	5	5	5	5	5	5	5	5	5	5	5	3	3	3	4	4	3	5	1	2	2	3	3	2
30	5	4	4	5	5	4	5	4	5	4	4	4	4	4	5	5	5	3	1	5	2	1	2	3	1	1	2	4	3	2	1	3	1
31	4	4	4	4	4	4	4	4	5	5	5	5	4	4	5	4	4	5	5	4	4	5	4	4	5	4	5	5	4	5	4	4	4
32	4	4	4	4	5	4	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
33	3	4	3	4	4	3	3	2	4	5	4	4	4	5	4	4	5	5	4	3	4	4	3	3	4	3	3	4	4	4	4	3	4
34	4	3	2	3	4	2	2	2	3	3	3	3	3	3	2	3	3	3	4	2	3	3	2	4	3	2	2	4	2	3	3	1	3

35	5	4	3	3	5	4	4	4	5	3	2	2	3	4	2	4	4	3	5	3	4	5	5	5	4	3	4	5	3	5	3	4	5	5	5
36	5	5	4	5	4	4	5	4	5	5	5	4	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
37	3	4	2	3	4	4	1	3	4	2	2	2	3	3	3	3	3	4	5	4	4	5	3	3	3	3	4	2	1	2	3	2	5	5	1
38	4	4	4	4	4	5	3	3	4	3	4	3	4	3	5	4	5	5	4	3	3	5	5	5	3	5	5	5	5	5	5	5	5	5	5
39	3	3	4	3	4	2	4	3	3	3	2	2	3	3	3	3	2	4	3	5	4	3	4	4	4	4	4	4	4	4	3	3	3	3	4	4
40	4	5	3	4	5	3	4	4	5	3	3	2	2	3	3	4	3	3	3	4	4	4	3	4	4	5	4	5	4	3	4	4	4	4	4
41	4	3	3	4	4	4	3	3	4	4	4	5	4	4	3	5	4	3	5	4	4	3	3	3	3	4	3	3	4	3	3	3	5	3	5
42	5	4	1	3	4	4	5	5	4	4	5	4	5	5	4	5	4	2	2	4	4	5	4	3	3	3	5	5	2	2	1	3	3	3	3
43	4	5	4	4	4	4	3	4	4	3	3	3	2	3	4	4	3	3	3	3	4	4	4	5	4	3	4	5	3	3	4	3	5	4	5
44	5	5	4	4	5	5	5	4	5	5	4	4	4	4	4	5	5	5	5	4	4	5	5	4	4	4	5	5	5	5	5	4	5	5	5
45	4	4	4	5	5	5	4	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	5	5
46	4	3	4	3	3	2	2	3	3	3	3	2	3	4	5	5	3	4	5	5	3	5	3	4	3	2	4	5	3	5	3	2	3	3	5
47	5	5	3	3	3	3	3	3	4	2	2	2	1	3	1	2	3	4	4	3	3	3	4	4	4	3	3	3	3	3	3	2	2	3	4

48	4	4	5	5	4	4	3	4	4	3	3	3	3	5	5	5	5	3	5	2	4	5	5	5	4	4	4	5	2	5	5	5	5	4	4
49	5	5	4	4	4	4	4	5	5	4	4	3	4	5	3	4	5	4	4	5	4	4	5	4	5	5	4	5	4	5	4	5	4	5	5
50	4	4	4	4	4	4	4	4	4	2	2	2	4	3	2	3	5	4	5	4	3	4	4	4	4	5	5	5	5	4	5	5	5	5	5
51	4	4	4	4	4	3	4	5	5	4	4	4	5	4	4	4	5	3	5	5	5	5	5	5	4	5	5	5	4	4	5	3	5	5	5
52	5	5	4	4	5	4	4	3	5	4	4	4	3	3	3	4	4	5	4	4	4	5	4	5	3	4	4	4	3	4	4	4	5	4	5
53	4	3	3	2	4	3	4	3	4	2	2	1	2	3	1	3	3	2	3	3	3	4	4	4	3	2	3	5	2	3	3	3	3	4	3
54	4	4	3	3	4	4	3	3	4	3	3	3	4	2	2	4	4	4	4	3	3	4	5	5	5	3	4	4	4	2	5	4	5	5	4
55	3	3	4	3	3	3	3	4	4	3	2	3	3	3	2	3	3	3	3	3	3	3	3	3	3	4	4	4	3	2	3	2	2	2	3
56	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
57	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	4	5	4	3	4	4	4
58	4	4	3	3	4	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	3	4	4
59	3	3	2	2	4	3	2	1	4	3	1	2	4	3	3	4	4	4	4	3	4	3	3	3	2	3	3	3	3	2	2	2	4	4	3
60	5	4	3	3	4	3	4	3	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	5	3	3	3	3	3	3	3	3	4

61	5	5	5	4	5	5	4	4	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
62	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	4	4	4	4	4	4	4
63	5	4	5	4	4	4	4	5	5	5	4	5	5	5	5	5	4	5	3	4	5	5	5	5	2	3	5	5	4	4	5	5	4	4
64	3	4	4	4	4	4	3	3	4	4	4	3	3	4	4	4	4	4	4	4	4	5	4	5	5	4	4	4	4	4	4	4	4	4
65	5	5	2	3	3	3	3	3	5	4	3	3	3	3	3	3	4	3	3	3	3	5	5	5	5	4	3	5	1	3	3	3	4	5	4
66	5	4	3	4	5	5	4	3	4	3	3	3	3	5	4	5	4	4	4	4	5	4	4	4	4	4	3	3	5	4	4	5	4
67	4	4	4	4	4	4	4	5	4	5	4	5	5	5	4	5	4	5	5	4	5	5	5	5	4	5	4	4	4	5	4	4	5
68	4	5	5	5	4	4	4	5	5	5	5	4	5	4	5	5	5	4	5	4	5	5	4	5	4	5	4	4	4	5	5	5	5	5	5
69	5	4	5	5	5	5	5	4	5	5	4	4	5	4	5	5	5	5	5	5	4	5	5	5	5	5	4	4	3	4	5	4	5	4	4
70	5	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
71	4	4	3	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4	5	4	4	4	4	2	4	4	4	4	4	4
72	5	4	5	4	4	4	4	4	5	5	5	4	5	5	5	5	5	4	5	3	4	5	5	5	5	2	3	5	5	4	4	5	5	4	4
73	3	5	4	3	4	2	2	3	5	3	3	2	2	3	3	2	3	2	4	3	3	4	3	3	3	4	3	3	4	4	1	3	3	2	3

74	4	5	5	5	5	4	3	4	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5	5	5	5	4
75	4	3	4	4	5	5	3	5	5	5	5	5	5	5	3	5	5	4	3	4	5	3	4	4	4	4	4	4	4	4	3	4	5	5
76	4	3	3	3	3	3	3	3	3	4	4	4	4	3	3	3	3	3	4	3	3	3	3	3	2	4	3	2	4	3	4	3	3	3
77	5	5	5	5	4	4	4	3	4	5	3	4	4	4	4	4	5	5	3	4	4	5	5	4	4	5	4	3	4	4	3	4	5	5
78	3	3	2	2	3	2	2	1	3	2	3	3	4	4	3	4	4	3	3	4	4	3	3	3	4	5	4	4	3	3	4	4	4	4
79	3	3	2	3	4	3	2	2	4	2	3	2	2	2	2	4	3	2	4	4	4	4	4	4	2	5	3	2	3	2	2	3	3	4
80	4	4	4	4	4	4	3	5	5	4	4	4	4	4	4	5	5	4	4	5	4	4	4	5	4	4	4	5	3	4	5	5	5	4
81	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
82	4	3	5	5	3	4	2	2	5	5	4	5	5	4	3	5	5	4	4	3	3	4	4	4	3	4	5	5	5	5	3	4	5	3
83	5	5	5	4	5	4	4	4	4	3	4	3	4	4	4	4	5	4	4	4	4	5	5	5	4	4	4	4	4	4	4	4	4	4
84	4	5	5	5	5	5	5	5	5	5	3	4	4	5	5	5	5	4	5	5	4	5	4	5	4	5	5	5	5	5	5	5	4	4
85	5	4	4	3	4	4	3	4	5	5	4	4	4	5	5	5	4	4	5	4	4	4	3	5	4	4	3	3	3	3	4	4	5	4
86	5	4	5	5	5	5	4	3	5	3	4	4	4	4	5	4	5	5	5	5	4	4	5	5	3	5	5	5	5	3	3	3	5	5

87	5	4	5	4	5	3	3	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5	4	5	5	5
88	3	3	5	3	4	3	3	2	4	5	5	4	4	4	3	5	5	5	5	5	4	5	4	4	5	4	4	4	3	4	3	3	5	4	4
89	4	4	4	4	5	3	4	3	5	5	4	5	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5
90	5	5	5	5	5	4	4	4	4	5	4	4	4	3	4	4	4	4	5	4	5	5	4	4	5	5	5	5	4	4	4	5	4	5	
91	4	3	3	3	4	4	3	3	5	5	3	4	4	5	4	5	4	4	3	4	3	3	3	4	3	3	2	4	3	4	3	3	4	2	2
92	4	3	3	3	4	4	2	3	4	5	5	4	4	5	3	4	4	5	4	3	4	4	3	3	4	3	3	4	2	3	3	2	4	3	
93	5	5	5	4	5	5	4	4	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	5	4	4	5		
94	4	3	2	3	3	4	3	4	5	4	3	4	4	3	3	4	3	4	5	3	5	4	3	3	4	3	4	5	3	3	4	2	3	3	4
95	5	3	4	4	5	4	2	3	5	4	3	3	4	4	4	5	4	4	4	5	5	4	3	4	4	3	5	4	3	4	5	4	5	4	3