

CHAPTER 1

INTRODUCTION

1.1 Research Background

Education is an effort to empower humans to become complete human beings that they can actualize themselves, understand themselves and can support themselves (Nurrohima, 2020). To achieve the education goals, there is a process that must be passed, in the educational process there are lecturers and students, also the means that support the process of achieving educational goals. Education is an important aspects of national development (Mukaromah et al., 2021). The quality of human resources in a country is closely related to the quality of the existing education system in the country, because education is a major priority which has a very important role for the development and progress of the nation.

The university is one of the service providers related to the services provided to students as consumers. Universities must be able to plan and take anticipatory steps in order to face a lot of competitors. Besides that, universities are responsible for improving all aspects of their services. Therefore, university need to conduct an assessment of the aspects that need to improve quality of services (Shabri & Yanti, 2020). In order to a university to compete with other universities, a university must have a competitive advantage in order to win the competition. One of the advantage can be seen in the of service quality provided by the university to the students. If students are satisfied, it is possible for students to be loyal to the institution (Ratnasari, 2016).

Students are customers of higher education institutions. Educational institutions should be able to guarantee the student satisfaction in the learning process (Ratnasari, 2016). Students will feel satisfied if they get service quality that matches or exceeds expectations and students feel dissatisfied if the quality of service does not match student expectations (Takalapeta, 2018). To improve the quality of service by knowing the level of student satisfaction with offline learning

provided by the campus. Quality services will have an impact on students satisfaction and will affect students learning motivation (Sumarsono et al., 2021). A positive impression will increase the reputation of the campus in the public. The quality of service perceived by students is one of the keys to the success of a university, students can be proud of the university which leads to loyalty (Nasukah, 2014). In the long term, students will become agents who recommend and talk about positive things (positive word of mouth) about the college to the people around them. The impact of the problem of students dissatisfaction is shown on students uncomfortable learning behavior (Sukmanasa et al., 2017). Students learning behavior has decreased, such as not having the learning enthusiasm, students also tend not to come to class for some subjects. Students satisfaction is very important. In previous research, many researchers have solved this problem using various methods, such as Sari et al., (2019) using Naïve Bayes, Rinaldi et al., (2019), Parlambang and Fauziah (2020), Nanda et al., (2020) using K-Means, Oktafianto (2016), Perwira et al., (2022), Fadillah et al., (2020) using C4.5 algorithm.

Improving service quality is not only carried out by universities, but also work units within universities must participate. Because the success of higher education is related to the success of its work units (Shabri & Yanti, 2020). The Department of Informatics is one of the work units at the Universitas Muhammadiyah Kalimantan Timur. As part of the work unit, the Department of Informatics must prioritize student satisfaction by providing the best service. The quality of service must start from the students need for service and end with the students perception of the quality of the service provided (Madesrinadi & Nilakusumawati, 2008). As part of an educational institution, Universitas Muhammadiyah Kalimantan Timur (UMKT) must continue to strive for the continuity of quality educational activities. Measurement of student satisfaction is an activity that should be carried out periodically to find out what level of service has been provided. If the service is bad then the university is obliged to be able to improve services. By knowing the level of student satisfaction, the university can improve

service if it is not good and further improve service if the level of satisfaction is good.

To determine the level of student satisfaction, analysis can be done with classification techniques using the decision tree algorithm C4.5. The C4.5 algorithm is a decision tree classification algorithm that is widely used because it has major advantages over other algorithms. The advantages of the C4.5 algorithm are that it can produce a decision tree that is easy to interpret, has an acceptable level of accuracy, is efficient in handling discrete and numeric type attributes (Taufiq & Yudihartanti, 2019). The results of the analysis can be a reference for evaluating what needs to be considered and prepared to improve students satisfaction, like previous research which also uses the C4.5 Algorithm method. C4.5 algorithm is an algorithm that is widely applied in various sectors, such as health (Junaedi et al., 2019), charity (Asa, 2019), and education (Islamuddin, 2019). So this study uses the C4.5 algorithm to analyze student satisfaction in the Department of Informatics.

1.2 Problem Statement

Based on the background, the problem to be discussed is to analyze students satisfaction towards offline learning performance using C4.5 Algorithm method in Department of Informatics at Universitas Muhammadiyah Kalimantan Timur.

1.3 Research Objectives

The main objective of this research is to analyze students satisfaction in Department of Informatics. The objectives of this research can be breakdown such as follows:

1. Collecting data by distributing questionnaires to respondent with the context of student satisfaction.
2. Perform validity and reliability test to establish suitable parameters.
3. Processing data using the C4.5 algorithm method.
4. Evaluation of C.45 algorithm model.

1.4 Research Scope

- a. The focus of this research is students who conduct offline learning before pandemic COVID-19 at the Universitas Muhammadiyah Kalimantan Timur.
- b. The sample in this research was the active students of the Department of Informatics Bachelor at the Universitas Muhammadiyah Kalimantan Timur, class of 2019.