# Tracer Study Exploration of Medan State University Graduates

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**ABSTRACT**

A graduate tracing study or often known as a tracer study, is a study of graduates of a university. The results of this tracer study can be used to evaluate an educational program. Alumni are at the forefront of the study program to always encourage them to always look ahead while at the same time attracting their younger generation to participate and feel their success. Alumni are the determinants of quality in teaching and learning activities at the University, both the quality of teachers, namely lecturers and the quality of education staff. The State University of Medan as an educational institution needs to use complete data related to study tracers to evaluate available study programs. To find out the competencies possessed by alumni with their application to the world of work and to know the supervisor's assessment for graduates who are already working, the study program needs to conduct a tracer study. The purpose of conducting a tracer study is to obtain information about the distribution of graduates, graduate activities, positions and roles carried out by graduates as well as stakeholder opinions. The research method used in this graduate search is a quantitative method through the distribution of questionnaires. Questionnaires were distributed to graduates throughout 2019 at Medan State University with data analysis using SPSS. The results of the study explain that the competencies possessed by graduates are in accordance with the needs of the world of work along with the position and participation of graduates in the world of work. The results of the study also found that the waiting period for graduates to work was only six months and graduate users were satisfied with the work results of their graduates.

*Keywords: Study Tracer, Graduates, World of Work*

## 1. INTRODUCTION

Graduates are expected to have superior competencies so that they will later become competent employees or employees. Pride is also a test for the quality of the study program when they are in the world of work. Alumni is a database to get feedback for the development of study programs through curriculum development, learning to input on the existing education system [2]. The importance of alumni contributions raises the desire to trace alumni's whereabouts, while at the same time keeping the ties of kinship and kinship unbroken when they graduate. Study tracers are a means to track the whereabouts of graduates (alumni) and measure the success of the institution in producing graduates who can meet the demands of high service quality [4]. This is very relevant, because the success of UNIMED alumni in social life greatly affects UNIMED's reputation in the eyes of the community. However, data related to the study tracer at UNIMED still does not have optimal data in managing alumni data. The alumni data becomes very important as an indicator of assessment in knowing and determining whether the competence of graduates is in accordance with the demands of the world of work so that a study is needed on tracing student graduates at UNIMED. The study of tracing graduates is called tracer study. The tracer study activity aims to find out the results of the higher education process in the transition from the world of higher education to the world of work. The results of the higher education process are in the form of self-assessment of the mastery of the competencies of the graduates, the contribution to the mastery of these competencies, as well as extracting further information to the graduates as input for future improvements [5]. Alumni tracer studies are becoming increasingly recognized for their important role both theoretically and for practical

applications. Tracer studies can provide valuable input for the relevance of higher education in the

community, both in terms of academic management and the contribution of higher education to the development of the nation as a whole. This research was conducted to determine the characteristics of graduates, the relevance of the study program to the field of work, the waiting period for graduates, and the level of satisfaction of graduate users.

## 2. STUDY OF LITERATURE

### DEVELOPMENT OF STUDY PROGRAM BASED ON ALUMNI STUDY TRACER

The Study Program as the lowest education sub-system continues to innovate to carry out its duties as a beacon for learning. Education and learning which is the responsibility of the study program is obliged to continuously improve its quality. In addition to the increasingly fierce competition between study programs, preparing students to be ready to work, having high morals, behaviour as well as intelligence should continue to be improved. The success of the study program is not actually on how education is carried out because what is actually the key to success is to lead its graduates to tread towards improvement, towards a better life. The success or failure of students when they graduate is when students are able to work, create jobs that are useful for their lives in the future. The success of alumni reflects the quality of the study program both in education, learning, and in other non-academic aspects [3]. Therefore, in the development of study programs, inevitably and must involve graduates. Graduates are no longer seen as students but have evolved to become partners in building networks and contributing to the development of study programs. Problems that often arise, sometimes there is a gap between what is obtained in education (college) and the reality that appears in the field. Sometimes educational background is not related at all to work. Therefore, study programs are required to be able to continue to innovate not only in terms of an increasingly refined curriculum, but also to continue to enrich students with other skills outside of academics that will greatly assist students when looking for work [3]. Academically, it is regulated to always improve the curriculum every 5 (five) years at least as a means of evaluation as well as responding to what is in the field. So far, sometimes it seems that there is no scientific relevance between academics and employment. In higher education,

ideally, there is a need for harmony between the preparation of the workforce produced by universities and the needs of the workforce, there needs to be a "link and match" policy between higher education and employment. In the world of education there must be a system that connects with the reality that will be faced by students. This is where the role of policy makers at the tertiary level and curriculum makers at the study program level is to always listen and see the reality on the ground. For this reason, apart from scientific research and discussion, an active role from alumni is needed to develop study programs through providing input or criticism that is needed to update the existing curriculum. The development of information-based education from alumni is absolutely necessary, so it is necessary to always establish relationships, build networks with alumni so that apart from giving them advice and input, they also pave the way for their younger generation in the future. Tracer Study or often referred to as a tracer study is one of the steps to try to empower alumni in order to process information in the field owned by alumni for the development of study programs. Tracer Study can measure and track the performance of graduates so that clear indicators can be obtained about the number, future job profile and required training. Tracer studies are also needed to build, maintain and manage graduates through infrastructure building to determine the characteristics of graduates, the relevance of the study program to the field of work, the waiting period for graduates, and the level of satisfaction of graduate users.

## 3. RESEARCH METHODOLOGY

This study uses quantitative research methods. The quantitative research tradition emphasizes data in the form of numbers, is carried out in deductive logic between theory and reality and creates an objective picture of social reality. The explanation above has implications for several important aspects of the research, namely hypothesis testing and the use of instruments (in this case a questionnaire) with a certain measurement system to obtain numerical data about social reality. Considering that this research is a tracer study, this research is not intended to test certain theories or hypotheses, but rather to attempt to display the profile and characteristics of student graduates throughout 2019

at the latest Medan State University as well as to obtain graduate feedback about their experience taking the study so far, the level of user satisfaction, as well as getting input for the development of the study program. This research study was conducted on students who graduated throughout 2019 Medan State University. This study uses a sampling technique that is purposive sampling. Purposive sampling is a technique for determining research samples with certain considerations/criteria that aim to make the data obtained more representative. The data analysis stage is the stage that determines whether our research is successful or not. Data analysis is the process of organizing and sorting data into patterns, categories and basic units of description so that themes can be found and working hypotheses can be formulated as suggested by the data. This study tracer research will use more data to be analyzed descriptively. Descriptive data analysis has two objectives, namely (1) to summarize and describe the data; and (2) interpreting inferences from the sample to the entire population. At this stage of analysis, descriptive statistical analysis was chosen in order to obtain data on frequency, mean and mode. This statistical technique is also used to obtain a descriptive configuration of the demographic and academic characteristics of alumni and users who participated in this study. The data in this study will be processed using SPSS tools/programs.

## 4. RESULTS AND DISCUSSION

The number of graduates throughout 2020 is 2500 people from various majors and study programs at the D3/S1 level. Of these, 1389 respondents have filled out the link. The questionnaire is http://bit.ly/traceralumniunimed2021 and has been analyzed and interpreted as follows:

**Graduate Status**

In the first part respondents were asked to fill in the respondent's status, including:

a) Working (full time / part time)

b) Entrepreneur

c) Continuing Education

d) Work and entrepreneurship

e) Not both

This question aims to measure the graduate employment rate, which is to measure the proportion of graduates who are working by expelling those who are continuing their studies or are not yet able to work (including marriage/military service/care for a family).

The formula used is:

$$\text{Employment rate} = \frac{\text{number of full-time and part-time jobs}}{\text{Number of full time and part time + not working/looking for work}}$$

$$= \frac{992}{1340}$$

$$= 0{,}74/74\%$$

This figure illustrates that the level of graduates who work/enterprise is 74% of the response rate of 1340 people. This also means that there are about 26% of respondents who have not worked or decided not to work for several reasons such as getting married and continuing their master's degree.
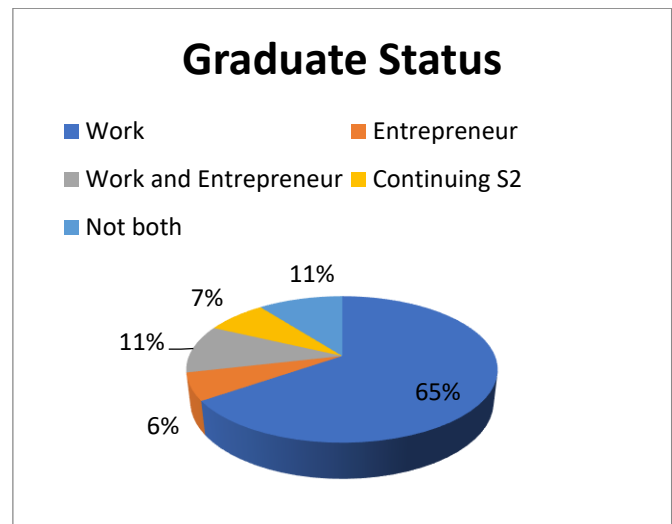


**Figure 1**. Graduate

**Long Waiting Period**

The next question is about the length of the waiting period to get the first job. Data was obtained from 1340 respondents that 1239 respondents or 92% got their first job within six months from the date of graduation, the rest got a job for more than 6 months. The number of 1239 who worked under 6 months is not always in line with the discussion of point 4.1 because it could be that after 6 months there are respondents who stop working or continue their education.
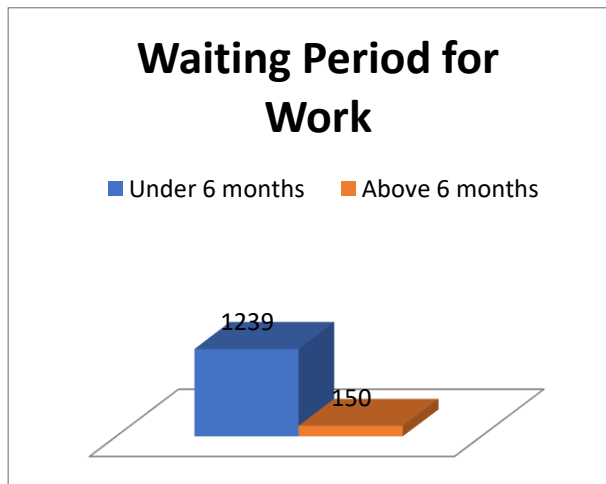
## Waiting Period for Work



**Figure 2.** Long Waiting Period

This section also measures the income of respondents who work and the percentage of respondents who earn 1.2 times the UMR.
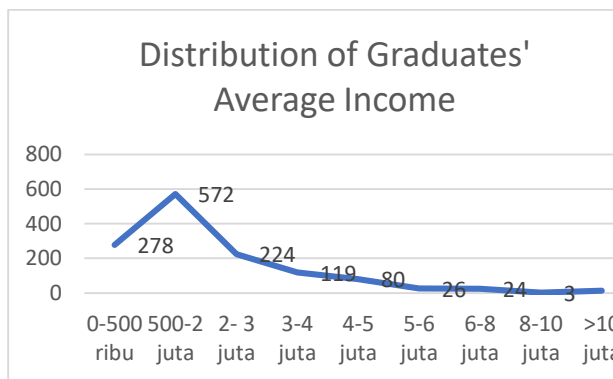


**Figure 3.** Mean of Salary

From the data above, it can be interpreted that the highest salary is around Rp. 34,000,000,- and the lowest salary is at Rp. 400,000, and the average salary is Rp. 2,300,000.-. Then if you look at the salaries that exceed 1.2 X UMR (UMR SUMUT IDR 2,800,000) there are as many as 253 people or 21% of the total respondents who earn.

**Sources of Tuition Financing**

In Indonesia, the cost of education is included in the category of not cheap. The increase in the cost of education from year to year influences students to choose the method of financing lectures. From the search results of Unimed alumni, it was found that generally the funding came from parents. Based on Figure 4.4, as many as 77% receive tuition fees from parents/family. Meanwhile, 19% of alumni received BIDIKMISI scholarships from the government and the rest came from corporate scholarships that

collaborated with UNIMED. From the results of the analysis, it is hoped that Unimed students will be able to take advantage of the role of scholarships as an alternative source of tuition financing and Unimed as an institution can provide more adequate scholarships for students such as scholarships from the Regional Government,
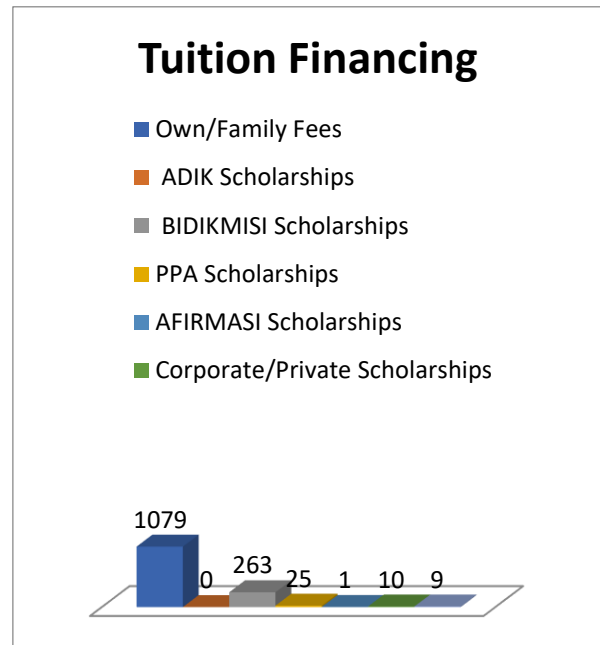
## Tuition Financing



**Figure 4.** Scohalrships

**Relationship Study with Workers**

Each study program at the State University of Medan compiles a graduate profile based on the relevance of the field of science to the conditions of employment and society. The closer the alumni work to the field of science, the more appropriate the market needs with the study program. From the results of the alumni search, it was found that as many as 592 (44%) people thought that their current job was very close to their scientific field, then 16% said it was close and 22% was quite close. The remaining 6% stated that it was not closely related and 12% stated that there was no relationship between studies and work.

Looking at the distribution of the data, it is necessary to reassess the curriculum against market needs because of a shift in specific types of work and must be adapted to specific courses or even specific new study programs. But on the other hand, it is not absolute that the close relationship between study and work can be influenced by the difficulty of finding work in the current Covid-19 pandemic conditions.
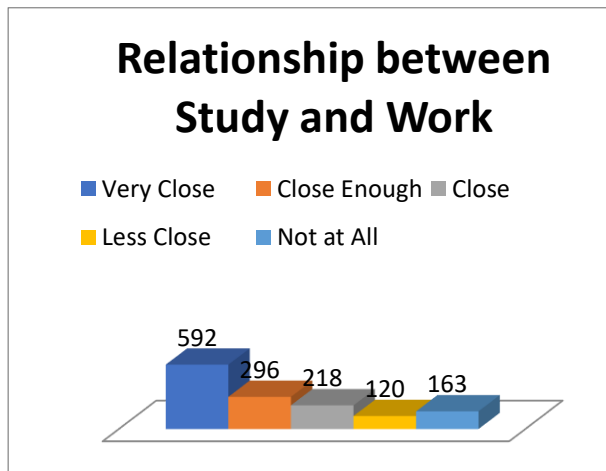
**Figure 5.** Studies - Jobs

**Level of Education Required in the Job**

One form of competition in the world of work is the competition of job seekers who come from various fields of knowledge and education levels. When viewed from the search results, the majority of respondents (74%) work according to the required level of education, while there are 5% who work for qualifications at a lower level and 2% work for qualifications below undergraduate. What is interesting is that there are around 19% of respondents who work for higher level Education qualifications, this illustrates that the quality of alumni can compete in the market.
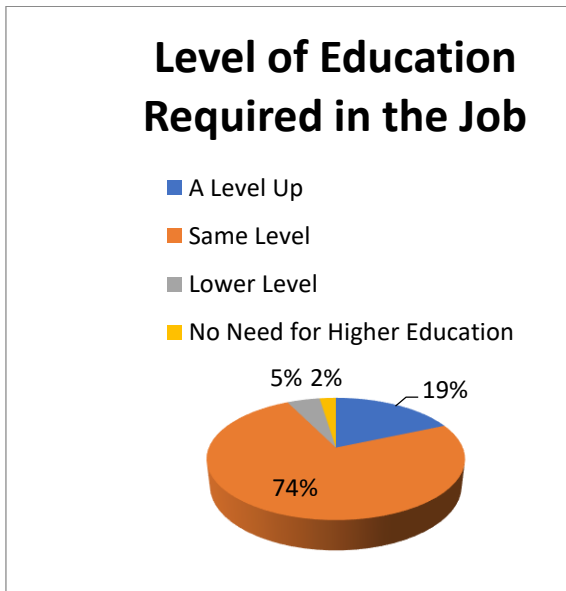


Figure 6. Level of Education Required in the Job

**Learning Model in Study Program**

The learning aspect is one of the most important feedbacks for evaluation at Medan State University. Through tracer study research, there are several aspects that are assessed, including lectures, demonstrations, participation in research projects, internships, practicum, field work, and discussions with the question of how much emphasis is placed on the learning model in the study program. Table 4.1 provides information on the assessment of learning aspects by Unimed alumni in 2020. In general, the assessments given by Unimed alumni on learning aspects are quite large. Points that received more than adequate ratings were fieldwork and discussion. The application of the six assignments in the course also encourages the lecture model to run optimally. If it is seen that what can still be improved is the demonstration model, there are still 15% of respondents who say less and 6% say not at all.

**Table 1.** Learning Model in Study Program

| | Very Large | Large | Appreciable | Deficient | Not At All | Average |
|---|---|---|---|---|---|---|
| Lectures | 37% | 40% | 20% | 3% | 0% | 4,11 |
| Demonstration | 19% | 37% | 23% | 15% | 6% | 3,48 |
| Participation in research projects | 26% | 38% | 25% | 10% | 1% | 3,78 |
| Apprenticeship | 32% | 35% | 19% | 10% | 4% | 3,81 |
| Practice | 34% | 30% | 26% | 8% | 2% | 3,86 |
| Field work | 40% | 34% | 17% | 7% | 2% | 4,03 |
| Discussion | 40% | 34% | 22% | 4% | 0% | 4,1 |

**Mastery of Graduate Competencies**

In addition to hard skills, Medan State University alumni are also assessed on their soft skills. In this survey, respondents were asked to provide feedback regarding the mastery of their competencies.
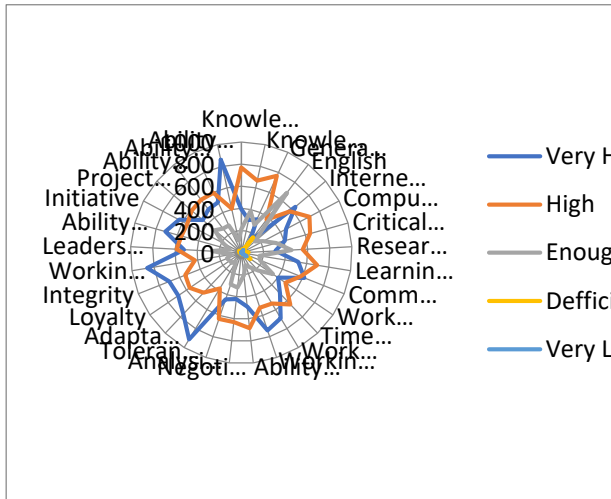
**Figure 7.** Graduate Competencies

**Table 2.** Value of Graduate Competencies

| | Very High % | High % | Eno ugh % | Defi cient % | Very Low % | Aver age |
|---|---|---|---|---|---|---|
| Knowledge in your field or discipline | 28% | 56% | 15% | 1% | 0% | 4,11 |
| Knowledge outside of your field or discipline | 22% | 48% | 28% | 2% | 0% | 3,9 |
| General knowledge | 24% | 55% | 20% | 1% | 0% | 4,02 |
| English | 9% | 27% | 49% | 13% | 2% | 3,28 |
| Internet skills | 46% | 41% | 11% | 1% | 0% | 4,29 |
| Computer skills | 33% | 50% | 16% | 1% | 0% | 4,15 |
| Critical thinking | 29% | 47% | 24% | 1% | 0% | 4,07 |
| Research skills | 22% | 40% | 33% | 5% | 0% | 3,79 |
| Learning ability | 37% | 50% | 12% | 1% | 0% | 4,23 |
| Communication skills | 44% | 42% | 13% | 1% | 0% | 4,29 |
| Work under pressure | 29% | 35% | 25% | 7% | 4% | 3,78 |
| Time management | 37% | 46% | 16% | 1% | 0% | 4,19 |
| Work independently | 50% | 39% | 11% | 0% | 0% | 4,39 |
| Working in a team/collaborati ng with others | 53% | 38% | 8% | 1% | 0% | 4,43 |
| Ability to solve problems | 35% | 49% | 15% | 1% | 0% | 4,18 |
| Negotiation | 30% | 45% | 23% | 1% | 1% | 4,02 |
| Analysis ability | 32% | 46% | 22% | 1% | 1% | 4,13 |
| Tolerance | 66% | 27% | 7% | 0% | 0% | 4,59 |
| Adaptability | 55% | 36% | 9% | 0% | 0% | 4,46 |
| Loyalty | 50% | 41% | 9% | 0% | 0% | 4,41 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Integrity | 50% | 39% | 10% | 0% | 0% | 4,36 |
| Working with people from different cultures and backgrounds | 62% | 31% | 7% | 0% | 0% | 4,55 |
| Leadership | 37% | 42% | 19% | 1% | 0% | 4,12 |
| Ability to take responsibility | 51% | 41% | 8% | 0% | 0% | 4,43 |
| Initiative | 46% | 40% | 14% | 0% | 0% | 4,32 |
| Project/program management | 33% | 42% | 23% | 2% | 0% | 4,06 |
| Ability to present ideas/products/re ports | 35% | 43% | 20% | 1% | 0% | 4,09 |
| Ability to write reports, memos and documents | 36% | 43% | 20% | 1% | 0% | 4,14 |
| Ability to continue learning throughout life | 62% | 30% | 8% | 0% | 0% | 4,54 |

From the table of alumni competency scores, an analysis is obtained that the competency with the largest average mastered by alumni is Tolerance (4.59) while the smallest achievement is English competence (3.28). Interestingly, aspects that fall into the high category ($> 4.25$) such as the ability to continue learning (4.54), working with people of different cultures (4.55), adaptability (4.46), tolerance (4.59), working in teams (4.43) are competencies that are formed. from learning outside the classroom such as internships, KKN and PPL. On the other hand, there are several indicators that indicate that the competence of graduates is considered not optimal, such as English language skills (3.28), working under pressure (3.78), research abilities (3.79), knowledge outside the field or disciplines (3.9). Especially for English language skills, the English Literature and English Education study programs are of good value ($>4$), meaning the largest contribution from the study programs outside the two study programs.

## 5. CONCLUSION

The conclusions of the study are as follows. First, the characteristics of graduates have been in accordance with the needs of the business world with these figures depicting that the level of graduates who work/entrepreneur is 74% of the response rate of 1340 people. This also means that there are about 26% of respondents who have not worked or decided not to work for several reasons such as getting married and continuing their master's degree.

Second, the relevance or linkage between the fields of science and alumni work is at a close level where there are 44% of the opinion very closely, 16% of the opinion closely, 22% of the opinion that it is quite close, 6% not close and 12% stating that there is no study linkage. Third, the waiting period for graduates, as many as 92% of respondents get their first job under 6 months and the rest are more than 6 months. Fourth, the level of stakeholder satisfaction with Medan State University alumni on average, for alumni ethics assessment of (3.7), expertise in the field of science/main competence (3.5), foreign language skills (3.2), use of information technology (3.3), communication skills (3.5), Cooperation (3.7), self-development (3.4).

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