

Tracer Study of Alumni on the Outcome's Study Programs in the Civil Engineering Department Universitas Negeri Surabaya

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ABSTRACT

An alumni survey or better known as a tracer study conducts to tracks the alumni activities. For universities, the benefits of tracer studies include getting information, input, and motivation to advance their achievement further, so they can escalate prospective graduates to adapt to society's needs and demands in the coming. The Department of Civil Engineering, Universitas Negeri Surabaya, has two undergraduate study programs, namely Building Construction Education and Civil Engineering. The aimed profiles of graduates produced by the Building Construction Education undergraduate study program are vocational school teachers. At the same time, planners, planning consultants, supervisory consultants, and contractors in structures, transportation, water resources, and project management are the profiles of graduates targeted by the Civil Engineering undergraduate study program. This tracer study research is direct to know whether the outcomes of each undergraduate study program in the Civil Engineering Department Universitas Negeri Surabaya is already relevant. Firstly, 82% of all the Building Engineering Education's alumni are educators or teachers in vocational high schools and professionals in construction. The following conclusion, in the Civil Engineering undergraduate study program, nearly 92% of the Alumni's jobs are compatible with the aimed profiles of graduates. It concludes there are just 8% to 18% of the Civil Engineering Department, not relevant to the outcomes of each study program.

Keywords: *Tracer study, Civil engineering, Outcome's study programs.*

1. INTRODUCTION

In the current era of globalization, the use of information technology in universities is crucial. Every year the college will produce graduates or alumni. The career of alumni will be a benchmark for the success of a university. Alumni activities from a university can be tracked by conducting an alumni survey or better known as a tracer study [1]. The purpose of the tracer study is to obtain comprehensive information about graduates, starting from the transition period when leaving university to getting a job and including the graduates' performance in carrying out their work [2]. One of the factors supporting the quality of education in a university can be seen through its graduates. Graduates are products of an educational institution that interacts directly with the community in the world of work [3]. The benefits of tracer studies for universities include getting information,

input, and motivation to develop their performance further, so they can maximize future graduates to adapt to society's needs and demands in the future. Therefore, information from graduates supports the progress of education in higher education [4,5].

One way to find out the improvement in the quality of graduates is to approach graduates or alumni so that evaluations can be carried out [6]. Universities have an essential role in preparing graduates to become qualified experts, so feedback is very needed from learning activities carried out by alumni, the community, and stakeholders [7].

Almost all universities have tried to trace alumni information, but the results obtained have not been satisfactory. The tracer study process is provided with paper questionnaires or telephone interviews, but this method is inefficient and does not achieve the desired

target. Another improvement effort currently used is utilizing technology such as distributing questionnaires via email, mailing lists, and others [8]. According to Renny [9], several universities have developed E-tracer studies, but the results are still unsatisfactory.

The Department of Civil Engineering, Universitas Negeri Surabaya, has two undergraduate study programs, namely Building Construction Education and Civil Engineering. Both of these study programs have produced many qualified graduates both in the field of Building Construction Education and construction experts. The profiles of graduates produced by the Building Construction Education undergraduate study program are vocational school teachers. The profiles of graduates from the Civil Engineering undergraduate study program are planners, planning consultants, supervisory consultants, and contractors in structures, transportation, water resources, and project management. In addition, some graduates pursue career paths as lecturers and State Civil Apparatus of Public Works and Public Housing. Based on the results of tracer studies that have been carried out, there are several obstacles when tracing alumni information. Some of the challenges faced include alumni data that is difficult to trace (email/phone number/address change), alumni awareness to fill out and contribute to tracers, tracer team communication with faculties and study programs, and tracer team communication with student surveyors.

These obstacles have a less than optimal impact on alumni tracking, so strategic efforts need to be made to attract alumni's interest in filling out tracer studies. The purpose of this study is to improve the absorption, competitiveness, and job suitability of alumni of the Civil Engineering Department to improve the quality of education in the Civil Engineering Department, Faculty of Engineering, Universitas Negeri Surabaya. At the same time, the specific objectives expected from this research are to obtain information about the method of finding a job, the waiting period, the type of workplace, the position obtained in an agency/company/consultant/contractor/school, the first monthly salary received in the workplace, the relevance of scientific disciplines with the work undertaken, and knowing the suitability of alumni competencies with the needs in the field.

2. METHOD

This study uses a descriptive method with a quantitative approach [10]. It was conducted from the early year 2021 to track the Civil Engineering Department alumni, Universitas Negeri Surabaya. It is a part curriculum evaluation of whether the alumni worked appropriately with the graduate's profile designed by the study programs.

2.1. Respondents

This tracer study aimed to obtain the 2019 and 2020 alumni's data. Total 187 alumni comprise 70 from the Building Engineering Education undergraduate study program and 117 from the Civil Engineering undergraduate study program. The technique used in determining the sample of this study is non-probability sampling, namely saturated sampling. Saturated sampling is a sampling technique when all members of the population are used as samples.

2.2. Data Collection Techniques

The tracer study research is carried out through the tracer study website at the address <http://tracerstudy.unesa.ac.id/>. To achieve the target of collecting tracer study data, the surveyor team also utilize Alumni's WhatsApp Group.

Firstly, alumni will be questioned are they already working or continuing their studies in the graduate programs. If they do not get the job yet, then what factor can be the cause. The following survey focussed on the alumni who are already working. The survey's instrument was standardized to collect data such as where they are working, what positions they in the workplace, and how lectures are applicable in work. After the data is collected, analyze whether each study program's outcome in the Civil Engineering Department is still proper or needs to advance.

3. RESULTS AND DISCUSSION

Building upon a tracer study conducted in two study programs in the Department of Civil Engineering, several analysis results gather on the types of work for alumni who graduated in 2019 and 2020 with the outcomes aimed by the study program. The percentage of alumni's work reception status in each study program can describe in Figures 1 and 2.

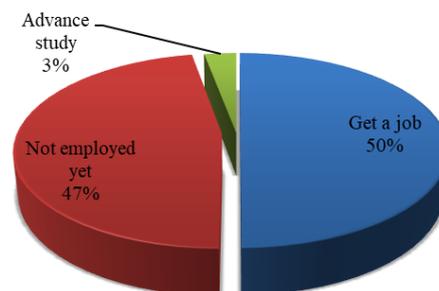


Figure 1 The alumni's work reception status in building engineering education undergraduate study program.

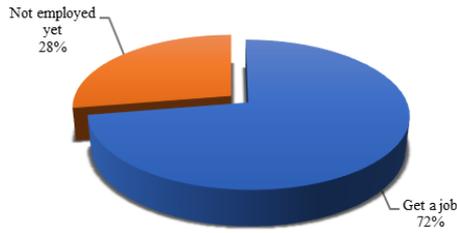


Figure 2 The alumni's work reception status in civil engineering undergraduate study program.

The high percentage of alumni not yet working is due to several things, including the Covid-19 pandemic. The top five reasons for the alumni of the Civil Engineering Department who have not worked yet, among others: (1) have applied for a job but have not been accepted, (2) are still looking for a suitable job, (3) the extreme competition among job seekers, (4) the impact of the COVID-19 pandemic which has resulted in a reduction in the workforce, and (5) relationship factors at the workplace.

Further analysis carries through on alumni who are already working. In advance, the need to classify the type of workplace to find out the types of stakeholders towards alumni. Several workplaces include the government, NGO (Non-Government Organization), private companies, entrepreneurs, state-owned enterprises of Indonesia, multilateral institutions, and manufacturing companies. Figures 3 and 4 show that the classification of alumni's workplaces in each study program in the Civil Engineering Department has been figured out.

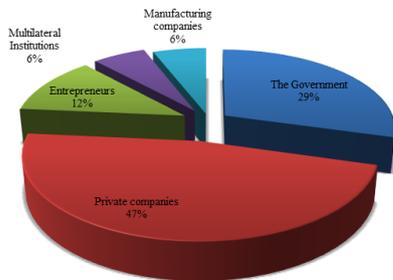


Figure 3 The classification of alumni's workplaces in building engineering education undergraduate study program.

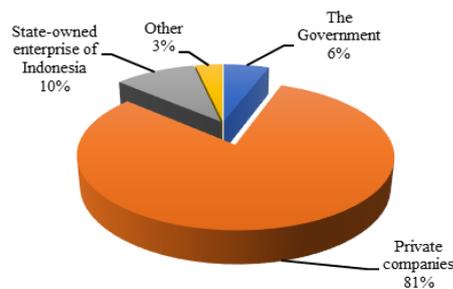


Figure 4 The classification of alumni's workplaces in civil engineering undergraduate study program.

Positions obtained in an agency/company where they work vary, including teachers, traders, site engineers, drafters, surveyors, field supervisors, project marketing, administration, construction consultant, contractor, and so forth. The percentage of alumni's job positions represent in Figures 5 and 6.

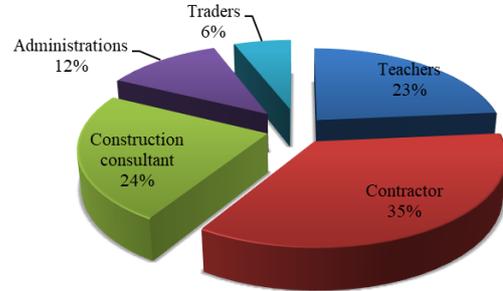


Figure 5 The percentage of alumni's job positions in building engineering education undergraduate study program.

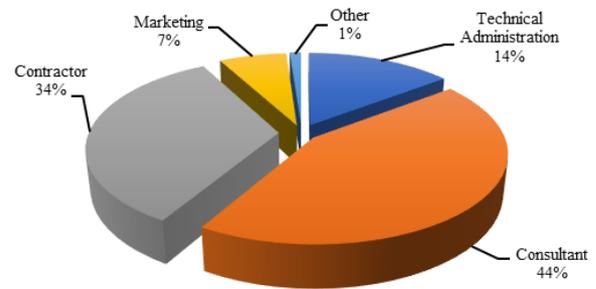


Figure 6 The percentage of alumni's job positions in civil engineering undergraduate study program.

Figure 5 reports that 35% of alumni work in contractors, namely as practitioners, drafters, engineers, and et cetera. The following, 24%, worked with construction consultants as supervisors and planners. Then, 23% became teachers in vocational high school and the rest, who worked as an administration and a trader with 12% and 6%. The high percentage of those who work in the construction sector, namely contractors and consultants and those who work as teachers in vocational high schools, shows that the profile of graduates is following the study program's outcomes. The Building Engineering Education Undergraduate Study Program's outcomes are educators or teachers in vocational high schools and professionals in construction with a total percentage of 82%. However, there are 18% of alumni's jobs not under the profile of the study program.

According to Fig 6, it describes that 44% of alumni work in construction consultants as supervisors and planners. The following, 34% of alumni work in contractors, namely as practitioners, drafters, engineers, and et cetera. Then, 14% became a technical administration and the last who worked as a marketer and

another profession with 17% and 1%. The Civil Engineering Undergraduate Study Program's outcomes are professionals in construction who are contractors and consultants in structures, transportation, water resources, and project management with a total percentage of nearly 92%. Despite this, there are 8% of alumni's jobs not under the profile of the study program

Furthermore, the relevance analysis of the knowledge gained during lectures with the current work on alumni who work in fields following the profile of graduates of each study program was intended. A Likert scale questionnaire predicts this analysis with a range of 1 to 5, namely: strongly agree, agree, enough, disagree, and strongly disagree. The results show in Figures 7 and 8. Both Figures 7 and 8 describe that those alumni work in fields in which the profile of graduates of each study program was intended, not completely agree that the knowledge from lectures is still relevant at work. It shows that the study programs curriculum must continually be updated by who is responsible for adjusting advancing in the field.

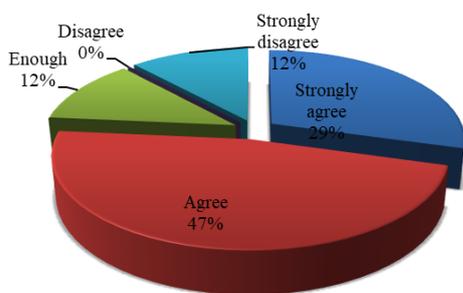


Figure 7 The level of relevance of the knowledge with the current work of alumni in building engineering education undergraduate study program.

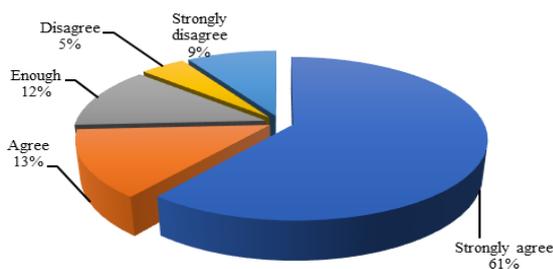


Figure 8 The level of relevance of the knowledge with the current work of alumni in civil engineering undergraduate study program.

4. CONCLUSION

The anticipated profiles of graduates produced by the Building Construction Education undergraduate study program are teachers in vocational high school. While, workers in construction fields which structures, transportation, water resources, and project management are the profiles of graduates targeted by the Civil

Engineering undergraduate study program. From the tracer study survey in 2019 dan 2020 alumni, it is discovered that just 8% to 18% of the Civil Engineering Department Universitas Negeri Surabaya is not relevant to each study program's outcomes. The total percentage 82% of the Building Engineering Education's alumni are educators or teachers in vocational high schools and professionals in the construction. Meanwhile, in the Civil Engineering undergraduate study program, nearly 92% of the Alumni's jobs are accordant with the anticipated profiles of graduates.

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