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THE RELATIONSHIP BETWEEN EXPERTISE COMPETENCE AND THE FIELD OF WORK OF ALUMNI OF THE CIVIL ENGINEERING STUDY PROGRAMME AT UNIVERSITAS NEGERI SURABAYA

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Abstract

Tracing the relationship of expertise competence to the field of work of Civil Engineering S1 alumni of Universitas Negeri Surabaya (UNESA) with the Tracer Study method in the form of filling out questionnaires by graduates aims to obtain information about the types of stakeholders as users of graduates; information related to the suitability between disciplines and the field of work chosen by graduates; and to determine the competence of graduates against the needs of industry or the world of work based on data analysed by quantitative descriptive methods. The results of the analysis show that 82% of graduates work in the construction field and 18% in the non-construction field, which percentage interprets that the discipline of civil engineering competence at UNESA is relevant to the field of work being undertaken by graduates and the competence of graduates who have been indicated in accordance with the needs of industry and the world of work based on the percentage of alumni data who have worked greater than alumni who have not worked, namely 73% of alumni have worked in 2022 graduates, 64% have worked in 2023 graduates, and in 2024 graduates, 87% of alumni have worked.

Keywords: Tracer Study, Alumni, UNESA Civil Engineering

Introduction

Expertise competence is an individual's ability to perform work and responsibilities that are relevant to the knowledge mastered, which is also a crucial factor in determining individual success in the world of work in the era of globalisation with intense job competition (Vernia & Sandiar, 2020, pp. 91-99; Megasari et al., 2024, p. 88). Broadly speaking, competence is defined as the basic ability that individuals need to have in a particular field of work (Ragil et al., 2024, p. 1138). In the era of globalisation an individual requires the development of expertise competencies to meet the needs of industry and the field of work that can be done through academic or educational development where the suitability or success of a person's field of work indicates the education and expertise possessed. Academic development in order to increase expertise is also determined by the quality of education, especially the quality and excellence of education in higher education in carrying out management such as reviewing and improving the curriculum and improving facilities and infrastructure to produce graduates who are able to compete in the world of work as the output of the education process that needs to be traced to obtain specific information (Sari et al., 2015, p. 80).

In higher education, every year a product is produced in the form of graduates who will show comprehensive information on the quality of higher education in terms of the transition from graduation to getting a job which will be traced through an alumni survey or called a Tracer Study (Adistana et al., 2021, p. 705). Measurement of the quality of college output can focus on indicators of competency achievement, problem solving, user response, career acceleration, and other things related to the suitability of alumni quality and college goals (Herlitah, 2018, p. 117). Universitas Negeri Surabaya (UNESA) as a higher education institution that produces graduates in accordance with the competencies of existing study programmes, its existence, progress, and sustainability are largely determined by the absorption of its alumni by industry and the world of work. Alumni tracking activities are a medium to evaluate the achievements of higher education and the needs that must be met. This means that this activity is also included in workforce alignment efforts that aim to support the improvement of learning and training, the transition of graduates from higher education to the world of work, and the integration of hard skills and soft skills through feedback provided by alumni (Fitriani et al., 2023, pp. 141-142; Bahri & Sada, 2019, p. 15). Alumni tracking data has an important role in capturing various isnformation for evaluation and development of higher education, especially in study programmes and illustrates the existence of higher education. The data is useful as a basis for curriculum improvement, improving the quality of learning, and adjusting and improving the learning system, as complementary data for indicators in accreditation activities, and supporting efforts to maintain a good relationship between alumni and universities (Moktis et al., 2020, p. 8).

The relationship analysis in this study focused on the competence of civil engineering expertise with the demands of competencies that must be mastered in accordance with the explanation (Miswar et al., 2017, p.105), namely knowledge elements in the form of basic knowledge of civil engineering, concrete structures, steel structures, wood structures, soil mechanics, water, management, occupational safety and health, and planning; skill elements, namely self-management skills, language skills, analytical skills, and technical skills; and attitude elements, including communication, connection maintenance, flexibility, and creativity. For this reason, the UNESA Civil Engineering Department equips students with knowledge that is in accordance with the field of work in the civil engineering world ranging from planning, implementation, to supervision considering that the success of construction projects which are the focus of civil engineering competence plays an important role in Indonesia's crucial development so that construction workers are needed who have competence and skilled expertise and also a sense of responsibility (Hastomo & Pontan, 2022, p. 312). Based on the field of science, it is known that the profile of Civil Engineering graduates penetrates into the fields of planners, planning consultants, supervisory consultants, and structural contractors,

transportation, water resources, and project management, lecturers and State Civil Apparatus of Public Works and Public Housing (Adistana et al., 2021, p. 706)

The ability of alumni to implement and contribute knowledge according to the field studied can be seen from the waiting period in getting a job which is also a parameter of the success of higher education for the output produced (Purnama et al., 2021, p. 47; Sunarso & Harits, 2020, p. 137). This success indicates the suitability of the college curriculum with the world of work in the form of feedback from alumni and company or industry assessments of alumni performance which plays a role in improving the quality of higher education (Wasito & Birowo, 2022, pp.1-2), because basically the goal of higher education is to be able to deliver graduates to a career in accordance with the scientific field they are pursuing. However, the reality on the ground shows an inverse fact, namely the large number of university outputs who work in fields that are not relevant to their education (Siagian & Trihantoyo, 2021, pp. 99-100). Based on the profile of graduates of the Civil Engineering Study Program at Surabaya State University, the relevance of expertise competencies and the field of work chosen by graduates can be identified, namely how the type of workplace of graduates is; how is the relevance between disciplines and the field of work chosen by graduates; and how is the competence of graduates to the needs of industry or the world of work?

Through the Tracer Study, the specific objectives in this study are to obtain information about the type of workplace or stakeholders as users of graduates; information related to the suitability between disciplines and the field of work chosen by graduates; and to determine the competence of graduates against the needs of industry or the world of work. In addition to the main objectives, the information obtained in this study is also useful as evaluation material for UNESA, especially in the Civil Engineering department. To achieve the objectives in this study, several obstacles were identified that would become obstacles in the implementation of tracing the suitability of alumni's work fields to competencies, namely the difficulty of tracing alumni contacts that can be contacted; alumni awareness to fill and contribute to the tracer; communication of the tracer team with faculty and study programs; and communication of the tracer team with student surveyors. To reduce these obstacles, the Tracer Study analysis is limited to graduates of the Civil Engineering Undergraduate Study Program, Faculty of Engineering UNESA in 2022 to 2024.

Research Methods

This study uses a quantitative descriptive method conducted in the 2024 period on all alumni of the Civil Engineering S1 Study Program who graduated in 2022, 2023 and 2024 as a population and sample taken with nonprobability sampling techniques. The technique of collecting graduate tracing data was carried out through the Tracer Study website system with the address http://tracerstudy.UNESA.ac.id/ which was distributed through the alumni communication group with instruments prepared in accordance with the UNESA Tracer Study guidelines in 2023, namely instruments for tracing graduates and graduate users. Then, the activity of analyzing the data that has been collected implements the principle of quantitative analysis which is presented in the form of tables and graphs. The collected data is then analyzed quantitatively by presenting it in the form of tables and graphs. The tables and graphs will illustrate the distribution of variables consisting of the type of workplace, the relevance of disciplines to the work undertaken, and the suitability of alumni competencies to the needs in the field. Alumni tracking activities start from the preparation stage, data collection, data analysis to report preparation and evaluation

Research Results and Discussion

The results of alumni tracing show the number of respondents or alumni who have participated in filling out data instruments through the Tracer Study Website according to the year of tracing with the number shown in the following table:

Table 1. Number of Alumni Tracking Respondents

Year of Tracing	Number of Alumni	Tracer Study Respondents
2022	52	49
2023	33	33
2024	51	31

The data obtained shows that not all the number of alumni participated and provided feedback in the Tracer Study due to the time constraints of alumni and alumni contact updates that can be contacted. Relevant to research Fatullah & Syaechurodji (2018, p. 75) & Khohar (2024, p. 45) which states that the obstacles in the implementation of Tracer Study are data collection from alumni responses caused by the busyness of graduates, alumni contacts that change so it is difficult to get information about alumni, and alumni who think that Tracer Study is only filled by alumni who are already working. For this reason, it is necessary to mobilize surveyors and also make efforts to invite and gather alumni. In addition, in the implementation of the Tracer Study, there are still obstacles in the form of the difficulty of applying the right method to achieve the completeness of graduate data. Tracer Study problems are also mentioned in research Soedjatmiko (2018, p.3) which states that the implementation of Tracer Study in Indonesia is still hampered by problems in terms of resources and methods as well as implementation that is not routine so that the Tracer Study process is not carried out properly.

In this study, the implementation of alumni tracing to obtain alumni career information was carried out through the UNESA Tracer Study Website submitted to alumni in a communication group. The use of the website is intended to facilitate data management in a short and accurate time. In accordance with the results of research Charley & Akiani (2022, p. 735) which shows that with the use of the Tracer Study website, the data collected will not be duplicated so that the tracing team can more quickly obtain information and data management. Another significant benefit of applying the UNESA Tracer Study website is that the alumni tracing process can run optimally, efficiently, and flexibly because it can be done at any time and any place on the system in the network without requiring the presence of visible parties on campus. Relevant research Prasetyo et al. (2023, p. 45) which shows the results that the use of the website as a medium for tracking alumni careers is able to provide efficiency in obtaining data, flexibility for alumni and tracing teams who can access the website easily without the need to be present on campus, and the web base obtains optimal graduate career information.

Based on Table 1 which presents the number of Tracer Study respondents, it can be seen the percentage of the number of alumni who have worked and the number of alumni who have not worked from Tracer Study respondents from the total number of alumni in each tracking year, namely 2022, 2023, and 2024 as outlined in the following diagram:

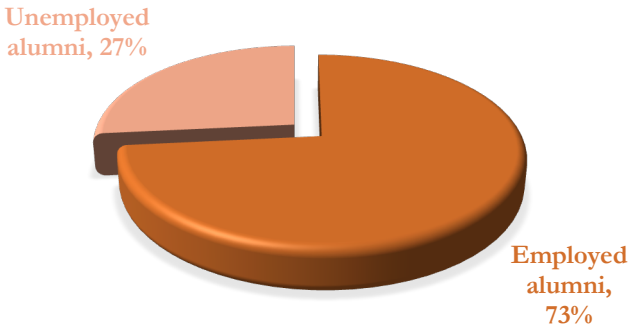

Figure 1. Diagram of the Percentage of Alumni Who Have Worked and Have Not Worked Graduates in 2022

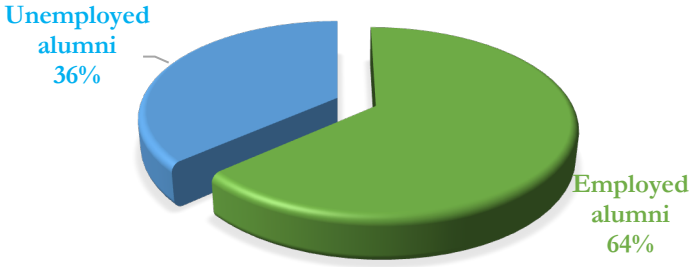

Figure 2. Diagram of the Percentage of Alumni Who Have Worked and Have Not Worked Graduates in 2023

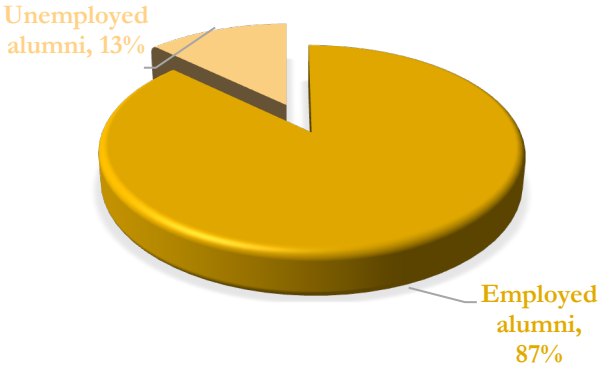

Figure 2. Diagram of the Percentage of Alumni Who Have Worked and Have Not Worked Graduates in 2024

The alumni who have not worked are found in each year of graduation with a smaller percentage which is influenced by many factors such as extreme competition or competition in finding work for fresh graduates. According to Adistana (2021, p. 705) and Rizki & Pasaribu (2021, p. 15) in his research that one of the causes of this percentage is due to the intense job competition with the large number of undergraduate graduates throughout Indonesia every year. With the large number of graduates produced by universities, it requires each graduate to have

standard values and competencies that meet company criteria, in line with Sudjana's statement in Wardani (2019, p. 35) which states that individual competence is the main requirement that must be possessed as professional support. Although the number of graduates who have worked produces a larger percentage each year, it does not rule out the fact that there is still a percentage of graduates who have not worked each year, which means that there are internal and external factors that influence this. In accordance with research Sari (2022, p. 497) and Syahputra & Tanjung (2019, p. 237) which states that there are several factors of work readiness that affect the period of time for individuals to get a job after the education period, namely internal factors originating from within the individual including physical and mental maturity, external factors originating from outside the individual including the role of the surrounding environment and infrastructure, and the gap between education and the world of work.

This is an evaluation material for the UNESA Civil Engineering study program by making curriculum adjustments based on the needs of the world of work which refers to the Indonesian National Qualifications Framework (KKNI) which is a benchmark for education levels based on learning outcomes, including: achievements of knowledge, attitudes, skills, competencies, and work experience. In accordance with the statement Panisha (2023, p. 174) and Warnandes (2022, p. 56) that the ability to compete for graduates in the world of work is supported by the relevance of the curriculum used from universities that refer to the KKNI. Especially in the current era of globalization which requires all levels of society, especially college graduates, to follow the development of software in civil works, namely the application of software for planning civil works to support the needs of the world of work in the construction sector. In accordance with research (Fathin, 2023, p. 82) which states that it is necessary to develop a civil engineering competency curriculum regarding the development of the use of software to support construction work.

The implementation of the study program curriculum evaluation is not only an effort to adjust the curriculum and industry needs, but also as a provision for alumni to face job competition, especially in the construction field that is linear with the study program by having maximum service quality or performance to strive for timely and quality results in accordance with stakeholder expectations and satisfaction with an integrated process stakeholder system to remain superior in the construction business competition. In their research, Jonathan & Abduh (2021) and Khadafy et al. (2019, p. 268) stated that in the world of construction, service providers are faced with service competition that can meet stakeholder expectations to realize construction efficiency and effectiveness so that optimal quality and performance are needed in fulfilling needs to achieve stakeholder satisfaction. Fulfilling stakeholder needs is also a form of effort in developing a more accurate curriculum in accordance with the latest developments in various fields of work. Stakeholders demonstrate their participation by contributing to aligning their views towards achieving learning objectives so that the curriculum is able to adapt to change. In research Sholeh et al. (2023, pp. 122–123) it is stated that stakeholders have the highest role in curriculum development for their involvement in providing perspectives and understanding of the needs according to the latest developments in various fields as a foundation in a holistic and impactful educational process.

In addition to evaluating the curriculum, it is also necessary to develop job information media or networking networks such as job fairs or fairs and expand university relations with companies as a form of the university's role in the career path of graduates. In accordance with Susanti & Wibawa (2021, p. 46) in their research which states that universities play a role as career supporters of graduates who inform jobs or careers needed by alumni and contribute to alumni self-development. The link and match process also plays a role in efforts to align expertise competencies and work needs by improving the quality and efficiency of education to prepare for industry needs, such as research Nida & Widodo (2023, p. 193) which states that the relevance of expertise competencies and the world of work can also be pursued through

adjustments in technology, economics, and link and match, which is a process that can guarantee an increase in the quality of education in facing global challenges.

Tracer Study data showing the employment status of alumni is categorized into 2 types of work or fields of work, namely construction and non-construction fields as supporting data for the type of workplace variable. Then, to find out the relevance between the discipline and the type of work of alumni, it is continued by analyzing the Likert scale on the suitability or closeness of the field of study to the work undertaken by alumni with a scale level of 1 = Very suitable; 2 = Suitable; 3 = Quite suitable; 4 = Not suitable; 5 = Very unsuitable. The results of the Likert scale analysis are shown in the following table:

Table 2. Results of Likert Scale Analysis of Respondents on the Suitability of Fields of Study and Work

Field of Work	**Closeness of Relationship between Field of Study and Occupation**	**Number of Alumni**
Construction Field	1	34
	2	19
	3	16
Non-Construction Field	4	3
	5	12
Total		84

Based on the data from the Likert scale results by alumni, the percentage indicates that >50% of 84 alumni work in fields that are in accordance with their competence. Tracer Study data also shows the field of alumni work in the construction field or a project, including: Project Administration, Drafter, Site Manager, Engineering Inspector, Supervision Consultant, Planning Consultant, Field Executor, Supervisor, Facilitator, K3, Quantity Surveyor , Site Engineer, Engineering Staff, Estimator, and Site Officer in PT, CV or other construction companies. The type of work data is relevant to the competence of a civil engineer at all stages of design, implementation, and supervision. Relevant to research (Rezqiana et al., 2023, pp. 210–212) which describes the competencies that civil engineering graduates must have, including modelling, technology, work communication, construction design, design, methods, work standards, structural analysis, collaboration, technical specifications, K3 and risk identification, supervision, responsibility, scheduling, problem solving, contract documents, construction cost estimation, management, and leadership.

While other data shows <20% of alumni who work in non-construction fields or do not correlate with the fields of competence explored during the lecture period, such as in the fields of admin, finance, marketing, and officers. The misalignment of the field of competence and the type of work of alumni or called the education and employment mismatch can occur due to the unbalanced number of available jobs and graduate competencies so that applicants or graduates are forced to work in jobs that are not linear with their expertise competencies to avoid unemployment and demands for greater income. In accordance with Hoturu et al. (2022, pp. 101–103) which explains the mismatch between education and employment, namely the incompatibility of jobs taken with educational backgrounds because competence does not go hand in hand with the availability of jobs. In addition to having an impact on alumni, the mismatch between education and the field of work also has an impact on companies providing employment, namely decreasing company productivity due to workers from inappropriate

competencies, which in this study are civil engineering graduates with the competence to implement basic principles of civil engineering in planning, implementation, and construction management are still required to learn competencies in administration, finance, marketing, and staffing according to their job needs which will require time.

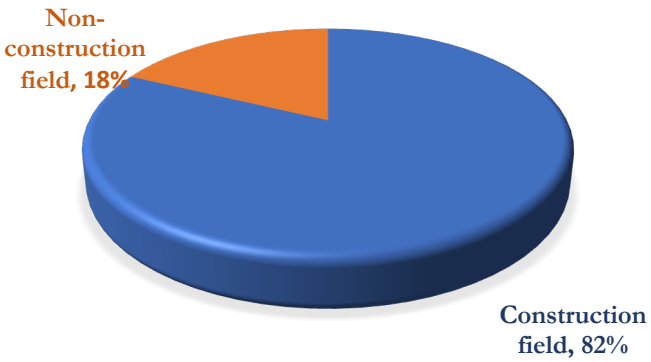

Figure 3. Percentage of Respondents' Field of Work

Graduates who have worked show a greater percentage working in the construction sector compared to non-construction jobs, which indicates that alumni jobs are more dominant in accordance with the field of expertise competence or educational background. From these data it can be interpreted that the competence of expertise to the world of civil engineering work at UNESA has been relevant which can be proven by the suitability and employment of alumni in the form of job profile data and the position or position of alumni in the world of civil engineering work. In accordance with research Agustin (2017, p. 3) and Supriati & Handayani (2018, p. 55) which states that the relevance of higher education products to expertise competencies can be seen from the suitability of the field of study or competencies studied by alumni with the type of work they are engaged in and the work placement of alumni. The competencies possessed by alumni will also affect the productivity and effectiveness of work that refers to the function of the company or place where alumni work. In line with the results of research Amalia (2023, p. 109), Jafar & Zulqadri (2020, p. 59) and Syahputra & Tanjung (2020, p. 293) which shows the positive effect of worker competence which also determines the increase in productivity and work effectiveness so that workers who are competent in their fields are needed.

Apart from being a tool for evaluating university performance, the Tracer Study data that has been obtained can also be used as a completeness of accreditation data such as the accreditation of the National Accreditation Board for Higher Education (BAN-PT) which aims to improve the quality of higher education which is focused on assessing output. Relevant to research Susilawati et al. (2019, p. 201) which states that Tracer Study data is a BAN-PT accreditation completeness so that universities can be active in the field of industry 4.0 and meet labor needs. Through the data obtained from this Tracer Study, it can also be used as a consideration for compiling the vision and mission of the study program to produce graduates who meet the needs of the world of work which is relevant to research Kherid et al. (2021, p. 162) which states that Tracer Study feedback can be used as material for compiling the vision and mission of the study program to produce higher education products with integrity, professionalism, insight, commitment, leadership spirit, ability to work with teams, communicate well, mastery of foreign languages, and willingness to continue to develop themselves.

Conclusion

Based on data from the tracing of graduates in 2022, 2023, and 2024, the UNESA Civil Engineering Study Program can be seen the type of workplace of alumni which shows a percentage value of 82% working in the construction field which occupies the position of project administration and engineering assistant experts, drafters, engineering staff, estimators, engineering inspectors, supervision consultants, planning consultants, field implementers, field supervisors, K3 officers, quantity surveyors, site engineers, site managers, site officers, and facilitators and 18% working in non-construction fields which include administration, finance, marketing, and officers. Based on the data on the type of work of alumni, the authors conclude that the relationship between the discipline of graduates of the UNESA Civil Engineering S1 Study Program and the work undertaken by alumni indicates the relevance between the competence of alumni and the needs of the world of work in the field as evidenced by the greater percentage of respondents who have worked than respondents who have not worked in each graduation year. Even so, it is still necessary to evaluate the study program so that all graduates are able to meet the criteria of the world of work and get jobs in accordance with their expertise competencies, namely by adjusting the curriculum based on the needs of the world of work which refers to the KKNI which is a benchmark for education levels based on learning outcomes.

References

Adistana, G. A. Y. P., Nusantara, D. A. D., Wulandari, M., Mulyono, W. D., Rahmadyanti, E. (2021). Tracer Study of Alumni on the Outcome's Study Programs in the Civil Engineering Department Universitas Negeri Surabaya. *International in Engineering Research*, *209*, 705–709. http://tracerstudy.unesa.ac.id/.

Agustin, I. S., Arthur, R., & Daryati. 2017. Analisis Keterserapan Lulusan Program Studi Pendidikan Teknik Bangunan Fakultas Teknik Universitas Negeri Jakarta di Lapangan Pekerjaan. *Jurnal Pendidikan Teknik Sipil, 6*(2), 1-5.

Amalia, R. A., Hidayat, M., & Daud, A. (2023). Pengaruh Analisis Beban Kerja, Deskripsi Pekerjaan Dan Kompetensi Terhadap Produktivitas Kerja Perawat Pada Puskesmas Buki Kepulauan Selayar. *Cendekia Akademika Indonesia*, *2*(1), 97–111. https://jurnal.nobel.ac.id/index.php/cai/article/view/3545

Bahri, S., & Sada, H. J. 2019. Studi Tingkat Kepuasan Stakeholders terhadap Kompetensi Lulusan Prodi Pendidikan Agama Islam Fakultas Tarbiyah dan Keguruan Uin Raden Intan Lampung di Kota Bandar Lampung. *Al-Tadzkiyyah: Jurnal Pendidikan Islam, 10*(1), 13-29

Charley, E., & Akiani, S. A. (2022). Perancangan Dan Implementasi Website Tracer Study Di Sekolah SMA Maitreyawira Menggunakan Framework Scrum. *Prosiding National Conference for Community Service Project (NaCosPro)*, *4*(1), 734–744. http://journal.uib.ac.id/index.php/nacospro

Fathin, U. S. (2023). Evaluasi dan Pengembangan Kurikulum S1 Teknik Sipil di Era Disrupsi Berbasis Stakeholders Eksternal. *Jurnal Pendidikan Teknik Bangunan*, *3*(1), 77–88. https://doi.org/10.17509/jptb.v3i1.56953

Fatullah, R., & Syaechurodji. (2018). Sistem Informasi Tracer Study Pada Fakultas Ilmu Komputer Universitas Banten Jaya. *Jurnal Sistem Informasi Dan Informatika (Simika)*, *1*(01), 66–76. https://doi.org/10.47080/simika.v1i01.39

Fitriani, W. S., Sudira, P., Indrihapsari, Y., & Rizbudiani, A. D. (2023). The transition of graduates of the Faculty of Engineering Universitas Negeri Yogyakarta (UNY) into the labor sector. *Jurnal Pendidikan Teknologi Dan Kejuruan*, *29*(2), 141–156. https://doi.org/10.21831/jptk.v29i2.54700

Hastomo, A. S., & Pontan, D. (2022). Pengaruh Sertifikasi Keahlian Terhadap Keberhasilan Proyek Konstruksi pada Manajemen Konstruksi. *Trisakti*, 312–318.

Herlitah. (2018). Study Penelusuran (Tracer Study) Terhadap Alumni Fakultas Ekonomi Universitas Negeri Jakarta. *Seminar Nasional Pakar ke 1 Tahun 2018, 2*, 177-122.

Hoturu. (2022). Dampak Mismatch Pendidikan-Pekerjaan Terhadap Pengembangan Keahlian Karyawan di Halmahera Utara. *Referensi: Jurnal Ilmu Manajemen Dan Akuntansi*, *10*(2), 101–114.

Jafar, A., & Zulqadri, Z. (2020). Pengaruh Kompetensi Pegawai Dan Pengalaman Kerja Terhadap Efektivitas Kerja Pegawai Padakantor Kementerian Agama Kabupaten Sinjai. *Jurnal Adz-Dzahab: Jurnal Ekonomi Dan Bisnis Islam*, *5*(2), 58–69. https://doi.org/10.47435/adz-dzahab.v5i2.449

Jonathan. (2021). Identifikasi Peran dan Kebutuhan Informasi Stakeholders Utama dalam Pengembangan SITIKI (Identification of Roles and Information Needs of Key Stakeholders in the Development of SITIKI). *Konferensi Nasional Teknik Sipil 15*, 20–21.

Khadafy. (2019). Identifikasi Faktor Kinerja Kontraktor Yang Paling Berpengaruh Terhadap Kepuasan Stakeholders Di Dinas Cipta Karya Aceh. *Jurnal Arsip Rekayasa Sipil Dan Perencanaan*, *2*(3), 268–275. https://doi.org/10.24815/jarsp.v2i3.13464

Khaerid, Z. Y. A., Moerdisuroso, I., & Prayitno, E. H.. (2021). Studi Pelacakan (Tracer Study) Tingkat Kepuasan Pengguna Lulusan Program Studi Pendidikan Seni Rupa, Universitas Negeri Jakarta. *Prosiding Seminar Nasional Bahasa, Sastra Dan Seni 2021*, *1*(19), 1–8. https://forms.gle/RcPrkGEiRU1fpAKZ8.

Khohar, A., Prakoso, B., Hariyati, F., & Tiara, A. (2024). Tracer Study Lulusan 2022 Ilmu Komunikasi Universitas Muhammadiyah Prof. Dr. Hamka. *Jurnal Edukasi & Teknologi Pembelajaran, 05*(01), 42-55.

Megasari, D. S., Pritasari, O. K., Fernanda, M. A. H. F., & Puspitorini, A. (2024). Hubungan Kompetensi Profesional dan Kesesuaian Pekerjaan Terhadap Penghasilan Bulanan Lulusan Pendidikan Tata Rias. *Beauty and Beauty Health Education Journal, 13*(2), 87-94.

Miswar, I., Hidayat, B, & Ophiyandri, T.. (2017). Relevansi Unit Kompetensi Insinyur Sipil. *Jurnal Rekayasa Sipil (JRS-Unand)*, *13*(2), 101–112.

Moktis, H. N., Indrayani, L., & Zulkarnain. (2020). Sistem Informasi Tracer Study Alumni Berbasis Website. *Jisti*, *3*, 1–8.

Nida, S. A., & Widodo, S. (2023). Analisis Relevansi Mata Pelajaran Kompetensi Keahlian Konstruksi Gedung Sanitasi dan Perawatan SMKN 2 Yogyakarta dengan Kebutuhan Industri di Daerah Istimewa Yogyakarta. *Jurnal Elektronik Pendidikan Teknik Sipil JEPTS*, *11*(2), 191–202.

Panisha, R. (2023). Pengembangan Kurikulum Berbasis Luaran Di Era Disrupsi (Outcomes-Based Curriculume In Disrupstion Era - OBCiDE) Berdasarkan Stakholders Internal Di Program Studi S1 Teknik Sipil FT UNY. *Jurnal Pendidikan Teknik Sipil*, *4*(2), 168–176. https://doi.org/10.21831/jpts.v4i2.53932

Prasetyo, D. P., Dima, A. O. M., Amalo, P. J., Lona, R., & Roma, R. V. K. I. O. (2023). Sistem

Informasi Tracer Study Berbasis Web Pada Program Pascasarjana Universitas Nusa Cendana Web-Based Tracer Study Information System in Postgraduate Program of Nusa Cendana University. *Jurnal TEKMAS*, *3*(1), 36–46.

Purnama, D. I., Islami, R. L., Sari, L., & Sihombing, P. R. (2021). Analisis Klasifikasi Data Tracer Study Dengan Support Vector Machine Dan Neural Network. *Jurnal SISKOM-KB (Sistem Komputer Dan Kecerdasan Buatan)*, *4*(2), 46–52. https://doi.org/10.47970/siskom-kb.v4i2.191

Ragil, F., Irwanto, & Dwi, C. B. (2024). Pengaruh Kompetensi Keahlian, Motivasi Kerja, Dan Praktik Kerja Industri Terhadap Kesiapan Kerja Siswa SMK. *Jurnal Educatio, 10*(4), 1137-1147. Rezqiana. (2023). Identifikasi Kompetensi Yang Dibutuhkan Tenaga Ahli Teknik Bangunan Gedung Pada Industri Konstruksi. *Jurnal Cahaya Mandalika*, 202–2014.

Rezqiana, A., Murtinugraha, R. E., & Widiasanti, I. (2023). Identifikasi Kompetensi yang Dibutuhkan Tenaga Ahli Teknik Bangunan Gedung pada Industri Konstruksi. *Jurnal Cahaya Mandalika*, *3(*1), 53-61.

Rizki, A. & Pasaribu, M. H. (2021). Meninjau Kegelisahan Mahasiswa Dengan Kondisi Lapangan Pekerjaan Alpiq. *Journal Pusdikra*, *1*(1), 14–22.

Sari, D. P. (2022). Pengaruh Praktik Kerja Industri (Prakerin) Terhadap Kesiapan Kerja Siswa Kelas XII di SMK PGRI 2 Tuban. *Prosiding SNasPPM, 7*(1), 496–499.

Sari, R. R., Handoyo, S. S., & Murtinugraha, R. E. (2015). Studi Penelusuran (Tracer Study) Lulusan Program Studi Pendidikan Teknik Bangunan FT UNJ Tahun Lulus 2006-2011. *Jurnal PenSil*, *4*(2), 79–84. https://doi.org/10.21009/jpensil.v4i2.9877

Sholeh, M. I., Fathurro'uf, M., Sokip, Syafi'I, A., Azah, N., & Andayani, D. (2023). Partisipasi Stakeholder dalam Pengembangan Kurikulum Pendidikan Islam di Pesantren. *Edu Journal Innovation in Learning and Education*, *1*(2), 121–141. https://doi.org/10.55352/edu.v1i2.759

Siagian, P. J. M. J. B., & Trihantoyo, S. (2021). Pengaruh Dunia Kerja Terhadap Kurikulum Perguruan Tinggi. *Jurnal Inspirasi Manajemen Pendidikan*, *6*(1), 98–109.

Soedjatmiko. (2018). Tracer Study Relevansi Kompetensi Lulusan Program Studi Pendidikan Kepelatihan Olahraga Dengan Kebutuhan Lapangan Kerja. *Journal of Sport Coaching and Physical Education*, *3*(1), 1–8. https://doi.org/10.15294/jscpe.v3i1.31880

Sunarso, A. & Harits, B. (2020). Tracing Study Relevansi Kompetensi Output dengan Tuntutan Kerja dan Kebutuhan Pasar Kerja. *Edukasi*, *14*(2), 136–144. https://doi.org/10.15294/edukasi.v14i2.27471

Supriati & Handayani, T. (2018). Relevansi Lulusan Perguruan Tinggi Dalam Penempatan Kerja. *Journal of Applied Business Administration*, *2*(2), 218–227. https://doi.org/10.30871/jaba.v2i2.1121

Susanti, M. D. E., & Wibawa, R. P. (2021). Analisis Tracer Study Untuk Mengkaji Profil Alumni Lulusan Program Studi S1 Teknik Informatika Unesa. *JEISBI (Journal of Emerging Information Systems and Business Intelligence)*, *02*(04), 43–48. https://ejournal.unesa.ac.id/index.php/JEISBI/article/view/43400%0Ahttps://ejournal.unesa.ac.id/index.php/JEISBI/article/download/43400/37140

Susilawati, Sudrajat, Nugraheni, Y., Rachmat, A. A., & Chamidy, H. N. (2019). Peran Penting Tracer Study sebagai Salah Satu Penilaian dalam Peningkatan Klasterisasi Politeknik Negeri Bandung. *Proceeding Indonesian Carrier Center Network (ICCN) Summit 2019*, *1*(1),

201–205. http://ejournals.unmul.ac.id/index.php/ICCN/article/view/3126

Syahputra, B. P., & Tanjung, I. S. (2019). Membangun Sinergi Pusat Karir dan Program Studi Melalui Program Tracer Study dan Pengembangan Karir Lulusan. *Carrier Center Network (ICCN) Summit 2019*, 237–239. http://ejournals.unmul.ac.id/index.php/ICCN/article/view/3936

Syahputra, M. D., & Tanjung, H. (2020). Pengaruh Integritas Dan Pengembangan Karir Terhadap Kinerja Karyawan. *Manager : Jurnal Ilmu Manajemen, 3*(2), 329. https://doi.org/10.32832/manager.v2i3.3706

Vernia, D. M. & Sandiar, L. (2020). Peranan Kompetensi Kerja Terhadap Kepuasan Kerja dan Kinerja. *Jurnal Ilmiah Wahana Pendidikan*, *6*(2), 91–99. https://doi.org/10.5281/zenodo.3737979

Wardani, E. S. (2019). Pengaruh Ekspektasi Karir terhadap Kompetensi Keahlian Teknik Instalasi Tenaga Listrik. *Jupiter (Jurnal Pendidikan Teknik Elektro)*, *4*(1), 34. https://doi.org/10.25273/jupiter.v4i1.4133

Warnandes, S., Hariyanto, V. L., & Pratamai, G. N. I. P. (2022). Relevansi Kompetensi Lulusan S1 Pendidikan Teknik Sipil dan Perencanaan Universitas Negeri Yogyakarta dengan Kebutuhan Dunia Industri Jasa Konstruksi Bidang Perencana. *Jurnal Pendidikan Teknik Sipil*, *4*(1), 54–61. https://doi.org/10.21831/jpts.v4i1.48489

Wasito, B. & Birowo, S. (2022). Analisis Tracer Study Program Studi Sistem Informasi Dan Teknik Informatika Pada Institut Bisnis Dan Informatika Kwik Kian Gie Periode Lulusan Tahun 2017 – 2021. *Jurnal Informatika Dan Bisnis*, *11*(1), 11–18. https://doi.org/10.46806/jib.v11i1.884