



GRADUATE QUALITY MANAGEMENT STUDY: EXPLORING GRADUATE TRACER STUDIES IN HIGHER EDUCATION (OPPORTUNITIES AND CHALLENGES)

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ABSTRAK

This approach was pioneered by Schomburg and a team of researchers at the University of Kassel, through the International Centre for Higher Education Research (INCHER-Kassel). Their research involved multiple countries with the aim of collecting empirical data that serve as a basis for evaluating higher education programs. Quality assurance has become a crucial aspect in assessing the improvement of higher education quality. Graduate tracer studies serve as one of the methods to evaluate the relevance and quality of graduates. A literature study approach is used to further examine the implementation of graduate tracer studies in identifying various challenges and opportunities for developing graduate quality management. Data condensation, data presentation, conclusion drawing, and data verification and validation are the stages used in this research. The results indicate that the opportunities presented by graduate tracer studies point to a paradigm shift, the development of responsive curricula, mapping of labor market trends, and enhancement of institutional reputation. However, challenges faced include low participation rates and limitations in data processing and follow-up actions. This study implies that the application of graduate tracer studies plays a vital role as a tool in graduate quality assurance.

ABSTRAK

Pendekatan ini dipelopori oleh Schomburg dan tim peneliti di Universitas Kassel, melalui Pusat Internasional untuk Penelitian Pendidikan Tinggi (INCHER-Kassel). Penelitian mereka melibatkan banyak negara dengan tujuan mengumpulkan data empiris yang berfungsi sebagai dasar untuk mengevaluasi program pendidikan tinggi. Penjaminan mutu telah menjadi aspek penting dalam menilai peningkatan mutu pendidikan tinggi. Studi penelusuran pascasarjana berfungsi sebagai salah satu metode untuk mengevaluasi relevansi dan mutu lulusan. Pendekatan studi pustaka digunakan untuk lebih jauh mengkaji penerapan studi penelusuran pascasarjana dalam mengidentifikasi berbagai tantangan dan peluang untuk mengembangkan manajemen mutu pascasarjana. Kondensasi data, penyajian data, penarikan kesimpulan, serta verifikasi dan validasi data merupakan tahapan yang digunakan dalam penelitian ini. Hasilnya menunjukkan bahwa peluang yang dihadirkan oleh studi penelusuran pascasarjana mengarah pada pergeseran paradigma, pengembangan kurikulum yang responsif, pemetaan tren pasar tenaga kerja, dan peningkatan reputasi institusional. Namun, tantangan yang dihadapi meliputi tingkat partisipasi yang rendah dan keterbatasan dalam pemrosesan data dan tindakan tindak lanjut. Studi ini menyiratkan bahwa penerapan studi penelusuran pascasarjana memainkan peran penting sebagai alat dalam penjaminan mutu lulusan.

Kata kunci: Mutu Lulusan, Graduate Tracer Studies, Manajemen Mutu, Pendidikan Tinggi

INTRODUCTION

The complexity of 21st-century challenges has positioned higher education as one of the key instruments in addressing and formulating responses to various reforms through its core functions : teaching, education, research , and community service (C. Gines, 2014; Humas Kementerian Pendidikan Tinggi, Sains, dan Teknologi, 2025). This signifies that higher education plays a strategic role in fulfilling its mandate to develop human resources who are competent and prepared to navigate the dynamics of the modern workforce. In this regard, higher education is expected not only to transfer knowledge but also to nurture critical thinking, innovation, and adaptability among graduates. This vision aligns with the mandate of Indonesian Law No. 12 of 2012 on Higher Education, which emphasizes that higher education institutions are responsible for advancing science and technology, while also producing intellectually capable individuals—scientists and professionals who embody cultural values and creativity, as well as tolerance, democracy, strong character, and the courage to stand for truth in the interest of the nation (*Undang-Undang Nomor 12 Tahun 2012 Tentang Pendidikan Tinggi*, 2012, p. 12).

Continuous evaluation serves as a critical component in maintaining the quality of education, grounded in the systematic provision of data that enables ongoing improvement. One of the strategic instruments employed to enhance quality assurance management is the implementation of Graduate Tracer Studies (GTS). GTS provides reliable and empirical data on graduate employment status, competency profiles, and the relevance of higher education curricula to labor market demands (Schomburg, 2016). The data obtained from tracer studies offers valuable insights into the alignment between graduate competencies and industry expectations. This, in turn, contributes significantly to the enhancement of graduate skills, promotes alumni engagement in institutional and professional networks, and facilitates long-term career tracking. Consequently, GTS serves not only as a mechanism of post-graduate monitoring but also as an indicator of the overall effectiveness and success of the educational process delivered by higher education institutions (Nindar K, 2025) .

The significance of GTS is further reinforced by national regulatory mandates. In accordance with Regulation of the Minister of Education and Culture (Permendikbud) No. 5 of 2020, Article 36 Paragraph 7, higher education institutions that have been granted operational permits are required to collect data on the employment absorption of their graduates and report it to the Ministry through the Higher Education Database System (Pangkalan Data Pendidikan Tinggi - PDDikti) (*Peraturan Menteri Pendidikan Dan Kebudayaan Nomor 5 Tahun 2020 Tentang Akreditasi Program Studi Dan Perguruan Tinggi*, 2020). Based on this regulation, available data indicate that a total of 1,424,323 students graduated from higher education institutions in Indonesia. Of this number, approximately 4.64% were undergraduate (Stratum 1) graduates, 0.33% were master's level (Stratum 2) graduates, and 0.02% were doctoral level (Stratum 3) graduates, relative to the total national population. These figures underscore the magnitude and strategic importance of data-driven monitoring in shaping educational policies and ensuring the alignment of graduate outcomes with national development goals (Direktorat Jenderal Pendidikan Tinggi, 2024).

A range of critical issues concerning higher education graduates has emerged in recent years. According to the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), as of 2022, approximately 13.33% of higher education graduates in Indonesia remained unemployed, while nearly 80% of those who were employed were working in fields unrelated to their academic discipline during university (Rosa, 2023). This data is further supported by findings from Statistics Indonesia (BPS), which reported that in

2022, higher education graduates accounted for 82.28% of the labor force participation rate, despite a slight decline from 82.67% in the previous year (BPS, 2023).

Moreover, a report cited by IDN Times, as delivered by the Director General of Vocational Education of Kemendikbudristek at the 12th Unite for Education Sustainability Forum, highlighted that only 23% of Indonesian higher education graduates within the productive age group were able to enter the labor market. These figures reveal a substantial mismatch between higher education outcomes and labor market demands, emphasizing the urgent need for systemic reforms and targeted policy interventions within the higher education sector (IDN, 2023).

The issues outlined above highlight a substantial gap between higher education and labor market needs. One strategic approach to addressing this challenge is the optimization of GTS as a structured mechanism for monitoring graduate outcomes. GTS plays a critical role as a follow-up process to evaluate the effectiveness of academic programs implemented by higher education institutions. This approach was pioneered by Schomburg and a team of researchers at the University of Kassel, through the International Centre for Higher Education Research (INCHER-Kassel). Their research involved multiple countries with the aim of collecting empirical data that serve as a basis for evaluating higher education programs. The focus of these studies included graduates' employment conditions, their work situations, and the extent to which the competencies acquired during their academic journey were utilized in professional settings. This foundational work laid the groundwork for institutionalizing tracer studies as an evidence-based strategy for improving educational quality and relevance (Schomburg, 2010).

A follow-up study was conducted by Schomburg in 2014 to evaluate the relevance and effectiveness of tracer study assessments by engaging two groups of graduates: those who had completed their studies 1–2 years prior and those who had graduated 4–5 years earlier. The study revealed that an effective tracer study requires adequate institutional and technical support, given its nature as a long-term initiative (Schomburg, 2014). To ensure its sustainability and impact, Schomburg emphasized the need for a network-based approach among institutions, fostering coordinated collaboration. Furthermore, the study highlighted the importance of establishing a centralized support unit, preferably located within an educational research center, to oversee implementation and data management. Additionally, the success of tracer studies depends on the availability of ongoing capacity-building initiatives, including training programs, workshops, and regularly scheduled academic conferences to refine methodology and disseminate findings across institutions (Schomburg, 2016).

This finding is further supported by a subsequent study conducted by Senekal and Smith, which examined long-term graduate employability. The study found that 86.2% of alumni from two Master's programs in Psychology in South Africa had successfully secured employment across various fields and sectors. However, the research also identified a critical gap in entrepreneurship-related competencies within the graduates' educational experiences. This suggests that fulfilling academic standards alone is insufficient; it is equally essential to address broader employment-related issues, particularly those related to work readiness and long-term career sustainability (Schomburg, 2014).

Building on this perspective, a study by Thumiki & Mujumdar (2025) focused on assessing graduates' preparedness for the global workforce through the evaluation of Graduate Attributes (GAs). These attributes included creativity and solution orientation, effective communication, and critical thinking. The study concluded that effective communication and

critical thinking remain areas requiring further reinforcement. Notably, the achievement of these attributes was found to be inconsistent across different departments within higher education institutions, indicating the need for a more integrated and standardized approach to developing graduate employability competencies.

Graduate Tracer Studies (GTS) also serve as a critical indicator of institutional quality, representing one of the measurable outcomes of a university's performance. A study conducted by Arifudin (2025) emphasized that several strategic measures were implemented to improve tracer study response rates, including institutional strengthening, enhancement of information technology systems, increased awareness among stakeholders, deployment of qualified survey personnel, and the systematic implementation of tracer studies between 2019 and 2022. This study reinforces earlier research that highlighted the utility of tracer studies in generating data used for evaluating curriculum relevance, guiding curriculum refinement, and improving digital literacy among students. Furthermore, GTS contributes significantly to enhancing the employability and competitiveness of graduates in local, national, and global labor markets. As such, GTS is not merely a data collection exercise but a strategic tool for continuous quality assurance and institutional accountability in higher education.

Based on the studies reviewed, the present research offers a novel approach to the utilization of Graduate Tracer Studies (GTS) as a strategic and integral tool for enhancing the quality of higher education graduates. This study identifies both opportunities and challenges associated with implementing GTS within higher education systems. Unlike previous research, which primarily focused on descriptive analyses or statistical reporting of graduate employment outcomes, this study expands the function of tracer studies to serve as evaluative, predictive, and reformative instruments. By repositioning GTS in this manner, the study underscores its potential to inform evidence-based policy decisions, enhance curriculum alignment with labor market demands, and contribute to the broader goal of systemic improvement in higher education quality assurance.

METHOD

This study employed a qualitative approach with a literature review (library research) design. The literature review method was utilized to identify various implementations of Graduate Tracer Studies (GTS) within the context of higher education, thereby enabling the exploration of both the challenges and opportunities associated with GTS in educational processes Oliver (2012).

The stages of the literature review involved the following steps: (a) conducting a systematic search and identification of relevant sources, including scholarly articles, books, and other academic references; (b) performing selection and critical review of literature with a focus on the implementation of tracer studies and quality assurance practices; (c) analyzing and synthesizing the findings using Miles, Huberman, and Saldana's descriptive qualitative analysis model; and (d) compiling the research results and presenting them in a format consistent with academic publication standards (Miles et al., 2014).

RESULT AND DISCUSSION

Advancing Graduate Tracer Studies for Enhancing Graduate Quality Management

Graduate tracer studies were initiated in 2005 by Schomburg, who provided a comprehensive set of data concerning alumni professional success – including aspects such as career trajectories, employment status, and income – as well as the relevance of academic knowledge and skills to job requirements, occupational fields, and professional roles. His

research emphasized the alignment between educational outcomes and labor market demands, thereby positioning tracer studies as a critical tool for evaluating the effectiveness of higher education (Schomburg, 2010). The study resulted in a methodological guideline for implementing tracer studies effectively, which includes several key considerations: selection of appropriate respondents, timing of the survey, data collection methods, data processing and analysis techniques, and the verification of findings. These elements are essential to ensure that tracer studies not only reflect the realities of graduate employability but also address the multifaceted challenges faced in their implementation.

Schomburg (2016) findings also identified several key benefits of conducting graduate tracer studies, which can be categorized into multiple dimensions: (a) Institutional evaluation, where tracer studies serve as instruments to assess the processes and effectiveness of academic programs; (b) Identification of study prerequisites, enabling institutions to monitor and control academic entry requirements based on graduate outcomes; (c) Resource planning, particularly in terms of optimizing educational facilities, student capacity, teaching staff, and the scholarly reputation of academic personnel; (d) Internal academic processes, such as instructional methods, classroom teaching and learning dynamics, academic advising, and student participation in research activities; and (e) Assessment of educational outputs and outcomes, including graduate competencies, employment status, and relevance of acquired skills to the labor market.

A study conducted by Nudzor & Ansah (2020) in Ghana revealed that graduate tracer studies provide valuable insights into the effectiveness of data-driven educational programs, especially when considerable attention is paid to the challenges encountered throughout their implementation. These insights serve as a foundational element in the context of higher education development in Ghana. The study found that tracer studies significantly contributed to the effectiveness of postgraduate programs by addressing critical issues such as the validity of academic degrees, data confidentiality, and the enhancement of student experiences aimed at fostering stronger alumni engagement. Within this research context, the challenges identified during the tracer study process were ultimately transformed into opportunities, particularly in relation to data collection strategies that positively influence the overall effectiveness and quality improvement of educational programs.

Research conducted by Albina & Sumagaysay (2020) in the Philippines found that alumni typically required between one to two years to secure their first job, accounting for 28.06% of respondents, while 25.90% found employment within one to six months. This study illustrates that graduate tracer studies can effectively identify various issues related to curriculum design by considering several key aspects, such as the alignment of the curriculum with the skills demanded by the labor market, the development of academic and career guidance programs to enhance students' readiness before entering the workforce, and the identification of competencies required by graduates. Furthermore, the study focuses on analyzing multiple dimensions including graduate employability, job relevance to the field of study, time taken to obtain employment, and the curriculum's relevance to the jobs performed by alumni.

Another study conducted by Sarsale et al., (2024) revealed that graduate tracer studies can identify both professional and personal growth as critical dimensions, as well as curriculum relevance. Although several factors influence personal and professional development – such as interpersonal relationships, problem-solving skills, information technology competencies, current and future professional fulfillment, exposure to local and international communities, critical thinking skills, salary increases and promotions, as well as personality development – professional skill dimensions were further identified. These include research and analytical

abilities, efficiency in learning and applying knowledge, professional communication skills, in-depth understanding of the field of expertise, and managerial and leadership capabilities. Consequently, graduate tracer studies serve as an effective method to analyze key components of graduate outcomes through data-driven insights.

Another study conducted by Senekal & Munro (2019) found that graduate tracer studies can facilitate the transformation of higher education and enhance graduate employability by identifying long-term and medium-term trends in education and employment. They proposed three potential models for conducting tracer studies: the large-scale model, the small-scale model, and the mixed-methods model. The large-scale model is applied at provincial or broader regional levels with large graduate populations, aiming to identify long-term trends in employability and educational processes. The small-scale model is recommended for institutions with limited resources or in less developed regions, focusing on smaller populations to gain deeper insights. The mixed-methods model combines quantitative and qualitative approaches, starting with a quantitative phase targeting a large population, followed by a qualitative phase addressing specific issues.

Overall, the development of graduate tracer studies indicates that alumni-related research has evolved beyond merely being an evaluative tool, transforming into a strategic instrument that can enhance curriculum development and improve the quality of higher education. Several opportunities can be identified through graduate tracer studies, including: (1) a paradigm shift in the interpretation and utilization of graduate tracer study results, where the studies become a more dynamic tool for higher education institutions to better understand labor market needs and curriculum relevance; (2) data-driven utilization that facilitates systematic formulation of curriculum development to be more responsive to labor market demands;

(3) identification and mapping of labor market trends reflecting various factors such as technological shifts, demographic changes, worker preferences, and industry needs – meaning that data from graduate tracer studies provide crucial insights for aligning educational processes with these evolving trends; and (4) implications of graduate tracer study outcomes on enhancing institutional reputation, related to graduate quality, institutional competitiveness, accreditation support, strategic decision-making foundations, and strengthening relationships between alumni and industry stakeholders.

Challenges in Graduate Tracer Studies

The effective implementation of graduate tracer studies requires careful attention to practical challenges encountered. Graduate tracer studies serve as a crucial tool for higher education institutions to continuously evaluate the relevance of their curricula in relation to labor market needs. Contextually, various challenges faced in graduate tracer studies significantly impact their quality and effectiveness. A study conducted P. Leider et al., (2023) identified the primary challenge as the low response rate from surveyed alumni. The response rate in this study ranged from 16% to 41%, depending on the level of previous engagement between the alumni and the educational institution.

Resource constraints represent a significant challenge in the effective implementation of graduate tracer studies. These limitations often arise from insufficient funding, inadequate staffing, and lack of advanced technological infrastructure necessary for efficient data collection and rigorous analysis. Consequently, these factors restrict both the breadth and depth of data obtained from alumni surveys, potentially compromising the reliability and validity of the findings. Furthermore, the survey methodology critically influences the overall

success of graduate tracer studies. Overly lengthy or complex questionnaires can lead to decreased response rates and participant fatigue, while excessively brief instruments may fail to capture comprehensive and nuanced data required for in-depth analysis and meaningful insights. Therefore, balancing questionnaire design to optimize respondent engagement and data richness is essential for maximizing the efficacy of tracer studies (Carrada Zuniga & Colbern, 2021).

Survey methodology plays a crucial role in the success of graduate tracer studies. Questionnaires that are too lengthy or complex may decrease response rates due to respondent fatigue, while overly brief questionnaires may fail to capture sufficient data for in-depth analysis. Furthermore, the data collection method significantly influences response rates. Surveys conducted via mail or telephone generally achieve higher response rates compared to those administered through email or online platforms, with mail surveys reaching up to 27.8% response rates, whereas email surveys yield only around 9.8% (P. Leider et al., 2023). Previous studies emphasize that a thorough understanding of the challenges in implementing graduate tracer studies is essential to ensure alumni tracking is effective, meaningful, and impactful for improving the quality of higher education.

One of the most critical aspects is increasing alumni response rates, which can be hindered by factors such as weak alumni engagement with the institution, changes in contact information, or the perception that the survey provides no direct benefit. In this context, it is essential for institutions to build and maintain sustainable relationships with their alumni (Schomburg, 2014). Collecting representative data and conducting thorough analysis are integral parts of the challenges faced in implementing graduate tracer studies. This involves careful questionnaire design, including the selection of relevant topics, the composition of items, and detailed item analysis (Schomburg, 2010). Furthermore, the commitment of all stakeholders to utilize the study results as a basis for continuous improvement is an indispensable component in overcoming both methodological and practical challenges. Stakeholders play a vital role throughout the planning, implementation, and utilization phases of graduate tracer studies.

To ensure the successful implementation of graduate tracer studies, several critical aspects must be thoroughly examined. First, careful and comprehensive planning is essential to anticipate and address potential challenges that may arise during the process. This includes involving all relevant stakeholders to foster collaboration and ownership throughout the study. Equally important is the formulation of an appropriate methodology, which encompasses selecting the target population and sample, designing relevant indicators and survey instruments, and establishing robust data analysis procedures. These foundational steps help ensure the data collected is accurate, reliable, and meaningful.

Moreover, the effective use of technology and communication channels plays a vital role in reaching alumni more widely and efficiently. Utilizing digital platforms, social media, and other innovative outreach methods can significantly enhance alumni participation rates. Finally, the collected data must be strategically utilized to inform decision-making and continuous quality improvement within the institution. Engaging stakeholders in interpreting and applying the results ensures that graduate tracer studies serve not only as an evaluative tool but also as a catalyst for ongoing enhancement of educational programs and graduate outcomes.

CONCLUSION

Graduate Tracer Studies have evolved from being a passive evaluation tool into a strategic instrument that plays a crucial role in enhancing the quality of higher education. Since its introduction by Schomburg in 2005, Graduate Tracer Studies have not only mapped graduates' career success but also provided comprehensive insights into curriculum relevance, graduate readiness, and the effectiveness of the learning process. Follow-up studies from various countries such as Ghana, the Philippines, and South Africa have confirmed that the results of Graduate Tracer Studies can be leveraged to refine teaching methods, develop data-driven academic policies, and strengthen the relationship between institutions and the industry. Additionally, Graduate Tracer Studies help identify gaps between the skills taught and those demanded by the labor market, contributing to the enhancement of institutional reputation.

However, the optimal utilization of Graduate Tracer Studies still faces several challenges that require careful examination. These challenges include low alumni participation, limited resources, ineffective methodology formulation, and inadequate integration of tracer study results into institutional policy-making processes. Addressing these issues demands strong commitment from all stakeholders, adaptive use of technology, and effective communication approaches to reach a broader and more engaged alumni base. With well-managed implementation, Graduate Tracer Studies can serve as a vital foundation for institutions to establish a sustainable quality management system in higher education that is responsive to the dynamic demands of the workforce

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