FROM CLASSROOM TO INDUSTRY: A TRACER STUDY ASSESSING CAREER OUTCOMES AND INDUSTRY ALIGNMENT OF CICT GRADUATES OF STI WEST NEGROS UNIVERSITY

Edreian R. Escototo and Rhyan C. de Loyola
STI West Negros University
edreian.escototo@wnu.sti.edu.ph
rhyan.deloyola@wnu.sti.edu.ph

Abstract

The purpose of this graduate tracer study is to evaluate the curriculum relevance and employment outcomes of the Bachelor of Science in Information Technology (BSIT) program at STI West Negros University's College of Information and Communications Technology for graduates from the academic years 2020-2024. The significance of this study is to track and monitor graduates in order to assess how well the BSIT program satisfies labor market demands and industry standards, as well as to assist the institution in identifying areas that require improvement. Convenience sampling was used in the study, and data was gathered from graduates via online surveys implementing Microsoft Forms. The survey contains closed and open-ended questions designed to capture graduate's employment status, the suitability of their acquired skills for their current positions, and their opinions on how well their education prepared them for their careers. According to evaluated preliminary data, 75% of graduates from this time frame are employed at the moment, with 69% of them holding positions related to information technology. There are notable differences, though, especially among the 2022 graduates, who had the highest unemployment rate (63%). Furthermore, instead of continuing their education, 97% of graduates chose to start working right away. Just a small portion of graduates find employment in the public sectors; the majority (90%) are employed in the private sector. Moreover, the interpreted results also identified key causes contributing to graduate's unemployment such as a lack of work experience and job opportunities. The study also recommends that the program needs to enhance their industry engagement, do curriculum improvements, and recruit more job seeker support. Additionally, the integration of IT-driven initiatives to improve student learning and career readiness, the establishment of regular channels of communication between academic institutions and employers, and the implementation of structured internship programs to close the knowledge gap between education and employment are recommended.

Bio-Profile:

Rhyan C. de Loyola received his Bachelor's Degree in Information Technology with area of concentration on web development at West Negros University, and was awarded as Cum Laude in 2015. He is currently pursuing his degree on Master in Information Technology at the University of St. La Salle. Furthermore, he received his Phil IT GCE certification in 2015 and Civil Service Eligibility in 2016. Currently, Mr. de Loyola serves as a College Instructor at STI West Negros University, where he teaches various professional subjects in the BSIT and BSCS programs. His expertise covers Web Programming, Database Management, Software Engineering, Mobile Application Development, and ICT Electives. Besides his teaching responsibilities, he pursues his career as a Full-Stack Application Developer. Mr. De Loyola moreover have presented and authored a research paper entitled "Precision Policing with Crime Reporting and Patrol Tracking: A case of Silay Police Station" which has already been presented in local and international Conference proceedings such as in Johur Bahru, Malaysia.

Edreian R. Escototo received his Bachelor's Degree in Information Technology at STI West Negros University in 2022, and was awarded Cum Laude. He is currently pursuing his Master's degree in Information Technology at the University of St. La Salle. Since 2022, he has been a member of the faculty at STI West Negros University, College of Information and Communications Technology. Mr. Escototo presented his research, entitled "Silver Tech in the Post-Pandemic Era: A Senior Citizen Information Management System," during the ICITE 2023: 4th International Conference on Information Technology Education held from November 16-18, 2023, at La Carmela De Boracay.

Introduction

Rationale

A graduate tracer study represents a highly effective instrument capable of giving valuable information about where and how well graduates are doing at work (Cuadra et al., 2019). It is an approach that enables Higher Education Institutions (HEIs) to obtain information about possible deficiencies in the educational and learning processes that serve as the basis for planning future enhancements, activities, and curriculum development (Renny et al., 2013). The significance of these tracer studies lies in assessing the transition from higher education to employment (Renny et al., 2013), monitoring individual-level changes post-intervention, and assessing an institution's efficacy in nurturing student competencies and readiness for the labor market (Cagayan et al., 2017). Moreover, Tracer studies reveal the importance of incorporating soft and hard skills, including integrity, professionalism, leadership, and communication skills, into the curriculum (Saufi et al., 2021). However, there remains a gap between education and the labor market, as some programs lack adequate skills-based and practical courses (Kusmanto, 2024). Overall, graduate tracer studies are vital factors in enhancing curriculum relevance, improving alumni communication, and evaluating program effectiveness in meeting industry demands and standards.

Tracer studies are a valuable tool for assessing the relevance and quality of educational programs and their impact on graduates' employment outcomes. These studies have been conducted in various countries, including Kenya (Närman, 1988), South Africa (Senekal & Munro, 2019), Thailand (Guinid & Chaiyo, 2018), and across Europe (Schomburg, 2016). They provide insights into graduates' employment status, job positions, and salaries, as well as their satisfaction with the education received. Tracer studies help identify areas for improvement in curriculum design, faculty development, and facility enhancements (Guinid & Chaiyo, 2018). These studies are particularly relevant and valuable for technical and vocational education and training (TVET) as well as in higher education institutions, as they inform and aid in decision-making processes and contribute to the alignment of educational programs with labor market demands and standards (Schomburg, 2016). In the Philippines, the Commission on Higher Education (CHED) mandated that HEIs must conduct graduate tracer studies to improve their curriculum. Additionally, one school utilized the graduate tracer study to determine if the field of specialization in their different colleges' graduates and their academic-acquired skills and competencies are related to their present occupations (Vherna et al., 2021). Furthermore, another graduate tracer study was conducted to determine the employability of Information Technology Education graduates from a state university in the Philippines (Employability tracer study of Information Technology Education graduates from a state university in the Philippines, 2020).

Moreover, another graduate tracer study from Eastern Visayas was conducted to examine the employment characteristics of teacher education graduates from the classes of 2013 to 2017. Specifically, to explore a graduate's perception of the extent of the relevance of their chosen program curriculum learning areas to employment, and the extent of the use of competencies and values they learned at university (Cornillez Jr. et al., 2021). The graduate tracer study was designed to monitor the alumni of a state university in the Philippines. Through the tracer study, the university learned that the graduates were in their early 20s. Furthermore, they were able to find a

job through someone they knew. Most of the graduates have jobs related to their respective degree programs (Cuadra et al., 2019).

In the Philippines, the Commission on Higher Education (CHED) has mandated that HEIs should conduct graduate tracer studies to enhance and refine their curricula. Additionally, one school utilized the graduate tracer study to determine if the field of specialization in their different colleges' graduates and their academic-acquired skills and competencies are related to their present occupations (Vherna et al., 2021). Furthermore, another graduate tracer study was conducted to determine the employability of Information Technology Education graduates from a state university in the Philippines (Employability tracer study of Information Technology Education graduates from a state university in the Philippines, 2020). Moreover, another graduate tracer study from Eastern Visayas was conducted to examine the employment characteristics of teacher education graduates from the classes of 2013 to 2017. Specifically, to explore a graduate's perception of the extent of the relevance of their chosen program curriculum learning areas to employment, and the extent of the use of competencies and values they learned at university (Cornillez Jr. et al., 2021). The graduate tracer study aims to explore graduates' perceptions of how relevant their program's curriculum and learning areas are to their employment, as well as the extent how which they should apply the competencies and values they gained during their tertiary education.

Objectives

The objective of this study was to conduct a graduate tracer study in STI West Negros University specifically in the College of Information and Communications Technology (CICT) to learn about where and how well Bachelor of Science in Information Technology (BSIT) graduates are doing at work, to know if the students acquired the skills that are related to their courses and to site some areas where the school can improve their program.

1. To evaluate the current employment status of graduates from the BSIT program of the CICT at STI West Negros University for the academic years spanning 2020 to 2024.
2. To examine the relevance of the skillsets and knowledge acquired during their studies in the BSIT program to their current roles in the workforce.
3. To gather graduates' perspectives on the adequacy of the BSIT curriculum in preparing them for their professional careers and addressing industry demands.
4. To identify potential areas for improvement within the BSIT program based on graduates' feedback on their educational experience and its applicability in their jobs.

Methodology

This study focused on the graduates of the Bachelor of Science in Information Technology (BSIT) degree program offered at the College of Information and Communications Technology of STI West Negros University. The study included graduates of the years 2020 to 2024. The objectives of the study were to assess their professional experiences, career paths, and their perceptions on factors affecting professional growth.

To collect the relevant data, the researchers administered an online survey using Microsoft Forms. The survey consisted of both open and closed-ended questions aimed at finding out about a graduate's employment, work experiences, skills used, and opinions on the academic training received. The informed consent form was also made available online to remain compliant with ethical standards and voluntary participation.

As for gathering of data, two ways of distribution were utilized: email and Messenger. The researchers contacted possible participants first through the registered emails and social media handles to issue the informed consent document alongside the survey link. Further reminders were issued to guarantee an optimal response rate. The survey was accessible for a specified time to collect responses. In addition, convenience sampling is used to enhance the ease of access and participation for the respondents by allowing them to complete the survey as per their convenience. To ensure a representative sample of BSIT graduates from various academic years and considering the logistics in terms of available participants and their willingness to respond, a non-random selection approach was used.

Collected data was analyzed statistically by frequency count, percentage distribution and mean. Distribution of graduates among different categories was determined using frequency count and percentage, whereas mean analysis was employed for evaluating overall trends in employment status, salary ranges, and job satisfaction. These statistical methods were selected as they effectively summarize large datasets, draw attention to similarities, and provide data-driven conclusions on the career paths of BSIT graduates from STI West Negros University in Bacolod City.

Results and Discussions

This section presents the key findings of the graduate tracer study focusing on the employment status, career paths, and skill relevance of graduates from the College of Information and Communications Technology, STI West Negros University. The collected data offers a comprehensive view of the post-graduation experiences of alumni, providing insights into the effectiveness of the institution's academic programs in preparing graduates for the labor market. These findings are essential for assessing the alignment between academic training and industry demands (Rahmawati et al., 2022), guiding future curriculum enhancements, and institutional strategies for supporting graduate success.

Frequency and Percent Distribution of Graduates as to School Year and Employment Status

Table 1

Frequency and Percent Distribution of Graduates as to School Year and Employment Status

School Year	No. of Respondents	%	Currently Employed	%	Unemployed	%
2020	27	21	23	24	4	13
2021	18	14	16	16	2	6
2022	51	40	31	32	20	63
2023	18	14	15	15	3	9
2024	15	12	12	12	3	9
Total	**129**	**100**	**97**	**75**	**32**	**25**

Table 1 shows key observations regarding the employment status of graduates from 2020 to 2024. The highest number of respondents came from the 2022 batch, accounting for 40% of the total, with a significant portion facing unemployment (63% of all unemployed graduates).

In contrast, other years had much lower unemployment rates, with most years showing over 70% of graduates being employed. For instance, the 2020 and 2021 cohorts exhibited high employment percentages, with 24% and 16% of the total employed graduates, respectively.

The data also reveals that overall, 75% of all respondents are currently employed, indicating a generally favorable employment trend across these years, despite the challenges faced by the 2022 graduates.

All graduates from the years 2020-2024 were targeted to be given survey questions. However, the researchers encountered challenges including outdated contact information, and low response

rates (Romadlon & Arifin, Improving Graduate Profiles Through Tracer Studies at University, 2021).

There are 129 respondents, 89 of them were male representing 69% of the total and 40 of them were female, making up the remaining 31%. This indicates a significant gender imbalance, with male respondents being more than twice as numerous as female respondents.

Gender distribution varies, with some studies reporting more male graduates (Mina et al., 2020). Various studies have reported similar findings, graduate tracer studies of BSIT programs in various Philippine universities reveal high employability rates among graduates, with a majority being male (Plaza et al., 2022). The imbalance may suggest that more males are enrolled or involved in the field, or it could be due to gender-related factors affecting job patterns in the industry. This distribution could impact the analysis of employment results, as gender differences may play a role in job opportunities, career paths, and representation within the sector.

Frequency and Percentage Distribution of Graduates' Reasons for Pursuing Further Studies

Table 2

Frequency and Percent Distribution of Graduates Pursuing and Planning to Pursue Graduate Studies

School Year	Masteral Degree	%	Doctorate Degree	%	Not Pursuing	%
2020	0	0%	1	100%	26	21%
2021	0	0%	0	0%	18	14%
2022	2	67%	0	0%	49	39%
2023	0	0%	0	0%	18	14%
2024	1	33%	0	0%	14	11%
Total	**3**	**2%**	**1**	**1%**	**125**	**97%**

Table 2 presents the educational pursuits of graduates regarding advanced degrees from 2020 to 2024. Out of the total respondents, only three (2%) graduates pursued a master's degree, and just one

graduate (1%) pursued a doctorate, indicating that most graduates are not seeking further education. While no graduates pursued master's or doctoral degrees in 2021, 2023, or 2024, the year 2022 had the greatest interest in master's degrees, with two grads (67% of that year's responders) enrolling.

The numbers reflect a significant trend, as 125 graduates (97%) reported not pursuing any further education, suggesting that most graduates are either entering the workforce directly or opting not to continue their studies for various reasons. This lack of pursuit of higher education may highlight confidence in their qualifications or a focus on gaining practical work experience instead.

Frequency and Percentage Distribution of Graduates in IT-Related Jobs

Table 3
Frequency and Percent Distribution of Graduates in IT-Related Jobs

School Year	IT-Related	%	Not IT-Related	%
2020	14	21%	9	30%
2021	12	18%	4	13%
2022	20	30%	11	37%
2023	11	16%	4	13%
2024	10	15%	2	7%
Total	**67**	**69%**	**30**	**31%**

Table 3 presents the distribution of graduates employed in IT-related versus non-IT-related jobs from 2020 to 2024. A total of 67 (69%) graduates of the surveyed group, are working in IT-related positions, while 30 (31%) graduates, are in non-IT-related roles. The year 2022 stands out with the highest number of graduates in IT-related jobs (20, or 30% of that year's respondents), reflecting a significant interest in technology careers during that period. Conversely, 2020 shows a notable percentage (30%) of graduates in non-IT-related jobs, despite having 21% in IT roles, indicating that some graduates are exploring opportunities outside the tech field.

The years 2023 and 2024 show a decline in both IT-related employment and overall graduates, suggesting a potential saturation of the job market or shifts in industry demand. Overall, the data indicates a strong preference for IT-related employment among graduates, highlighting the relevance and importance of technology in the current job landscape.

Frequency and Percentage Distribution of Graduates by Type of Work Organization

Table 4

Frequency and Percentage Distribution of Graduates by Type of Work Organization

School Year	Private	%	NGO	%	Government	%
2020	23	26%	0	0%	0	0%
2021	10	11%	1	50%	5	63%
2022	29	33%	1	50%	1	12%
2023	15	17%	0	0%	0	0%
2024	10	11%	0	0%	2	25%
Total	**87**	**90%**	**2**	**2%**	**8**	**8%**

Table 4 shows the distribution of graduates based on the type of organization they work for from 2020 to 2024. A total of 87 (90%) graduates are employed in private organizations, highlighting a strong preference for private sector jobs among the graduates. In 2021, there is a notable shift, with some graduates also finding work in government and non-governmental organizations (NGOs), but these numbers are small. For instance, in 2021, 50% of the one graduate in an NGO and 63% of five graduates in government jobs show that some graduates are exploring these options. However, in the following years, the number of graduates working in NGOs remained low, with no graduates reported in NGOs in 2020, 2023, and 2024. The data indicates that while the private sector is the main employer for graduates, there are occasional opportunities in government and NGOs, but these are limited.

Reasons for Non-Employment

Table 5 presents the analysis of the reasons for the non-employment of BSIT students of STI West Negros University for the period covered.

Table 5
Reasons for Unemployment

Respondents	Family Concerned	Lack of Work Experience	No Job Opportunity	Health Related	Did not look for a Job	Others
32	5 or 12%	8 or 19%	8 or 19%	2 or 5%	8 or 19%	11 or 26%

Table 5 outlines the reasons for unemployment among 32 respondents, revealing various factors that contribute to their joblessness. The largest group, comprising 11 (26%) respondents, cited "others" as their reason for not being employed, indicating a range of unspecified issues that could include personal circumstances or barriers to finding work. Following this, eight (19%) respondents mentioned both "lack of work experience" and "no job opportunity," highlighting the challenges faced by many job seekers in gaining a foothold in the labor market.

Additionally, five (12%) respondents pointed to "family concerns" as a reason for their unemployment, which could involve caregiving responsibilities or family obligations that prevent them from seeking work. Lastly, two (5%) respondents indicated "health-related" issues as a factor, suggesting that personal health challenges may hinder their ability to work. Overall, this data illustrates a complex interplay of personal, professional, and health-related factors affecting unemployment among these individuals.

Conclusion

In conclusion, this study reveals important trends and difficulties in workforce integration by highlighting learners' employment status and educational goals from 2020 to 2024. The results give companies and educators important information for enhancing career preparedness and removing challenges to employment. A favorable result is the 75% total employment rate. The 2022 cohort tended to have greater unemployment, suggesting certain challenges at that time. Additionally, there are more male students than female students, according to the data, which could have an impact on industry representation and employment prospects. Furthermore, the lack of interest in further study points to a desire for rapid job, perhaps as a result of confidence in their skills or a desire to obtain real-world experience. Moreover, the increasing demand for IT positions demonstrates how important technology is becoming to the labor market. More career variety is necessary, nevertheless, as seen by the low number of graduates in the public and non-profit sectors. Youth unemployment is also caused by a number of issues, including personal difficulties, limited career possibilities, and a lack of expertise, which highlights the necessity of focused support programs. Furthermore, this study had limitations despite its key findings. Inaccurate contact details affected survey responses, and reliance on personal data may have caused recall bias. Since the study focused on STI West Negros University's CICT department, the findings may not apply to other institutions or regions. Additionally, while employment status was examined, factors like career growth, job satisfaction, and the alignment of academic knowledge with industry demands were not explored. Future research could address these aspects to provide a more comprehensive understanding of graduate outcomes.

Recommendation

The study emphasizes the need for efforts to increase workforce readiness by highlighting trends and obstacles in graduate employment. However, since it focuses on the CICT department of STI West Negros University, the results might not be generalizable to other organizations or areas. Furthermore, although employment status was examined, topics such as job happiness, career advancement, and the connection between academic education and industrial demands were not discussed. Several suggestions are made to close these gaps and improve employability. First, organized internship programs with companies may help employers find possible employees and give graduates useful experience. These programs must incorporate mentorship and practical projects. Second, the school can improve its curriculum to better meet business demands by collecting regular feedback from employers and alumni. Third, enhancing collaborations with companies helps guarantee that educational programs give students employable skills. It's also important to promote gender balance in IT and related fields. Support organizations and scholarships can encourage more women to pursue careers in these fields. Last but not least, alumni networks can act as a link between education and employment by offering mentorship, job openings, and career advice to facilitate graduates' natural entry into the industry.

References

Albina, A. C., & Sumagaysay, L. P. (2020). Employability tracer study of Information Technology Education graduates from a state university in the Philippines. *Social Sciences & Humanities Open, 2*(1). https://doi.org/https://doi.org/10.1016/j.ssaho.2020.100055

Austria, J. S. (2023). Tracer Study of the Nursing Graduates in a State College. *International Journal of Multidisciplinary: Applied Business and Education Research, IV*, 9. https://doi.org/10.11594/ijmaber.04.09.20

Cagasan, E., Dargantes, T., Florentino, N., & Lasquites, H. (2017, January 1). Tracer Study of the Graduate Degree Programs of the Visayas State University. *Science and Humanities Journal*, 16-36. Retrieved from https://www.researchgate.net/publication/335909935_TRACER_STUDY_OF_T HE_GRADUATE_DEGREE_PROGRAMS_OF_THE_VISAYAS_STATE_UN IVERSITY

Chaiyo, K. (2018). A Tracer Study on the Graduates of the Blended Education Programs for Foreign Students of a University in Ilocandia. *The Vector: International Journal of Emerging Science, Technology and Management (IJESTM), 26*(1). https://doi.org/10.69566/ijestm.v26i1.29

Cornillez Jr., E. E., Caminoc, S. R., Basas, B. R., Militante Jr., B. T., & Paler, R. R. (2021, July). Tracer Study of Teacher Education Graduates of the Eastern Visayas State University-Tanauan Campus, Philippines. *European Journal of Education and Pedagogy, 2*, 186–193. https://doi.org/10.24018/ejedu.2021.2.3.143

Cuadra, L., Aure, M., & Gonzaga, G. (2019). The Use of Tracer Study in Improving Undergraduate Programs in the University. *6*, 13-25. https://doi.org/10.56278/apherj.v6i1.1315

Kusmanto, H. (2024). Evaluating Alumni Communication and Curriculum Relevance: A Tracer Study of Tadris Mathematics Department at IAIN Syekh Nurjati Cirebon. *International Journal of Education and Humanities, 4*(1), 75-83. https://doi.org/https://doi.org/10.58557/(ijeh).v4i1.208

Mina, J. C., Reyes, E. J., & Salas, R. F. (2020). A Tracer Study of Bachelor of Science in Information Technology(BSIT) Graduates of Nueva Ecija University of Science and Technology (NEUST), San Isidro Campus. *International Journal of English Literature and Social Sciences*. https://doi.org/10.22161/ijels.54.77

Närman, A. (1988). Technical Secondary Schools and the Labour Market: Some Results from a Tracer Study in Kenya. *Comparative Education, 24*, 19-35. https://doi.org/https://doi.org/10.1080/0305006880240103

Plaza, K. T., Ninal, M. M., & Arpilleda, A. J. (2022). Graduate Tracer Study of BS Information Technology (BSIT) of St. Paul University Surigao College of Business and Technology 2017-2019. *International Journal of Science and Management Studies (IJSMS)*. https://doi.org/10.51386/25815946/ijsms-v5i3p105

Rahmawati, N., Almuntaha, E., Wibowo, A. H., & Nurnawati, E. K. (2022). Analisis Kompetense Dan Keselarasan Pengguna Lulusan Dalam Pelaksanaan Tracer Study 1st Akprind Yogyakarta . *Jurnal Signaling, 6*(1), 28-35. https://doi.org/10.56327/signaling.v11i1.1163

Renny, Chandra, R., Ruhama, S., & Sarjono, M. W. (2013). Exploring Tracer Study Service in Career Center Web Site of Indonesia Higher Education. *International Journal of Computer Science and Information Security, III*, 36-39. Retrieved from https://sites.google.com/site/ijcsis/all-volumes-issues/vol-11-no-3-mar-2013

Romadlon, F. N., & Arifin, M. A. (2021). Improving Graduate Profiles Through Tracer Studies at University. *KnE Social Sciences*. https://doi.org/10.18502/KSS.V5I7.9317

Saufi, A., Hermanto, H., & Muttaqillah, M. (2021). Tracer Study Alumni Magister Manajemen Fakultas Ekonomi Dan Bisnis Universitas Mataram, 2020. *Saufi2021TRACERSA*. https://doi.org/https://doi.org/10.29303/JMM.V10I1.649

Schomburg, H. (2016). Carrying out tracer studies: guide to anticipating and matching skills and jobs: volume 6. Retrieved from https://api.semanticscholar.org/CorpusID:204380327

Sensal, W. M., Flores, I. C., Sumampon, A. J., & Chua, L. L. (2023). A Tracer Study on the Bachelor of Secondary Education Graduates of St. Paul University Surigao A. Y. 2017-2022. *International Journal of Current Science Research and Review*. https://doi.org/10.47191/ijcsrr/v6-i8-61

Shook, G. M. (2005). A Systematic Method For Tracer Test Analysis: An Example Using Beowawe Tracer Data. *Thirtieth Workshop on Geothermal Reservoir Engineering* . Retrieved from https://api.semanticscholar.org/CorpusID:40755979

Suen, L.-j. W., Huang, H.-M., & Lee, H.-H. (2014). A comparison of convenience sampling and purposive sampling. *Hu li za zhi The journal of nursing, 61*(3), 105-111. https://doi.org/10.6224/JN.61.3.105

Syafiq, A. N., & Fikawati, S. (2007). Tracer Study : Melacak Jejak Lulusan FKM UI (Hasil Study Kualitatif Tracer Sarjana Kesehatan Masyarakat FKM UI 2006). *Kesmas: Jurnal Kesehatan Masyarakat Nasional, 1*, 252-258. https://doi.org/10.21109/KESMAS.V1I6.285

Vherna, A., Ramirez, T., Cruz, L., & Alcantara, N. (2021, 11 06). Tracer Study of RTU Graduates: An Analysis. Retrieved from

https://www.researchgate.net/publication/355954760_TRACER_STUDY_OF_
RTU_GRADUATES_AN_ANALYSIS_TRACER_STUDY_OF_RTU_GRAD
UATES_AN_ANALYSIS