

Employability and Curriculum Relevance among BSCS Graduates of PHINMA UPang College Urdaneta: A Tracer Study (2022–2025)

Mark Louie Soriano ^{1*}, Rofer Junio C. Savella ¹

¹ PHINMA UPang College Urdaneta — Urdaneta City, Pangasinan, Philippines

* mlsoriano.up@phinmaed.com, rcsavella.up@phinmaed.com

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ABSTRACT

This study aims to determine the employability and curriculum relevance of Bachelor of Science in Computer Science (BSCS) graduates of PHINMA UPang College Urdaneta from 2022 to 2025 by examining employment status, job alignment, skills utilization, and curriculum relevance in relation to their current professions. It also assesses whether the competencies acquired during academic preparation meet industry demands. A descriptive quantitative research design will be used through a tracer study survey of BSCS graduates. The survey will gather data on demographic profiles, employment information, waiting time for employment, job relevance to degree, and feedback on curriculum effectiveness.

These data will be used to examine the relationship between employment outcomes and curriculum relevance. Frequency counts, percentages, and weighted means will be used to analyze the data. The findings of the study are expected to inform curriculum enhancement, program development, and institutional planning. The results also help strengthen industry alignment and improve the employability of future BSCS graduates by linking curriculum relevance to employment outcomes.

Keywords: *Graduate Employability, Tracer Study, Computer Science Education, Skills Alignment, Curriculum Relevance*

INTRODUCTION

In today's rapidly evolving digital economy, industries increasingly rely on technology-driven solutions, creating a growing demand for highly skilled computing professionals. Higher education institutions are therefore expected to produce graduates who are academically prepared and equipped with industry-relevant competencies that enhance employability. Assessing academic programs is thus critical to curriculum development and quality assurance in higher education. One of the widely used approaches in assessing graduate outcomes is the tracer study. A tracer study is a research method that tracks graduates' employment status, career progression, and the relevance of their acquired competencies to their current jobs. It provides valuable feedback to institutions on whether their curricula effectively prepare students for the labor market and meet industry expectations. Studies have shown that tracer studies are essential tools for evaluating curriculum relevance and improving program delivery based on actual graduate experiences in the workforce (Sarsale et al., 2024; Toquero & Ulanday, 2021), thereby strengthening educational responsiveness and accountability.

In the Philippine context, tracer studies have consistently revealed that most graduates secure employment within a reasonable period and that a significant number work in jobs aligned with their degree programs. However, gaps remain in the utilization of skills and in curriculum alignment with industry needs, underscoring the need for continuous curriculum review and enhancement (Albina & Sumagaysay, 2020; Bueno, 2017). These findings emphasize the need to strengthen academic programs so graduates can remain competitive and responsive to labor market demands.

The BSCS program of PHINMA UPang College Urdaneta aims to develop graduates with strong analytical, programming, and problem-solving skills needed in computing and information technology. With rapid technological advancement and changing industry requirements, it is important to assess whether the curriculum remains relevant and whether graduates are successfully employed in positions related to their field of specialization. This assessment is necessary to determine whether the program continues to meet academic goals and industry expectations. Thus, this study focuses on the employability and curriculum relevance among BSCS graduates from 2022 to 2025. Specifically, it aims to determine their employment status, job alignment, and the applicability of the competencies gained from the program. The results of this study may serve as a basis for curriculum enhancement, policy formulation, and stronger alignment between academic training and industry needs.

Statement of the Problem/Objectives

This study aims to determine the employability and curriculum relevance of Bachelor of Science in Computer Science (BSCS) graduates of PHINMA UPang College Urdaneta from 2022 to 2025. Specifically, it seeks to answer the following objectives:

1. To determine the profile of the graduates;
2. To identify the graduates' reasons for taking the BSCS program and pursuing further studies or advanced qualifications.
3. To assess the employability of the graduates;
4. To determine the relevance of the BSCS curriculum and competencies acquired from the university to their current employment.
5. To assess the graduates' satisfaction in their present job.

Conceptual Framework

This study determines the employability and curriculum relevance of BSCS graduates of PHINMA UPang College Urdaneta from 2022 to 2025. It examines the relationship between graduates' personal and academic characteristics and these outcomes.

The independent variables of this study are the BSCS graduates' profile, specifically age, sex, civil status, year of graduation, and other academic-related factors such as training, certifications, or further studies. These variables are examined in relation to employability and career outcomes.

The dependent variables are graduates' employability and curriculum relevance. Employability is measured by employment status, waiting time until first employment, job classification, and job placement. Curriculum relevance is assessed by the course's alignment with current jobs, the applicability of acquired knowledge and skills, the adequacy of training relative to industry requirements, and satisfaction with academic preparation.

The process involves collecting data from BSCS graduates through a tracer study survey and analyzing their profiles, employment status, and curriculum feedback using frequency counts, percentages, and weighted means. The findings are then used to assess the BSCS program and examine the relationship between graduate profiles, employability, and curriculum relevance.

The study's output is an assessment of BSCS graduates' employability and curriculum relevance, which will serve as a basis for curriculum enhancement, program improvement, and stronger alignment between academic training and industry needs.

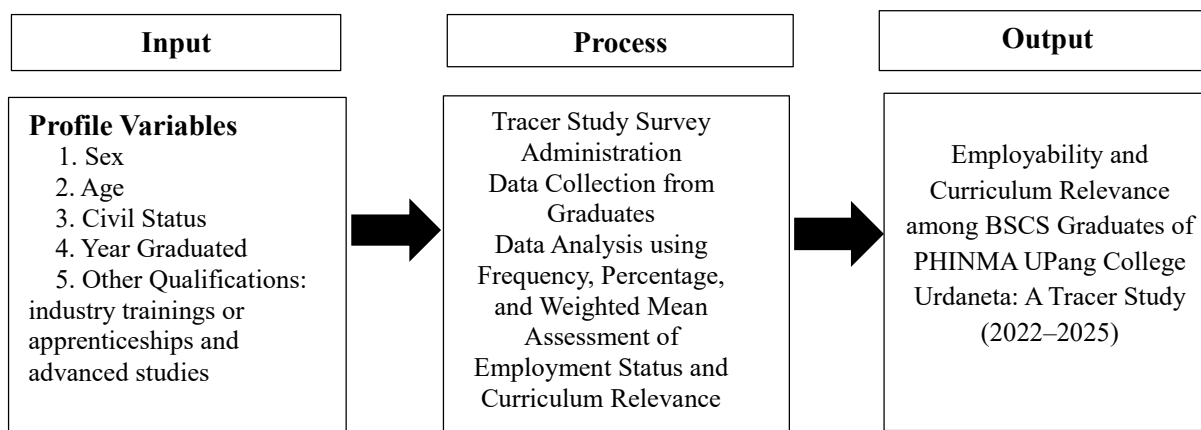


Figure 1. *IPO Diagram*

Figure 1 presents the study's conceptual paradigm using the Input–Process–Output (IPO) model. The input consists of the profiles of BSCS graduates of PHINMA UPang College Urdaneta from 2022 to 2025, including age, sex, civil status, year of graduation, and related academic factors such as training, certifications, and further studies. The process involves conducting a tracer study survey to gather relevant data from graduates. The collected data are then organized, coded, and analyzed using statistical tools such as frequency counts, percentages, and weighted means to determine their employment experiences and the relevance of the BSCS curriculum to their current jobs. The study's output is the determination of the employment status of BSCS graduates and the relevance of the BSCS program's curriculum. These results provide a basis for evaluating the program's effectiveness and recommending improvements to curriculum design and implementation to better align with industry needs.

METHODS

Research Design

This study will employ a descriptive research design utilizing the tracer study method to determine the status of employment and curriculum relevance among BSCS graduates of PHINMA UPang College Urdaneta from 2022 to 2025. It will also examine the relationship between employment status and curriculum relevance. A descriptive research design is appropriate because it systematically describes the characteristics, experiences, and outcomes of a specific population without manipulating variables. In tracer studies, this design is commonly used to examine graduates' employment status, job relevance, and transition from higher education to the labor market (Creswell & Creswell, 2018).

The tracer study approach is recognized in higher education research as an effective method for evaluating graduate outcomes and curriculum effectiveness. It helps institutions determine whether academic programs align with industry needs and whether graduates are adequately prepared for employment (Schomburg, 2016). Through this approach, institutions can gather feedback from alumni regarding their competencies, employment experiences, and the applicability of their academic training, providing clearer evidence for program improvement.

Data will be collected using a structured survey questionnaire administered to BSCS graduates. The gathered data will be analyzed using descriptive statistics, such as frequency counts, percentage distributions, and weighted means, to summarize employment status and curriculum relevance and to examine the relationship between these variables. Overall, this research design provides a systematic, evidence-based approach to assessing graduate employability and curriculum effectiveness and serves as a

basis for curriculum enhancement and institutional improvement, helping guide decisions that strengthen the program's responsiveness to graduate and industry needs.

Research Locale

This study will be conducted in the BSCS program of PHINMA UPang College Urdaneta. This private higher education institution in the Philippines offers various undergraduate programs, including computer science and information technology-related courses, which provide the study's locale and context for examining graduate outcomes. The research locale focuses on BSCS graduates from 2022 to 2025 who have transitioned from academic training to the workforce. This institution is appropriate because tracer studies are commonly conducted in higher education to evaluate graduate outcomes, employment status, and curriculum effectiveness, supporting quality assurance, continuous improvement, and institutional decision-making (Schomburg, 2016; UNESCO, 2018). This study will assess how effectively the BSCS curriculum prepares graduates for employment and whether their acquired knowledge and skills are relevant to current industry demands. The findings are expected to provide concrete inputs for curriculum enhancement and institutional development.

Participants and Sampling Technique

The participants in this study will be BSCS graduates of PHINMA UPang College Urdaneta from the academic years 2022 to 2025, totaling 18 respondents, whose experiences will serve as the basis for identifying and relating the study variables.

Given the small and specific population size, include all graduates who meet the criteria and are willing to participate. Use total enumeration sampling to capture the 18 BSCS graduates within the specified years and reflect this population clearly.

Research Instrument

This study will use a structured survey questionnaire to gather data from BSCS graduates of PHINMA UPang College Urdaneta from 2022 to 2025. It will collect information on graduates' profiles, employment status, and curriculum relevance, which will serve as the study's main variables. The profile data will describe respondents' background, employment status will indicate their work transition, and curriculum relevance will assess how the program prepared them for employment. The instrument will have three parts. The first part will gather respondents' profiles, including age, sex, civil status, year of graduation, and relevant training or certifications, to describe their background. The second part will focus on employment status, including current employment status, job classification (IT-related or non-IT-related), and waiting time before securing their first job, to show their work transition. The third part will assess the relevance of the BSCS curriculum by examining the applicability of the skills learned, the competencies used in their current work, and overall satisfaction with their academic preparation, to determine how well the curriculum supports employment.

The questionnaire items will be adapted and modified from existing tracer study instruments used in similar studies. They will be validated by experts in Computer Science and research methodology to ensure content validity and reliability. A pilot test may also be conducted to check the instrument's clarity and consistency.

Data Gathering Procedure

This study will follow a systematic data-gathering procedure to ensure accurate, reliable data collection from BSCS graduates of PHINMA UPang College Urdaneta from 2022 to 2025, thereby supporting a meaningful assessment of their experiences.

Since the appropriate authorities have approved the study, the researcher will distribute the validated survey questionnaire to the identified respondents. The researcher will coordinate with the BSCS graduates and

request their participation through online platforms such as Google Forms, email, or social media messaging, depending on their availability and convenience.

Data Analysis

The data gathered from the BSCS graduates of PHINMA UPang College Urdaneta from 2022 to 2025 will be organized, tabulated, and analyzed using descriptive statistics to determine the study's findings. Frequency counts and percentages will describe the respondents' profile and employment status. Meanwhile, the weighted mean will determine the curriculum relevance of the BSCS program in terms of the skills and competencies applied in their current work.

These statistical tools will support the study's objectives, conclusions, and recommendations.

Ethical Considerations

The study followed ethical procedures to protect the rights and privacy of BSCS graduates of PHINMA UPang College Urdaneta from 2022 to 2025. Informed consent was obtained from all respondents before participation, and the study's purpose and use of their responses were clearly explained.

Institutional approval was obtained from the appropriate offices before the survey to ensure the study was officially authorized. Respondents were assured that participation was voluntary and that they could withdraw at any time without consequence. Confidentiality and anonymity were strictly observed throughout the study.

All collected data were handled securely and used solely for academic and research purposes. No personal identifiers were disclosed at any point, ensuring that respondents' information remained protected and confidential.

RESULT AND DISCUSSION

The tables below present the results of a survey, analyzed using generally accepted statistical tools and principles. This study aimed to investigate the employment status and curriculum relevance of Bachelor of Science in Computer Science (BSCS) graduates of PHINMA UPang College Urdaneta from 2022 to 2025. The tables present the graduates' profiles, employment status, and assessments of curriculum relevance, which serve as the basis for interpreting the study's findings.

Profile of the graduates AY 2022-2025

Table 1. *Profile of the Graduates AY 2022-2025*

Profile variable	Frequency (f)	Percentage (%)
Sex		
Male	16	88.88
Female	2	11.12
Total	18	100%
Age		
20-22	0	0
23-25	0	0
26 and Above	18	100%
Total	18	100%
Civil Status		
Single	18	100%
Married	0	
Separated	0	
Widowed	0	

Total	18	100%
<i>Year graduated</i>		
2022	4	22.22
2023	4	22.22
2024	3	16.66
2025	7	38.90
Total	18	100%
<i>Other qualifications</i>		
Industry trainings or apprenticeships	0	
Advance studies:		
With Masters' unit	2	11.11
With Masters' degree	1	5.55
No advance studies	15	83.33
Total	18	100%

Table 1 presents the demographic profile of the 18 BSCS graduates who participated in the study. By sex, the majority of respondents were male (16, 88.88%), while 2 (11.12%) were female. This sex distribution is relevant to the description of the study population. Regarding age, all respondents (100%) were 26 years old or older. This age distribution indicates that the graduates had already spent some time in the workforce after completing their degrees and had accumulated sufficient employment experience to provide relevant information for the study. As to civil status, all 18 respondents (100%) were single, while none reported being married, separated, or widowed. This civil status profile reflects the characteristics of the graduates included in the study during the specified period. With respect to the year of graduation, the largest group graduated in 2025, comprising 7 respondents (38.90%). This was followed by graduates from 2022 and 2023, with 4 respondents (22.22%) each, and 3 respondents (16.66%) from 2024. This graduation-year distribution shows that recent graduates constituted the largest proportion of the respondents. Regarding other qualifications, 15 graduates (83.33%) reported that they had not yet pursued advanced studies, while 2 respondents (11.11%) had earned master's units and 1 respondent (5.55%) had already completed a master's degree. This qualification profile indicates limited postgraduate preparation among the respondents. None of the respondents reported having completed industry training or apprenticeships beyond their academic requirements. The findings indicate that the respondents were primarily recent BSCS graduates with limited postgraduate qualifications, making them suitable participants for assessing graduate employability and the curriculum's relevance. In tracer studies, graduate profile information helps explain employment outcomes and evaluate academic programs; in descriptive research, it provides context for interpreting the findings.

Reasons for Taking the BSCS Program and Pursuing Further Studies

Table 2. *Reasons of the Graduates for Taking the Course*

Indicators	Frequency (f)	Percentage (%)	Rank
Interest in Computer Science			
Job opportunities in IT field	3	16.66	3
Influence of family/peers	7	38.88	1
Desire for high salary	5	27.80	2
Willingness to pursue further studies	3	16.66	3
Total	18	100%	

Table 2 presents the reasons respondents chose the BSCS program and the factors linked to their intentions to pursue further studies. Family or peers' influence was the most common reason for choosing the program, with 7 respondents (38.88%) ranking it first. The desire for a high salary was the second most common reason for choosing the program, cited by 5 respondents (27.80%). Job opportunities in the IT field and willingness to pursue further studies were each selected by 3 respondents (16.66%), sharing third place. The results indicate that family influence, financial considerations, and career opportunities shaped students' career choices and their intentions to pursue further studies.

Employability of the Graduates

Table 3. *Employability of the Graduates*

Employment Indicators	Frequency (f)	Percentage (%)
Employed	17	94.44
Unemployed	1	5.56
Self-employed	0	0
IT-related job	17	94.44
Non-IT related job	1	5.56
Employed within 6 months	14	77.80
Employed after 6 months	4	22.22
Total	18	100%

Table 3 presents the employability status of the BSCS graduates. The results show that 17 out of 18 respondents (94.44%) are currently employed, while 1 respondent (5.56%) is unemployed. None of the respondents reported being self-employed, indicating that the employability status variable shows a largely employed cohort of graduates. Regarding job alignment, 17 respondents (94.44%) are employed in IT-related positions. Only 1 respondent (5.56%) is employed in a non-IT-related job, showing that nearly all employed graduates work in their field. Regarding the waiting period before securing employment, 14 graduates (77.78%) secured their first job within six months of graduation, whereas 4 graduates (22.22%) secured employment more than six months after graduation. These findings show that the waiting period variable reflects the time required to transition from graduation to employment. Overall, the results show a strong employability rate among BSCS graduates, with most respondents obtaining IT-related employment shortly after graduation. This points to favorable employment outcomes for the BSCS program and aligns with recent studies reporting similar results for graduates in computing and information technology programs (World Economic Forum, 2025; Organization for Economic Co-operation and Development, 2023).

Curriculum Relevance and Competencies

Table 4. *Curriculum Relevance and Competencies*

Indicators	Weighted Mean	Verbal Interpretation
Programming skills relevance	3	Moderately Acceptable
Problem-solving skills applicability	3	Moderately Acceptable
Systems analysis relevance	5	Highly Acceptable
Networking/database skills usefulness	5	Highly Acceptable
Overall curriculum relevance	5	Highly Acceptable

Table 4 presents the assessment of curriculum relevance and competencies among BSCS graduates of PHINMA Upang College Urdaneta covered in the tracer study (2022–2025). The findings show that the curriculum is highly relevant to employment and professional practice in Computer Science, underscoring its strong value for graduate preparation. Systems Analysis and Networking/Database Skills, with a weighted mean of 5 and interpreted as Highly Acceptable, are highly relevant and useful in graduates' workplaces. Programming Skills relevance and Problem-Solving Skills applicability, with weighted means of 3 and interpreted as Moderately Acceptable, indicate that these competencies are present in the curriculum and link to graduate readiness. Overall, the curriculum's relevance, with a weighted mean of 5 (Highly Acceptable), indicates strong alignment with graduate readiness and supports employment and professional practice.

Graduates' Job Satisfaction

Table 5. *Graduates' Job Satisfaction*

Indicators	Frequency (f)	Percentage (%)
Salary satisfaction	4	22.22 %
Work environment	3	16.66 %
Career growth opportunities	3	16.66 %
Job alignment with BSCS degree	3	16.66 %
Overall job satisfaction	5	27.80 %
Total	18	100%

Table 5 presents the level of job satisfaction among BSCS graduates of PHINMA Upang College Urdaneta included in the tracer study (2022–2025). The results show graduates' perceptions of their employment experiences across compensation, workplace conditions, career development, and job alignment with academic preparation. The findings show that overall job satisfaction was the most frequent response, with 5 respondents (27.80%), indicating the strongest level of satisfaction among the variables measured. Regarding the other variables, salary satisfaction had 4 graduates (22.22%) reporting satisfaction. In contrast, the work environment, career growth opportunities, and job alignment with the BSCS degree each had 3 respondents (16.66%) reporting satisfaction, indicating how each variable relates to satisfaction. The findings suggest that BSCS graduates generally transition positively from academic preparation to professional employment. Maintain career support, industry partnerships, and curriculum alignment to sustain graduate employability and workplace satisfaction.

CONCLUSION

This study aimed to determine the employability of Bachelor of Science in Computer Science (BSCS) graduates of PHINMA UPang College Urdaneta from 2022 to 2025 and to examine how the BSCS curriculum relates to their current jobs. Most graduates secured employment in the IT Industry, demonstrating that the program prepared them for the workforce. They also reported that the curriculum provided relevant knowledge and competencies for their jobs, especially in programming, problem-solving, and technical skills. The graduates generally expressed satisfaction with their current employment and recognized the importance of the skills and training acquired from the Institution. The small number of respondents limited the study because of the small enrollment and the limited number of BSCS graduates during the covered years. Despite this limitation, the findings provide evidence that the BSCS program supports employability and curriculum relevance, offering a basis for strengthening the preparation of future graduates and improving the program's overall impact.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are presented:

1. The institution may continue enhancing the BSCS curriculum to ensure alignment with current industry trends, emerging technologies, and employer demands.
2. More industry-based activities, such as seminars, workshops, internships, and certification programs, may be strengthened to further improve students' technical and professional competencies further.
3. The Institution may improve its marketing and promotional strategies to increase student interest and enrollment in the BSCS program. This may include showcasing graduate success stories, career opportunities in computer science, and partnerships with IT industries through social media platforms, school campaigns, and community outreach programs.
4. Stronger collaboration with industry partners may be established to provide more employment opportunities, internships, and hands-on experiences for BSCS students and graduates.
5. Future researchers may conduct similar studies with a larger number of respondents or include graduates from other IT-related programs to obtain broader findings.

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