

Employability and Psychological Study of the BSIT Graduates of CPSU – Main Campus: Basis for Curriculum Enhancement

**Chester L. Cofino¹, Ryan B. Escorial²,
Debbie Lou B. Enquilino³, Benjamin G. Alijado Jr.⁴**

^{1,2,3} Central Philippines State University, Kabankalan, Philippines

⁴ Negros Oriental State University, Dumaguete, Philippines

Received: 11- June -2023

Revised: 22- July -2023

Accepted: 02- August -2023

Abstract

Tracer studies are an effective instrument for documenting the employment characteristics, the transition to employment, and the satisfaction of the 2016–2018 CPSU– BSIT graduates with their employment position. This study investigated whether the bachelor's degree programs in information technology offered are still efficient, sufficient, and pertinent. The study utilized descriptive research. It took place in the Central Philippines State University's College of Computer Studies in Kabankalan City, Negros Occidental. One hundred seventy (170) alumni responded to the online and f2f survey for 2016, 2017, and 2018 using the Commission on Higher Education (CHED) standardized survey questionnaire. It was found that most of the respondents were employed; had a regular tenurial status; worked in private companies or organizations; had a waiting time of three (3) months and below; and worked locally. Respondents suggested improving the college of physical plants and facilities to be prioritized. Establishing an online alumni portal was also recommended to ensure a strong partnership between the graduates and the University.

Keywords: Tracer Study, Bachelor of Science in Information Technology (BSIT), Higher Education Institutions.

1. Introduction

Education is the means of developing an individual's most remarkable abilities because each has personal hopes and dreams, which, when achieved, can benefit everyone and increase national strength. Higher Education Institutions (HEIs) are fundamental building blocks for human development, a powerful driver for individuals and society. Institutions of higher learning are pressured to create employable graduates to support rapid economic growth and development [1]. With the increased number of graduates in the past years, issues raised as challenges to the education sector. Some are funding, staffing quality and quantity, instructional methods, research and volunteer work, quality control, and gender balance [2]. Not only does this study point out potential flaws in the educational system, but it also evaluates an individual's professional success in terms of their career, employment situation, income, and other characteristics to determine how relevant the knowledge and skills they received from the institution were to the needs of the industry [3]. As a result, conducting a tracer study is crucial to understanding the benefits and drawbacks of a particular program [4].

A tracer study measures the relevance of vocational training as a management tool for planning and monitoring programs, providing information for programmatic changes, reviewing training curricula, and helping monitor training delivery. Knowledge and technical talents to the fullest extent are possible [5] to utilize the graduates in their job. According to [6], academic leaders, alumni, and industry representatives regularly examine the curriculum to ensure that graduates have the information and skills required in the industry. Universities must create and implement their program curriculum under the universally acknowledged necessity for the long-term career development of graduates if they want their graduates to succeed in the labor market [2]. Knowledge of employment of Central Philippines State University (CPSU) graduates contributes to creating policies to combat unemployment and create internationally competitive. All HEIs are required by the Commission on Higher Education in the Philippines to conduct a tracer study. Any organization that accredits higher Education documents is also listed as a requirement by the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACUP), Inc.

The researchers found the importance of tracing the graduates because this would serve as a tool in evaluating the effectiveness of the curriculum; it's a requisite during accreditation and other evaluations conducted by CHED (both regional and national), job placement monitoring of graduates, and curricular programs for improvement or revision to meet the needs of the industry. This study focused on the graduates from the academic year 2016 until 2018.

2. Methodology

This study utilized descriptive research using the standard survey questionnaire provided by the Commission on Higher Education (CHED). This study's main objective was to examine the employability of BSIT graduates from Kabankalan City's CPSU-Main Campus in Negros Occidental.

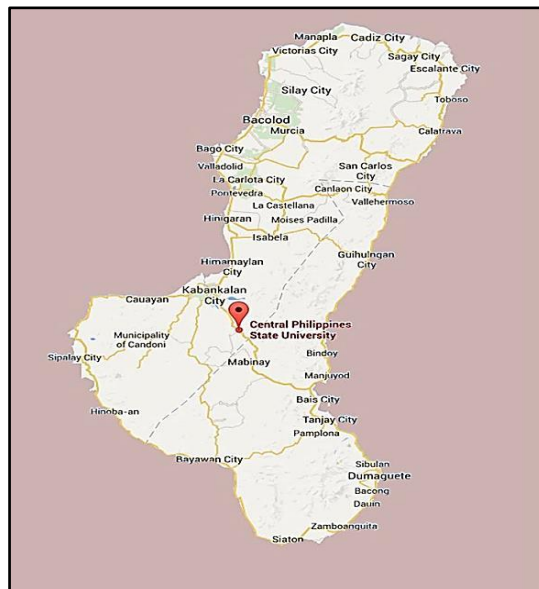


Figure 1. Map of CPSU

The study's respondents were the BSIT graduates of CPSU-Main Campus during the Academic Years 2016, 2017, and 2018. The respondents totaled 65 for batch 2016, 54 graduates for batch 2017, and in 2018 had 51 graduates. A total of 170 BSIT graduates from the corresponding batches as shown in Table 1.

The retrieval rates were: batch 2016 with 65 or 70.65%; batch 2017 with 54 or 69.23%; batch 2018 with 51 or 94.44%. The outcome was supported by [7] that a tracer study should at least cover 60% of the graduates per year of graduation. If an institution has not carried out a tracer study before, it is advisable to trace graduates of at least the last 2-3 years. This was also supported by [8] that the proportion of returns is mostly between 30 and 60% for written graduate surveys.

Table 1. Frequency Distribution of the Respondents

Batch	Male		Female		Total
	F	%	F	%	
2016	32	49.2	33	50.8	65
2017	26	48.1	28	51.9	54
2018	24	47.1	27	52.9	51

Total	82	48.13	88	51.87	170
--------------	-----------	--------------	-----------	--------------	------------

Figure 2 revealed that from the three batches of BSIT graduates, batch 2016 had the most significant number of graduates comprising 32 males or 49.2% and 33 females or 50.8%, with a total of 65, followed by batch 2017 of 26 males or 48.1% and 28 females or 51.9% or a total of 54; and batch 2018 of 24 males or 47.1% and 27 females or 52.9% or a total of 51.

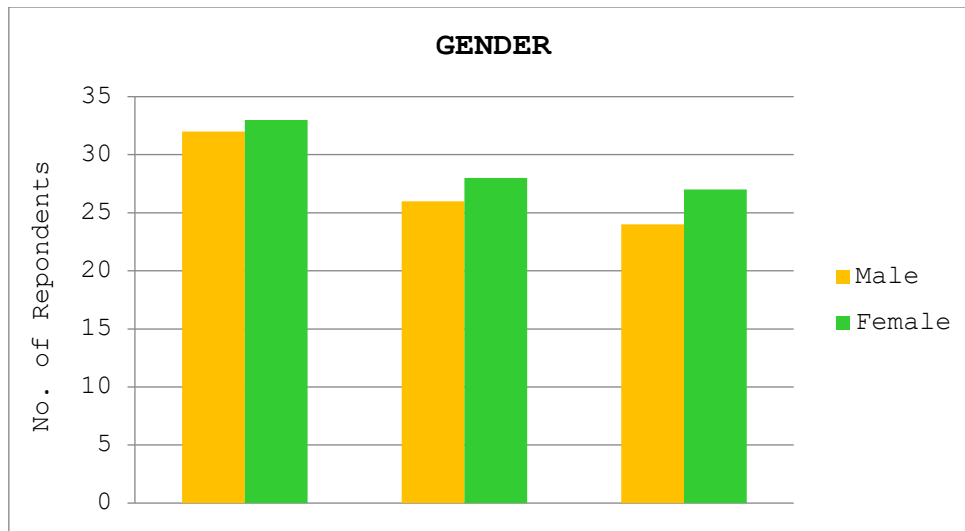


Figure 2. Frequency Distribution of the Respondents based on Gender

3. Results and Discussion

Table 2 presents the profile of respondents according to Age when grouped by batch or year they graduated.

Table 2. Frequency Distribution of the Respondents according to Age

Age	2016		2017		2018		Total	%
	f	%	f	%	f	%		
21 years old and below	0	0.0	4	7.5	13	26.0	17	10.1
22 to 24 years old	45	69.2	39	73.6	26	52.0	110	65.5
25 to 27 years old	14	21.6	9	17.0	11	22.0	34	20.2
28 to 30 years old	6	9.2	1	1.9	0	0.0	7	4.2
Total	65	100.0	53	100.0	50	100.0	168	100.0

As shown in Table 2, of the 170 respondents, only 168 indicated their Age. During the data gathering, most graduates were between 22-24 years old, attributed to young adulthood. This finding is consistent with the [9] study that the graduates find a job in their earlier adulthood stage, which is considered the Age of the experiment.

Table 3 shows the respondent's profiles when grouped according to their civil status and batch.

Table 3. Frequency Distribution of the Respondents according to Civil Status

Batch	Single		Married		Total
	f	%	f	%	
2016	59	90.8	6	9.2	65
2017	49	90.7	5	9.3	54
2018	49	96.1	2	3.9	51
Total	157	92.53	13	7.47	170

The table shows that most of the graduates were single, constituting 92.53%, and the remaining 7.47% represented married respondents. This implied that most respondents are busy working for a living to become regular employees and that marriage is not on their priority list.

Twenty-five (25) to twenty-seven (27) years old for women and 27–30 years old for men received the most votes. This is a remarkably contemporary viewpoint among a select group of women, but the ideal Age of Filipino women for marriage cannot be determined solely by statistics.

Table 4 presents the monthly salary rate of the employed BSIT graduates by batch.

Table 4. Distribution of Respondents' Frequency based on Salary

Salary Rate	2016		2017		2018		Total	%
	f	%	f	%	f	%		
5,000 and below	1	2.0	0	0.0	0	0.0	1	.78
More than 5,000 to 10,000	3	6.1	12	26.1	24	72.7	39	30.47
More than 10,000 to 15,000	21	42.9	25	54.3	7	21.2	53	41.41
More than 15,000	24	49.0	9	19.6	2	6.1	35	27.34
Total	49	100.0	46	100.0	33	100.0	128	100.00

As presented in the table, of the total 170 actual respondents, only 128 were provided on the Salary earned for the month. It can be noted that most of the graduates of batch 2016 employed got the highest salary rate of more than PHP 15,000.00 a month. This implied that these respondents had regular status in their company.

Table 5 presents the profile of respondents according to their employment history, whether they have been employed or never been employed after they graduated from the University.

Table 5. Frequency Distribution of the Respondents according to Employment History

Batch	Never Been Employed		Had Been Employed		Total
	f	%	f	%	

2016	1	1.5	64	98.5	65
2017	0	0.0	54	100.0	54
2018	6	11.8	45	88.2	51
Total	7	4.43	163	95.57	170

As shown in Table 5, of the 170 respondents, only 7 (4.43%) had never been employed since they graduated; 1 or 1.5% in batch 2016 and 6 or 11.8% in batch 2017. Furthermore, in the school year 2018, all or 100% of the respondents had been employed. This showed that IT graduates are in-demand regardless of experience. This is supported by the Philippines College Courses, which states that "It's challenging to obtain a solid job, and the price of a college education has increased. People are choosing to enroll in college courses that will increase their chances of finding a well-paying job because of these factors." As such, the Bachelor of Science in Information Technology (BSIT) ranked five (5) in the top 10 in-demand courses in the Philippines.

Table 6 provides the data on the tenurial status of the respondents.

Table 6. Frequency Distribution of the Respondents according to Tenurial Status

Tenurial Status	2016		2017		2018		Total	%
	f	%	f	%	f	%		
Contractual	11	19.0	15	35.7	31	70.4	57	39.6
Regular	41	70.7	25	59.5	7	15.9	73	50.7
Part-Time	4	6.9	2	4.8	5	11.4	11	7.6
Trainee	1	1.7	0	0	1	2.3	2	1.49
On-Probation	1	1.7	0	0	0	0	1	.7
Total	58	100.0	42	100.0	44	100.0	144	100.0

As shown in Table 6, out of 170 respondents, only 144 (84.71%) responded to tenurial status. Most of the respondents who graduated in 2016 were employed as regular, comprising 41 (70.7%). This implied that most graduates had already rendered three years in service ahead of other batches that qualified them to have regular status.

Table 7 shows the respondents' profiles regarding the organization they were employed in.

Table 7 Frequency Distribution of the Respondents according to Type of Organization

Batch	Government		Private		Total
	f	%	f	%	
2016	9	15.5	49	84.5	58
2017	7	13.5	45	86.5	52

2018	11	25.0	33	75.0	44
Total	27	18.0	127	82.0	154

Table 7 shows the type of organization where the BSIT graduates were employed. It can be noted that the total number of graduates from 2016-2018 who worked in the government was 27 or 18.0%, and 127 or 82.0% of the respondents worked in the private sector.

This implied that the government sector requires eligibility compared to the private sector; thus, only a few of the respondents were employed. Furthermore, once a graduate is already employed, one of the questions asked was the waiting time they spent searching for a job.

Table 8 provides the data of the respondents according to Waiting Time on First Employment

Table 8 Frequency Distribution of the respondents according to waiting time on first employment

Waiting Time	2016	2017	2018	TOTAL	%
Three months and below	36	27	16	79	47.59
More than 3 to 6 months	15	21	25	61	36.75
More than 6 to 9 months	6	3	4	13	7.83
More than 9 to 12 months	5	2	0	7	4.22
More than 12 to 15 months	3	1	0	4	2.41
More than 15 months	2	0	0	2	1.20
Total	67	54	45	166	100.0

In terms of length of job search, it can be noted that 47.59% of the respondents employed obtained their first job in 3 months and below, followed by more than 3 to 6 months with 36.75%; 7.83% in more than 6 to 9 months; 4.22% in more than 9 to 12 months; 2.41% in more than one year; and 1.20% in more than 15 months.

This implied that BSIT graduates could easily find a job even without experience that is related to their field of specialization. This is also emphasized by [10], that the skill match impacts how new graduates fare in the labor market and that the degree of unemployment for six months following graduation is a logical indicator of the balance of the graduate labor market.

Table 9 Frequency Distribution of the Respondents according to the location of employment

Batch	Local		Regional		International		Total
	f	%	F	%	f	%	
2016	30	53.6	23	41.1	3	5.4	89
2017	22	53.7	18	43.9	1	2.4	46
2018	37	86.0	5	11.6	1	2.3	5
Total	89	63.6	46	32.9	5	3.6	140

Table 9 shows the frequency distribution of respondents according to employment location. They are considering the total number of respondents of 170, only 140, or 82.35%, provided the data. Out of 140, 89 or 63.6% of the respondents are currently employed working locally or within the Negros Island, 46 or 32.9% are working in the region, and only 5 or 3.6% of the total respondents are working internationally.

This indicated that IT graduates are in demand locally. CHED's list of priority courses has been updated in light of a study conducted by the Department of Labor and Employment that identified the in-demand and hard-to-fill courses, skills, and positions corresponding to the expected employment requirements of major industries until 2020. These courses were identified based on national development plans, workforce demands through 2018, and these studies. The priority disciplines highlighted in the new list are agriculture, engineering, science and math, computer technology, teacher education, health sciences, arts and humanities, social and behavioral sciences, business administration, architecture, maritime, and communication.

Table 10 presents the frequency distribution of the respondents according to awards received upon graduation, which are classified into academic or service awards.

Table 10 Frequency Distribution of the Respondents according to awards received

Batch	None		Academic		Service		Total
	Freq	%	Freq	%	Freq	%	
2016	48	73.8	10	15.4	7	10.8	130
2017	42	77.8	6	11.1	6	11.1	22
2018	40	78.4	6	11.8	5	9.8	18
Total	130	76.5	22	12.9	18	10.6	170

Table 10 shows the awards received by the respondents upon graduation. These awards are academic and service in nature. As shown, 22 or 12.9% of the respondents were academic awardees upon graduation, 18 or 10.6% got the service award, and the majority, 130 (76.5%), did not receive any prize.

Table 11 presents the profile of respondents concerning their employment status.

Table 11 Frequency Distribution of the Respondents according to Employment Status

Employment Status	2016		2017		2018		Total	%
	f	%	f	%	f	%		
Employed	48	73.9	36	66.7	34	66.7	118	69.41
Unemployed	7	10.8	12	22.2	7	13.7	26	15.29
Underemployed	9	13.8	6	11.1	10	19.6	25	14.71
Self-Employed	1	1.5	0	0.0	0	0.0	1	.59
Total	65	100.0	54	100.0	51	100.0	170	100.0

Table 11 and the chart reveal that most of the graduates were employed, totaling 118 (69.41%). This meant that their job was related to or aligned with their specialization. Unemployed has a frequency of 26 (15.29%),

underemployed (career not in line with course), 25 (14.71%), and 1 (.59%) self-employed. This implied that most graduates landed a job related to their practice. Graduates can demonstrate conceptual understanding and specific technical skills relevant to completing their work more effectively [11].

Common Preparations of the BSIT Graduates for the Advancement of their Career

Most BSIT graduates would like to acquire more training in computer technology, work out the Application to work abroad and pursue a Master of Science in Information Technology or other related graduate courses. Discussions are offered below.

Table 12 Common Preparations of the BSIT Graduates for the Advancement of Their Career

Preparations	f	%	Rank
Acquire more training in computer technology	81	47.6	1
Work out the Application to work abroad	54	31.8	2
Pursue a Master of Science in Information Technology or other related graduate courses	51	30.0	3

Table 12 shows 81 graduates, or 47.64%, would like to acquire more computer technology training to advance their careers. This shows that the graduates encountered problems in their respective jobs which were not tackled during their studies. This may be attributed to the fact that IT is a fast-growing science, and four years are not enough to explore all areas of IT.

Additionally, these innovations and developments require IT workers to engage in professional development in order to stay employable consistently. This includes participating in re-certification programs, seminars, workshops, briefings, conferences, and courses. Keeping up with technology is a daily reality. Include the evaluation of university-level competencies and their applicability in the workplace [12].

Careers which the respondents can be effective five years from now as perceived by them

Table 14 presents the respondents' career plans five years from now concerning their field of specialization. Data encoder was the top career the respondents perceived could be effective five years from now. Other results are shown in the following table.

Table 12 Careers which the Respondents can be Effective five years From Now as Perceived by Them

Career	f	%	Rank
Data Encoder	44	25.98	1
Technical Support Specialist	39	22.94	2
Systems Analyst	37	21.76	3
Graphics Designer	35	20.59	4
Web Developer	27	15.88	5
IT Instructor	27	15.88	5

It can be gleaned from the table that respondents would like to become data encoders 44 (25.98%) 5 years from now, followed by technical support specialists comprising 39 (22.94%). This is so because pressures in data encoding and technical support specialists are less than in other IT careers. Next in rank was a systems analyst with 37 or (21.76%); graphics designer with 35 (20.59%); and web developer and IT instructor with a total of 27 (15.88%).

Although the respondents were IT graduates, considering their plans for five years now, they prefer IT less stressful careers. Those careers not included in the rank were network administrator, database administrator, and programmer.

4. Conclusions

Based on the findings, the researchers arrived at the following conclusions. Most of the respondents had a salary of more than Php 10,000 to Php 15,000 and had been employed. Moreover, most of the respondents were used; had a regular tenorial status; worked in private companies or organizations; had a waiting time of 3 months and below; and worked locally. Most respondents got an above-average rating based on their general weighted grade average (more than 1.94), and 76.5% received neither academic nor service awards.

Most respondents would like to acquire more training in computer technology, work out the Application to work abroad and pursue a Master of Science in Information Technology or other related graduate courses. Data encoder was the top career the respondents perceived could be effective five years from now, followed by technical support specialists and system analysts.

The respondents advised incoming BSIT students to focus on their studies, show hard work, and be resourceful to succeed in their courses. The respondent's recommendation rate of the University to incoming first-year students was 86.7%. Affordability was the main reason for recommending the University. Common perceptions of the respondents on the College of Computer Studies, where it provides quality education and trains students to develop skills in programming and networking.

Respondents suggested improving the College of Computer Studies buildings, classrooms, and laboratory facilities must be prioritized. Establishing an alumni website must be materialized to ensure a strong partnership between the graduates and the University.

5. Recommendations

Based on the conclusions above, the following recommendations are made. First, review the current curriculum to determine what subject to phase out and what must be added; align the skills of the IT students needed by the industry, and design to prepare graduates and demonstrate the core competencies expected of them in the workplace.

Second, improvement of the computer laboratories equipped with state-of-the-art facilities such as more computer units installed with licensed software in programming, multimedia, educational, instructional, productivity, and utility; Improvement of the College of Computer Studies building, classrooms, and amenities;

Furthermore, the instructional competence of the faculty members must be strengthened to help the students acquire the knowledge, skills, and values necessary for job placement. Hire additional faculty members, preferably MS in Information Technology, to teach programming subjects. Seminars and educational tours must be conducted to update IT students on the standards and trends of information technology. Establish an Alumni Website to foster a strong relationship between the graduates and the University and encourage graduates' participation in planning, organizing, directing, and implementing the programs of the University.

A tracer study must be conducted annually to determine a graduate's employment status accurately.

References

1. L. Small, K. Shacklock, and T. Marchant, "Employability: a contemporary review for higher education stakeholders," *Journal of Vocational Education and Training*, vol. 70, no. 1, pp. 148–166, Jan. 2018, doi: 10.1080/13636820.2017.1394355.
2. T. Wale, M. Melese, Z. Siraye, and T. Abebe, "A tracer study on employability of business and economics graduates at Bahir Dar University," *International Journal of Higher Education and Sustainability*, vol. 2, no. 1, p. 45, 2018, doi: 10.1504/ijhes.2018.10013675.
3. Ma. E. v. Bahian, E. B. Bertulfo, D. B. Pulma, and R. G. Navarro, "A Tracer Study of Eastern Visayas State University-Ormoc Campus Graduates," *Aloha International Journal of Multidisciplinary Advancement (AIJMU)*, vol. 2, no. 8, Aug. 2020, doi: 10.33846/aijmu20801.
4. M. T. B. Kalaw, "Tracer study of bachelor of science in mathematics," *International Journal of Evaluation and Research in Education*, vol. 8, no. 3, pp. 537–548, Sep. 2019, doi: 10.11591/ijere.v8i3.17343.
5. K. S. Sira, M. A. M. Celda, D. S. O. Valenciana, and A. C. Sobrepeña, "The Bachelor of Industrial Technology Major in Architectural Drafting Technology Program Tracer Study," 2018. [Online]. Available: <https://orcid.org/0000-0002-7818-3770>
6. A. C. Albina and L. P. Sumagaysay, "Employability tracer study of Information Technology Education graduates from a state university in the Philippines," *Social Sciences & Humanities Open*, vol. 2, no. 1, p. 100055, 2020, doi: 10.1016/j.ssaho.2020.100055.
7. R. Lange, "Consult for Management, Training and Technologies Manual Tracer Studies," 2001.
8. H. Schomburg, *Handbook for Graduate Tracer Studies*, 2nd ed. Germany: Centre for Research on Higher Education and Work, 2003.
9. D. A. Jepsen and H. bin Sheu, "General Job Satisfaction from a Developmental Perspective: Exploring Choice-Job Matches at Two Career Stages," *Career Development Quarterly*, vol. 52, no. 2. Wiley Blackwell, pp. 162–179, 2003. doi: 10.1002/j.2161-0045.2003.tb00636.x.
10. F. Suleman, "The employability skills of higher education graduates: insights into conceptual frameworks and methodological options," *Higher Education*, vol. 76, no. 2. Springer Netherlands, pp. 263–278, Aug. 01, 2018. doi: 10.1007/s10734-017-0207-0.
11. A. A. Woya, "Employability among statistics graduates: Graduates' attributes, competence, and quality of education," *Educ Res Int*, vol. 2019, 2019, doi: 10.1155/2019/7285491.
12. E. Aclan, G. Ann Saban, J. Fameronag, and R. Francisco, "Tracer study of AUP BEED and BSED Graduates from 2012-2016," *Volume 1 Issue 1 | June 2018 Journal of Education, Psychology, and Humanities*, vol. 1, no. 1, pp. 15–19, 2018.