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Research Article

Employability of Computer Science Graduates of President Ramon Magsaysay State University, Iba, Zambales from 2017-2021

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ABSTRACT

This study sought to determine the employment status of Bachelor of Science in Computer Science Graduates at President Ramon Magsaysay State University (PRMSU) Iba Zambales from 2017-2021. Additionally, it also analyzed the relevance of the graduate respondents' existing jobs and investigated the causes of their unemployment. The findings of this study will serve as a platform for future studies aimed at identifying the problems that graduates experience when looking for work, evaluating the performance of educators, and refining the Bachelor of Science in Computer Science curricula to align with the requirements of the industry 4.0 era. The researchers administered a survey to collect data on employment and job placement from the respondents. The results revealed that 46.48 percent of graduate respondents were presently employed in rank-and-file or clerical positions, while 36.62% held positions with professional, technical, and administrative roles directly related to their academic background. Additionally, 57.14 percent of unemployed graduate respondents cited their decision of not finding a job as the reason for being unemployed. The graduates were able to utilize the theoretical and technical proficiencies they learned throughout their academic training. It is highly recommended that further research be undertaken in future studies to enhance the study.

Keywords: *Computer Science, Employability, Graduates, IT Education, PRMSU*

Introduction

According to the United Nations Conference on Trade and Development (2023), under the Technology and Innovation Report 2023, the Philippines is positioned at the overall 54th spot

among 166 countries in the adoption of frontier technologies. Ranking high (3rd) for industry, it reflects high levels of foreign direct investment in high-technology manufacturing, particularly electronics. The country however falls short in

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ICT rank at 94th. The significance of computer science is underscored by the Philippines' rank in the adoption of frontier technologies.

In today's world of global connectivity and technological movement, computer science plays a critical role as the foundation for developing and implementing transformative technologies. These technologies include, among others, artificial intelligence, the Internet of Things, big data analytics, blockchain, 5G telecommunications, 3D printing, robots, drones, gene editing, and nanotechnology. These technologies have broad implications for growth in the economy, innovation, and competitive advantage. The knowledge and contributions of computer science experts have a substantial impact on realizing the full potential of these advances. As a result, they play a critical role in helping the Philippines to align with global trends, strengthen its digital infrastructure, promote innovation across several sectors, and, ultimately, improve the quality of life for its population. These measures, taken together, position the Philippines advantageously in the global landscape of technological growth and adoption.

Considering these advancements, the pace of change in the world has accelerated so rapidly. The schools of today should participate in the educational, technological, and social revolution. Thus, the curriculum in Philippine schools today has to be geared to the rapid societal changes and the new responsibilities of the new breed of Filipinos (Hagos & Dejarme, 2008).

Academics have to ensure the graduate output will service graduate workplace readiness (Mobarak, 2019). According to Sessanga and Musisi (2019) the higher education sector needs to recognize and understand the context of employability for their graduates to ensure their students can live up to the expectations of governments and employers.

Attributes such as communication skills, problem-solving abilities, teamwork, and leadership skills have a significant impact on employability and marketability (Zakari, Abd Majid, & Sahid, 2022). Personality, skills, and academics as key factors influencing the marketability of graduates were also identified (Baker et al., 2022). The importance of SMEs

acting like marketers and attending to graduate work aspirations and employer expectations to become more competitive in the graduate market (Muenzinger, 2010) and the significance of social and academic factors, with soft skills playing a crucial role in graduates' marketability (Ahmad et al., 2014) was emphasized. Employers repeatedly suggest that good professional and technical competencies are a major factor in both obtaining and succeeding in STEM careers (Herbert-Berger et al., 2019).

By employing graduate tracing studies, higher educational institutions can discern areas for enhancement aligned with the prevailing industry demands and societal changes.

The researchers sought to identify the employability of Bachelor of Science in Computer Science (BSCS) graduates under President Ramon Magsaysay State University (PRMSU), Iba, Zambales from the years 2017-2021. Specifically, the researchers sought to determine the employment status of BSCS graduates from President Ramon Magsaysay State University, Iba, Zambales, during the years 2017 to 2021. Additionally, they sought to assess the employability rate of the graduates and evaluate the alignment of their current employment with the outcomes specified in the Commission on Higher Education (CHED) Memorandum Order No. 25, s. 2015.

Methods

The researchers employed a descriptive research design in the conduct of their study. This research design enabled the collection of essential data from survey respondents regarding their employment status and its correlation with the graduate outcomes of the subject being explored, as outlined in the survey questionnaire.

Descriptive research serves various purposes in the field of inquiry. Firstly, it seeks to explain what is common, prevalent or already exists in a population. It does not attempt to predict or manipulate an outcome, as is done in experimental or inferential research (Swartzell & Jennings, 2007). Additionally, it is research that seeks to describe and interpret things, such as the condition or relationship, a growing opinion, the ongoing processes, results or effects, or the ongoing trend (Linarwati et al.,

2016). Moreover, it finds utility as a tool for scrutinizing ongoing processes, relationships, and the repercussions of a particular phenomenon. These distinct perspectives collectively illuminate the multifaceted nature of descriptive research in providing valuable insights into diverse aspects of the research landscape.

The researchers employed a nonprobability sampling method to determine the respondents of this study. The respondents were selected based on their availability, utilizing convenience sampling technique. A total of 142 Bachelor of Science in Computer Science graduates from the year 2017-2021 were the target participants of the study.

Table 1. Graduate-Respondents by Year of Graduation

Year Graduated	Frequency	Percentage (%)
2017	22	15.49
2018	24	16.90
2019	23	16.20
2020	36	25.35
2021	37	26.06
Total	142	100.00

Table 1 illustrates the distribution of graduate respondents according to their respective years of graduation within the research study. The data indicates that the highest number of respondents completed their degrees in 2020 and 2021, accounting for 25.35% and 26.06% of the total sample, respectively. Following these years is 2018, representing 16.90% of respondents, the year 2019 with 16.20%, and the year 2017 with 15.49% of the total respondents.

In response to the constraints imposed by the pandemic, the survey questionnaire was distributed to the participants through various communication channels, encompassing social media platforms such as Facebook Messenger and email, among others. The researchers took proactive measures to underscore the significance of data privacy and provided assurances to the participants regarding the confidentiality of the information furnished for the study's purposes.

In the context of data analysis, the data collected from the respondents underwent classification, tabulation, and coding procedures. Subsequently, the data acquired through the survey questionnaire administration underwent interpretation using the following statistical techniques:

Percentage. This method was employed to establish the distribution of Graduate Respondents' profiles according to the specified criteria,

facilitating a quantitative understanding of the data.

Ranking. The ranking technique was applied to discern the order of importance or priority within the gathered dataset, allowing for a structured assessment of each criterion's significance in the context of the study.

Result and Discussion

The findings derived from the survey questionnaire, which was conducted by the researchers in adherence to established statistical methodologies and principles, are presented in the subsequent tables and figures. The primary objective of this study was to determine the employment status, employability rate, and the alignment of graduates' current employment with their expected employment outcomes for those holding a Bachelor of Science in Computer Science (BSCS) degree from President Ramon Magsaysay State University (PRMSU), Iba, Zambales, during the years 2017 to 2021.

Figure 1 provides a visual representation of the gender distribution among the graduate respondents, with 66.20% identified as male and 33.80% as female. It is noteworthy that a higher proportion of male respondents was observed in comparison to their female counterparts.

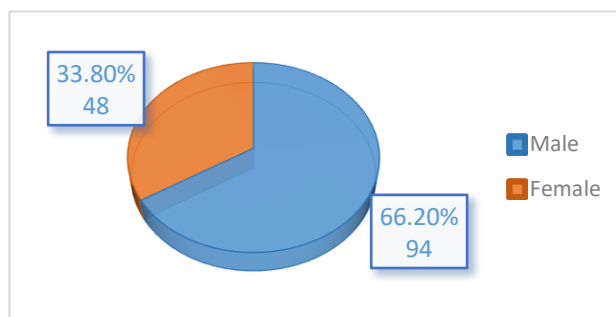


Figure 1. Graduate-Respondents Gender Profile

Table 2 presents the employment status of the BSCS graduates. Out of a total of 141 respondents, a significant majority, 133 individuals (or 95.07%), are currently employed. On the other hand, a smaller proportion of

respondents, comprising 7 individuals (or 4.93%), are currently unemployed. It is noticeable that a high percentage of graduates have landed employment.

Table 2. Employment Status of the Graduate-Respondents

Employment Status	Frequency	%
Employed	135	95.07
Unemployed	7	4.93
Total	142	100.00

According to table 3, 66.67% of respondents found employment connected to their completed course, whereas 33.33% of employed respondents found work unrelated to

their completed course. It is noticeable that a substantial percentage of graduates got employment in their field of specialization.

Table 3. Employment Profile of the Graduate-Respondents

Employment Profile	Frequency	%
Related to the completed course	90	66.67
Unrelated to the completed course	45	33.33
Total	135	100.00

It is noticeable that graduate respondents found career opportunities where they could put their academic knowledge and abilities to use. Furthermore, it is worth noting that a considerable proportion of graduates gained

critical theoretical and technical skills throughout their studies, which aided them in obtaining employment closely related to their field of specialization.

Table 4. Employment Category of the Graduate-Respondents

Employment Category	Frequency	%	Rank
Rank and File or Clerical	66	46.48	1
Professional, Technical, and Administrative	52	36.62	2
Managerial or Executive	8	5.63	4
Self-Employed	9	6.34	3
Total	135	95.07	
<i>Unemployed</i>	7	4.93	5
Grand Total	142	100.00	

Table 4 presents the frequency distribution of graduate respondents by employment category. In terms of present employment, 46.48% of respondents held rank-and-file or clerical positions, followed by 36.62% in professional,

technical, and administrative roles, while 6.34% were self-employed. A lesser proportion, 5.63%, held managerial or executive roles, while 4.93% were unemployed.

Table 5. Unemployment Reason of the Graduate-Respondents

Unemployment Reason	Frequency	%	Rank
Pursuing Higher Education	0	0	
Family Commitment	3	42.86	2
Medical Condition	0	0	
Limited Professional Background	0	0	
Unavailability of Employment	0	0	
Not Actively Pursuing Employment	4	57.14	1
Deceased	0	0	
Total	7	100.00	

Table 5 displays the frequency distribution of respondents based on the reasons for their unemployment. The table reveals that 4 (57.14%) of the graduate respondents "Not Actively Pursuing Employment" after completing the course, followed by "Family Commitment" with 3 (42.86%).

Conclusion

Based on the data collected from graduate respondents, the researchers determined that most of the graduates were male, indicating a higher degree of interest in computer science among males compared to females. In terms of employment, most graduate respondents found employment connected to their completed course and gained the essential theoretical and technical abilities to help them in their roles. This suggests a correlation between the subjects taught by their instructors and their employability. Family commitment and graduates' not actively pursuing employment were identified as key reasons for unemployment.

In line with the conclusions, the researchers recommend additional studies into the challenges graduates face in job hunting, assessment of faculty performance, and possible review of program curricula be conducted.

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