

BSCS Online Graduate Tracer

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Abstract:- This online graduate tracer study is mainly a survey anticipated to trace graduates and to test the level of efficacy of the developed system. To obtain the information needed an adopted questionnaire from the Surigao del Sur State University (SDSSU)-Research office was utilized. The instrument used to evaluate the level of efficacy was the 19-item modified questionnaire from an online GTS.

The study endeavored to trace the BSCS graduates of Surigao del Sur State University, Tandag Campus in order to measure the employability rate and to test the level of efficacy of an Online Graduate Tracer System.

Convenience sampling technique was used to identify the number of respondents, since only those graduates available online and has completed the survey information were counted as respondents. Cochran's formula was used in computing the sample size, the researcher used a margin of error of 8.55% with 95% confidence interval. Now, to get the sample size for each year, the researcher used proportional allocation.

Results revealed that out of 100 respondents, 79 or 79% of respondents were employed and 21% were unemployed. As to the level of efficiency of the developed system it was found "very efficient" both on the effectiveness of the system as whole and user design/interface of the system. Therefore, there is need to upgrade the process of tracing graduates from manual to an online process. This is the very reason of developing a system that is simple, reliable, easy to use and inexpensive in order to have an updated graduates information.

Keywords:- Tracer Study, online graduate tracer, Employability, Efficacy.

I. INTRODUCTION

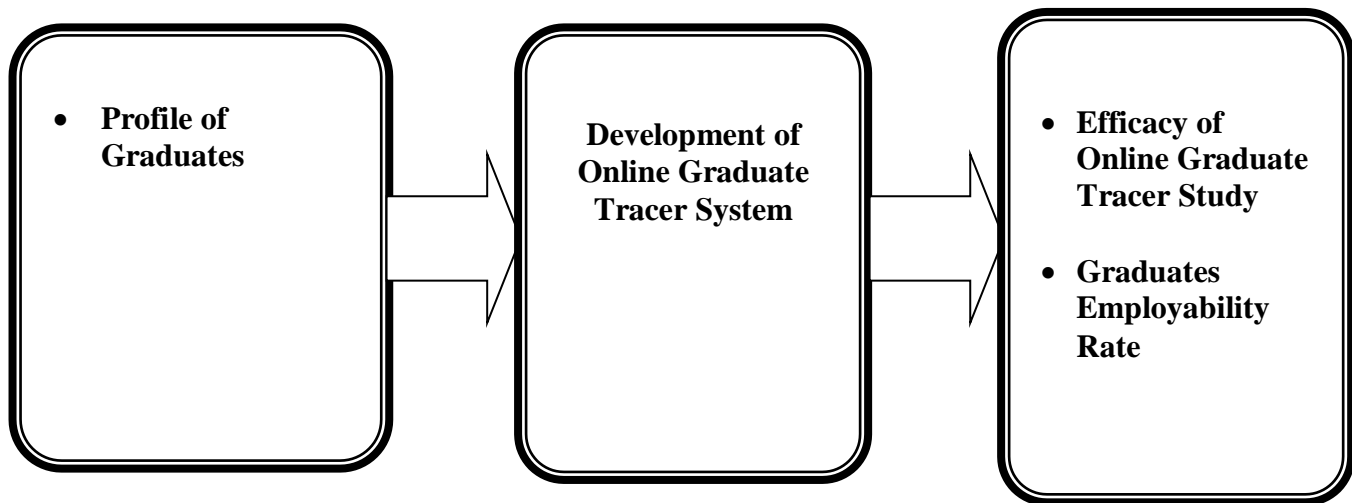
Advancement of technology today is amazing. It brings wonders in almost all aspects of everyday living of human life. Online registration not only improves efficiencies and eliminates unnecessary paperwork but also maximizes participation and improves marketing capabilities while allowing participants to sign-up when and where it is most convenient for them from any Internet-enabled computer. Hence, this Online Tracer study is made to encourage Surigao del Sur State University to solve complex problems on the programs offered and most especially on the employability of alumni. This is a kind of evaluation that is common to all Higher Educational Institutions in order to trace the graduates' skills in their jobs. A tracer study is the process used by the researcher. Using this process Schomburg (2003), noted that graduate surveys provide qualitative-structural data on employment and career for the analysis of the relation between higher education and work.

Surigao del Sur State University (SDSSU) –Main Campus was manually undertaking a graduate tracer study, as a way of understanding the relevance and quality of programs offered by the institution as well as the labour market. There were some difficulties encountered in establishing contacts and in retrieving the questionnaires. Some of the respondents are working outside the city and others were too busy so they couldn't answer or return the questionnaire as needed.

Gathering and collecting the whereabouts of the graduates do not only aid an institution to evaluate the quality of education but also helps evaluate the results of the education and training's provided by Surigao del Sur State University between year 2015-2019

Keeping abreast with the emerging trends and to cope with this new normal situation, the researcher has come up with the idea of developing a system to find out the fates of Bachelor of Science in Computer Science (BSCS) graduates. The researcher proposes an online system to provide a more convenient, ubiquitous, reliable, and efficient system. It determines the graduates employability and assesses the level of efficacy of the developed system. It is a web-based system that is used to transmit information and provide real-time statistical data of the employed and unemployed graduates directly to the server that can be viewed by the system in-charge / administrator. The findings of the study served as the basis to improve or enhance the program offered by SDSSU in order to make the graduates more responsive to the employment demands.

II. FRAMEWORK OF THE STUDY



• Research Objectives:

- To identify the Whereabouts of the graduates;
- To identify the employability rate of the BSCS graduates;
- To test the efficacy of the Online Graduate Tracer.

III. MATERIALS AND METHODS

A. Research Design

The study used the descriptive-developmental approach to design and develop an Online BSCS graduate tracer system of Surigao del Sur State University from Academic Year 2015-2019. The selection of the respondents was done using convenience sampling technique. Only those who were available online can be chosen as respondents.

The online survey in tracing the graduates and gathering information used an adopted questionnaire from the Research office of SDSSU. And another modified-adopted questionnaire was used to test the effectiveness of the developed system. Convenience sampling was deemed appropriate to evaluate the efficacy of the developed system.

B. Population

The respondents were the BSCS graduates of Surigao del Sur State University from A. Y. 2015-2019 with the total population of 415 graduates. Out of 415 graduates only 100 respondents answered the survey that serve as the official respondents.

C. Data Sources

Online form and the survey questionnaire was the main data gathering tool. A questionnaire was sent to the BSCS graduates of SDSSU from A. Y. 2015-2019. The adopted form of SDSSU Graduate Tracer was used.

The online distribution of the questionnaire was used to collect data in order to determine the percentage of employed and unemployed graduates and to assess the efficacy of the developed system. It is a web-based application system designed to collect data on graduates. All graduates were required to complete the survey using the website <http://graduatetracer.sdssu.edu.ph>. Because this system is done online, it can help to eliminate the problem of geographic limitations. The instrument was developed based on the objectives of the study.

The official uploading of the site started in the last week of August, 2020 to the December, 2020. It was administered personally and sent through Facebook messenger so that the graduates can easily fill up the survey form.

D. Statistical Treatment

The following statistical techniques were used to facilitate the interpretation of the collected data.

The researcher uses the Cochran’s formula in computing the sample size, with a margin of error of 8.55% with 95% confidence interval.

$$n_0 = \frac{(1.96)^2 \left(\frac{1}{2}\right)^2}{(0.0855)^2} = 131.38$$

Now,|

$$n = \frac{n_0}{1 + \frac{n_0}{N}} = \frac{131.38}{1 + \frac{131.38}{415}} = 99.97 \approx 100$$

Year of Graduation	Population	Computed Sample Size	Respondents per year
2015	62	15	13
2016	77	19	5
2017	81	20	15
2018	113	27	35
2019	82	19	32
TOTAL	415	100	100

Table 1: Distribution of Respondents

IV. RESULTS AND FINDINGS

Table 1 revealed that the official respondents of the study are those who were available/active online and completed the survey form within the time frame; however, graduates who lacked information were not included/counted as respondents. Among the BSCS graduates, the batch 2018 has the most respondents, while

the batch 2016 has the fewest. Despite the fact that the researcher sent the link <https://graduatetracer.sdssu.edu.ph/> to all graduates who have a Facebook account, there were still graduates who could not be reached via Facebook messenger because others were not using their real name as their official account or they had their Facebook account but were not using it.

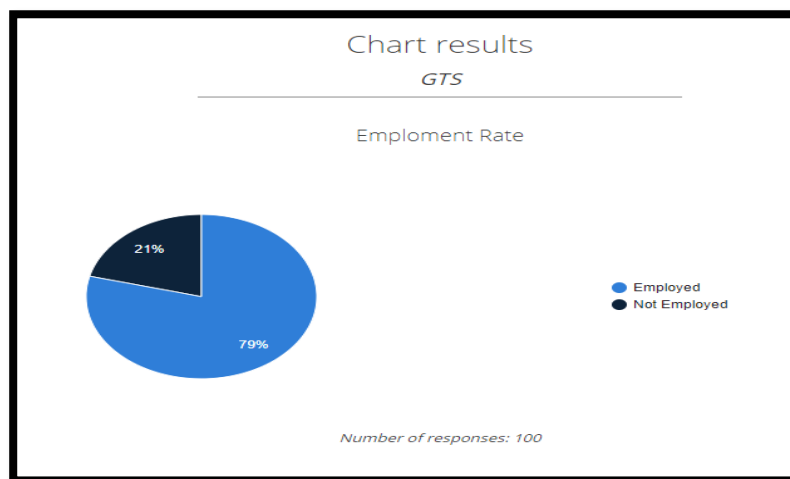


Fig. 1: Respondents Employment Rate (System Generated)

Figure 1 depicts the employment status of graduates by year of graduation. The majority, or 79%, of the 100 respondents who indicated their employment status were employed, while only 21% were unemployed.

V. DISCUSSION

YEAR	EMPLOYED	UNEMPLOYED	Regular	Contractual	Job Order	Self-employed
2015	13		5	5	3	
2016	5		3	1	1	
2017	11	4	5	4	2	
2018	29	6	16	7	5	1
2019	21	11	12	8	0	1
TOTAL	79 or 79%	21 or 21 %	41 or 41%	25 or 25%	11 or 11%	2 or 0.02%

Table 2: Respondents Employment Status

The respondent's employment status is shown in Table 2. It can be gleaned that the highest employability rate for graduates in 2018 is 29%, followed by the year 2019 with 21% employability, but 11% of respondents were unemployed in this year. In 2015 and 2016, moreover, all respondents were employed. However, the findings show that unemployment is generally high among recent graduates, particularly during this period of new normal, when it is difficult for them to travel to other places in

search of work. The table above also describes the status of the employed graduates; it is shown that 41% of the respondents were employed as regular or permanent employees; once again, the year 2018 received the highest permanent status, followed by the year 2019. In terms of contractual employment, 25% of graduates are contractually employed, with 2019 having the highest contractual employment. Only 11% were on a job order, and 0.02% were self-employed.

YEAR	EMPLOYED			
	MALE	%	FEMALE	%
2015	11	24%	2	6%
2016	4	9%	1	3%
2017	6	13%	5	15%
2018	13	29%	16	47%
2019	11	24%	10	29%
TOTAL	45		34	

Table 3: Employment Gender Status

The table above shows that out of 79% employed graduates, male graduates have the highest employment rate of 45 or 45%, compared to female graduates who have a 34% employability rate. The batch of 2018 had the highest male and female employability rates.

Effectiveness of GTS as a whole system	Weighted Mean	Interpretation
Online Graduate Tracer System can replace the typical manual distribution of questionnaire.	3.03	Very Efficient
The system can gather complete and valuable information.	2.91	Very Efficient
The System can generate real-time percentage of employability for fast and accurate result.	2.83	Very Efficient
Account Authentication and system restriction is employed.	2.83	Very Efficient
Relevant information can be updated anytime.	2.99	Very Efficient
Overall Weighted Mean	2.92	Very Efficient

Table 4: Level of Efficacy of the System

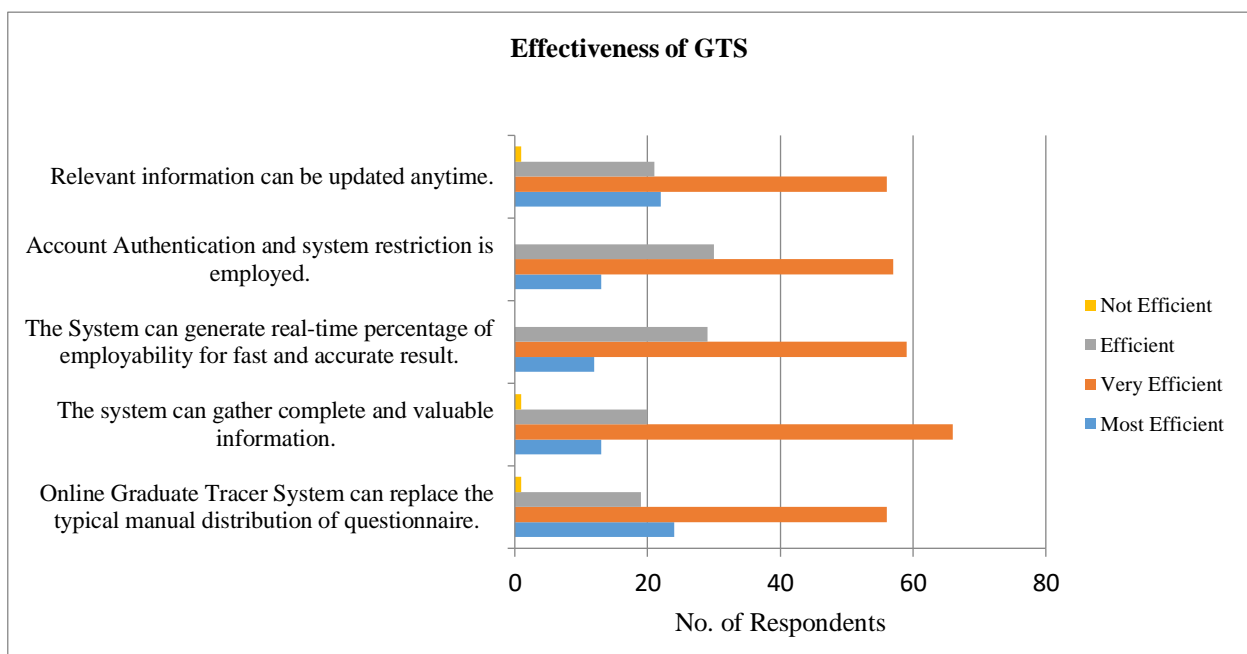


Fig. 2: Level of Efficacy of the System

Table 4 and Figure 2 presents the analysis responses based on the overall system effectiveness of the Online GTS. The responses imply that online information gathering is an effective means not only in this time of new normal, but also because the majority of the graduates have social media accounts that make it easier for them to be traced.

This is because 56 percent of respondents rated "very efficient," implying that having this form online, regardless of where the graduates are, is a more efficient tool than the manual process. It also indicates that using the system makes it easier to generate reports because data can be downloaded and results can be displayed in real time.

Indicators	Weighted Mean	Interpretation
• The webpage uses frames appropriately.	2.85	Very Efficient
• There were no links within the long documents to other documents.	2.78	Very Efficient
• Links used standard colors.	2.85	Very Efficient
• The webpage/website allows users to access information in determined order.	2.85	Very Efficient
• It provides users with feedback to wait when significant time delays are required for the program to access information.	2.81	Very Efficient
• It provides users with information on their progress.	2.86	Very Efficient
• It arranges information in a non-threatening manner so that users are not overwhelmed by the amount of information contained in a program.	3.01	Very Efficient
• It provides visual effects to give users visual feedback that choices have been made and registered by the program.	2.81	Very Efficient
• It integrates the program information across different media types.	2.73	Very Efficient
• It provides information for all media types that are relevant, appropriate, and valid so that the users will know that the information is credible	2.91	Very Efficient
• It allows users to search for information across different media types	2.78	Very Efficient
• The format of screens is consistent.	2.86	Very Efficient
• The page layout is used consistently throughout the registration process.	2.87	Very Efficient
• It provides users with information through icons and message boxes to know where they are in the program.	2.81	Very Efficient
• The fonts are used consistently.	2.79	Very Efficient
• The font sizes for headings are also used consistently to indicate importance.	2.84	Very Efficient
• Navigation aids are consistent.	2.8	Very Efficient
• 18. It allows contacts with fellow alumnus.	2.82	Very Efficient
• 19. It allows users to leave comments and feedbacks	2.98	Very Efficient
Overall Weighted Mean	2.84	Very Efficient

Table 5: System User Interface-Level of Efficacy

Scaling:

1.00 – 1.74	Not Efficient
1.75 – 2.49	Efficient
2.50 – 3.24	Very Efficient
3.25 – 4.00	Most Efficient

With reference to Table 5, the responses on the level of efficacy of the developed system are described. The table depicts that all indicators and the overall weighted mean garnered "very efficient" feedback, asserting that the system is user friendly because it has a consistency of screen formats/layout from the start-up to the end of the registration process, including font size, style, and color. Table 5 indicates that users have no difficulty using the system because they had been guided with system feedbacks if they failed to respond to the required questions and a progress bar so that graduates can access information in a predetermined order.

VI. CONCLUSION AND RECOMMENDATION

Based on the study's findings, the following conclusions were drawn: According to the report, the online process is more convenient than the manual process of gathering graduates' data because the survey is simple and convenient because it is online. The questionnaire used in the tracer is brief and direct, making it easy for respondents to complete; thus, the majority of respondents were persuaded to respond.

Because it used real-time data to generate the results for employed / unemployed graduates and the summary of the graduates profiling, the data collected is easily analyzed and retrieved. Because the tracer form is online, it is inexpensive or paperless. The findings revealed that the system was a very efficient, fast, accurate, and dependable data collection tool because graduates could contact their alma mater no matter where they have been. Then it is recommended that the BSCS Online Graduate Tracer be

used or implemented in the college for annual updates on graduates.

This study also revealed that while some graduates were employed, there is a percentage of graduates who are not currently employed and have never been employed. As a result, the department must maintain connections with various government agencies and non-governmental organizations (NGOs). This may improve statistics graduates' employability. Among the researchers' recommendations for improving the marketability of BSCS programs and the employability of the graduates they produce is a periodic review of curriculum by academic leaders, alumni, and industry representatives to ensure that graduates are equipped with the necessary knowledge and skills required in the industry.

REFERENCES

- [1.] Alfred P. Rovai and Louis B. Gallien Jr. (2006). Encyclopedia of Virtual Communities and Technologies (pp. 397-401).
- [2.] Bendell, Tom(1991) **The quality gurus**. London: Department of Trade and Industry, 1991.
- [3.] Bolaane, PhD, Chuma, PhD, Toteng, Molwane, PhD (2010)Tracer study on the employment outcomes on the vocational training graduates.
- [4.] De Guzman, A. B., & de Castro, B. V. (2008).Employment and employability profile of a select group of Filipino college graduates. KEDI Journal of Educational Policy, 5(1).
- [5.] Dr. Econ (2004). What is the importance of developing job skills? Retrieved from <http://www.frbsf.org/education/publications/doctor-econ/2004/february/job-skills-labor.10/13/2020>.
- [6.] Harvey,2009. Labor Code of the Philippines, 2009.
- [7.] Libya T. Pamaran, Lumin T. Pamaran (2013)Tracer Study: University of Bohol, Bachelor in Elementary Education.
- [8.] Mercado, FelixbertoM.(2009). A Tracer Study of MSEUF Graduates .Enverga University
- [9.] Millington, C. (2001) The use of tracer study for enhancing relevance and marketability in online and distance education.
- [10.] Pool, D. et al. (2007) The key to employability: developing a practical model of graduate employability by:. Centre for Employability, University of Central Lancashire, Preston, UK (<https://www.shef.ac.uk>) 2/8/2020.
- [11.] PUPQC-AY-2004-2005 A tracer study of the Employment status. Retrieved from <http://www.scribd.com/doc/50720521>. 10/12/20120.
- [12.] Pyzdek, Thomas (2000). Handbook for Quality Management(QA Publishing, LLC).
- [13.] Schomburg, Harald(2003) Handbook for Graduate Tracer Studies: Centre for Research o Higher Education and Work, University of Kassel, Germa http://www.qtafi.de/handbook_v2.pdf 9/22/2020.
- [14.] Tracer Study HRM.pdf (2014).Accessed from <http://research.lpubatangas.edu.ph/wp-content/upload/2014/05>. 10/01/2020.