DETERMINANTS OF EMPLOYABILITY OF THE INFORMATION TECHNOLOGY GRADUATES IN CAGAYAN STATE UNIVERSITY, PHILIPPINES

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Abstract

This study focused on eliciting information on the employment status of the Information Technology (IT) graduates of Cagayan State University. Further, it also highlighted on the assessment of the IT program objectives and components, and the relationship between selected profile variables to their employability. Descriptive method was used to describe the profile of the 96 respondents from the 3-part survey-questionnaire, and t-test for determining relationships. Sixty-nine (69) respondents or 71.88 percent were employed by predominantly single and young females. Granted with PC Operations NCII, their areas of interest were mainly on PC Operations and multimedia. Majority had more than ten (10) attendances to trainings/seminars. As contractual along data entry operations in private companies, majority received just enough monthly salary of P9, 000.00 to P11, 000.00, in jobs relevant to their IT education, skills and knowledge deemed important in the exercise of their functions. IT program objectives, components and processes were attained, implying that the University had attainable objectives including a responsive IT curriculum and instructional systems, competent and technically knowledgeable teachers, and adequate physical facilities. Instructional systems, convenient classroom and school buildings were contributory to graduates' employability.

Keywords: graduate tracer, ICT skills, training, competencies, industry compatibility

I. INTRODUCTION

Graduates are faced with the challenge of acquiring employment right after graduation not only because of no employment history but mainly on lack of adequate skills that suits the needs of the industry. Findings suggest that employers often criticize the standard of new graduates saying they lack sense and understanding of the real world, (Knight and Yorke, 2003; Valenzuela and Mendoza, 2012; McQuaid, 2006). It is paramount that they should have gained the best knowledge and skills in their field of specialization before plummeting into the workplace of their choice. The school which produces oversupply of graduates plays a vital role in providing extensive education and training to students who will eventually become graduates equipped with competence, knowledge and skills in their field of study.

Information and Communications Technology (ICT) underwent a transition on the nature of designing and making in the world outside schools, which in turn is taught in schools. Information Technology Education (ITE) schools aims to develop IT manpower supportive to and appropriate for

the development of the information and communications industries in general. Students develop critical thinking, communication skills and social implications of computing. They graduated with an ability to develop IT solutions that give power to the body of knowledge. The BS Information Technology program aims to provide students to become fully equipped in problem-solving skills and an ability to work well within diverse groups. IT majors gain hands-on experience with installation, configuration, and maintenance during their internship in different public and private formal organization (Talamayan, 2011). To improve their marketability, they undergo on-the job training or internships and get research training in many different fields.

At present, while the existing ICT schools produces graduates in greater number that can be absorbed by the industry, academe and government sector, there is still the problem of inadequate supply of competent and qualified IT people who can fill in the local industry's needs. (Tan and Arnold, 2012; Singh, et.al. 2012) IT has become a career that is attractive as other professions. (Author, year) The opportunities for employment are somehow known to the people, except for people in the ICT industry. The oversupply of below standards graduates from many school of Information and Communications Technology who are unemployed and not involved in ICT, make IT a hopeless career in the eyes of others.

In determining institutional capability in preparing graduates to meet the demands of the workplace, the use of a graduate tracing study is an appropriate tool. The Commission on Higher Education issued a report on the oversupply of graduates and students-graduates with problems in job mismatching. It is noted upon that the reason by which graduates do not get the job is simply the disparity between the educational system produces and the industries' needs which remains to be a critical issue among graduates. Are IT graduates employable? Are they productive? Do they receive salaries or wages commensurate to their skills and abilities? Because of these critical questions, a motivation to know the employability, job earnings and relevance of the IT graduates is very necessary in order to draw from the findings policies and technical inputs to improve and make the IT program relevant to the graduates, the client s and the community in general. Having a concrete record of the graduates' economic, social and employment status could possibly come up with some substantial recommendations which may bring about improvements of university management particularly Information Technology program of the Cagayan State University at Aparri, and the students' social and economic perspective.

The problem between IT education and the employment sector has become one of the imperative issues in the employability of graduate students today. The study aimed to determine and evaluate the employability of IT graduates of the Cagayan State University – Aparri for the school year 2010-2011. Specifically, it aimed to determine profile of the graduates of the Cagayan State University at Aparri, employment characteristics, assessment of the graduates on school-related factors or program components of the University, and to determine the relationship between the graduates' employability to their profile and school –related factors.

II. METHODOLOGY

The study used the descriptive - correlational method of research. The descriptive method was used in describing the profile of the respondents' demographics and employment status, and the assessment of the school-related factors. Using Pearson correlation analysis, the extent of the attainment of objectives and the program components was correlated with the

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employability and productivity of Information Technology graduates.

Only 96 of the 126 graduates responded using 3-part survey questionnaire reached via electronic mails, social networking sites, and postal mail or snail mails, mobile connections and personal interview. Using a 5-point Likert scale, a structured questionnaire for graduate-respondent covered (1) profile and employment characteristics (2) assessment of the attainment of objectives of the Information Technology program, and (3) program components which included program processes, physical facilities, and administrative processes. The accomplished questionnaires was collected or retrieved personally. Formal interview, actual visit and documentary analysis was undertaken to obtain additional reliable data and secondary sources.

III. RESULTS AND DISCUSSION

3.1 Profile of the Graduates

Sixty-nine (69) graduates or 71.38 percent were employed, dominantly single and female respondents. *(See Figure 1.0)* Majority of the respondents (78) or 81.25 percent belonged to age bracket ranging from 21 – 24 years. Further, most of the graduates were still single while 14 or 14.58 percent were married and those who belong to the upper age bracket. The graduates were still in the period of employment and in terms of education attainment, only 3 graduates or 3.13 percent pursued career advancement with MS IT education. More than half or 68.75 percent were passers of the Personal Computer (PC) Operations National Certificate Level II duly certified by the Technical Education and Skills Development Authority.

Respondents' general point average in communication subjects was obtained in order to determine its significant relation with the respondents' employability. The bulk of the respondents (72.92%) were rated Satisfactory. This result is in consonance with the high number of employed graduates in Business Operations. Along ITE Core and Professional subjects, majority were rated satisfactory having 51.01 percent and 66.67 percent respectively. In general, academic performances of the respondents were satisfactory, an indication that graduates were professionally and academically prepared for job placement

Figure 1. Employability of CSU IT Graduates

Table I.
Graduates Area of Interest

Area of Interest	f	%
PC Operations	44	45.83
Business Processing	3	3.13
System Mngt. & Admin.	1	1.00
Multimedia Technology	24	25.00
System Development	5	5.21
Programming	10	10.42
Research and Development	1	1.00
Hardware Servicing/Troubleshooting	8	8.33

Areas of interest had influenced their employability. Forty-four respondents (45.83 %) were interested in Personal Computer (PC) operations and were in consonance with their employability. This was alongside their high regards to multimedia,

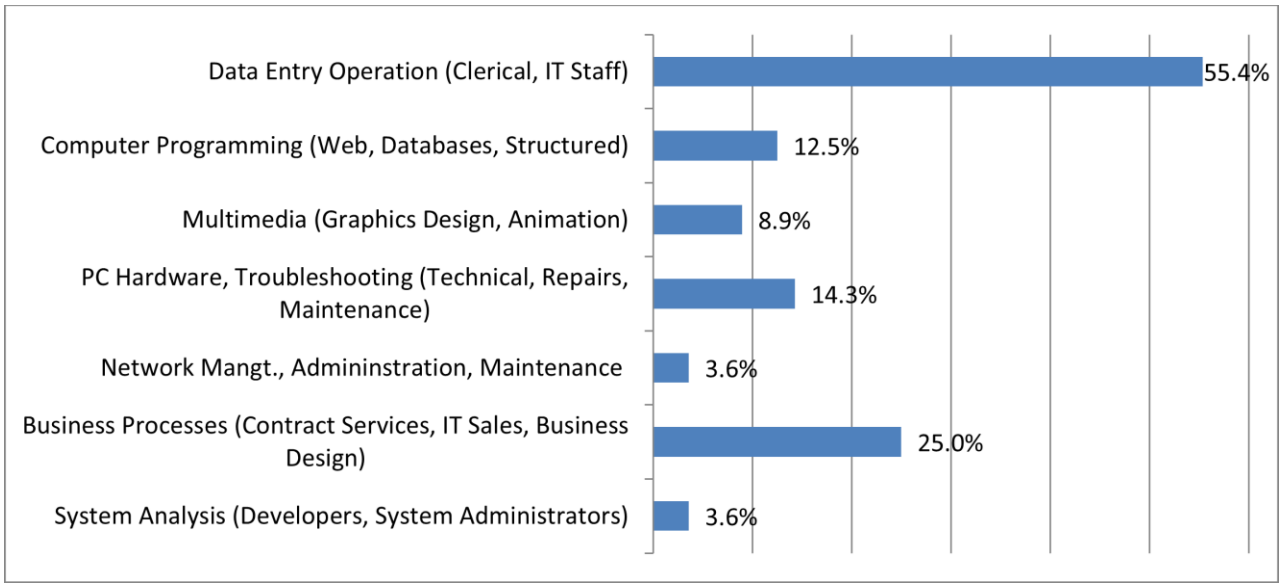

Figure 2. Nature of Graduate and Employment

programming, hardware servicing and systems development respectively. The area of interest of the graduates greatly affected their work in terms of how they deal with and how well they perform duties and functions. All these areas were seen in relationship to the nature of employment the graduates were employed. *(See Table 1.0)* Graduates' involvements in student leadership were observed from 23 respondents, while others were into various socio-cultural activities including sports, literary-academic activities, and in the arts. Respondents were able to attend more than 10 seminars and trainings either related to ICT, inter and intra-personal skills, technical skills, leadership and computer skills.

Although 64 respondents or 66.67 percent were not recipients of any honors and/or awards in College, it was interesting to know that they were still employable. Distributed along different ICT-enabled jobs, 31.55 percent of the graduates were into data entry operation, a result in consonance with their area of interest, although, 14.25 percent were in business processes and pc troubleshooting hardware *(See Figure 2.0).*

A substantial number (85.06%) were working in various private institutions, corporations and industries. Those extending and working hard in the various sectors of government were mostly with holders of PC Operations National Certificate Level II which was converted into an equivalent Civil Service Commission eligibility. *(See Figure 3.0)*

Among the 69 employed graduates, 38 or 55.07 percent were contractual employees. With the limited time to get into a job permanently, six (6) respondents or 8.70 percent landed into a permanent or plantilla position. With a mean monthly salary of P7, 023.95, respondents were compensated minimally by their respective employers presently employed in line with their IT education and ICT trainings and found their IT education and training helpful many times but at time not sufficient.

3.2 Assessment of the IT graduates on School – Related Factors, Program Components, Facilities and Administrative Processes

The perception of the respondents on the extent of the attainment of the objectives of the BS Information Technology of the Cagayan State University Aparri manifested an overall weighted mean of 4.22 or "very

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much". This is a clear indication that the College in general has a clear statement of its philosophy, and that the objectives are in consonance with the national development goals and desirable Filipino cultural values. The ITE program provided very much computer programming experiences through design and development of systems projects and exposure to practicum with a weighted mean of 4.57. The ITE program provided activities for inculcating very much desirable work values and ethics with an assessed value of 4.20. (*See Table 2.0)*

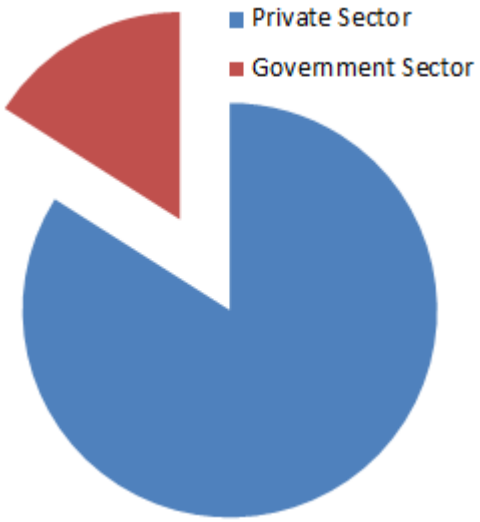

Figure 3. Sector-based Distribution of Employed Graduates

Also, the ITE program developed "much" of the entrepreneurial/accounting competencies that led to the self-employment of the respondents. On program components, IT curriculum and Instructional systems were followed with greater extent with a mean of 4.17 and 4.47. Physical facilities, specifically, school buildings as well as classrooms were adequate, equipped with necessary materials and were under standard specification. Computer laboratory, science laboratory and library resources were adequate, properly equipped with necessary equipment and materials, and with specification being followed with greater extent. *(See Table 3.0)*

Respondents generally that the administrative process through its chief executives whose duties, responsibilities and prerogatives were well-defined, showing a functional administrative officials and staff, and rules governing student administration, retention, acceleration and academic requirements were strictly enforced. With a mean of 4.23, the respondents "Strongly Agree" that class scheduling and work loading of faculty members are well planned and executed.*(See Table 4.0)*

3.3 Relationship between Profile and Employability of Graduates

The study hypothesized that there is no significant relationship between select graduates' profile to their employability. The relationship between select profile and employability of graduates was determined. As reflected in table 5, the employability of the graduate has no significant relationship or is independent of sex, age, civil status, highest educational attainment, eligibility or certifications, general point average in communication subjects, GPA in basic ITE core, professional and in all subjects, honors and awards received.

In contrast, area of interest with R-value of -0.337, is significantly related to employability of graduates. This means that respondents who showed area of interest in a certain IT field were not working or employed in their field of interest.

From the 69 employed graduates, 24 of the respondents were interested in personal computer operations but were not working as data operators, encoders, and the like. Also, participation to various extra-curricular activities as well as attendance to various trainings and seminars significantly affects the graduates' employability with an R-value of 0.386 and -0.316 respectively. This means that graduates with more number of attendances to trainings and seminars were not employed and those with average number were employed.

Table 2
Extent of Attainment of the Objectives of the BS Information Technology Program

The ITE program of CSU	W. Mean	Adj. Value
a. provided computer programming experiences through design and development of systems projects and exposure to practicum	4.57	Very Much
b. provided activities for inculcating desirable work values and ethics	4.20	Very Much
c. developed of the entrepreneurial/accounting competencies that led to the self-employment of the respondents	3.68	Much
d. followed the prescribed IT curriculum	4.17	Much
e. showcased a standard instructional systems	4.47	Very Much
Overall Weighted Mean	4.22	Very Much

Table 3
Overall Assessment of the CSU Facilities

Physical Facilities	W. Mean	Adj. Value
School Building	3.9	Agree
Classroom	4.17	Agree
Computer Laboratory	3.55	Agree
Science Laboratory	3.67	Agree
Library Resource	3.5	Agree
Overall W. Mean	3.76	Agree

Table 4
Assessment of the Administrative Process of CSU Aparri

Statements	W. Mean	Adj. Value
The university has its chief executives whose duties, responsibilities and prerogatives are well defined.	3.7	Agree
The university has an organizational board showing the administrative officers and members, their relationships and line responsibilities.	3.93	Agree
Rules governing student administration, retention, acceleration and academic requirements are strictly enforced no matter who is affected.	4.16	Agree
Class scheduling and work loading of faculty members are well planned and executed.	4.23	Strongly Agree
Overall W. Mean	4.01	Agree

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3.4 Relationship between Employability and School – Related Factors

The correlation between the variables were made in order to obtain the critical value at alpha level 0.05 as well as the computed probability value on the relationship between the employability of the graduates and the program objectives of the University as well the different program components.

The study hypothesized that there is no relationship between the employability of the respondents and attainment of objectives and program components. Instructional systems greatly influenced the employability of the IT graduates. With an r-value of -0.038, this implies that respondents' assessment notwithstanding instructional systems was significantly related to their employability at 0.01 level of confidence. (See Table 6.0). School buildings with an r-value of 0.027 as well as classrooms (0.031) were significantly related to employability of the respondents.

Similar to Malaysia, almost two-thirds of the graduate-respondents in the Information Technology were female (Abdullah, 2012). Apparently, majority of the respondents were gainfully employed. In similar studies, it was reported that majority of the graduates of CSU were employed (Conceja, 1997; Culasing, 2000; Cacacho, 1996; Vega, 1998; Quebral, 2004). There is a greater employment rate for females. This finding agreed with the results of the NSO Labour Force Survey in January 2009 were male unemployment rate is higher by 0.8% or 803, 000 persons. However, Abdullah (2012) reported that majority of employed IT graduates were males due to having the technical or hard skills. Also, having the hard and technical skills, Culasing (2000) recorded a higher employment among males and was supported by Conseja in 2011. The substantial numbers of female gainfully employed were attributed to having the interpersonal and communication as well as soft skills required in the workplace they are in. Majority of them were into data entry operations which were considerably not a job description suitable for male counterparts. Employed male graduates were into technical and other IT-related jobs not technically aligned to the skills among females.

In this study, a younger graduate tends to be employable because the fresh skills and knowledge acquired in school were the demands of the industry. Interestingly, at 20 years old, younger graduate possesses the up-to-date training that could satisfy the needs in the IT workplace. Although considering the type or nature of job the respondents were taken, these findings was definitely in contrast with the NSO LFS in 2004 and in 2009 as cited by Valenzuela and Mendoza (2012) were majority of the unemployed (23.4%) or close to 1, 160, 000 Filipinos were in the age 20 to 24. Vibrant and young, the graduates are in the job so there is lesser evidence of pursuing advance studies in ICT.

The GPA of the respondents in communication subjects recorded a satisfactory remark, although it was not a determinant to employability. Though Green and Knight (2012) exclaimed that oral communication is very important competency in the recruitment and selection process of would-be employees, this does not mean that not having excellent communication skills would not employ a graduate in the job market. Area of interest became a determinant affecting employability. Though respondents were interested more on data entry operations and troubleshooting and some along programming and system management, this variable became an element for landing a job. Abdullah (2012) supports as he pointed out that area of specialization affect employability in the Malaysian context. Active involvement in extra-curricular activities affected the employability of the IT graduates. Similar to Valenzuela and

Mendoza (2012), more of the employed graduates were involved in extra-curricular activities such as academics, service-related works, socio-cultural and sports. Transferable skills which were taken from involvement to extra-curricular activities had given chance for the student to increased potential in employment.

Attendance to trainings and seminars were contributory to landing a job. Acquiring knowledge and skills through short-term trainings or seminars is necessary in the fast changing workplace. In this study, IT education, skills and knowledge acquired in CSU were important in the performance of the job. This has been proved by SEAMEO Innotech in 2009 that respondents strongly disagree that degree has little or no impact on job prospects. Trainings they received which was further noted by their exposure to a good educational atmosphere from CSU according to Vega (1998), provided graduates to start a craft in their field.

As regards status of appointment, most of the employed graduates were contractual which were non-tenure and allows them to venture for other suitable jobs they can apply. More so, private organization tends to endeavor this scheme relative to fringe benefits and related concerns. Nugroho (2012) reported in a study that graduates looking for employment had expressed a preference for working in the private sector.

The nature of employment is mostly focused on data entry operations, and most of the respondents are paid from a salary range between P 9,000.00 to P 11, 000.00 monthly and is favorably adequate income to them. While it is true in the study that most of the respondents were single, most of them worked outside Manila where the cost of living is minimal by the time this study was conducted. Meanwhile, regardless of the length of time in their current positions, the majority of employed graduates were dissatisfied with their current jobs (Nugroho,et. al, 2012). For those who had expressed some degree of job satisfaction, the salary level appeared to have been an influential factor. Most of the respondents agree that there is relevance of their IT education to their current job and found IT important in their workplace.

Similar to the findings of Valenzuela and Mendoza (2009), respondents had a high regard for their university, curriculum and instruction regardless of whether they were employed or not. The adequacy and/or availability of the different physical facilities made used while in Cagayan State University at Aparri had been contributory to the performance of the respondents towards landing a job. This clearly explains the favorable responses on satisfactory state of the school building, classrooms, computer and science laboratories as well as the adequacy and/or availability of enough library resources that supports the College education of the IT graduates.

The strongest bases to graduate employability among Information Technology students of the Cagayan State University includes areas of interest in IT, involvement to extra-curricular activities, and attendance to various trainings and seminars. This proves that transferable skills acquired in participating in co-curricular activities, trainings and seminars were related to employment since employers tend to consider graduates with preferred skills. As regards the relationship between the respondents' assessment on the selected program processes and employability of the graduates, the findings show that an instructional system, classrooms and school buildings proves significant correlations. These findings imply that graduates who are exposed to better facilities specifically school buildings and classrooms are better employed in the IT field. Indeed, the better physical facilities we have and the better instructional systems the graduates are exposed to, the more employable and productive they are. The findings in this study, particularly on physical facilities,

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agree with the findings of Culasing (2000) and of the result of related study conducted by Quebral (2004).

IV. CONCLUSION

It is concluded that area of interest, involvement to extra-curricular activities and trainings/seminars attended were determinants of graduate employability. Shaping the students earlier, exposing them into extra-curricular activities and involving them to related trainings/seminars, then the graduates were likely land in a job. Instructional systems, convenient classroom and school buildings were contributory to graduates' employability, thus, CSU should continually uplift quality of instruction from faculty to facilities by maintaining a pleasing and convenient classroom atmosphere. The study focused more on the responses of the graduates. Further studies may consider inclusion of employers to look into necessary skills required in the workplace. Also, a similar study may want to look into employability in light of the administrators, current students, the graduates and the employers. Factors affecting non-employment of the graduates were not included especially more than 30 percent were no record of the reasons why were they not employed.

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