The Employer Satisfaction Study on Graduates from TVET Institution

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Abstract. The quality of education has been questions in the country due to many polytechnic graduates are still unemployed and work outside the field studied while in polytechnics. Some blame the graduates themselves and others blame the polytechnics for not providing a curriculum that is in line with the requirements of the employer. Therefore, this study was conducted to look at the problem whether among graduates or otherwise. This study aims to identify the level of skills and knowledge among employers toward Malaysian polytechnic graduates. A total of 151 students who graduated in 2014/2015 participated in this study, which also used descriptive statistics. Overall, the results for skills and knowledge in high level. The results of this study are expected to support the Ministry of Education Malaysia in general, the Department of Polytechnic Education and Community Colleges, Ungku Omar Polytechnic especially in the planning of the program. It can also be used as a benchmark for the formulation of the curriculum in polytechnics especially the elements of employability skills. The industry can also use the results of this study for knowledge of employability skills requirements among employees employed to increase work productivity and thus increase the productivity of the company.

Keywords: skill · knowledge · graduates · polytechnic · students

1 Introduction

Currently, the Malaysian government is geared towards National Transformation 2050 (TN50). TN50 is setting up a 30-year target which is an effort to shape Malaysia's future for the period 2020 to 2050. The formation of TN50 is a follow-up to the New Economic Policy (1971–1990) and the vision of 2020 (1991–2020). The purpose of TN50 is to achieve the goals of National Transformation 2050 (TN50). Knowledge is seen as an important asset and reference to guide towards planning, implementation, and monitoring. Thus, the management of knowledge and information is an element that needs to be emphasized by the government to guide knowledge and information used optimally. TN50 also requires a community with technical and vocational skills to meet the needs of the country by 2050. Thus, the Technical and Vocational Education and Training System (TVET) is an education system that can help to achieve the government's

R. Martini et al. (Eds.): FIRST-SS 2022, ASSEHR 733, pp. 94–104, 2023.
https://doi.org/10.2991/978-2-38476-026-8_12

aspiration to produce graduates who are able to fulfill the needs of industry 4.0 and TN50. The Prime Minister in the presentation of the national development plan for the period 2016 to 2020 in the Dewan Rakyat stressed that the Technical and Vocational Training Programme (TVET) is an important platform to increase the skill workforce in preparation for Malaysia towards a developed country by 2020. A total of 1.5 million new jobs will be created through the 11th Malaysia Plan (11MP) and 60 percent of them will require skilled manpower in TVET-related fields. Thus, the Malaysian Education Development Plan 2013–2025 was designed to develop a system that not only focuses on the normal academic pathway but also emphasizes the TVET pathway.

In order to become the institution of choice in technical and vocational education, the management of the polytechnic should strive to make the polytechnic a premier institution, and subsequently, the graduates produced to meet the needs of the employer as well as the job market today. The graduates that employers currently want are a workforce with technical skills and employability skills. Thus, this research aims to examine the employability skills of Malaysian polytechnic students according to the employer's glasses. However, there is a mismatch of skills and knowledge among graduates which are the gap between the criteria required by the industry and the education that graduates are going through [1, 2]. Based on [1], there is an insufficient amount of theoretical and practical knowledge among students at a university while they are undergoing industrial training. The findings of the [3] showed that a mismatch of technical skills and marketability skills were among the causes of unemployment among graduates.

Past studies have found it is difficult to show a clear consensus on which skills contribute to market ability [4]. Although there are employers who make interpersonal communication, and team skills their choice, there are also employers who give preference to information technology abilities. As for [5], generic and non-generic skills play an equally important role in determining the employability of graduates. Hence, there is a need to identify the level of skills and knowledge for polytechnic graduates. Therefore, the objective of this study is to identify the level of skills and knowledge among employers of Malaysia polytechnic graduates. The scope of this study is limited to graduates of Ungku Omar Polytechnic. The respondents included graduates of Ungku Omar Polytechnic who graduated in the 2014/2015 session. Only two types of instruments were used which are interview and questionnaire protocols. The interview and questionnaire protocol are focused on the level of skills and knowledge based on the employer's perception of polytechnic graduates. Based on the review of the literature, employability skills are a very influential area of skill in ensuring the success and progress of a company or industry in general. Human resources that are competent and skilled in carrying out their entrusted responsibilities are the dream and hope of the training center for its trainees. The ability of the trainees to provide satisfaction to employers and the good acceptance of the employers of the workforce produced is a good sign for the programme implemented at Ungku Omar Polytechnic. The results of this study are also useful to employees or graduates who venture into the field of employees to research and apply the elements of employability skills studied in this study. They are more willing to compete and adapt to a changing environment of work due to the k-economy and globalization. As a result, graduates are more confident and competent

and able to earn lucrative rewards from employers. This study contributes to the easing of new epistemology in employability skills towards sustainable development. This opens up a new dimension in the field of knowledge among researchers in the future. Therefore, this study is urgently needed to be carried out due to the factors discussed.

The findings of this research are also useful for those who are involved in the field of employment to make comparisons and assessments on the elements of employability skills that employers desire and that everyone must have before they venture into a particular field of employment. This effort is expected to help them get a job more easily as well as earn a salary based on the knowledge and skills they have. Finally, the findings of this study are expected to contribute ideas, understanding of concepts as well as development in the field of knowledge related to employability skills as well as their importance to the world of work today.

2 Literature Review

Based on the review of the literature, it was found that employers want employees with a wide range of job skills including soft knowledge and skills. The employability of the graduates produced is also a yardstick to the success of the polytechnic and the program followed by the students. This study is expected to provide information and improve the elements of employability that should be emphasized in implementing the program of study in polytechnics as well as the elements of employability in terms of knowledge and skills required by employers and industry inlinewiththeideaoftheIndustrialRevolution4.0. Unemployed graduates area serious phenomenon that occurs nowadays. Labor market statistics show that the output of local institutions of higher learning is still unable to cope with job vacancies even though the output of a group of workers exceeds the demand of employers. Among the main factors of the occurrence of this phenomenon is that the resulting graduates are still unable to meet the requirements of today's employers.

Employability is defined as someone capable of obtaining the skills and knowledge toper form multiple jobs at any one time, not only are they able to perform those tasks quickly but they can perform tasks without further training [6]. Whereas [7] state this employability refers to the specific personality of individuals acquired and used in their career profession. [8] stated that employability is a set of attitudes, knowledge, and skills that potential employees need to have to ensure they have the ability in the workplace. Besides that, employability skills the basic skill needed for one to get job and enable the individual to carry out duties well [9].

According to [10] skills training is an employee who can optimally use new technologies and materials as well as effectively use inventiveness and innovation. For this purpose, a country must develop a work force that not only has high academic and technical qualifications but acquires a diversity of skills and knowledge using ICT. A person with great skills will be able to increase employers or the work place productivity [11]. A work force with employability skills can cope with social change and ever-changing economic conditions [12]. Some employers consider academic competence alone insufficient and begin to ask higher education institutions to produce graduates equipped with various elements of employability. Scholars in the field of knowledge sharing also mention a variety of definitions of knowledge. Knowledge may also be described as an

individual's experience and understanding that is transformed into a meaningful form and used by the individual to complete a task. Individuals can speak, formulate, write, draw and collect newly acquired information, according to [13]. This information can be preserved in a variety of formats, including papers, photos, and videos. There are two types of knowledge: implicit and explicit knowledge. Implicit knowledge is personal information derived from personal experience and includes intuition, personal values, and beliefs [14]. Implicit knowledge created by academics and imprinted in their minds, for example, is a store house of intellectual capital in Higher Education Institutions.

In Malaysia, a higher education institution now offers students the opportunity to put their classroom learning into reality through industrial training. The six-month training period attempts to acquire knowledge in line with the abilities required by the sector, and it appears that this will play an essential part in ensuring a quality and professional workforce in the future [15]. When it comes to teaching staff, knowledge is an issue that should be present. Knowledge is an important aspect of improving development and productivity. Based on the [16] states that there are two important criteria in ensuring that economic development in Australia is constantly improving, namely by further improving the skill and knowledge level in employment in the present or future. A knowledge-driven economy will add sources of growth through activities that can increase value-added and thus contribute to the Overall Productivity Factor. To achieve this level, employees need to be equipped with skills and knowledge that in turn will enhance creativity and innovation to bear the brunt of economic improvement in the era of globalization and liberalization [17]. The employees must have the ability to generate knowledge, share existing knowledge, and apply organizational-related knowledge to a new atmosphere is critical [16].

The bigger challenge is to provide the human capital that the industry needs and meets the satisfaction of employers. [18] stated that, there are mismatch between the need of industry and education in institutions. The gap occurs will not be able to fulfill the skills needed by the industry. It is often raised about graduates who do not have enough skills and do not meet the requirements of the industry they are about to venture into. According to [19], the problem of unemployment among university graduates is often associated with the issue of shortage and weakness of most graduates of higher institution. The curriculum in local educational institutions is also said to not meet the needs and demands of the private sector job market which provides 90 percent of the job opportunities in the country. The fundamental problems faced by local university graduates to get a job are the lack of communication in English, using computers, interacting with other races, working as a team, and their willingness to work outside of office hours of duty.

Now, employers are not only looking at academic qualifications but also looking at the ability or skills of graduates from the spiritual and entrepreneurial aspects [19] discussed the issue of skills that graduates need to have as well as having good academic qualifications. The findings of their study found that graduates with high soft skills such as self-employment, information technology skills, leadership, adaptability, and intellectual skills have helped graduates to get a job in a short period. According to [17], the employ ability of graduates refers to skills that include personality, interpersonal skills, and even good attitudes and behaviors. It states that in the ever-changing world of

work, industry employers need workers who are more creative, flexible, and have high interpersonal skills.

3 Methodology

This study was conducted through the quantitative research approach method using survey forms conducted on 331 people in the industry sector throughout Malaysia. Quantitative methods use descriptive statistical analysis using SPSS Ver23 software. In this study, the population was 331 listed in the tracking directory of Malaysian polytechnic graduates. Studies were conducted quantitatively by conducting surveys on the sample of employers of polytechnic graduates. We used random sampling techniques in the selection of study samples. The selection of this method was made to ensure that the study sample can represent the employer population in a polytechnic. The total employer size is based on a sample size determination table by [20] with a confidence level of 95%. Thus, this study will use 331 employers who have been chosen at random. This is to ensure that the selected samples represent the actual industrial population. For qualitative data collection through interview techniques, this study uses purposeful sampling which is a non-probability sampling technique that selects samples based on the importance and purpose of the study. This technique is suitable for emphasizing variable control [21]. According to [3], this technique is similar to the strata sampling technique. The selection of suitable respondents is necessary for an assessment to meet the required information needs i.e. stakeholders. Questionnaire studies formed from the previous section are used as a data collection tool. The questionnaire used for the study contains three main sections. Part A consists of the company's background information, Part B of the general information of polytechnic graduates and Part C is more about assessing the aspects of skills, knowledge, and soft skills. The questionnaire was sent and emailed to the employer and followed up via a phone call to ensure that the employer received the instrument that had been sent. Stamped and self-addressed envelopes are also provided for the re-delivery of completed questionnaires. To ensure that the findings from the questionnaire remain consistent, feedback and comments from structured interviews will also be taken into account in support of the findings of the questionnaire.

The instruments used in this study were questionnaires adapted from [22], [24] and [19]. The language and arrangement of items however have been modified based on the suitability of the local environment. The new item was purified because the previous study instruments were found to be non-exhaustive in the aspect of item measurement. The questionnaire was formed by taking into account all the variables discussed in the study of the literature. Before the collection of data and actual studies were carried out, the introduction of the purpose of the study is stated together in the questionnaires that have been distributed. Respondents were also told that during the course of the study, other relevant information would also be collected. Respondents were given confidence that the information provided will be used only for research purposes. Respondents were asked to give honest and voluntary answers. Their participation contribution was highly appreciated and also important for this study. The instrument used in this study was a questionnaire containing three constructs with 10items. Part A of the questionnaire includes background information of the company or respondent containing four items.

Part B is related to the general information of graduates and has seven items. Part C related to skills and knowledge has a total number of items of 10. This questionnaire item was measured using the Likert Scale. The use of the Likert Scale was chosen because it has high reliability and validity [4]. The Likert scales used are (1) Very Low, (2) Low, (3) Medium, (4) High, and (5) Very High.

4 Data Analysis and Interpretation

Table1 shows a total of 331 questionnaires were sent and emailed to employers throughout Malaysia. They were 151 respondents gave feedback, and the feedback rate was 45.62%.

Table 2 shows the reliability analysis of each variable in the study. The findings of the reliability analysis of the variables and dimensions of the study found that the Alpha Cronbach coefficient had a value of 0.956. This suggests that the questionnaire instrument has high reliability.

Table 3 shows the demographic analysis of the study looked at the number of respondents (employers), the type of organization, the number of respondents by field, and the starting salary offered by the employer to polytechnic graduates. The graduates by field of Mechanical Engineering total 16 (10.6%), Electrical Engineering total 7 (4.6%), Civil Engineering total 31 (20.5%), Shipping Engineering total 2 (1.3%), Information Technology total 11(7.3%), Trade total 49 (32.5) and others total 35 (23.2%). Most graduates earn between RM1,001 and RM1,500 (88.7%), followed by a total salary ranging from RM1,501 to RM2,000 (11.3%).

Table 4 shows the mean score and standard deviation of the skills of PUO graduates based on the perception of the employer. On the whole, employers agree that the level of perception of graduates of PUO is high (Mean = 4.14). The highest mean are the skills of using a computer in information processing (Mean = 4.18) and the skill of choosing equipment/technology (Mean = 4.18). The second highest mean is for the

Table 1. Questionnaire Sent, Feedback Received, and Feedback Rate

Questionnaire	Sum	Feedback Rate
Sent/email feedback	331	
received	151	45.62%

Table 2. Reliability Analysis

Constructs	Item numbers	Alpha
Skills	6	
Knowledge	4	45.62%
Sum	10	0.956

Table 3. The Demographic Background of the Respondents

Respondent Profile		**n**	**(%)**
Organization	Private	144	95.4
	Government	7	4.6
Field	Mechanical Engineering	16	10.6
	Electrical Engineering	7	4.6
	Civil Engineering	31	20.5
	Shipping Engineering	2	1.3
	Information Technology	11	7.3
	Trade	49	32.5
	Others	35	23.2
Salary	RM1,001–RM1,500	134	88.7
	RM1,501–RM2,000	17	11.3

Table 4. Mean Score and Standard Deviation of Graduate Skills

Item	**Skills**	**Mean**	**S.D**	**Rank**
C01	Information management skills	4.14	0.622	3
C02	Skills of using a computer in information processing	4.18	0.644	1
C03	Proficiency in choosing equipment/technology	4.18	0.612	2
C04	Creative and innovative thinking skills	4.12	0.652	5
C05	Decision-making skills	4.09	0.615	6
C06	Problem-solving skills	4.13	0.592	4
	Average Mean Score	**4.14**	**0.513**	

level of information management skills (Mean = 4.14).The lowest mean is for decision making skills (Mean = 4.09).

Table 5 shows the mean score and standard deviation of knowledge of PUO graduates based on the perception of the employer. On the whole, employers agree that the level of perception of graduates of PUO is high (Mean = 4.11). The highest mean is for the level of knowledge of PUO graduates to be related to knowledge related to the field of duty (Mean = 4.13) followed by the level of knowledge of graduates of PUO related management about the organization (Mean = 4.12).The lowest mean is for technical knowledge based on work requirements (Mean = 4.08).

Table 5. Mean Score and Standard Deviation of Graduate Knowledge

Item	Skills	Mean	S.D	Rank
C07	Technical knowledge based on work needs	4.08	0.627	4
C08	Knowledge of applying technology	4.10	0.630	3
C09	Management knowledge of the organization	4.12	0.610	2
C10	Knowledge relating to the field of duty	4.13	0.574	1
	Average Mean Score	**4.11**	**0.520**	

5 Discussion and Conclusion

The skills of PUO graduates are non-leaning variables and the results of the analysis show the overall mean is high (Mean = 4.14). This means that the majority of employers agree that PUO graduates have the necessary skills and that the overall level of work performance of polytechnic graduates is good. Based on the results of the analysis, the majority of employers agree that PUO graduates have high skills in using computers for information processing purposes (Mean = 4.18) and skills in choosing equipment/technology (mean = 4.18). The results of this analysis are in line with the previous researchers, [13] who stated that employers would prefer to hire graduate that have analytical skills.

Therefore, PUO graduates have technical skills relevant to current developments and PUO always provides a hands on educational approach to ensure that its graduates can compete in the real industry world. It is also in line with [3] who also stated that a workforce with employability skills can cope with any social changes and ever-changing economic conditions Referring to this study, knowledge is a non-dependent variable and the results of the analysis show that the overall mean of employers' perception of the knowledge of PUO graduates is high (Mean = 4.11). Most employers agree that the level of knowledge of graduates of PUO in the areas of work carried out in the industry is excellent (Mean = 4.13). The findings of this quantitative and qualitative study are parallel where core knowledge skills play an important role in determining the opportunities for graduates to get jobs whether in small, large, or medium sized organizations.

Empowering the technical field of polytechnic graduates is a challenge of higher education and is the basis of polytechnics to ensure that graduates from polytechnics have skills in the field that are involved while in polytechnics. This effort also meets the requirements of the Department of Polytechnic Studies policy which set 10 surges on this challenge, among which is the 2nd surge of quality TVET graduates and the 10th surge of producing holistic graduates. Therefore, the mobilization of all parties in implementing this policy should be integrated and supported by outsiders, namely the industry. In other words, polytechnic graduates must at least have a technical skills certificate, a Malaysian skills certificate, a certificate of competency, and a professional certificate to enable them to compete in the external market. In this regard, Polytech Knowledge Linkages to Industry (PKLI) was created to help polytechnic students improve their technical skills

by implementing a PKLI structured program while undergoing six months of Industrial Training (LI) in the industry.

This program involves the institutions and industries. Institutions can establish a relationship of understanding through Notes of Understanding and opportunities to exchange information and experiences through the invitation of industry speakers. In addition, the PKLI program also provides opportunities and benefits for lecturers to improve their skills through up skilling and reskilling. To further enhance the employability of polytechnic graduates, the programs offered must meet the current needs of the market with a focus on the thrust areas that have been set. In addition, polytechnic graduates need to have sufficient skills, employability skills, and sufficient entrepreneurial skills to maintain the ability of polytechnic graduates to seize job opportunities in the industry. A new approach is needed for the construction of skills and the application of an entrepreneurial culture among students. In addition, the offering of new programs should involve the cooperation and recognition of various parties such as industry and professional bodies to meet the current needs of the industry.

The relationship between the PUO and the employers in the industry can be established by inviting industry representatives to the PUO every semester to participate in dialogue sessions and deliver seminars to lecturers and students. In addition, lecturers at PUO are encouraged to undergo a thorough menu of the industry to gain the latest knowledge, skills, and experience to be shared with the students. Therefore, this can further strengthen the relationship between the PUO and the industry. The exchange of knowledge and experience in the industry sector can have a long-term positive impact on the teaching, learning, and management style at PUO. PUO has not forgotten the industry and employers who have contributed a lot to the progress of the PUO by inviting industry representatives to the PUO convocation every year. In this way, the openness of opportunities and prospects of PUO graduates can be highlighted during the convocation. The students' excellent activities in the academic and co curricular fields are exposed by giving appreciation and contribution to the successful students. Therefore it can to some extent reveal the skills of graduates of PUO.

The findings showed that the employability of PUO graduates was high at 94.6% (graduate tracking data). This indicates that employers are willing to hire PUO graduates to work in private or government organizations. This is because employers' perception of employability skills for polytechnic graduates is high at 86.3%. The overall results of the analysis showed that the majority of employers agreed that PUO graduates have excellent skills and knowledge and overall mean achievement is high. The study was conducted on employers with PUO graduates who had graduated in 2014 and 2015. This study is also limited to organizations/companies located in Malaysia. Organizational/company information is obtained from the data of PUO graduates working as a result of the graduation tracking studies conducted. Further studies from the perspective of polytechnic graduates should be carried out in the future as feedback from employer is very important as a basis for formulating policies and strategies for the success of the Polytechnic Transformation Direction. Through this strategy, it can also indirectly help each polytechnic to create action plans and initiatives that can improve the employability of graduates, and improve the needs of R&D and curriculum.

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