

## Perceiving The Importance Of Job-Related Skills In The 4<sup>th</sup> Industrial Revolution Era From The Perspectives Of Graduates And Employers

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### **Abstract**

*This study focuses on a comparing the perceptions of the importance of seven job-related skills (intrapersonal, interpersonal, computing, entrepreneurship, management, personal organization & leadership) between graduates and employers. These include the four job-related skills emphasized in the 4th Revolution Industry (i.e. communication, critical thinking, creativity, & collaboration). We also compared 17 interview attributes provided in the graduates 'curriculum vitae perceive to be important by both graduates and employers. A total of 279 graduates and 102 employers participated in this study. We predicted there would be a gap between the two parties in how they perceive the importance of each job-related skill and job-characteristic. A set of questions divided into four sections was used to measure the variables. These sections are Part A: Demographic variables; Part B: Seven Job-related skills (adapting employability-related questions from Goldsmith's soft skills inventory); Part C: Four job-related skills based on the 4C's in the Fourth Industrial Revolution (communication, critical thinking, creativity, & collaboration), and Part D: The 17 interview attributes for the job screening process. The study only revealed that employers perceived three interview attributes (i.e. internship, studying abroad and co-curricular activities) as more important predictors of success in the job screening process. These findings may increase awareness among both universities and graduates of the importance of the three factors emphasised by employers in the job screening process. Universities and relevant authorities should encourage students to be actively involved in co-curricular activities, internships and outbound mobility. This may result in more balanced graduates who can meet the demands of industry.*

*Keywords: employability, job-related skills, graduates, employers*

### **I. INTRODUCTION**

To obtain a better job in today's competitive world is the dream of all graduates. However, a majority of graduates are concerned about the shift from the world of education to the world of work [1]. This might be because the unemployment rate is one of the current issues much discussed by higher education scholars [2]. Each year, the employment rate needs to be evaluated and monitored by university officials to help universities find relevant strategies to tackle unemployability among graduates. Unemployability affects graduates around the globe, including those in Malaysia. Each year, more than 200,000 Malaysian students graduate from higher learning institutions, and 40.5% of those who are unemployed in the country are graduates [3]. The Graduate Tracer Study conducted in 2018 by the Ministry of Education revealed that nearly 60% of Malaya's graduates remain unemployed one year after graduation [4].

The increasing number of unemployed graduates is a major concern among graduates, industries and institutions, such as the Ministry of Higher Education and universities. The Department of Statistics Malaysia (2011) found that the unemployment rate in Malaysia increased from 3.2% in 2007 to 3.7% in 2009 [3]. Meanwhile, in Sabah, the number of fresh graduates without jobs remains high [5]. The Department of Statistics Malaysia stated that Sabah's unemployment rate in 2015 stood at 5% and increased to 5.4% in 2016 [6]. As concern about the unemployment rate among graduates is increasing, one of the aims of the Ministry of Education in tackling the problem is to increase the current graduate employability rate of 75% to 80% by 2025 [7]. Employability is defined as a set of achievements, understandings and personal attributes that might help graduates obtain jobs and succeed [8]. According to the Graduands Detection Survey System, 54,103 graduates were unemployed after completing their studies in 2016. The highest number of unemployed graduates have degrees in business administration, applied science, human resource

management, accounting and arts and social science [9]. Graduates with degrees in science, literature and social science tend to have a higher rate of joblessness [10]. Thus, we can see that unemployability affects different disciplines in both the sciences and the arts.

One reason contributing to the unemployability rate among graduates is the lack of soft skills as well as language and communication skills. In the era of Fourth Industrial Revolution, most employers do not just look at a graduate's academic qualifications. They want graduates with soft skills and the right attitude, both of which are crucial in almost any career dealing with businesses and human relations [11]. The review of Jobstreet.com revealed that most graduates are unable to land a job due to poor communication skills in addition to poor attitudes and personalities [12]. Apart from that, transferrable skills such as leadership, teamwork, communication, critical thinking, and problem solving are lacking among graduates. All these skills are emphasised and taken into consideration when hiring employees. Furthermore, emotional intelligence, complex reasoning, negotiation and persuasion are also lacking among graduates. A recent study revealed that four of ten corporations and almost half of academic institutions believe that recent graduates lack of the soft skills needed in the workforce [13].

Even though most industries rely on the artificial intelligence in this digital era, industry still needs workers who can help increase productivity. In the process of hiring workers in industry, employers not only focus on graduates' specific degrees but also on their transferrable skills. This is to ensure that industry can increase productivity and profitability. In addition, good job selection can bring more benefits not only to industry but also to graduates, the community and the overall economy of a country. This might be why employers tend to be strict in vetting potential employees. In recognition of the changing nature of work and the workplace, employers increasingly demand soft skills to support their enterprises. Soft skills lead to better business performance, which can translate into economic growth [14].

Industry has some negative comments about today's graduates based on employers' experiences during the job screening process. These negative comments focus on job-related skills, particularly communication and problem-solving skills in addition to qualifications to meet industry needs [15]. Employers are looking for graduates who have problem-solving, decision-making and communication skills; the ability to work independently; a willingness to learn and grow; and the ability to work under stress [16].

To combat the negative comments and unemployability, the Ministry of Higher Education and universities have taken various initiatives. These include implementing the integrated cumulative grade point average (iCGPA), the gap year, the 2u2i Program and the CEO@ Faculty Program. In addition, the Service Learning Malaysia - University for Society (SULAM) program has been embedded and emphasised in various courses. This is to produce holistic, entrepreneurial and balanced students [17]. Through SULAM activities, students have the opportunity to increase their soft skills (interpersonal, leadership, communication, creativity and critical thinking skills) in implementing and analysing community programs. In addition to all this, academics need to ensure thinking skills, academic resiliency and the ability to cope with the unemployability risk factors are promoted among students during academic activities.

To fully understand and solve the employability issue, various studies must be conducted. Particular emphasis should perhaps be placed on looking at job-related skills from different perspectives, namely those of graduates and employers. This can be achieved by comparing graduates' and employers' perceptions of the importance of each job-related skill and each interview attribute. The gap between students' developed skills and ability on campus and practical job requirements is one of the reasons for unemployment [2]. This is in line with the Malaysia Education Blueprint 2015–2020 according to which there is a mismatch in the supply and demand of graduates, with employers reporting that graduates lack the requisite knowledge, skills and attitudes [7].

The recent study involved graduates from various universities and employers representing governmental and non-governmental agencies. The research findings may help to identify the differences or gaps between the two parties regarding the job-related skills and interview attributes that need to be emphasised in applying for jobs. The skills gap refers to the degree of alignment or misalignment between the skills youth develop through education and training and the skills required by employers [14]. These findings may give graduates' insight regarding obtaining jobs and may help them be more prepared to fulfil the demands of industry. We

predicted that there might be a gap between graduates and employers in relation to certain job-related skills. Some graduates might not be aware of the traits employers look for in graduates.

## II. LITERATURE REVIEW

One study found that soft skills play a significant role in the gap between graduates and employers [18]. Another study revealed a strong relationship between employability skills and work enthusiasm, trust and teamwork among students, graduates and employers. These three elements were of the most importance compared to commercial awareness, networking and negotiating skills [19]. Furthermore, all the soft skills (e.g. communication, teamwork, problem-solving, decision-making, planning, organisation, writing and computer skills) and data and information processing skills are important elements that may help graduates obtain jobs [20].

Another study revealed that university students should have non-academic skills, such as teamwork skills and emotional intelligence, which may help them in their future careers [21]. Academic qualifications are not the sole factor helping graduates join the labour force [8]. Graduates are concerned with three things in terms of employability—the job market (whether there are jobs and opportunities), employability skills (having the right skills) and passion or beliefs (what one wants to do). These three elements might derive from the perceptions of both graduates and industry in terms of employability skills [22].

Past studies [23, 24, 18] have revealed that soft skills, such as the ability to adapt to the work environment, a proactive attitude and a willingness to learn new things, are skills graduates must consider acquiring. In a study of 900 companies across the country, The World Economic Forum found that skills such as teamwork, knowledge of digital tools, an understanding of rules and regulations, a sense of responsibility and commitment to work are very relevant for future employability [26]. Although past studies [23,24,25] have shown that having soft skills facilitates employability, academic skills are also vital. Academically successful graduates find it easier to get a job, and they tend to have high self-esteem and self-confidence [26].

However, a person who has achieved good academic results will be even more successful if they have good soft skills. Although good academic qualifications are highly valued, by themselves they are no longer sufficient to secure employment [8]. In some cases, even graduates with outstanding paper qualifications who apply for jobs can be rejected because they do not have adequate soft skills [11]. Most industries prefer to hire graduates who excel in both areas. For example, to become a good engineer one must be able to create an effective work team that can help in accomplishing a task or goal [27]. Different opinions regarding the type of employability skills that need to be prioritised can be addressed by examining the gap in perceptions regarding employability that exists between graduates and industry. Reports from different organisations have shown a slight difference in the attributes listed as most important in the job market [28]. Studies conducted in many countries have consistently shown there is a huge skills gap among tertiary education graduates [29-32]. Generally, research in this area uses employers' perspectives and ascribes the skills gap to poor-quality tertiary education and calls on tertiary education institutions to improve the quality of teaching and training activities to produce a skilled labour workforce.

Recent studies, mostly looking at employers' perspectives, have consistently reported that tertiary education graduates are increasingly unable to perform work duties as effectively as expected. For example, employees in the United States lack soft skills more than technical skills, particularly communication, managerial, supervisory, teamwork, problem-solving, leadership and project management skills [29]. In Australia, a study with approximately 10,000 participants involved in managing different firms also suggested there is a severe lack of skills among employees [31]. Employees who possess a high level of basic skills did not possess adequate leadership, management and profession-specific skills [31]. Additionally, the UK Commission for Employment and Skills (2016) reported that about 1.4 million staff members lack the skills needed to perform their jobs. The survey found that staff members commonly lack the people and personal skills related to workload management and teamwork. The survey also found a shortage of technical and profession-specific skills among staff members, particularly complex analytical skills. Generally, studies of this type critique recent graduates' lack of skills and call for universities to improve the quality of their teaching and training activities to produce a better labour workforce [32].

From past studies, we may conclude that the way employers and graduates perceive the importance of job-related skills differs somewhat, creating a gap between the two parties. Based on the comments of

employers, some graduates might not realise the gap that exists. Therefore, a study to examine the difference between the perceptions of graduates and employers regarding job-related skills and their effects on graduate employability in the 4<sup>th</sup> Industrial Revolution era is needed.

### III. METHODOLOGY AND RESULT

#### 3.1 Methodology

We used a survey research design to collect research data, administering both online and paper surveys to graduates and employers from various organisations. We approached participants on a one-to-one basis and online by using Google Forms. Each participant was requested to answer all 63 questions, which took approximately 15–20 minutes, and then to submit the questionnaires using Google Forms. Once the results were collected and inputted into SPSS 24, descriptive and inferential statistics were determined.

#### 3.2 Participants

Participants from both groups were selected based on criteria suggested by Cohen for each item on the scale [33]. Ten participants will be allocated for each item, and the total number of items for all scales is 36, multiplied by 10 participants [33]. We targeted graduates from the 10 faculties at the University Malaysia in Sabah. Participants who fit the criteria for graduates and employers were selected using purposive sampling. In this study, graduates are those who have earned a degree or diploma from a local or overseas university. The employers are from local and private organisations and have experience in job hiring. The invitation to participate in the study was sent to participants who met the criteria via email, Facebook, WhatsApp or a formal invitation letter. Participants filled out the questionnaires via Google Forms and were asked to pass on the survey link to friends who met the study criteria and would be willing to participate. Participation was completely voluntary, anonymous and confidential. Participants were informed that their results will be kept solely for research and publication purposes.

#### 3.3. Research Instruments

A questionnaire consisting of three sections was used in this study.

**Section A: Demographic profiles** – This section gathered participants' demographic information, such as the name of university and program, year of graduation, work experience, age, gender, duration of their first job and current job.

**Section B: The six elements of job-related skills scale** – The research question is adapted from Goldsmith's soft skills inventory [21,34]. Participants needed to indicate the importance of various job-related skills from 1 (very unimportant) to 5 (very important) for items relating to each job-related skill, namely, intrapersonal, interpersonal, computing, entrepreneurship, management, personal organisation and leadership. The sample item for each job-related skill was based on the suggested examples. The sample items for each of the seven job-related skills are as follows, with interpersonal skills (the ability to work and contribute to the group/team) being first, intrapersonal skills (the ability to improve on weaknesses based on past performance) being second, computing skills (the ability to use word processing keyboard software) being third and entrepreneurial skills (the ability to be self-employed) being fourth. The remaining skills are management skills (the ability to lead a project), personal organisation (the ability to use time and materials in the best interests of the company) and leadership (the ability to motivate others to work toward a common goal).

**Section C: The four job-related skills of the 4<sup>th</sup> Industrial Revolution era** – Four job-related skills are suggested as being particularly relevant in the 4<sup>th</sup> Industrial Revolution era (i.e. communication, critical thinking, creativity and collaboration skills). Participants rated the level of importance of each item relating to each job-related skill using a 7-point Likert-type scale ranging from 1 (very unimportant) to 5 (very important). The items for the four job-related skills of the 4<sup>th</sup> Industrial Revolution era were created by referring to past studies [35,36,37]. The sample items for each of the four job-related skills are as follows: creativity skills (the ability to produce an original and valuable project/item), communication skills (the ability to listen attentively and give appropriate feedback), critical thinking skills (the ability to make logical conclusions by analysing relevant data) and collaboration skills (the ability to create networks with other groups or organisations in implementing projects).

**Section D: Interview attributes** – This scale was adapted from a previous scale [38,21]. There are 17 closed-ended items and the response scale ranges from 1 (least relevant) to 5 (most relevant). Each participant had

to rate the level of importance of each interview attribute. The samples of interview attributes include ‘the strength of the cover letter’, ‘curriculum activities’, ‘attitude towards work’ and ‘internship’.

**Section E: Social Desirability Scale** – The Short Social Desirability Scale consists of eight items measuring social desirability [3]. Two of the items are as follows: ‘Have there been occasions when you took advantage of someone?’ and ‘Are you quick to admit mistakes?’ The response scale is 1 (yes), 2 (not sure) and 3 (no), except for items 1, 2, 5 and 6, for which the scores were reversed.

### 3.4 Results

In total, 102 employers and 281 graduates completed the questionnaire. The data for employers showed normal distribution. Regarding the graduates’ data, the six variables (i.e. intrapersonal, management, leadership, collaboration and critical thinking) showed non-normal distribution. The variables showed skewness and kurtosis scores greater than 2.00, indicating non-normal data. The outliers for each variable were removed before we ran the final analysis. Table 1 shows the scores for skewness and kurtosis for each variable before and after we excluded the outliers.

**Table 1. Skewness and kurtosis for each variable before and after outliers were removed from graduates’ data**

Variables	15 id remove	Score	Before ID remove (401 participants)		After ID remove (386 participants)	
	ID removed (number of item)		skewness	Kurtosis	Skewness	Kurtosis
Interview attributes	344,363,364,388	33	-1.46	4.08	-.66	1.21
	389 281,282	35				
Interpersonal			-.42	-.59	-.46	-.52
Intrapersonal			-.50	-.25	-.54	-.23
Computing			-.72	.15	-.72	.24
Enterprise	373,297,328	18	-1.15	2.44	-.66	1.87
Management					-.80	.39
Personal organization	388,389	20	-1.30	2.31	-.90	.69
	363.364	21				
Leadership			-.83	.70	-.78	.52
Attitude towards ethics			-1.09	1.08	-.99	.95
Collaboration	227	10	-1.36	3.90	-.90	.69
Thinking	257,288,370,319	11	-1.35	2.08	-1.25	1.83
Social Desirability			.50	.15	.50	.32

The internal consistency for each variable for the employability skills ranges from .83 to .91, while the internal consistency for the four employability elements in the 4<sup>th</sup> Industrial Revolution era range from .87 to .92. The internal consistency for personality and social desirability are .70 and .60.

**Table 2. The internal consistency of each scale for employers (N=102) and graduates (N=279)**

Scales		Employers	Graduates
Scales	Number of items	Internal consistency	Internal consistency
Interview attribute	13	.85	.89
Interpersonal	12	.89	.94
Intrapersonal	8	.83	.90
Computing	9	.86	.89
Enterprise	9	.91	.93
Management	10	.89	.93
Personal	9	.88	.92
Leadership	5	.84	.88

<b>Attitude towards ethics</b>	9	.91	.94
<b>Creativity</b>	6	.87	.89
<b>Communication</b>	16	.90	.93
<b>Thinking</b>	8	.96	.94
<b>Collaboration</b>	9	.92	.94
<b>Personality</b>	10	.70	.73
<b>Social Desirability</b>	8	.60	.57

In the final analyses, the collaboration variable was not included because it showed high correlation with social desirability. Table 3 shows the correlation between social desirability and all elements of job-related skills.

**Table 3. The correlation between social desirability and job-related skills**

<b>Job-related skills</b>	<b>r values</b>	<b>Sig.</b>
<b>Interpersonal</b>	-.16	.13
<b>Intrapersonal</b>	-.19	.07
<b>Computing</b>	-.15	.15
<b>Enterprise</b>	-.08	.45
<b>Management</b>	-.13	.22
<b>Personal Organization</b>	-.10	.34
<b>Leadership</b>	-.08	.42
<b>Creativity</b>	-.06	.60
<b>Communication</b>	-.15	.15
<b>Critical thinking</b>	-.17	.11
<b>Collaboration</b>	-.29	.00

Table 4 shows the demographic profile of participants for both groups of participants, employers and graduates. The majority of both groups of participants were female. In terms of type of organisations, for employers, a majority of 79 (74.50%) worked for governmental organisations, whereas 22 (21.60%) worked for private organisations. Regarding the graduates, 178 (47.30%) worked at private organisations, while 72 (19.10%) worked at governmental organisations (see Table 4).

**Table 4 - The Demographic Profile of Employers (N=102) and Graduates (N=279)**

<b>Variables</b>	<b>Employers</b>		<b>Graduates</b>	
	<b>Number</b>	<b>Percentage</b>	<b>Number</b>	<b>Percentage</b>
<b>Gender</b>				
<b>Male</b>	49	41.20	84	30.10
<b>Female</b>	53	44.50	194	69.50
<b>Missing values</b>	17	14.30	1	0.40
<b>Type of Organisations</b>				
<b>Employers</b>				
<b>Government</b>	79	74.50		
<b>Private</b>	22	21.60		
<b>Missing</b>	4	3.90		
<b>Employed graduates (n=250)</b>				
<b>Government</b>			72	19.10
<b>Private</b>			178	47.30
<b>Unemployed graduates</b>			29	7.70
<b>Ethnicity</b>				
<b>Sabah indigenous group (Kadazandusuns, Bajau, Murut, Rungus, Kedayan, Brunei, Bisaya, Iranun, Bugis)</b>	74	72.5	187	67
<b>Sarawak indigenous group (Iban,</b>	1	1.0	11	3.90

<b>Bidayuh)</b>	15	14.70	58	20.80
<b>Malay</b>	6	5.90	16	5.70
<b>Chinese</b>	2	2.00	2	0.70
<b>India</b>	1	1.0	1	1.40
<b>Others (Siamese, Toraja)</b>	1	1.0	1	1.40
<b>Missing values</b>				
<b>Educational Level</b>				
<b>Diploma</b>	33	32.40	6	2.20
<b>Degree</b>	57	55.90	271	97.10
<b>Missing values</b>	12	11.80	2	0.70

The study showed there was no difference between graduates and employers regarding the seven job-related skills (i.e. interpersonal, intrapersonal, computing, enterprise, management, personal organisation and leadership skills).

**Table 5. The difference between graduates (N= 279) and employers (N=102) regarding the seven job-related skills**

<b>Employability skills</b>	<b>Group of participants</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>t value</b>	<b>Sig</b>
<b>Interpersonal</b>	Employer	97	59.30	11.97	-.53	.60
	Graduates	279	63.31	74.25		
<b>Intrapersonal</b>	Employer	95	35.82	3.67	-1.86	.06
	Graduates	274	35.95	3.05		
<b>Computing</b>	Employer	95	37.67	5.44	-1.40	.16
	Graduates	274	38.54	5.12		
<b>Enterprise</b>	Employer	95	36.75	6.60	-.72	.47
	Graduates	274	37.28	6.18		
<b>Management</b>	Employer	97	59.30	11.97	-.53	.60
	Graduates	279	63.31	74.25		
<b>Personal Organization</b>	Employer	96	36.14	4.25	-.08	.94
	Graduates	273	36.18	4.25		
<b>Leadership</b>	Employer	95	22.09	2.93	.69	.49
	Graduates	275	21.85	3.00		

The study showed there were no differences between graduates and employers regarding the four job-related skills (i.e. creativity, critical thinking, communication and collaboration).

**Table 6. The difference between graduates (N= 279) and employers (N=102) in perceiving the importance of the four job-related skills emphasised for the 4<sup>th</sup> Industrial Revolution era**

<b>Employability skills</b>	<b>Group of participants</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>t value</b>	<b>Sig</b>
<b>Creativity</b>	Employer	93	26.37	3.37	-1.10	.27
	Graduates	273	26.80	3.22		
<b>Communication</b>	Employer	92	69.89	8.42	-.80	.43
	Graduates	269	70.68	8.05		
<b>Critical thinking</b>	Employer	94	35.38	4.40	-1.23	.16
	Graduates	270	36.04	5.44		
<b>Collaboration</b>	Employer	89	40.67	4.62	-1.08	.28
	Graduates	273	41.27	4.50		

Independent t-test results showed that only three interview attributes in the job screening process were perceived as more important to employers than graduates. The three interview attributes are internship, study abroad and co-curricular activities. The employers' mean score for internship was 3.74, while the mean score for graduates' was 3.74, with t-value=2.19 and p=.03. For co-curricular activities, the mean score and

standard deviation for both groups are as follows: employers=3.92 (.85); graduates=3.50 (1.03), with t-value=3.89 and p=.00. For studying abroad, the values are as follows: employers=3.01 (1.04) and graduates=2.75 (1.17), with t-value=2.04 and p=.04.

**Table 7. The difference between graduates and employers in perceptions about the relevant aspects of a curriculum vitae assessed by employers**

Attribute interviews	Group of participants	N	Mean	SD	t value	Sig
<b>B1: Strength of cover letter.</b>	Employer	94	3.74	1.04	-.43	.67
	Graduates	277	3.80	1.04		
<b>B2: Format and presentation of CV</b>	Employer	95	4.15	.80	1.04	.30
	Graduates	278	4.04	.90		
<b>B3: Age of the applicant</b>	Employer	95	3.53	.86	.14	.89
	Graduates	279	3.52	1.04		
<b>B4: Level of education</b>	Employer	94	4.18	.69	1.38	.17
	Graduates	277	4.06	.90		
<b>B5: Internship</b>	Employer	95	3.96	.80	2.19	.03
	Graduates	279	3.74	1.00		
<b>B6: Co-curricular activities</b>	Employer	95	3.92	.85	3.89	.00
	Graduates	279	3.50	1.03		
<b>B7: Type of degree specification</b>	Employer	95	4.16	.75	1.53	.13
	Graduates	279	4.00	.93		
<b>B8: Studying abroad</b>	Employer	95	3.01	1.04	2.04	.043
	Graduates	279	2.75	1.17		
<b>B9: Non-credit courses studied outside the university.</b>	Employer	95	3.35	.94	1.83	.07
	Graduates	278	3.13	1.02		
<b>B10: Personal preferences.</b>	Employer	94	3.51	1.00	-.36	.72
	Graduates	278	3.55	1.02		
<b>B11: Academic performance</b>	Employer	94	3.92	.87	.02	.98
	Graduates	279	3.91	.92		
<b>B12: The degree awarded by the university</b>	Employer	94	3.87	.78	.65	.52
	Graduates	279	3.80	.93		
<b>B13: Year graduated</b>	Employer	93	3.13	.99	.49	.63
	Graduates	279	3.06	1.14		
<b>B14: Entrepreneurship courses that were studied</b>	Employer	95	3.30	1.06	.29	.77
	Graduates	279	3.27	1.04		
<b>B15: Gender</b>	Employer	95	3.06	1.23	.86	.39
	Graduates	279	2.93	1.30		
<b>B16: Relevant work experience</b>	Employer	95	4.10	.98	-1.10	.27
	Graduates	279	4.22	.85		
<b>B17: Family background</b>	Employer	95	2.87	1.16	1.92	.06
	Graduates	279	2.60	1.20		

#### IV. DISCUSSION AND CONCLUSION

##### 4.1 Discussion

##### 4.1.1 Comparison between graduates and employers in perceiving the importance of seven job-related skills

The study showed there are no differences between graduates and employers in perceiving the importance of seven job-related skills (i.e. intrapersonal, interpersonal, computing, entrepreneurship, management, personal organisation and leadership skills). These results contradict the research hypothesis, meaning that graduates and employers rated the level of importance for each job-related skill similarly. Here, we can see that employees have a significant understanding of their employers' needs, as indicated by a previous study [40]. Additionally, graduates are also aware of the importance of the seven job-related skills perceived by employers as important. This may be due to the increasing rate of unemployability among graduates, which is of great concern to graduates.



Additionally, unemployability is an important issue being discussed by the Ministry of Education, universities, industries, graduates and society in general. This may open the eyes of graduates regarding the challenges they face, the skills they need to acquire and the strengths they need to consider when applying for jobs after graduating. The struggles and challenges graduates face might help them reflect and become better prepared to meet industries' requirements, as being a university graduate no longer guarantees graduates a job [41]. A majority of university students start to think about their career at the end of the last semester. Some might have already done some research to identify the potential factors that may limit their chances of being hired or looked at data released by the relevant authorities, such as the Ministry of Education, the university or private agencies. According to Yuh Ying, Country Manager of Jobstreet.com, fresh graduates should do some research on sites such as JobStreet.com to better understand the expectations, requirements and salary levels offered by employers in order to prepare themselves for interviews. All these things made graduates realise they should have acquired the seven job-related skills before graduation [41].

Negative comments, suggestions and research from industry may also help graduates reflect more on their ability to get into the workforce. Based on the JobStreet.com survey, employers are not too happy about the quality of graduates, with 70% of respondents saying the quality of fresh graduates was just average, 24% believing the quality of graduates is bad and only 6% saying the quality of graduates is good. The poor ratings are not generally linked to graduates' academic qualifications but rather their poor attitudes and communication skills revealed during interviews or at work [42]. Furthermore, a constant complaint of employers was that fresh graduates do not have relevant skills or sufficient knowledge [41].

#### **4.1.2 Comparison between graduates and employers in perceiving the importance of the four job related-skills of the 4<sup>th</sup> Industrial Revolution era**

The study revealed no differences between graduates and employers in how they perceive the importance of the four job-related skills emphasised in the 4<sup>th</sup> Industrial Revolution era (i.e. communication, critical thinking, creativity and collaboration skills). These skills can be developed and enhanced through academic and non-academic activities. For instance, at universities learning activities and service learning may help improve students' communication, creativity, critical thinking and collaboration skills through group and individual projects, presentations, group discussions and community engagement. Universities are expected to produce graduates who meet the requirements of their employers, and they play a very positive role in the country's lifelong learning agenda by focusing on upgrading the skills of working adults. Graduates are lifelong learners who will continue to upgrade themselves to meet the needs of their employers, the true test of their capabilities [43]. Having a degree means one is supposed to have subject-specific and transferable skills and is supposed to sell their knowledge and skills to compete in the job market [44].

Students and teachers are eager to collaborate, think critically, express their creativity and communicate and adapt their learning methods based on the demands of teachers or other groups [35]. Critical thinking, creativity, communication and other soft skills, as well as physical and social well-being, are necessary for future success in higher education and in the workplace [13]. Employers and employed graduates are of the opinion that undergraduates need to polish their communication, creative thinking, learning, motivation and understanding skills through training [40]. Undergraduates prefer to be trained in decision making, problem solving and scheduling and in understanding how to further develop those skills [40].

#### **4.1.3 Comparison between graduates and employers in perceiving the importance of interview attributes**

The study found that out of the 17 interview attributes that might strengthen a curriculum vitae, three are rated as more important by employers than by graduates. These are internship, co-curricular activities and studying abroad. A past study considered general knowledge and practical experience among the most important factors [40]. This was revealed in a survey by the World Bank and Talent Corporation, which found that 90% of companies surveyed thought jobseekers needed more industrial training [45]. Internship programs within a specified period with the aim of providing relevant hands-on or practical experience for undergraduates need to be instituted by universities and colleges [46]. Youths who gain work experience and receive on-the-job training will reduce both the chances of future labour bottlenecks and the burden that might be imposed on others to pay for their support [47]. Collaboration skills can be acquired through internship programs and collaboration between universities and industry [46].

Besides internship, co-curricular activities are also important to employers. Outside the academic curriculum, co-curricular activities, training and development programs and other activities can enhance a graduate's competency [48]. A lack of training opportunities is found to be the second most important reason for unemployment among youth in Sabah. Therefore, university students and graduates need to be more proactive in order to grab more opportunities while they are still in university by participating in any relevant work training seminars, workshops or co-curricular activities. Youth need to be more prepared and vigilant in developing their job-related skills so they can gain the experience and skills that enable them to better compete in the labour market. One of the tools used to develop said skills is the academic curriculum, which is a vehicle through which attributes can be transferred during the learning process [47]. Students could perhaps be required to assess their own attributes and generic skills on a yearly basis and track their self-improvement progress throughout the course of their studies [43]. As the popular saying goes, 'the proof of the pudding is in the eating'. Community service, peer mentoring, service learning and youth-led development are very promising ways of building soft skills in young adults; however, they have not yet been adequately evaluated and are underutilised in the developing world [14].

Studying abroad is another important interview attribute highlighted as important by employers. Graduates' who study abroad have the skills needed by industry, such as advanced social skills, cultural awareness and good communication skills [49]. Graduates who have studied abroad tend to be more culturally aware, are able to work on multicultural teams and are comfortable moving around the world as part of their career [50]. In other words, graduates who have studied abroad tend not only to foster job-related skills but also to enhance their personal development. Studying abroad may give extra opportunities for graduates to explore more chances to develop their skills and experiences. The opportunity for local university students to study abroad for a semester is actually provided by some universities through the out-bound mobility program. In addition, academic programs, academic visits and volunteer work conducted in other countries may give local university students more opportunities to strengthen their soft skills and personal development. For today's graduates, it is important to demonstrate an international dimension to their thinking, and there is no better way to demonstrate this than to study or work overseas for a period [50].

#### **4.2. CONCLUSIONS**

The study findings may provide some insight for graduates in preparing themselves for employment by industry. Graduates also need to understand the industry's expectations when selecting prospective employees. Therefore, graduates should take proactive measures to grab opportunities provided by universities or industry in order to boost their job-related skills while they are still at school and even after graduating. Graduates should not merely focus on academic abilities per se but also on non-academic abilities that may help to expand their job-related skills that require experiential and active learning opportunities. The development of soft skills requires exposing youth to new ideas and behaviours, and learning them requires appropriate challenges, practice, feedback and reflection [14]. Short-term programs loosely focused on building employability skills should not be seen as a remedy for a lack of real opportunity for young people [14]. Continuous learning to gain more job-related skills and experience while in university and after graduating may ensure that graduates sustain their competency and efficiency in the workplace in either governmental or non-governmental agencies.

#### **ACKNOWLEDGEMENT**

This study could not be completed without support from the Ministry of Higher Education for the research grant (FRGS0492/2018) as well as the Centre for Research and Innovation of University Malaysia Sabah. Support from all of the participants are also highly appreciated. Thank you for your time and contribution.

#### **REFERENCES**

- [1] R.F, Chung., Y. Ching., C.K., Cheok., & C., Hill.(2015). Employability of graduates in Malaysia: The perception of selected students and parents, Retrieved from [https://www.britishcouncil.org/sites/default/files/phase\\_ii\\_employability\\_of\\_graduates\\_in\\_malaysia\\_student\\_parent\\_perceptio.pdf](https://www.britishcouncil.org/sites/default/files/phase_ii_employability_of_graduates_in_malaysia_student_parent_perceptio.pdf) tyeyr.fB
- [2] Y., Hwang, What Is the Cause of Graduates' Unemployment? Focus on Individual Concerns and Perspectives, *Journal of Educational Issues*, 3 (2), 1-10.

- [3] Z., Hanapi & M.S., Nordin., (2014). Unemployment among Malaysia graduates: Graduates' attributes, lecturers' competency and quality of education, *Procedia- Social and Behavioral Sciences*, 112:1056-1063
- [4] News Straits Times. (20 March 2020). *More and more graduates are facing unemployment in Malaysia*, Retrieved from <https://www.nst.com.my/news/nation/2020/02/562309/more-and-more-graduates-are-facing-unemployment-malaysia>
- [5] Sabah Daily Express. (Oct, 5, 2017). Half the people in Sabah have something to do. [www.dailyexpress.com.my/news.cfm?NewsID=120297](http://www.dailyexpress.com.my/news.cfm?NewsID=120297)
- [6] Star online (Nov 27, 2017). How are our Sabah graduates doing? <https://www.thestar.com.my/business/smebiz/2017/11/27>
- [7] Malaysia Ministry of Education. (2015). *Executive Summary Malaysia Education Blueprint 2015-2025 (Higher Education)*. <https://www.moe.gov.my/menumedia/media-cetak/penerbitan/dasar/1207-malaysia-education-blueprint-2013-2025/file>
- [8] M. Yorke. (2006). Formative assessment and employability: some implications for higher education practices In *Beyond mass higher education* (pp. 105-118), Maidenhead Society for Research into Higher Education & Open University Press
- [9] Borneo Post (August 18, 2017). 54,103 unemployed six months after graduating, <https://www.pressreader.com/malaysia/the-borneo-post-Sabah/20170818/281724089662788>
- [10] M.I., Hossain, K.S., Yagamaran, A. Afrin, T., N., Limon, M., Nasiruzzaman., & A.M Karim. (2018). Factors Influencing Unemployment among Fresh Graduates: A Case Study in Klang Valley, Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(9), 1494 – 1507.
- [11] [M., Nair. (2018). Graduate must hone their soft skills if they want jobs, Retrieved from <https://www.freemalaysiatoday.com/category/opinion/2018/09/05/graduates-must-hone-their-soft-skills-if-they-want-jobs/>
- [12] Sabah Daily Express. (Oct, 5, 2017). Half the people in Sabah have something to do. [www.dailyexpress.com.my/news.cfm?NewsID=120297](http://www.dailyexpress.com.my/news.cfm?NewsID=120297)
- [13] S. Wood. (2018). *Recent Graduates Lack Soft Skills, New Study Reports*, Retrieved from <https://diverseeducation.com/article/121784/>
- [14] C. Ignatowski. (2017). *What works in soft skills development for youth employment? A donors' perspective*, Youth Employment Funders Group & Mastercard Foundation,
- [15] Central Bank of Malaysia Survey (2002), retrieved from <http://bond.npc.org.my>
- [16] S.C. Sitheravellu. (November 5, 2019). Graduates losing out due to skills mismatch, New Straits Time, Retrieved from, <https://www.nst.com.my/opinion/letters/2019/11/542069/graduates-losing-out-due-to-skills-mismatch>
- [17] Malaysia Ministry of Education. (2019). *SULAM (Service Learning Malaysia, University for Society)*. (2019). Putrajaya: Department of Higher Education
- [18] L., Nikitina., & F. Furuoka. (2012). Sharp focus on soft skills: a case study of Malaysian university students' educational expectations, *Educ Res Policy Prac*, 11, 207-224
- [19] V., Saunders., & K., Zuzel. (2010). Evaluating employability skills: Employer and student perceptions, *Bioscience Education*, 15,
- [20] O. Chinotti. (November 2015). Hiring and Inspiring Graduates in the New Work Environment. Speech at "Soft Skills and their role in employability – New perspectives in teaching, assessment, and certification", workshop in Bertinoro, FC, Italy.
- [21] T., Chamorro-Premuzic., A. Arteche., A.J., Bremner., C. Greven., & A. Furnham. (2010). Soft skills in higher education: importance and improvement ratings as a function of individual differences and academic performance, *Educational Psychology*, 30, (2), 221–241 DOI: 10.1080/01443410903560278
- [22] O.K Hanson., & J. Courtney. (2014). *The Six Ethical Dilemmas Every Professional*. Bentley University: Centre for Business Ethics
- [23] Y. Cai Y. (2012). Graduate Employability: A Conceptual Framework for Understanding Employers' Perceptions", *Higher Education*, 1-13
- [24] B. Bui., & B., Porter. (2010). The Expectation-Performance Gap in Accounting Education: An Exploratory Study". *Accounting Education*, 19, 1-2, 23-50.
- [25] S. Thompson, S. (October 14, 2016). The most important skills of tomorrow according to five global leaders, World Economic Forum

- [26] J.,Regier.(2011). Why is academic success important? Retrieved from <https://saskschoolboards.ca/wp-content/uploads/2015/08/2011SIAST.pdf>
- [27] B.Cimatti, B. (2016). Definition, development, assessment of soft skills and their role in the quality of organizations and enterprises, *International Journal for Quality Research*,10(1) 97–130
- [28] D., Kember, D., Leung., & M.Rosa.(2007). Characterizing learning environments of nurturing generic capabilities in higher education. *Research in Higher Education*, 48, 609–632.
- [29] Association for talent Development.(2015). *2015 State of the Industry*, Retrieved from <https://www.td.org/research-reports/2015-state-of-the-industry>
- [30] C. Bodewig., R. Badiani-Magnusson, K.,MacDonald, D., Newhouse., & J.Rutkowski..(2014).Skilling up Vietnam:Preparing the workforce for a modern market economy.Washington, DC:World Bank
- [31] J. McKeown., & M.,Lindorff.(2011). The graduate job search process - A lesson in persistence rather than good career management? *Education and Training*, 53(4), 310 - 320. <https://doi.org/10.1108/004009111111138479>
- [32] UK Commission for Employment & Skills (UKCES).(2016).Working futures 2014-2024, Retrieved from [https://dera.ioe.ac.uk/26069/1/Working\\_Futures\\_final\\_evidence\\_report.pdf](https://dera.ioe.ac.uk/26069/1/Working_Futures_final_evidence_report.pdf)
- [33] J. Cohen, J.(1988).Statistical power analysis for the behavioral sciences.(2nd Ed.).Hillsdale, NJ: Erlbaum
- [34] Singh, G. K. G., & Singh, S. K. G. (2008). Malaysian graduates“ employability skills. *UNITAR e-Journal*, 4(1), 15-45.
- [35] F.,Bektheshi..(2017). The ‘Four Cs’ – Collaboration, communication, critical thinking and creativity at the faculty of Arts (FLUP), University of Porto, Portugal, *The Journal of International Social Research*,50(10), 56- 62.
- [36] S.,Lamb.,& Q.M.,Doecke.(2017).Key skills for the 21<sup>ST</sup> century:An evidence-based review, Future Frontiers Analytical Report, New South Wales State of New South Wales (Department of Education), Retrieved from <https://pdfs.semanticscholar.org/723e/c36a531227a534d2cec629487bbc3d1ca428.pdf>
- [37] Z.,Guo.(2016). The Cultivation of 4C’s in China—Critical Thinking, Communication, Collaboration and Creativity, *International Conference on Education, Management and Applied Social Science*
- [38] J. Ramisetty., & K.,Desai.(2017). Measurement of Employability Skills and Job Readiness Perception of Post – graduate Management students: Results from A Pilot Study, *International Journal in Management and Social Science*,5(8),
- [39] H.J.,Greenwald., & Y.Satow..(1970). A short social desirability scale. *Psychological Reports*, 27, 131–135
- [40] S.,Weligamage.,& S.Siengthai..(2003).Employer Needs and Graduate Skills: The Gap between Employer Expectations and Job Expectations of Sri Lankan University Graduates Conference, *9th International conference on Sri Lanka Studies, November, 2003*
- [41] News Straits Times.(20 March 2020).*More and more graduates are facing unemployment in Malaysia*, Retrieved from <https://www.nst.com.my/news/nation/2020/02/562309/more-and-more-graduates-are-facing-unemployment-malaysia>
- [42] Job.Street.com.(2015). Employers: Fresh Graduates Have Unrealistic Expectations Retrieved from <https://www.jobstreet.com.my/career-resources/employers-fresh-graduates-unrealistic-expectations/#.XnSZ5mARXX4>
- [43] I.,Abdol Latif.,& R.,Bahroom.(2014) *Relationship-based student loyalty model in an open distance learning institution*. In: *Widyatama International Seminar (WIS)*, 14-15 Feb 2014, Bali, Indonesia.
- [44] R. Swain..(2019).What skills do employers want?, *Prospects*, Retrieved from <https://www.prospects.ac.uk/careers-advice/applying-for-jobs/what-skills-do-employers-want>
- [45] C. Cheng.(January 10, 2020). *Youth Unemployment in Malaysia & the Region*, Institute of Strategic and International Studies (ISIS), Malaysia, Retrieved from <https://jati.um.edu.my/article/view/5934/3650>
- [46] D., Salina., A. Nurazariah., S., Noraina Mazuin., & R. Jegatheesan,(2011).Enhancing university business curriculum using importance-performance approach: a case study of Business Management Faculty of a university in Malaysia.*International Journal of Educational Management*,25(6),1- 21.
- [47] T, Subramaniam.(2003). Unemployment among youth in Sabah: Causes and Cures, *Journal of Southeast Asian Studies*,9,159-169

- [48] M.S Abdul Hamid, R. Islam, & A.M Noor Haziilah, A.M.(2014). Malaysian graduates' employability skills enhancement: an application of the importance performance analysis, *J. Global Business Advancement*, 7, 3, 181-197
- [49] J.Marshall.(2019).*10 Reasons employers love graduates who have studied abroad*, Retrieved from <https://www.studyinternational.com/help-and-advice/10-reasons-employers-love-graduates-who-have-studied-abroad>
- [50] A. Lipsett, A.(16 October 2008). Graduates who have studied abroad more appealing to businesses, *The Guardian*, retrieved from <https://www.theguardian.com/education/2008/oct/16/students-highereducation>