

Development and Reliability of Cross-Cultural Dimension Items, and Marketability Skills Amongst Malaysian Technical University Network Future Graduates
(Pembangunan dan Kebolehpercayaan Item Dimensi Silang Budaya dan Kemahiran Kebolehpasaran dalam Kalangan Bakal Graduan Rangkaian Universiti-universiti Teknikal Malaysia)

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ABSTRACT

The issue of marketability among recent college graduates is regularly raised. Competition and economic problems have a substantial impact on graduates' ability to find work. As a result of this research, a tool that assesses cross-cultural dimensions and marketability skills will be developed to identify how potential graduates are perceived before they graduate from college. Respondents were randomly assigned questionnaires at three Malaysian Technical University Network (MTUN): Universiti Malaysia Pahang (UMP), Universiti Teknikal Malaysia Melaka (UTEM) and Universiti Malaysia Perlis (UniMAP). The samples are 44 prospective graduates from four MTUN universities. The responses from the samples provide acceptable and sufficient data for the pilot study's analysis of the study's dependability. The researcher has successfully developed a questionnaire instrument, and a pilot study analysis was carried out to ensure the validity and acceptance of the study as a construct. All cross-cultural dimensions have reliability above 0.6. Therefore, repeated analysis does not need to be done in a cross-cultural context. Several constructs of marketability have been dropped and analyzed, such as planning skills, problem-solving skills, communication skills, logical thinking skills, teamwork skills, and proactive skills. Other marketability constructs, namely technological skills and intrapersonal skills have reached a level of reliability above 0.6 and do not require repeated analysis. Finally, the pilot research for the instrument measuring future graduates' marketability abilities, as well as the cross-cultural component, was successfully completed. As a result, the researcher will use these evaluated items as instruments in the empirical field study.

Keywords: Employability, Prospective Graduates, Cross-Cultural Dimensions, Employability Skills, Malaysian Technical University Network

ABSTRAK

Isu kebolehpasaran dalam kalangan bakal graduan universiti seringkali diperkatakan. Persaingan dan cabaran ekonomi banyak memberi impak kepada kebolehpasaran graduan. Justeru, kajian ini akan membangunkan instrumen dalam konstruk dimensi silang budaya dan kemahiran kebolehpasaran bagi melihat persepsi bakal graduan sebelum mereka menamatkan pengajian di universiti. Borang soal selidik telah diedarkan kepada responden secara rawak kepada tiga buah Rangkaian Universiti-universiti Teknikal Malaysia iaitu Universiti Malaysia Pahang (UMP), Universiti Teknikal Malaysia Melaka (UTeM) dan Universiti Malaysia Perlis (UniMAP). Sampel kajian adalah terdiri daripada 44 bakal graduan daripada empat buah univesiti. Dapatan 44 orang sampel menunjukkan nilai memadai dan mencukupi untuk menguji kebolehpercayaan kajian menerusi analisis kajian rintis. Pengkaji berjaya membangunkan sebuah instrumen soal selidik dan analisis kajian rintis dilakukan sehingga kebolehpercayaan kajian adalah baik dan boleh diterima sebagai sebuah konstruk. Kesemua dimensi silang budaya mempunyai kebolehpercayaan melebihi 0.6. Oleh itu, analisis ulangan tidak perlu dilakukan dalam dimensi silang budaya. Beberapa konstruk kebolehpasaran telah digugurkan dan dianalisis seperti kemahiran merancang, kemahiran menyelesaikan masalah, kemahiran komunikasi, kemahiran berfikir secara logic, kemahiran berpasukan dan kemahiran proaktif. Konstruk kebolehpasaran lain iaitu kemahiran teknologi dan kemahiran intrapersonal telah mencapai tahap realibiliti melebihi 0.6 dan tidak memerlukan analisis ulangan. Kesimpulannya, instrumen dimensi silang budaya dan kemahiran kebolehpasaran bakal graduan berjaya dibangunkan dan dijalankan kajian rintis. Oleh itu, pengkaji akan menggunakan item-item yang telah dianalisis ini sebagai instrumen dalam kajian lapangan secara empirikal.

Kata kunci: Kebolehpasaran, Bakal Graduan, Dimensi Silang Budaya, Kemahiran Kebolehpasaran, Rangkaian Universiti-universiti Teknikal Malaysia

INTRODUCTION

Education is crucial to achieving a perfect existence for a human being; in fact, it is the major pillar in changing human life in the face of adversities while also making a substantial contribution to the development components of the country's success. This is because education is a long-term investment in improving human life quality (Syahirah et al., 2022). This is also related to the concept of cultivating long-term-oriented community values capable of attracting future investment (Hazwani & Singh, 2016). As a result, the culture of long-term orientation must be strengthened to generate qualified human capital comparable to current technology and competition in the global job market.

The subject of education sparked several disputes from the perspectives of researchers, particularly in terms of sustaining the quality of education. According to the fast-evolving modern education system, the government's engagement in enhancing the education system is critical. The administration must accelerate the country's educational advancement (Alkatheri, 2019; Ahmad Zainal, 2020). This obviously demonstrates the necessity for a long-term orientation culture to be introduced in Malaysia's school system. Long-term orientation, according to Kim (2014) and Bulend and Elsie (2014), produces the greatest results when evaluating achievements. As a result, the government must establish an education system based on the current situation to increase educational quality in the long or short term.

The Malaysian Education Development Plan (PPPM) 2013–2025 describes the education system's ambition to be ranked in the top one-third in the International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) in 2025. The government then introduced Vision for Shared Prosperity 2030 (WKB 2030) to promote technical and vocational education (TVET). WKB 2030, according to Ridhuan et al. (2022), aspires to expand the number of skilled people to meet industry and education needs. Furthermore, Asian society, according to Chowdhury (2015), has a strong collectivist ethos. This is because they have a mediating culture of intervention in issue solutions. As a result, all parties must collaborate to realize the implementation of this education strategy (or long-term orientation) to generate quality human capital in all aspects (Abd Rahman & Mohd Sukri, 2021).

Students need to adapt to and synergize education with the world of work through the private sector's involvement. Involvement in industry, for example, through industrial or practical training, can expose students to soft skills. Communication abilities

are highly tied to collectivist culture. According to Viji et al. (2021), including collectivism culture in communication skills might promote effective work processes. In fact, collectivism's culture aids in the generation of the best ideas through the synthesis of thoughts and conversations among group members (Mohd Azlan, Hasnah, & Irdyanti, 2021). As a result, fostering a collectivist attitude among institutions and the private sector is critical to enhancing students' employability in the labor market (Shurafa & Mohamed, 2018).

According to Zulhazmi (2021), technical students must enhance their job adaptability abilities in line with their sector as well as comprehend organizational cultural trends. Power distance culture is critical for ensuring that individuals can make decisions and offer orders to subordinates (Ivy et al., 2020). In fact, teamwork abilities are one of the marketability requirements for getting a job. Collectivism culture prioritizes cooperation over individual desires, and group members place a great priority on loyalty (Hazwani & Dalbir, 2016; Levin & Mamlok, 2021).

The biggest difficulty that most graduates encounter around the world is unemployment. Furthermore, the employment market in Japanese society demonstrates a very high femininity culture when compared to society in France (Minoo, 2021). This demonstrates that there is no cultural gender difference in Japanese society's outlook. Meanwhile, in the Middle East, most corporate organizations do not accept women as workplace leaders. According to Ahmad and Kontantinos (2021), the countries of Saudi Arabia, Syria, and Libya do not implement women's rights as outlined in the Arab Charter, which respects the rights of women workers. This distinction demonstrates a lot of cultural diversity among the different countries of the world.

In Malaysia, the government develops a marketability plan for institutional students to reduce unemployment. According to Mohd Nasaruddin Parzi's report released on the 2nd of August 2021, the purpose of the Higher Education Institute (IPT) Graduate Employability Strategy Plan 2021 - 2025 is to improve students' employability in dealing with difficult situations when looking for work. Several efforts are conducted, such as the Shopee program, which allows 5,000 students to create a shop and be coached by experts for free.

In this study, the researcher focused on the marketability skill that align with the government's agenda, which has less studied by other scholars. Other studies on marketability that were conducted focused on communication and soft skills (Nur Dini & Mohd Isa, 2022), as well as entrepreneurial skills

(Nor Asmah & Noraisyah, 2021). Furthermore, research on marketability before the pandemic was scarce (Dayang Fitri & Azlinah, 2022). As a result, the researcher designed this study to investigate the elements that influence marketability. The primary goal of this research is to create a questionnaire instrument to examine the corresponding items in prospective graduates' marketability studies. Malaysia, according to Hazwani and Dalbir (2016), is a country with a culture of short-term planning. Bulend and Elsie (2014) discovered the countries with short-term-focused work culture practices were used in New Zealand and Australia. Kim (2014) believed that long-term orientation allows for meticulous planning. As a result, either a short- or long-term orientation can develop human capital with higher marketability. As a result, a time-oriented culture boosts students' marketability and their ability to complete work in a planned and systematic manner (Azyani, Sheerad, & Aida Hanim, 2019).

The key significance of this study is that it will assist researchers in developing a research instrument for finding marketability criteria that will benefit future graduates. This item is appropriate for prospective graduates, particularly those from technical universities. Changes in the employment landscape may require a shift in employment patterns towards digital concepts for technical graduates. It indirectly assists graduates in developing their professional prospects. Indeed, graduates who have the opportunity can advance their careers by entering the field of entrepreneurship. Other people, particularly locals, can find several work prospects in the world of entrepreneurs. The local community benefits indirectly by creating work possibilities. If it requires items and materials, it establishes a business space in the community as a stockiest, agent, drop shipper, and so on. This may cause some tightness in the local economy.

RESEARCH METHODOLOGY

The methodology of this study will detail the research approach that the researcher will utilize to collect data for the pilot study. Chua (2021) defined research methodology as a method or approach used to gather knowledge about a phenomenon in the social sciences. Data was collected using questionnaires disseminated online via the Google Forms tool. In this study, the researcher collected data using Google Forms. The usage of Google forms allows for totally automated data collection (Laskowski, 2016). This research was carried out at a small number of Malaysian technological

universities (MTUN). Universiti Malaysia Pahang (UMP), Universiti Teknikal Malaysia Melaka (UTEM), Universiti Malaysia Perlis (UniMAP), and Universiti Tun Hussein Onn Malaysia are Malaysia's four technological universities (UTHM). However, because the researcher made UTHM as the actual location of the study, the data from UTHM respondents were not used for the pilot test. This is done to avoid taking data multiple times. The pilot study attempts to guarantee that the researcher's instrument is understood by respondents who are highly like the actual respondents.

The researcher conducted a pilot study with Malaysian Technical University students. This pilot study has a total of 44 participants. The researcher conducted the pilot study utilizing a basic random sampling strategy and a questionnaire distribution method. Chua (2021) defined sampling as the process of selecting a few participants from a population to be employed as study respondents. Furthermore, this sampling provides the same number of opportunities to the study's respondents and usually has the same characteristics as the actual respondents (Chua, 2021). Respondents from the pilot study, however, were not employed as respondents in the main study.

The researcher's method for collecting research data is referred to as the research instrument. The researcher used the questionnaire method to collect data for this study. This research instrument was created through the modification or adaptation of previous research that investigated cross-cultural aspects and marketability. The previous research, however, did not focus on the target respondents (students from technical universities) but rather on prospective employees in general.

Analyze the respondents' background using descriptive statistics where frequency and percentage were used. analyze both cross-cultural dimension and marketability skills by doing the Cronbach Alpha test to determine the validation of instrument.

The questionnaire has three parts. Part A of the questionnaire used nominal measurements to determine the respondent's background, such as gender, age, race, faculty, and year of study. This is because respondents are allowed to answer one category for each question in Part A. On the other hand, Parts B and C have ordinal measurements. Chua (2021) opined that the arrangement of categories in a specific order is characterized as ordinal data measurement (Chua, 2021). Mohd Majid (2000) discovered that ordinal measurements are compatible with qualitative research methods. As a result, as indicated in Table 1, the researcher used the scale value to determine the strength and measurement value of each ordinal data point.

TABLE 1. Cronbach Alpha Value

Alpha Cronbach (α) Value	Reliability Level
< 0.6	Non-Acceptable
0.6 - 0.7	Acceptable
0.71 - 0.8	Good and Acceptable
0.81 - 0.9	Good
> 0.9	Excellent

(Source: Mohd Najib, 2003)

FINDINGS

The Statistical Package for Social Sciences (SPSS) software was used to evaluate the research findings. The total number of people who responded is just 44. The accepted number of participants for a pilot study ranged from 25 to 100 (Cooper & Schindler, 2011; Faizal et al., 2014). The 44 respondents are engineering students from Universiti Malaysia Pahang (UMP), Universiti Teknikal Malaysia Melaka (UTeM), and Universiti Malaysia Perlis (UMP) (UniMAP). The researcher gathered the data for analysis and calculated the Cronbach's Alpha value to measure the level of reliability of the questionnaire. The Cronbach's alpha value will be used to determine the reliability of the research tool for this study.

Firstly, the researcher analyzed data on the respondent's background before the reliability analysis. Table 2 displays the respondents' demographic information. The cross-cultural dimension reliability analysis is the outcome of an adaptation of a prior study by Bonghee, Naveen, and Tomasz (2011). The research findings for dimension of cross cultural are presented in Table 3 until Table 7 for the reliability analysis. Cross-cultural dimensions include power distance, avoiding uncertainty, individualism/collectivism, temporal orientation, and masculinity/femininity. Then, Table 8 until Table 21 presented the reliability of marketability skills such as intrapersonal skills, planning skills, problem identification and solving skills, communication skills, logical thinking skills, teamwork skills, proactive skills, and technological skills. The marketability skills are adaptation from previous studies by Boyatzis (1982), Zakaria (2006), and Muhammad Hazrul (2012).

RESPONDENTS BACKGROUNDS

Table 2 displays the results of the respondents' background. The study's conclusions regarding the background are critical for identifying the information in the study. Indeed, this study has the potential to employ Hofstede's theory, which analyses gender aspects of human work culture. The total number of males is 6, representing 13.6 percent of the population. Meanwhile, 38 responses (86.4 percent) are female. The majority of those who participated in this study are female. According to Table 2, a total of 36 persons, or 81.8 percent, are between the ages of 18 and 20. Meanwhile, 7 respondents aged 21 to 23 were polled (15.9 percent). One (2.3 percent) respondent aged 24 to 26 years was next. Yet, none of the respondents is 27 or older. The study's findings in Table 2 demonstrate that most respondents are of the Malay ethnicity. Malay people make up 88.6 percent of the population (39 persons). The Indian race comes in second with three respondents (6.81 percent). In contrast, Chinese and other respondent (2.3 percent) reflect the respondents in this survey. According to the study's findings, many respondents are from the Faculty of Science and Humanities. According to Table 2, 34 respondents (77.3 percent) are from the Faculty of Science and Humanities. Meanwhile, there are three respondents (6.81 percents) from civil engineering, mechanical engineering, and electrical engineering respectively. The faculty of Science and Mathematics is next, with only one respondent (2.3 percent) answering this questionnaire. 81 percent of those who responded were first-year students. Year 4 follows, with a total of 5 respondents (11.4 percent). There are two respondents in their third year of study (4.5 percent). Meanwhile, the least percentage (2.3 percent, one respondent) is a second-year student (Table 2).

TABLE 2. Student Background Information

Backgrounds		Frequency (<i>f</i>) (<i>n</i> =44)	Percentage (%)
Gender	Male	6	13.6
	Female	38	86.4
Age	18 until 20 years old	36	81.8
	21 until 23 years old	7	15.9
	24 until 26 years old	1	2.3
	27 and above	0	0
Nation	Malay	39	88.6
	Chinese	1	2.3
	Indian	3	6.81
	Others	1	2.3
Faculty	Civil Engineering	3	6.81
	Mechanical Engineering	3	6.81
	Social Sciences and Humanities	34	77.3
	Electrical Engineering	3	6.81
	Sciences and Technology	1	2.3
	Years of Study	1 st year	36
	2 nd year	1	2.3
	3 rd year	2	4.5
	4 th year and above	5	11.4

CROSS-CULTURAL DIMENSIONAL RELIABILITY

The overall dependability value for the pilot research on cross-cultural aspects of power distance is shown in Table 3. After analyzing the research data, the researcher discovered that the cross-cultural dimension of power distance has an overall reliability value of good and acceptable, with an alpha value of 0.77. According to Table 3, removing question 6 reduces the reliability value for the power distance dimension to

alpha = 0.70. Similarly, removing questions 7, 8, and 10 reduced the dependability alpha value for the power distance dimension to 0.76, 0.72, and 0.71, respectively. Dropping question 9 on the other hand had no effect on the reliability value of the power distance dimension because it was the same as the overall reliability of this dimension. All the questions have good and acceptable dependability, so the researcher chose to include them all in the power distance dimension. This demonstrates that the level of reliability for the power distance dimension is good and acceptable.

TABLE 3. Power Distance Reliability Value

Power Distance Dimension		Alpha Value (α)	Level of Reliability
Alpha Cronbach Value if Item Deleted	Question 6	0.70	Acceptable
	Question 7	0.76	Good and acceptable
	Question 8	0.72	Good and acceptable
	Question 9	0.77	Good and acceptable
	Question 10	0.71	Good and acceptable
Overall Reliability Score		0.77	

The overall reliability value and the reliability value for each item dropped for the cross-cultural component of uncertainty avoidance are shown in Table 4. The overall alpha value for the uncertainty

avoidance dimension is 0.95. This demonstrates that the reliability of this dimension is strong because the alpha value is greater than 0.9. However, the breakdown of item dropout shows that if one of the items is lost, the

alpha value reliability of this dimension drops to 0.94. (Question 12, Question 13, Question 14, or Question 15). If question 11 is removed, the dependability value would stay at 0.95. The researcher discovered that this

value has no effect on the position in dependability because the findings are dependable with great reliability.

TABLE 4. Avoiding Uncertainty Reliability Value

Avoiding Uncertainty Dimension	Alpha Value (α)	Level of Reliability	
Alpha Cronbach Value if Item Deleted	Question 11	0.96	Excellent
	Question 12	0.94	Excellent
	Question 13	0.94	Excellent
	Question 14	0.94	Excellent
	Question 15	0.94	Excellent
Overall Reliability Score		0.95	

Table 5 shows the dependability value for the individualism/collectivism axis. According to the findings of the pilot study analysis, the alpha value achieved for this dimension was 0.85 for overall dependability. The assessment of this reliability indicates that the individualism or collectivism dimension item is very reliable. Furthermore, a decrease in one of the components in this dimension plainly indicates that the reliability will be reduced. If questions 16 and 20

are removed, the alpha values will be 0.82 and 0.81, respectively. Similarly, removing questions 18 and 19 reduced the alpha value to 0.83. Furthermore, question 21 is obviously significant because dropping this question results in the lowest alpha value of 0.80 when compared to dropping other items. Generally, all the products in this area are excellent. As a result, the researcher believes that all items are used to assess individualism and collectivism.

TABLE 5. Individualism or Collectivism Reliability Value

Individualism/Collectivism, Dimension	Alpha Value (α)	Level of Reliability	
Alpha Cronbach Value if Item Deleted	Question 16	0.82	Good
	Question 17	0.84	Good
	Question 18	0.83	Good
	Question 19	0.83	Good
	Question 20	0.81	Good
	Question 21	0.80	Good and Acceptable
Overall Reliability Score		0.85	

Table 6 displays the findings of the cross-cultural dimension elements directed to the temporal orientation. The researchers discovered that the overall reliability rating for this element is quite good, with an alpha value of 0.89. The temporal orientation dimension has high levels of dependability. This demonstrates that in real study, all items are approved as instruments. Additionally, if one of the items is dropped, no better value will be obtained. This is demonstrated by the data in Table 6, which demonstrates that removing questions 22, 24, 25, 26, and 27 reduces the reliability score. Nonetheless, dependability remains high. Also, when question 23 is removed, the alpha value remains constant at 0.89. As a result, the researcher believes that no question is missing from this part.

Table 7 shows the outcomes of the pilot study analysis of 44 respondents on cross-cultural component

of masculinity and femininity. The cross-cultural dimension of masculinity and femininity has an overall dependability score of 0.88. This demonstrates that the dependability of this dimension is quite good, as the alpha value is in the reliability range of 0.81-0.90. Yet, the specifics of dropping objects demonstrate that if one of the items is dropped, the reliability of the alpha value of this dimension drops to 0.84. (Question 30 or 32) Similarly, removing questions 28, 29, and 31 reduces the alpha value to 0.86 dependability. If question 33 is removed, the dependability value will stay at 0.89. Yet, researchers discovered that the value has no effect on the position of reliability because the findings are quite reliable. This indicates that all the items in this

TABLE 6. Temporal Orientation Reliability Value

Temporal Orientation Dimension	Alpha Value (α)	Level of Reliability	
Question 22	0.87	Good	
Question 23	0.89	Good	
Alpha Cronbach Value if Item Deleted	Question 24	0.87	Good
	Question 25	0.86	Good
	Question 26	0.86	Good
	Question 27	0.88	Good
Overall Reliability Score	0.89		

dimension will be used for the actual study's data collection, and the researcher decided that no questions will be dropped in this construct.

Ultimately, the researcher believes that all the items in the cross-cultural dimension can be used in

real study. This is because the reliability value for each item is greater than 0.60. Bond and Fox (2015) clarified that the items in the questionnaire instrument can be used and accepted if the reliability value in the study surpasses $\alpha = 0.60$.

TABLE 7. Masculinity or Femininity Reliability Value

Masculinity/Femininity Dimension	Alpha Value (α)	Level of Reliability	
Question 28	0.86	Good	
Question 29	0.86	Good	
Alpha Cronbach Value if Item Deleted	Question 30	0.84	Good
	Question 31	0.86	Good
	Question 32	0.84	Good
	Question 33	0.89	Good
Overall Reliability Score	0.88		

SKILL OF MARKETABILITY DIMENSIONAL RELIABILITY

There are eight (8) skills of marketability dimension which are intrapersonal skills, planning skills, problem-solving skills, communication skills, logical thinking skills, teamwork skills, proactive skills, and technology skills. The overall dependability value for the pilot research on intrapersonal abilities is shown in Table 8. The researcher discovered that intrapersonal skills have

the best overall reliability value, with an alpha value of 0.93. According to Table 8, removing Questions 37 and 35 reduces the dependability value for intrapersonal abilities to $\alpha = 0.93$. Similarly, removing questions 34, 36, and 38 increased the dependability value of intrapersonal abilities to 0.92. Because all the questions have the highest dependability, the researcher opted to include all the items under intrapersonal skills. This demonstrates the highest level of dependability for intrapersonal abilities.

TABLE 8. Intrapersonal Skill Reliability Value

Intrapersonal Skill	Alpha Value (α)	Level of Reliability	
Question 34	0.92	Excellent	
Question 35	0.91	Excellent	
Alpha Cronbach Value if Item Deleted	Question 36	0.92	Excellent
	Question 37	0.91	Excellent
	Question 38	0.92	Excellent
Overall Reliability Score	0.93		

Table 9 displays the overall score for planning skills as well as the reliability rating for each item drop. Planning skills are represented by five components in Table 9. The overall score for planning abilities is 0.57. This demonstrates that the skill's reliability is weak because the alpha value is less than 0.6. Additionally, if one of the things is dropped, no better value will be obtained. This is demonstrated by the data in Table 9,

which show that eliminating questions 39, 41, 42, and 43 reduces the reliability rating. Dropping question 40, on the other hand, will change the reliability value of planning skills, which is 0.86. As a result, the researcher believes that question number 40 should be eliminated to achieve a higher reliability value. In this regard, the pilot study analysis for the construct of planning skills was performed, and the findings are shown in Table 10.

TABLE 9. Planning Skill Reliability Value

Planning Skill	Alpha Value (α)	Level of Reliability	
Question 39	0.32	Non-Acceptable	
Question 40	0.86	Good	
Alpha Cronbach Value if Item Deleted	Question 41	0.42	Non-Acceptable
	Question 42	0.40	Non-Acceptable
	Question 43	0.44	Non-Acceptable
Overall Reliability Score	0.57		

Table 10 displays the reliability value for each deleted item for planning skills that were reanalyzed using only four items. The overall score for planning abilities is 0.86. This demonstrates that the reliability of this talent is quite good after removing Question 40 and combining only four questions only, which are questions 39, 40, 41, and 42 (refer to Table 10). The question's position changed because of the removal of one item from the construct of planning skills. If one of the objects is dropped, no higher value will be received. This is demonstrated by the data in Table 10, which show that removing questions 39, 41, and 42 reduces the reliability score. Therefore, deleting question 40 has

no effect on the reliability value of planning skills. This explains why, when the researcher removed question 40 from Table 10, the alpha value increased from 0.57 (refer to Table 9) to 0.86 (Refer to Table 10). As a result, the researcher predicts that no items will be dropped following the determination of the dependability value in this second analysis.

The result of the reliability value for the skill of identifying and solving problems is shown in Table 11. According to the findings of the pilot study analysis, the overall reliability score obtained for this skill was 0.57. According to the interpretation of this reliability, the problem identification and solving skills item has a low

TABLE 10. Planning Skill Reliability Value Second Analysis (After Dropping Weak Items)

Planning Skill		Alpha Value (α)	Level of Reliability
	Question 39	0.76	Good and Acceptable
Alpha Cronbach Value if Item Deleted	Question 40	0.86	Good
	Question 41	0.80	Good
	Question 42	0.84	Good
	Overall Reliability Score	0.86	

reliability position. Furthermore, dropping one of the items in this skill (questions 44, 46, 47, and 48) clearly indicates that the reliability will be lower. Dropping question 45, on the other hand, appears to contribute to an increase in the alpha value for the construct of

identifying and solving skills, which is 0.84. As a result, the second analysis will be performed to determine the value of reliability after question 45 is removed.

By removing one question from the construct of identifying and solving problems, the number of

TABLE 11. Problem-Solving Skills Reliability Value

Problem-Solving/Problem-Solving Skills		Alpha Value (α)	Level of Reliability
	Question 44	0.55	Non-Acceptable
	Question 45	0.84	Good
Alpha Cronbach Value if Item Deleted	Question 46	0.34	Non-Acceptable
	Question 47	0.35	Non-Acceptable
	Question 48	0.34	Non-Acceptable
	Overall Reliability Score	0.57	

items was reduced to just four. The second analysis is explained in Table 12 which shows that the re-analysis of the reliability value for the element of identifying and solving skills is better than the previous analysis results as shown in Table 11. The results of

the second analysis show that the overall reliability value for this element is very good, with an alpha value of 0.84. This demonstrates that all items in the actual study are accepted as instruments. This is because removing questions 45, 46, and 47 lowers the reliability

TABLE 12. Problem-Solving Skills Reliability Value (After Dropping Weak Items)

Problem-Solving/Problem-Solving Skills		Alpha Value (α)	Level of Reliability
	Question 44	0.92	Excellent
Alpha Cronbach Value if Item Deleted	Question 45	0.74	Good and Acceptable
	Question 46	0.72	Good and Acceptable
	Question 47	0.75	Good and Acceptable
	Overall Reliability Score	0.84	

value, and the reliability is good. As a result, the researcher believes that no questions for the construct of identifying and solving problems were dropped in the second time analysis.

Table 13 displays the results of 44 respondents for the communication skills construct in the pilot study. Communication skills have an overall reliability value of 0.37. This demonstrates that the skill's

TABLE 13. Communication Skills Reliability Value

Communication Skills	Alpha Value (α)	Level of Reliability	
Question 49	0.20	Non-Acceptable	
Question 50	0.24	Non-Acceptable	
Alpha Cronbach Value if Item Deleted	Question 51	0.78	Good and Acceptable
	Question 52	0.12	Non-Acceptable
	Question 53	0.02	Non-Acceptable
Overall Reliability Score	0.37		

reliability is poor because the alpha value is less than 0.6. Furthermore, if one of the items is dropped, the reliability value for questions 49, 50, 52, and 53 is low. However, removing question 51 demonstrates that the reliability value will improve this construct. As a result, the researcher believes that this communication skill should be re-evaluated to obtain a high reliability value. As a result, question 51 is an item drop in this construct.

After question 51 was removed, the communication skills construct was re-evaluated. Dropping question 51 appears to improve reliability in the development of communication skills. The second analysis clearly supports the statement, and the results are shown in Table 14. The overall reliability value was reanalyzed for the communication skills pilot study, and the researcher discovered that communication

TABLE 14. Communication Skills Reliability Value (After Dropping Weak Items)

Communication Skills	Alpha Value (α)	Level of Reliability	
Question 49	0.77	Good and Acceptable	
Question 50	0.80	Good	
Alpha Cronbach Value if Item Deleted	Question 51	0.68	Acceptable
	Question 53	0.65	Acceptable
Overall Reliability Score	0.78		

skills had the best overall reliability value, which was an alpha value of 0.78 after one item was dropped. According to table 14, removing questions 49, 51, and 52 reduces the reliability value for communication skills to moderate. As a result, the researcher decided to use communication skills items (after reanalyzing them) because the overall value of this construct is high.

The dependability of logical thinking skills was also removed from the Table 15 presentation. There are five items in logical thinking skills in Table

15. The overall result for logical reasoning abilities is alpha = 0.53. This demonstrates that the skill's reliability is poor because the alpha value is 0.6. If the item (question 57) is dropped, the value will increase. Dropping questions 54, 55, 56, and 58, on the other hand, lowers the reliability value of logical thinking skills. As a result, the researcher believes that question 54 should be eliminated to achieve a higher reliability value. A second analysis of the logical thinking skill construct to ensure the reliability value is stable and

TABLE 15. Logical Thinking Skills Reliability Value

Logical Thinking Skills	Alpha Value (α)	Level of Reliability	
	Question 54	0.40	Non-Acceptable
	Question 55	0.27	Non-Acceptable
Alpha Cronbach Value if Item Deleted	Question 56	0.23	Non-Acceptable
	Question 57	0.91	Excellent
	Question 58	0.24	Non-Acceptable
Overall Reliability Score		0.53	

achieved.

Table 16 displays logical thinking skills that were reanalyzed by merging only four items. The overall score for logical reasoning skills is 0.91. This demonstrates that the reliability of this skill is highest after integrating only four items. This clearly

demonstrates that removing question 57 (see Table 16) increases the stability and reliability of logical thinking skills. In the second analysis, no items will be omitted because Table 16 reveals that deleting questions 55, 56, and 57 reduces the reliability score. But by adding an additional alpha value of 0.02 to question 54, a

TABLE 16. Logical Thinking Skills Reliability Value (After Dropping Weak Items)

Logical Thinking Skills	Alpha Value (α)	Level of Reliability	
	Question 54	0.93	Excellent
Alpha Cronbach Value if Item Deleted	Question 55	0.87	Good
	Question 56	0.87	Good
	Question 57	0.84	Good
Overall Reliability Score		0.91	

greater dependability value is attained. Nonetheless, the researcher believes that by retaining all four of these components, the overall reliability score has the highest level of reliability and already demonstrates the stability of the logical thinking skill construct. As a result, the researcher believes that when the results of the second study are acquired, logical thinking skills are no longer aborted in the construct.

The results of the pilot study analysis of 44 respondents for the construct of teamwork skills are shown in Table 17. Teamwork skills have an overall dependability value of 0.42. Because the alpha score is less than 0.6, this indicates that the skill's reliability is poor. The researcher discovered that even after eliminating questions 59, 60, 62, and 63, the reliability value of team abilities remains low. In fact, removing question 63 had a significant impact on the reliability

score in this construct since the alpha value went negative. Nonetheless, removing question 61 results in a higher dependability value. As a result, the researcher believes that these collaborative skills should be re-evaluated to obtain a higher reliability rating. As a result, during the second time the analysis procedure is run, one item is removed from the construct.

Table 18 shows the results of the second analysis of reliability values for teamwork skills. Based on this finding, the overall reliability value changed to the best level, which is an alpha value of 0.92. This proves that after dropping question 61 (refer to Table 18), the reliability value of teamwork skills became more stable and reliable.

Table 19 displays the reliability rating for the ability to be proactive. Table 19 shows that there are five aspects to the skill of being proactive. The overall

TABLE 17. Teamwork Skills Reliability Value

Teamwork Skills	Alpha Value (α)	Level of Reliability	
	Question 59	0.50	Non-Acceptable
	Question 60	0.16	Non-Acceptable
Alpha Cronbach Value if Item Deleted	Question 61	0.92	Excellent
	Question 62	0.09	Non-Acceptable
	Question 63	-.027	Non-Acceptable
Overall Reliability Score		0.42	

TABLE 18. Teamwork Skills Reliability Value (After Dropping Weak Items)

Teamwork Skills	Alpha Value (α)	Level of Reliability	
	Question 59	0.90	Excellent
	Question 60	0.91	Excellent
Alpha Cronbach Value if Item Deleted	Question 61	0.89	Good
	Question 62	0.88	Good
Overall Reliability Score		0.92	

TABLE 19. Proactive Skills Reliability Value

Proactive Skills	Alpha Value (α)	Level of Reliability	
	Question 64	0.47	Non-Acceptable
	Question 65	0.40	Non-Acceptable
Alpha Cronbach Value if Item Deleted	Question 66	0.78	Good and Acceptable
	Question 67	0.54	Non-Acceptable
	Question 68	0.47	Non-Acceptable
Overall Reliability Score		0.59	

result for the proactive skill is an alpha of 0.59. This demonstrates that the skill's reliability is weak because the alpha value is 0.6. Even though the value of 0.59 is near the dependability value of 0.6, the researcher will perform a second analysis after determining the change value of removing additional questions identified in this construct. Additionally, if question 66 is omitted, a greater alpha value will be obtained. Dropping

questions 64, 65, 67, and 68, on the other hand, will result in a lower reliability value. The question will then be kept for the second analysis.

Table 20 displays the second investigation of the reliability of the skill findings for proactive skills. This skill's overall result is an alpha of 0.78. By merging only four things, this demonstrates high reliability. Additionally, the removal of questions 64,

TABLE 20. Proactive Skills Reliability Value (After Dropping Weak Items)

Proactive skills	Alpha Value (α)	Level of Reliability
Question 64	0.74	Good and Acceptable
Question 65	0.82	Good
Question 66	0.42	Non-Acceptable
Question 67	0.65	Acceptable
Overall Reliability Score	0.78	

65, and 67 resulted in a lower reliability value. Yet, removing question 66 increases the reliability value of the talent of being proactive. The researcher did not remove this item because the overall rating of reliability remains high. As a result, the researcher believes that no additional item drops will be conducted on the architecture of proactive talents.

Table 21 shows the findings of the pilot study analysis for technological skills. Technology skills have an overall dependability value of 0.88.

This demonstrates that the skill's reliability is quite good, as the alpha value is in the range of 0.81-0.90. Furthermore, the reliability values for questions 69, 70, 72, 74, and 75 are quite good, with question 73 being at the highest level. As a result, the researcher believes that these items in technological skills do not need to be analyzed again because the overall value of reliability is quite high. As a result, nothing will be dropped or re-analyzed in this build.

TABLE 21. Technology Skills Reliability Value

Technology Skills	Alpha Value (α)	Level of Reliability
Question 69	0.87	Good
Question 70	0.85	Good
Question 71	0.85	Good
Question 72	0.85	Good
Question 73	0.90	Good
Question 74	0.86	Good
Question 75	0.87	Good
Overall Reliability Score	0.88	

Finally, the researcher believes that all the items can be used to measure the study sample after some constructs are reanalyzed. Many reliability values in each item were greater than 0.60 after re-analysis. Dropping objects in the pilot study is done to confirm the accuracy of the obtained items. Furthermore, this study was carried out to guarantee that the instrument was simple for the respondents to understand. As a result, by conducting a pilot study prior to the actual

study, the researcher can avoid the creation of faulty instruments and eliminate errors before the actual study is carried out.

DISCUSSION AND CONCLUSION

The primary goal of this research is to create a research instrument to evaluate cross-cultural dimensions and

marketability skills of students at the organization. This study was successful in developing a tool for cross-cultural aspects of job marketability among students at Malaysian Technical University Network. Various measures were taken by the researcher to identify the appropriate items during the study item generation process. According to Faiznur et al. (2019) and Ivy, Mohd Zainal, and Rahman (2020), the analysis of the pilot study can provide a preliminary image of the study's aims. The research method employed is quantitative, with data for the pilot study collected via Google Forms. This study finds the need to re-analyze some items and the outcomes of this study reveal that all items and constructs employed are legitimate research items and can be used. The study's findings demonstrate that all items have an alpha value greater than 0.6 which shows that the research tool is highly reliable. Bond and Fox (2015) clarified that the items in the questionnaire instrument can be used and accepted if the reliability value in the study surpasses $\alpha = 0.6$. The findings of the pilot study show that respondents had a good level of knowledge of the topics posed. This demonstrates that only a few elements must be dropped to avoid residuals (instrument interference) during the real investigation. All items with high reliability ratings will be kept. Problematic articles were removed, and further investigation was conducted.

The study's findings also show that there is a link between cross-cultural dimensions and job marketability skills. Time management is required to increase educational quality as well as student marketability (Kim, 2014; Bulend & Elsie, 2014). Moreover, government programs can increase the number of trained individuals required by the industry (Ridhuan et al., 2022). As a result, one of the constructions that must exist in the cross-cultural dimension is temporal orientation. Furthermore, collectivism culture is crucial since the necessities of the industry emphasize the spirit of cooperation more than the will (Chowdhury, 2015; Hazwani & Dalbir, 2016). Researchers created an instrument to extract information about the cross-cultural dimension of student marketability from respondent responses. Furthermore, students' marketability skills must be emphasized for technical students to compete for employment. Students' marketability abilities enable them to develop work procedures that successfully aid in the generation of the greatest ideas because of group debates and decisions (Viji et al., 2021; Mohd Azlan, Hasnah, & Irdyanti, 2021). It indirectly exposes students to the industrial work culture while also allowing them to compete with other graduates. Furthermore, technical students must strengthen

their marketability skills in addition to their specialty to comprehend cultural trends in an organization (Zulhazmi, 2021; Dai, Xie, & Deng, 2022).

Finally, this dimension encompasses five constructs: power distance culture, uncertainty avoidance, time-oriented individualism or collectivism, and masculinity or femininity (Choo, 2021). Whereas intrapersonal skills like planning, identifying, and solving problems, communication, logical thinking, teamwork, being proactive, and technology are the constructs of marketability skills there is a cross-cultural dimension to the relationship between student marketability and the government's initiative to produce quality human capital.

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