

## Relationship Between Career Adaptability And Employability Skills: Towards Engineering Graduates Career Development

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### Abstract

A crucial component of successful career preparation among graduates is the ability to adapt to challenging industrial settings. Similarly, job-related and employability skills have become propensity assets to adapt to the volatility, uncertainty, complexity, and ambiguity (VUCA) landscape in different workplaces. Employers demand new and different employee skill sets due to technological advancement and the rapidly changing job landscape. This research seeks to determine the relationship between career adaptability and employability skills. Results based on data collected from 205 final-year engineering students at Universiti Putra Malaysia (UPM) indicate that the career adaptability and employability skills level was high. More importantly, career adaptability is positively associated with students' employability skills. This study benefits educators and policymakers by providing a detailed view of career adaptability and employability skills from the existing curriculum delivery. It also acts as a guideline for further efforts to amplify career development among graduates to ensure their employment success.

**Keywords:** Career Adaptability, Career Preparation, Employability Skills, Job Success, Vuca

### Introduction

Unemployment is a longstanding issue in Malaysia. This issue was exacerbated by the COVID-19 pandemic, affecting the economy and societal well-being in most countries worldwide. Malaysia continues to struggle from the impact of the pandemic, reflected in the declining employment growth and opportunities for job seekers. The Department of Statistics, Malaysia (2020) reported that the unemployment rate in Malaysia remained between 3.3% and 4.5% in 2020, reflecting the graduate unemployment statistics in 2018 and 2019 at approximately 3.9% (Department of Statistics Malaysia, 2019). These rates are estimated to increase as unemployment rises with the influx of graduates each year. There is a global shortage of engineers in emerging (WEF 2017) and established (WEF 2016) countries, with increasing

concerns regarding the lack of diversity in race, gender and high attrition rate in many engineering degrees (Winberg et al., 2018).

The Ministry of Science, Technology, and Innovation (MOSTI) Malaysia has highlighted the need for more engineers to become a developed country (Berita Harian, 2023), achieve the Sustainable Development Goals of the United Nations, and create a more sustainable future. According to the Board of Engineers Malaysia (BEM), 187,900 engineers were officially registered in Malaysia last year, comprising 172,900 graduate engineers, 5,900 professionals, and 9,100 certified active practice professionals. Furthermore, the local engineer population ratio is 1:170, as opposed to 1:100 in developed nations such as Germany and France. Therefore, marketability should be studied for engineering graduates, particularly their adaptability and employability in the current workforce ecosystem.

The unemployment rate increased by 1.1% monthly during the COVID-19 pandemic. More than 772,900 individuals were retrenched in November 2020, and the unemployed population reached 764,400. The Department of Statistics Malaysia (2020) also reported an increasing unemployment trend, staggering at 255,900 before reaching a peak at 517,000 in December 2019. The Ministry of Higher Education Malaysia also launched a tracer study (Department of Statistics Malaysia, 2021) and revealed that 63.5% of fresh graduates successfully entered the workforce, whereas 13.8% remained unemployed. Interestingly, the graduates listed resting, traveling and vacationing, further study, family commitment, job offer does not fit qualification, and lack of job interest abound with reasons for inactive job seeking (Department of Statistics Malaysia, 2021). Meanwhile, 52.0% of graduates had attended interviews one to five times, and 7.0% were interviewed more than five times. This finding suggests that job placement has become increasingly competitive with time.

Career preparation could contribute to job procurement in the evolving workplace landscape. The readiness of graduates to enter the workforce is essential in career preparation, such as employability skills and career adaptation. Individuals who can adapt to a new work environment and are motivated to thrive in any struggles will survive in their careers (Autin et al., 2017). Innovative and productive employees are crucial for advancing the workforce and establishing a high-income nation (Hanapi & Nordin, 2014; Ismail et al., 2019).

### **Literature Review**

Most organizations extend to delve deeper into the view and conception of the extending global economy (McKinsey Global Institute, 2017). The economic perspectives have influenced the human capital development of a nation in terms of skills empowerment and lifestyle. As economic factors have become the basis for national growth, human capital has become a great asset for a country. Stakeholders from the ground level to higher education providers should advocate for more employability skills development programs to produce marketable graduates for industries and employers.

Numerous employers predicted that unemployed graduates would struggle to secure a job in the market. Notably, these graduates face contention from the domesticated technology application, making more occupations obsolete occupations soon. Automation and modern technology trends are progressing rapidly, replacing human tasks in various organizations and increasing unemployment. The World Economic Forum (WEF) published a report in 2020, listing ten projections of the future job landscape: (a) the pace of technology adoption is expected to remain unabated and may accelerate in some areas, (b) automation, in tandem with the COVID-19 recession, is creating a 'double-disruption' scenario for workers, (c) job creation is slowing while job destruction accelerates, (d) skills gaps continue to be high as in-

demand skills across jobs change in the next five years, (e) in the absence of proactive efforts, inequality is likely to be exacerbated by the dual impact of technology and the pandemic recession, (f) online learning and training is on the rise but looks different for those in employment and those who are unemployed, (g) the window of opportunity to reskill and upskill workers has become shorter in the newly constrained labor market, (h) despite the current economic downturn, the large majority of employers recognize the value of human capital investment (i) companies need to invest in better metrics of human and social capital through adoption of environmental, social and governance (ESG) metrics and matched with renewed measures of human capital accounting, and (j) the public sector needs to provide stronger support for reskilling and upskilling for at-risk or displaced workers (p. 5-6).

The projection casts a dark shadow on educational institutions as they fail to churn out marketable graduates who fulfill industrial requirements and criteria. Graduates with soft skills such as communication and practical skills are highly demanded in the market, corroborating with today's global employment market, where job-related skills are the most crucial workforce component (World Economic Forum, 2020).

Malaysia has strongly emphasized increasing direct investment and exports to achieve its goal of being a developed country by 2020. The rising economy should make job placement activities facile for fresh graduates. Furthermore, a study has listed five factors that contribute to unemployment among graduates: (a) lack of communication skills, mainly English proficiency, (b) lack of work experience, (c) lack of skills, (d) mismatch of academic experience with industrial requirements, and (e) selective in job hunting (Ayob et al., 2020).

Adaptation to uncertainties and numerous challenges is crucial for new employees. The fast business and job environment requires candidates to confront challenges and produce brilliant ideas for business growth (Lawrence, 2013). As technology continues to evolve, employees at different layers of organizations are expected to adapt and adopt the professional career. Maree (2012) reported that the main challenge in today's job market is the expectation for fresh employees to be highly adaptable to changes, making career adaptability a prerequisite for job success.

### **Career Adaptability Concept**

Career adaptability has become increasingly important in the workforce. The demand for technological skills shapes the current workforce to prepare for job uncertainties. Rapid advancement in numerous industrial settings, such as the Industrial Revolution 4.0, resulted in constant changes in how a job is done and requires adaptability in unpredictable workforce situations (Maree, 2012). One of the paradoxes in one's career life is that technology and robotization will, to some extent, replace human jobs; most industries globally will likely utilize advanced technology for decision-making and problem-solving. Nevertheless, technology has limitations, and digitizing human responsibilities entirely is impractical. Therefore, all stakeholders in the workforce need to be adaptable and apply suitable technologies in their jobs.

The reality of the current workforce is daunting, considering the impact of COVID-19. Human capital development has become almost stagnant due to slow growth in numerous industries, resulting from adverse economic impacts. Therefore, adapting to a changing world is one of the fundamental elements to thrive in a world full of volatility, uncertainty, complexity, and ambiguity (VUCA). Career development has evolved from other key concepts, such as career development and maturity. Super and Knasel (1981) state that professional adaptability is a willingness to handle job conditions and changes.

Career adaptability refers to an individual's adaptation to a changing world and maintains the ability to balance career roles, influencing psychological resources for career advancement and achieving more significance in life. Savickas (2005) described career adaptability as a psychosocial construct that identifies the resources required for an individual to succeed in shaping and managing adaptive behaviors, which address significant career challenges and changes such as vocational development tasks, work stress, career transition, and trauma. Adaptability is essential in managing one's career in today's environment, particularly with the fourth industrial revolution that has reshaped social institutions and work patterns. An individual must develop the necessary adaptive skills to manage a profession in the 21st century and deal with the challenges and changes in the current employment scene (Savickas, 2021).

The concept of career adaptability was first proposed by Super and derived from other core concepts of career development and maturity (Savickas, 1997). According to Super and Knasel (1981), career adaptability refers to the employees' willingness to defy job situations and changes. Hartung et al. (2008) relate career adaptability to the ability of teenagers and adolescents to envision their future and employment. Career adaptability benefits individuals' transformation in a dynamic world and maintains their ability to perform their career roles. This condition influences their psychological resources for career development and accomplishing more missions in life.

The concept of career adaptability is multidimensional and hierarchical, comprising four important elements that provide career transitioning and expected job-related responsibilities: (a) concern, (b) control, (c) curiosity, and (d) confidence (Savickas, 2013). Concern refers to an individual's awareness and preparation for their future careers. Control is when an individual demonstrates a belief system of responsibility and self-discipline towards a career. The curiosity dimension reflects a person's inclinations and ability to explore the job environment, such as occupation types and job opportunities. Finally, confidence promotes personal belief in solving problems and encountering challenges to penetrate choices and achieve goals (Savickas, 2005; Savickas & Porfeli, 2011).

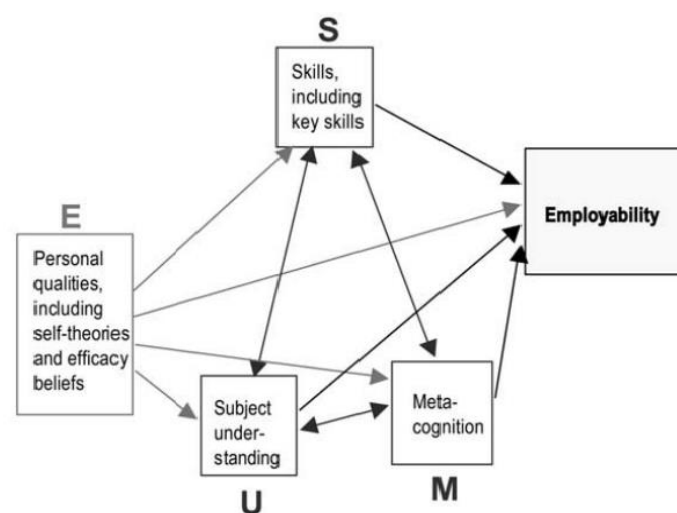
### **Employability Skills: A Necessity for Job Success**

Numerous research has been carried out to define employability skills. These investigations resulted in many new terms to characterize the talents necessary for a job. Non-technical abilities have been characterized as transferable skills (O'Neil, Allred, & Baker, 1997), career skills (Smith & Krüger, 2011), and work preparedness skills (Zinser, 2003). Omar, Bakar, and Rashid (2012) defined employability skills as transferable skills that are consistently used in the workplace and are derived from knowledge and training. Furthermore, Manyika et al. (2017) described employability skills as higher cognitive, social, emotional, and technological skills. Values and personality development can also be inherited through nurturing and education. Employability skills such as leadership, teamwork, negotiation, communication, and creative and critical thinking are fundamental in today's workforce.

According to Rasul et al. (2009), employability skills are necessary for specific employment fields and cover other occupational fields. The most preferred employability skills include basic skills, interpersonal skills, personal quality, thinking, systems, and technology skills (Rasul et al., 2009). Halim et al. (2017) reported that employability skills are compulsory in improving job marketability among graduates. Employers often offer jobs intending to hire graduates, but the latter lack interpersonal skills, work experience, and poor performance during interviews prompted the former to change their minds.

Hanapi et al. (2018) have identified nine components of employability skills that graduates must master to enter the labor market: communication skills, information management skills, creative and critical thinking skills, self-management skills, teamwork skills, social skills, entrepreneurial abilities, leadership skills, and ethical and moral professionalism. When an employer decides to hire a qualified employee for the firm, the candidate is assessed based on the employer's preferences. According to the World Economic Forum (2020), employers in 2025 demand four primary skills to fill a particular position: problem-solving, self-management, dealing with people, and developing and utilizing technology. These skills are highly demanded and mandated by employers to ensure their human resources can perform on a global playing field to sustain their business and organization. The specified employability skills are not new but have become fundamental in a demanding workforce environment. These skills ensure that graduates can work effectively and meet the requirements and standards set by employers.

Soft-skill or practical skills are essential, but employability skills cover a wide range of abilities relevant to the current and underlying employment trends in a specific work environment. Relevant skills that help employees keep up with industrial transformation are crucial to completing jobs quickly and contributing to organizational growth. Variables selection for this study was based on the Understanding, Skills, Efficacy Beliefs, and Metacognition (USEM) Model developed by Knight and Yorke (2004) (Figure 1). USEM represents the fundamental standards for "holistic" and "functional" employees as determined by the theory of learning. Knight and Yorke (2004) propose four primary domains of competence in employability skills: understanding (mastery of the subject matter of a field), skillful practices (so-called generic skill in addition to subject-specific skills), efficacy beliefs (trust that one can influence situations and events), and meta-cognition (awareness of one's competence and limitations combined with an insight into how to learn more).



**Figure 1:** The USEM Model.

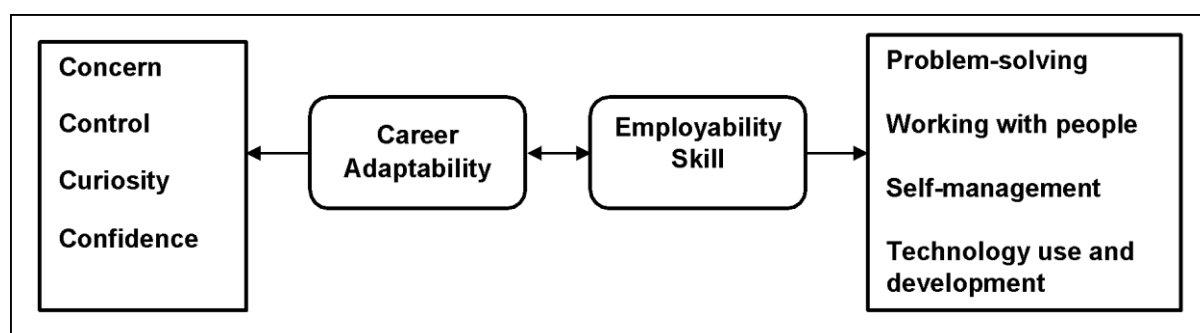
Adapted from Knight and Yorke (2004)

Graduate Prospects (2013) stated that efficacy beliefs are one of the key characteristics to guarantee graduates' success in the job market. The graduates' positive self-concept and confidence would equip them to handle failure and unforeseen challenges throughout their employment. In addition, graduates with strong efficacy beliefs will view failure as a chance to grow and succeed in the future. On the contrary, graduates with low self-efficacy view

failure as the inevitable result of their incompetence. The research findings also highlighted the significance of metacognitive skills as an essential element for graduates' employability. Meta-cognition is the ability to consciously reflect on one's thought processes and strategies and respond appropriately to that knowledge. Moreover, the graduates' sense of self and confidence enable them to handle unprecedented difficulties in the workplace. Each standard included in the model creates a set of principles and components that could guarantee graduates' employability. On a different note, Yorke (2004) views employability as a complex personal trait. Graduates are more likely to find employment and be successful in their chosen professions if they possess specific skills, understanding, and personal attributes besides benefiting the workforce, community, and economy.

### Conceptual Framework

Career adaptability comprises four critical constructs: concern, control, curiosity, and confidence. In contrast, employability skills include problem-solving, working with people, self-management, and technology use and development. In summary, the researchers describe each attribute of employability skills and subsequently analyze the correlation between career adaptability and employability skills attributes. Figure 2 illustrates the conceptual framework for this study.



**Figure 2:** Conceptual framework

This study explores the relationship between employability skills and career adaptability to support the marketability of engineering graduates. The variables were developed based on a list of constructs that best fulfill employer's expectations. The relationships between the variables were investigated to identify the main problem associated with the employability of engineering graduates. Two research objectives were formulated as the primary focus of this study: (a) to determine the level of career adaptability and employability skills among Universiti Putra Malaysia (UPM) engineering graduates and (b) to determine the relationship between career adaptability and employability skills of UPM engineering graduates. There are two research questions underpinning this study:

1. What is the level of career adaptability and employability skills among engineering students at UPM?
2. Is there a significant relationship between career adaptability and the employability skills of UPM engineering students?

### Methodology

A quantitative descriptive and correlational study was performed to obtain the respondents' information as the findings generalize from the sample to the population interest. The targeted population of this study involved 480 final-year bachelor's degree students from

eight engineering programs in UPM who had completed their industrial training for one semester. The questionnaire was replicated and modified from Savickas and Porfeli (2011) for career adaptability and Hanafi et al. (2018) for employability skills. The employability skill element was developed based on the 'Future of Job Report 2020' framework to address critical elements relating to skills in 2025 presented in the WEF. The questionnaire consists of three sections: Section A: Demographic profiles, Section B: 16 items relating to career adaptability, and Section C: 40 items related to problem-solving, working with people, self-management, and technology use and development elements as part of the employability skills criteria.

The total number of questions in the questionnaire was 56 items, estimated to be completed within 20 minutes. The descriptive and Pearson correlation analyses were employed for the data analysis. Pearson's correlation is used to study the relationship between the independent and the dependent variables. The questionnaire entitled "Engineering Graduates Employability and Adaptability Measurement" was validated by experts prior to initiating the study. The pilot study was conducted by sampling 30 final-year engineering students from the engineering faculty at UPM. The reliability coefficients of the questionnaire for the pilot study are detailed in Table 1.

Table 1  
*Cronbach's alpha value for variables*

Variable	Number of items	Alpha Value	Cronbach	Interpretation
Career Adaptability	16	0.92		Excellent
Employability skills	40	0.93		Excellent

## Results

### Demographic Profiling

A total of 214 respondents were randomly selected from the total population of 480 final-year bachelor's degree students from eight engineering programs at UPM. The number of samples was derived from a study by Krejcie and Morgan (1970). The questionnaire was distributed via Google form, and the response rate was 100%. The tabulated data based on respondents' profiling is presented in Table 2.

Table 2

*Demographic profiles of the respondents (n = 214)*

Variable	Frequency (f)	Percentage (%)
<b>Gender</b>		
Male	99	46.3
Female	115	53.7
<b>Race</b>		
Malay	167	78.0
Cina	24	11.2
Indian	21	9.8
Others	2	0.9
<b>Field of Study</b>		
Bachelor's Degree in Civil Engineering	34	15.9
Bachelor's Degree in Electric and Electronic Engineering	26	12.1
Bachelor's Degree in Mechanical and Manufacturing Engineering	30	14.0
Bachelor's Degree in Biological and Agricultural Engineering	24	11.2
Bachelor's Degree in Aerospace Engineering	29	13.6
Bachelor's Degree in Chemical and Environmental Engineering	22	10.3
Bachelor's Degree in Computer and Communication System Engineering	25	11.7
Bachelor's Degree in Food Processing Engineering	24	11.2

The data reported that 99 respondents (46.3%) are male and 115 (53.7%) are female. Most respondents are Malay (n = 167, 78.0%), followed by Chinese (n = 24, 11.2%), Indian (n = 21, 9.8%), and Others (n = 2, 0.9%). The representation was relatively equal in study programs; a majority of respondents were enrolled in the civil engineering program (n = 34, 15.9%), while the least were from chemical and environmental engineering programs, with 20 (10.3%) respondents each. A total of 26 (12.1%) respondents major in electrical and electronic, 30 (14.0%) are mechanical and manufacturing engineering majors, 24 (11.2%) from biological and agricultural engineering, 29 (13.6%) in aerospace engineering, 25 (11.7%) in computer and communication systems engineering, and 24 (11.2%), major in food processing engineering.

### **Descriptive Findings on Career Adaptability**

Table 3 demonstrates the mean scores for each construct in career adaptability. The mean for the curiosity dimension was the highest (M = 4.83, SP = 0.35), followed by control (M = 4.82, SP = 0.35), confidence (M = 4.80, SP = 0.36), and concern (M = 4.78, SP = 0.36). The overall mean value for the career adaptability dimension was generally high in this study, indicating that the final-year students of the engineering faculty at UPM possess a high level of career adaptability.



Table 3

*The career adaptability level (n= 214)*

Dimension	M	SD	Level
Concern	4.78	0.36	High
Control	4.82	0.35	High
Curiosity	4.83	0.35	High
Confidence	4.80	0.36	High
<b>Total Mean</b>	4.81	0.33	High

**Descriptive Findings on Employability Skill**

Table 4 presents the mean scores of each element of employability skills. The mean for working with other individuals was the highest (M = 4.82, SP = 0.32), followed by self-management skills (M = 4.77, SP = 0.31), technology use and development (M = 4.68, SP = 0.40), and problem-solving (M = 4.63, SP = 0.42). The overall mean value for employability skills is generally high in the present study, demonstrating the high employability skills among the final-year students of the engineering faculty at UPM.

Table 4

*Employability skill level (n = 214)*

Element	M	SD	Level
Problem-solving	4.63	0.42	High
Working with people	4.82	0.32	High
Self-management	4.77	0.31	High
Technology use and development	4.68	0.40	High
<b>Total Mean</b>	4.73	0.29	High

**Correlation Analysis**

The collected data was analyzed using the bivariate Pearson's correlation (see Table 5). All constructs for employability skills positively correlated with career adaptability. Table 4 shows the detailed analysis for all constructs in employability skills, exhibiting a strong correlation in problem-solving ( $r = 0.61$ ,  $p = 0.00$ ), working with people ( $r = 0.62$ ,  $p = 0.00$ ), and self-management ( $r = 0.69$ ,  $p = 0.00$ ). Meanwhile, technology use and development ( $r = 0.31$ ,  $p = 0.00$ ) had a moderately-strong correlation with employability skills.

Table 5:

*Correlational Analysis Result of Studied Variables (n=70)*

Employability skill	Career adaptability		Interpretation	
	<i>r</i>	<i>p</i>		
Problem-solving	0.61	0.00	High correlation	positive
Working with people	0.62	0.00	High correlation	positive
Self-management	0.69	0.00	High correlation	positive
Technology use and development	0.31	0.00	Moderate correlation	positive

*\*significant at  $p < 0.01$  (2-tailed)*

**Discussion and Implication**

This research aimed to determine the relationship between career adaptability and employability skills for career preparation among engineering students at UPM. The study findings provide a deeper understanding of the dynamics between employability skills and career adaptability, which are indirect and direct antecedents for engineering students. The engineering students' career adaptability on all four dimensions (concern, control, curiosity, and confidence) was high, reflecting their efforts in building their careers and being highly self-determined. Furthermore, the respondents demonstrated a high level of career adaptability, indicating willingness to actively explore themselves and what the job market has to offer. These findings agree with the literature on career adaptability (Hartung et al., 2008; Omar et al., 2012; Savickas, 2021). These findings also suggest that overall career adaptability is how confident the students are in their problem-solving abilities, enabling them to achieve career stability and independence. Additionally, engineering students are more focused on the future and are preparing for future career challenges (concerns) and tasks. Most of them are confident in their ability to realize their career goals.

Other imperative facets of employability skills include self-management, technology use and development, problem-solving, and working with people. This study revealed that the respondents scored the highest in working with people, which could be attributed to the students' observations in most workplace and classroom learning activities. Working with people comprises coaching and mentoring and working as a member of a team and as an individual. The second highest mean score of employability skills is self-management. Self-management included having goals and a unique perspective, taking responsibility, assessing performance, and articulating vision and beliefs. The third dimension of employability skills rated by engineering students was technology use and development. Problem-solving was identified as the fourth key employability skill, along with ideation, learning management, and contributing to the learning community. Problem-solving skills were acknowledged by engineering students as necessary for existing and entry-level careers. Problem-solving required by employers would vary depending on the job complexity and the types of problems. According to Hanapi et al. (2018), an employee who has learned to solve problems can derive innovative solutions besides being independent and practical. Furthermore, self-management is essential as this trait allows employees to make rapid and logical decisions or draw conclusions when required.

The respondents' career adaptability is positively and significantly associated with their employability skills in this study, consistent with a previous study (Autin et al., 2017). Higher employability skills often correspond to better career adaptability. This study findings also imply that a young individual with a great sense of the future, who is goal-oriented and engaging in career preparation activities, tends to perform better in school and vice versa. Higher educational achievement reinforces the student's enthusiasm for their future vocation and forms positive relationships from working with people to career confidence and control over one's academic year (Halim et al., 2017). The current findings suggest that when engineering students have good experiences and consistently engage in engineering-related activities and subjects, their degree of preparedness increases to prepare for future career tasks and challenges. Universities are encouraged to provide ongoing support for students to help them adapt to their careers by increasing their confidence and interest in engineering. It may also be beneficial for students to attend engineering programs and seminars regularly and create action plans to achieve career goals, besides maintaining their interest in engineering and boosting their confidence in pursuing their careers in the industry.

Studies on the relationship between employability skills and career adaptability and its dimensions among engineering students in their final year of university remain lacking. Thus, the current findings could fill the knowledge gap in the existing literature. This research provides information on the critical factors influencing career adaptability and employability skills. Career adaptability is strongly correlated to employability skills in complex problem-solving, working with people, and self-management, and is moderately correlated to employability skills in technology use and development. While students may be technologically superior, most employers require that employees be good team players who can communicate well and articulate their ideas effectively. Thus, giving due attention to skills other than technology becomes crucial when developing students employability skills instead of focusing solely on the academic and technological components (Balakrishnan et al., 2020). As the authors contended, young engineers should be given opportunities to sharpen their speaking skills at university in order to make them more marketable in their desired sectors of employment.

These findings also support prior research that established a link between career adaptability, subjective career success, and indicators of career resources (Hartung et al., 2008). Additionally, all four dimensions of career adaptability aspects were significantly and positively associated with people management, complex problem solving, and collaborating with others. This outcome coincides with Ismail et al. (2019) in financial and income independence as a reflection on self-management and complex problem solving, as these factors influence one's perception of confidence in their work adaption and future career.

The present potentially benefits academia, students, and policymakers to develop strategies and action plans to continuously improve their transferrable skills, which are critical for engineering students. The strong relationship between career adaptability and employability skills illustrates the significant relevance of skills in career resource management and the success of engineering university students. Successful career planning contributes to higher adaptability in future careers (Abdul Rahim et al., 2021); hence, interventions must be made within the university compound to ensure that engineering students graduate as competent and highly employable individuals. Besides equipping students with the necessary skills and knowledge for employment, universities could help engineering students develop their sought-after skills and requisite for their future careers, including self-regulatory resources for curiosity, control, confidence, and concern before graduation. These efforts may facilitate the development of engineering graduates to boost their chances of being employed in their desired fields. Moreover, knowledge and skills must be constantly updated in the rapidly evolving economy. Universities can support engineering students by helping them seek employment, continue sharpening their critical skills, and establish a self-regulatory mechanism to deal and connect with career changes. Finally, universities could provide a conducive environment with complete, advanced infrastructures that facilitate students' education and career development.

### **Limitations and Future Research**

This study has several limitations. First, self-reported cross-sectional data were used in the study, which might lead to information bias. Secondly, this study included final-year engineering students at UPM based on random sampling. It is predicted that the sample size and data collection methods may be limited' thus, generalizing the research outcomes to all

engineering students should be done with caution. Finally, future studies should consider other parameters that may be imperative in employability skills and career adaptability.

### **Conclusion**

Career adaptability significantly influences graduates' success in the job market. The constructs commended in career adaptability potentially motivate fresh graduates and novice employees to strive and thrive in the current job landscape. The study findings indicated that career adaptability is crucial for an individual's career and professional development and success. Career adaptability reflects personal inclinations of their chosen occupation and the ability to explore and improve personal occupational traits. Moreover, being adaptable to the challenging job landscape allows the job seeker to retain their position longer; hence, they will likely enjoy the profession. In addition, the findings of the study provide important information on career adaptability and employability skills, which ultimately encourage students to prepare themselves before stepping into the workforce.

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