

Review Article

‘You are Hired’: Technical and Vocational Education and Training Graduate Employability and Experts’ Views

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ABSTRACT

It is theoretically acknowledged that strategically organised talent management organisational mission, vision, and mission. It was reported that only 70% of universities in Malaysia declared workforce-ready graduates. As a result of the graduate employability investigation, the Ministry of Higher Education (MoHE), parents, and graduates were alerted. However, a recent employers’ investigation revealed that recruiting skilled graduates remained to be seen. An investigation emphasising talent management attributes was launched to address the gap by employing the Differentiated Model of Giftedness and Talent (DMGT). Drawn from DMGT, interpersonal measurement was the main construct to identify the talent management attributes. First, a qualitative method and semi-structured interview were chosen for the data collection process. Second, a seven-expert panel comprising academics and industry executives were gathered to describe the ideal university graduate’s attributes. The finding revealed seven main university graduate attributes: 1) communication, 2) leadership, 3) critical thinking and problem-solving, 4) teamwork, 5) lifelong learning and information management, 6) ethics, morals, and professionalism, and 7) entrepreneurship

skills. The selected academics and industry executives recommended paying attention to career adaptability and digital technology. Higher Education Institutions (HEI) might better consider meeting the demands of the workforce and industry in the context of globalisation and digitalisation by focusing

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on the seven graduate attributes as evident in the investigation. As such, the seven graduate attributes are instrumental in the industry workforce.

Keywords: Employability, graduates, HEI, soft skills, talent management

INTRODUCTION

Organisational talent management theoretically functions in three ways. Firstly (Eny et al., 2021). First, talent management improves individuals' abilities. Second, individuals' abilities support the management system that affects organisations that act as employers. Third, talent management seeks to elevate individuals' abilities through necessary training, advice, equipment, and methods concerning quality products. Finally, given the prevalence of talent management, many organisations expect a commensurate return from such investment; employees are expected to deliver exemplary work and portray exceptional loyalty, commitment, reliability, integrity, and sincerity. As such, leaders' skills determine the success of organisations, but employees' talents in executing tasks are also instrumental as organisations promote their brands across the world (Santiago, 2019). As a result, talented employees remained significant predictors of organisation and company performance.

Studies concerning employees' characteristics revealed the centrality of strategically organised talent management. First, strategically organised talent

management allows employers to hire employees based on their abilities. It should be noted here that talent is commonly referred to as individuals' abilities that could predict companies' existing and prospective success (Younas & Bari, 2020). Abilities to identify, attract, integrate, develop, motivate, and retain individuals who are important to organisations are some of the many operationalisations of talent management (Al Aina & Atan, 2020). Second, strategically organised talent management also determines long-term organisational success, efficiency, and competitiveness (Johennesse & Chou, 2017). Work concerning organisational talent management typically involves 1) determining qualification and preparedness for promotion, salary increment, career placement, and excellent service awards, 2) motivating the officers, and 3) planning for the training needs.

However, it is argued that talent management could be useful to students in HEI. First, managing talent could properly manage and develop talents for the prospective industry. Career preparation could determine graduates' future. Second, studies recommended that developing soft skills among students in HEI was a priority. Soft skills elevate employability skills among students in HEI to meet one or more industry demands (McGunagle & Zizka, 2020). In Malaysia, the student curriculum combines soft skills and practical applications of courses. Some of the soft skills across HEI that were integrated included 1) communication skills, 2)

critical thinking and problem-solving skills, 3) teamwork, 4) lifelong learning and information management skills, 5) entrepreneurship skills, 6) ethics, and 7) professional moral and leadership skills.

Two reasons motivated the incorporation of soft skills into the HEI curriculum: 1) the critiques from employers concerning graduates' lack of soft skills, for instance, communication and analytical skills, and 2) the globalisation of the workforce, which means increasing competitive skills from graduates. Thus, soft skills bolster graduates' readiness for the workforce (Succi & Canovi, 2020). Entrepreneurial skills, abilities to self-reflect, adaptability, confidence, and self-belief are some of the soft skills that could be incorporated into the HEI curriculum (Byrne, 2020). By consolidating soft skills, real-life contexts such as industry and the workforce could be exposed to students in HEI.

REVIEW OF THE LITERATURE

Employability Skills

Employability skills are defined differently in different contexts. First, employability skills could be defined as essential skills needed to meet workforce demands. Second, employability skills are equated with student-generated values seen through sufficient working skills and good personal qualities. Third, employability skills could be referred to as skills that support individuals' effective workplace performance (Kenayathulla et al., 2019). Finally, it was found that employability demarcated 'possession,' 'position,' and 'process' (Byrne, 2020). In

other words, graduates' skills and attributes and the role of higher education in boosting identity, status, and work-study transition are all determined by employability skills. Recruiters typically use employability skills as a success metric, given the prevalence of employability skills. Thus, the collaboration between HEI and employers elevates graduates' job readiness to meet existing and prospective workforce demands, as seen through the integration of soft skills into the curriculum.

Incorporating soft skills into the curriculum could be seen across Malaysian HEI. First, employability skills that are incorporated into the curriculum encompass 1) communication skills, 2) critical thinking and problem-solving skills, 3) teamwork, 4) lifelong learning and information management skills, 5) entrepreneurship skills, 6) ethics, professional, and moral skills, and 7) leadership skills. While HEI and representatives from industries consent to conceptualise soft skills, communication skills, planning skills, and ethical and social knowledge are understood differently by graduates; recent graduates' academic conceptualisation of soft skills may not accommodate workplace demands (McGunagle & Zizka, 2020). Second, studies revealed that employers' expectations of graduates' soft skills are motivated by the need for analytical and knowledge skills, to name a few (Cheong et al., 2016). As such, graduates who could demonstrate knowledge and skills meet the recruiters' expectations in an economy-related sense; recruiters are typically reluctant to invest

in training. Therefore, employability skills determine workplace demands (Calvo & Manzano García, 2021).

Therefore, employability skills learnt through academic settings are insufficient to ensure graduate careers. Real-workforce contexts that require employability skills continue to be important predictors. Studies recommended that investigation be carried out to identify interventions to graduate career. The benefits of identifying graduate-related issues are two-pronged: 1) employability skills could be understood and applied in the real-world workforce, and 2) talented and skilled graduates remained the top-ranked university priorities. As such, workplace demands and employability skills continue to be addressed to elevate graduate competencies.

Talent Management

The notion of talent management is understood differently in different contexts. While talent could be defined as an individual's innate predisposition to skills (Younas & Bari, 2020), talent management is understood as a predictor of long-term organisational success. Specifically, talent management involves grooming employees' skills and creativity during orientation, career development, and career retention (Obliopas et al., 2019). Once employees have enrolled in talent management-oriented training, the employees are typically pooled and adequately trained according to employees unique requirements. Most companies implement a talent management approach to keep and develop employees' abilities

and skills. Therefore, talent management bolsters organisations in the context of creating skill-specific positions.

Economic industries motivate how skills change over time. First, economic industry and organisational requirements change over time. Therefore, learning and training environments are needed to meet the industry demands. In other words, changes in the economy influence how talent diversification is prioritised (Mok et al., 2020). Second, economic industries continuously demand higher skills and knowledge contingent upon the 21st-century job markets, particularly realising individuals' self-potential (Mahmud et al., 2016). The attributes that bolster talents' development and management include individuals' abilities, time, leadership, and environment (Ghomi & Ahmadi, 2018). By complying with the pressure of 21st-century job markets, skills, and knowledge, students' talents are grouped based on variations in the job market. Thus, appropriate attribute and practice selection could enhance students' talent management.

Furthermore, the method 'career path determination' is usually employed by talent management across global multinational organisations. First, career path determination is based on the idea that management could help employees select, expand, and nurture prospective talent (Clarke & Scurry, 2020). Second, talent management attracts prospective employees as many organisations compete to secure highly skilled employees. Third, talent management is a significant predictor in shaping employees' direction

as per organisational needs. However, talent management in HEI, which could meet industry demands, remained to be seen.

Three points motivate the application of talent management across HEI. First, talent management guides students in meeting self-employment and labour demands. Studies reported that talent management was not exploited fully to expose students' potential despite the availability of numerous graduate development programmes (Clarke & Scurry, 2020). Second, studies recommended that talent search committees seek prospective 'graduates' early (Jackson, 2020). Talent search committees typically assess prospective graduates based on potential, performance, and talent management criteria (Löfsten et al., 2020). Graduates' strengths and weaknesses are usually evaluated. Career paths could be charted by focusing on potential, performance, and talent management. Third, talent management could expose graduates to different sets of talent. Given the different understandings and personalities across Z-generation individuals, varying sets of skills could be exposed to prospective graduates (Goh & Okumus, 2020). The wide-ranging differences, behaviour-related or not, continue to influence talent management dynamics across HEI.

Therefore, talent management could be an important principle governing student employability. First, talent management bridges both knowledge and soft skills that prospective graduates need. Second, university talent management could help chart graduates' career paths based on students' diverse knowledge, soft skills,

and talents. Third, while university-level decisions are usually focused on students' marketability, issues concerning students' adaptability to workforce demands could be addressed as a priority. Thus, the future of industries depends upon nurturing students' talents (McCracken et al., 2016).

The Differentiated Model of Giftedness and Talent (DMGT)

DMGT typically describes the processes of developing talent (P). P involves the shifts from extraordinary natural abilities or gifts (G) to extraordinary developed skills that systematically define expertise or talent (T) (Gagné, 2004). Three specific types of catalysts that reinforce and suppress the processes include 1) interpersonal catalysts (I), 2) environmental catalysts (E), and 3) opportunities (C). These catalysts shape the processes or steps that depict DMGT. It should be noted here that the term, giftedness, refers to the natural, untrained, and spontaneous behaviours and abilities (extraordinary gifts) with at least one domain of ability (Gagné, 2004). Therefore, the level of mastery that identifies an individual with giftedness falls within 10% and above. However, the term talent is commonly understood as the exceptional mastery of abilities (skills) developed systematically in at least one area of human activity. Therefore, at least a 10% level of skills mastery could identify individuals with talent.

Based on the components or catalysts in DMGT, the interpersonal catalyst is central. Interpersonal catalyst, or the 'soft skills'

faculty, predicts individuals' skills in dealing and interacting with others. The interpersonal catalyst comprises miscellaneous skills for mastery and development, namely, 1) communication, 2) leadership, 3) critical thinking and problem-solving, 4) teamwork, 5) information management, 6) ethics and professionalism, and 7) entrepreneurship. Studies revealed that at least 91 percent of employers could relate to interpersonal (soft) skills as prevalent (Seetha, 2014). Bearing the applications of the interpersonal catalyst, DMGT was used as a guide, as the ensuing discussions will show. Interpersonal measurement was employed as the main construct in identifying the graduate employability attributes.

STATEMENT OF THE PROBLEM

The dramatic surge in investigations on hiring indicates the urgency of developing graduate employability attributes. First, the issue of unemployment captures the attention of top-ranking officials (MoHE, 2020), parents, and graduates. For instance, the 2020 Graduate Tracing Study was a pivotal reference; 15.6% of 260 701 graduates of public HEI, community colleges, vocational colleges, training, and skills institutes were jobless. Out of 260 701 graduates, 13 906 were unemployed. In contrast, 79.5% of graduates failed to secure a job six months after graduating. 2% of the graduates were upgrading their skills in exchange for a higher salary. Second, the global COVID-19 pandemic worsens graduate unemployment. All industries, health-related or not, are affected, and graduates remain unemployed.

Third, 70% of universities in Malaysia claimed that the graduates were industry-ready. However, issues concerning skilled graduates are often raised by employers. For instance, 97% of employers agreed that university graduates were less competent in managing their talents to position themselves across the workforce (Suarda et al., 2017). It makes sense to raise the non-soft-skilled graduates because actual abilities cannot be depicted from technical skills, test scores, and transcripts alone. Furthermore, graduates' work varies across various disciplines, so identifying graduates within a specific field of expertise could be difficult. Thus, soft skills usually inform recruiters of graduates' abilities to socialise at HEI (O'Connor & Bodicoat, 2017). Communication skills, leadership, and teamwork are often predictors of hiring. By focusing on soft skills across HEI, graduate careers and employability could be determined (Ayala-Calvo & Manzano-García, 2020).

While the jury is out, graduates' lack of soft skills could be linked to grim exposure to talent management at HEI. First, studies recommended that graduates' careers be developed based on skill-specific talent, so graduates are exposed to talent management strategies (Goh & Okumus, 2020). Second, the development of graduates' talent based on employability skills could prompt graduates to become job creators as opposed to job seekers. By exposing graduates to opportunities for becoming job creators, HEI might better consider planning and developing a technology-

specific curriculum (Hartono, 2021). While technologies are at graduates' disposal, HEI could incorporate technologies in the curriculum and skills needed to satisfy the job creation opportunities. Third, graduates apply the skill-specific technology and soft skills following the HEI curriculum. By focusing on the knowledge and application of soft skills, prospective graduates help the workforce to thrive.

In Malaysian settings, the exam-specific curriculum could exacerbate graduate unemployment. The examination syndicate, which relies heavily on test scores, may emphasise rote memorisation. As a result, students' test scores soared and marginalised explicit training on soft skills (Appleby, 2017). Studies recommended that graduate employability and a well-rounded industry pool depend on inclusive training and a skill-specific curriculum (McGunagle & Zizka, 2020). Thus, the least integration of soft skills into the curriculum means less exposure to the importance, advantages, and acquisition of institutional social activities. By participating in social activities, soft skills are fostered. Addressing the gap, an investigation that identified the most important talent management attributes was launched.

METHODOLOGY

A qualitative research design was adopted to examine the talent management attributes of TVET graduates. Therefore, before the interview was conducted, protocol questions were constructed first. This set of questions has seven semi-structured questions and has

been validated in advance by three experts in technical and vocational fields. Once confirmation of the interview request is obtained, an appointment for the interview is initiated.

First, a seven-expert panel with an industry background and TVET academics were gathered. Second, a semi-structured interview was used because the approach entailed a combination of open-ended, closed, and follow-up questions (Adams, 2015). Specifically, instead of relying heavily on verbatim questions similar to a structured survey, the interviews revolved around the agenda items and addressed incidental, unexpected issues. Third, the interview centred on the perspectives of the industry and TVET academics concerning empowering talent-specific graduate employability. Two reasons motivated the selection of industry experts: 1) industry-specific talents among students could be formulated, and 2) once students graduated, the talents could be recontextualised to reflect employability skills. Fourth, during the interview, follow-up questions were improvised. Finally, the interviews were conducted virtually due to travel restrictions. For context, the government of Malaysia executed the nationwide movement control order (MCO) in observance of the COVID-19 pandemic.

After the interview with the seven experts was completed, the interview recording was converted to a transcript in a document. The document was handed back to seven experts for them to review the interview results and confirm the transcript.

Subsequently, a thematic analysis was employed to identify related narratives. The recurring patterns or themes were coded and identified. The thematic analysis is typically defined as the technique for finding, analysing, and reporting themes (Braun & Clarke, 2006). Thus, to identify constructs of talent management was to operationalise a thematic analysis. Four steps governed the processes of thematic analysis. First, before identifying the themes, interview transcripts were grouped and coded. Second, incremental matching across data items and codes was used to compare codes and accuracy search. Third, the codes were reviewed to generate a thematic 'map' of the analysis. Finally, an investigation was carried out to cross-check the details of themes, meanings, and stories.

FINDINGS AND DISCUSSION

The summary and discussion of the main findings are presented in this section. First, the general theme of talent management emerged from the interviews among TVET academics and industry experts. As such, the emerging themes were captured as a result of

the interviews. Generally, the interviewees were delighted to elaborate on how talent management could help graduates elevate graduate employability. The thematic analysis generated six important attributes concerning the talent management construct. The following six soft skills attributes were similar to those recommended by HEI In an overview. Table 1 lists the attributes:

However, HEI might better consider using and applying additional or alternative attributes based on the changes in the industry. Specifically, additional graduate employability attributes were needed following the rapid industrial changes, needs, and new skills. The new attributes proposed by the experts are demonstrated in Table 2:

Based on the findings, it could be concluded that the seven elements of soft skills were relevant for graduate development and employability. The new attributes raised by the experts reflect the changes and revolution of the industry. Therefore, HEI might better consider new attributes consistent with prospective employers' needs and skills that may bolster organisational growth. In turn, employers rely on how universities prepare students with workforce training. By focusing on existing and new graduate attributes, prospective employers could hire HEI graduates.

Table 1
Attributes of talent management

No.	Attributes
1.	Communication
2.	Critical thinking and problem-solving
3.	Leadership
4.	Teamwork
5.	Lifelong learning and information management
6.	Moral and professional ethics
7.	Entrepreneurship

Table 2
New attributes of talent management

No.	Attributes
1.	Career adaptability
2.	Digital technology

Communication Skills

Communication skills play significant roles in a competitive 21st-century workforce as one of the soft skills. Prospective employers often value graduates with communication skills that could enhance organisational growth and performance. First, recruiters rank effective communication higher than other skills when applications are vetted (Patacsil & Tablatin, 2017). Second, other criteria included: 1) types of programmes, 2) tasks, 3) activities, and 4) skills learnt in HEI.

The dramatic surge in interactions highlighted the centrality of digital communication as opposed to in-person communication. In other words, technology-driven communications were generally preferred to in-person meetings. However, the revolution in communication calls for greater changes; graduates might better consider mastering effective communication regardless of the medium. First, acquiring communication skills could mean practising building a better relationship, productivity, and unrestricted negotiations of meaning. Second, responsive communication commonly generates effective solutions to problems and challenges that students may face (Charoensap-Kelly et al., 2016). Third, similar to responsive communications emphasising students, the labour workforce revolves around multi-faceted interactions.

Specifically, workplace interpersonal communication allows employees and employers to establish mutual relationships. Workplace interpersonal communications also allow participants to relate with others

in societies, families, and businesses (Patacsil & Tablatin, 2017). By taking turns to exchange life stories, employees negotiate meanings. A positive and friendly work environment is commonly nurtured when employees learn to get along. Graduates with exceptional communication skills are often productive and competitive (Succi & Canovi, 2020). Thus, organisations usually highly regard candidates who can initiate conversation, sustain communication, and respond to feedback.

Critical Thinking and Problem-Solving Skills

Studies equated critical thinking with 'wise consideration'. Definitions of critical thinking are abundant. First, critical thinking could be defined as the ability to solve problems using a combination of experiences, knowledge of research methods, and logical reasoning (Heard et al., 2020). Second, in an increasingly competitive workforce, employees with 1) technical skills, 2) the ability to think logically and analytically, 3) independent personality, 4) abilities to work collectively, and 5) problem-solving skills are highly sought (Moore & Morton, 2017). Third, employers appreciate new employees who can provide new insights into innovation and efficiency (Wrahatnolo & Munoto, 2018). Therefore, ideal employees think critically and creatively, share opinions and ideas, use good judgement, and make decisions.

In HEI, being creative and innovative is highly invaluable. Employers usually assess graduates through formal and informal HEI

activities. Workforce-related activities in HEI, for instance, project construction and problem-solving activities, require students to socialise, interact, and solve problems (Moore & Morton, 2017). Furthermore, feedback received from HEI instructors presents insights into what it means for students to respond to and distinguish between criticisms and praises. From the employers' perspective, self-involvement exposes students to the strategies of making ethical decisions, collective problem-solving skills, and perceptions of others. For instance, students could generate ideas and creativity when evaluating workplace situations, actions, and conflicts.

The changes in the education system determine prospective graduates. First, given the prevalence of diverse personalities and mindsets, creative individuals who use critical historical, systematic, and projective thinking are rare (Suarta et al., 2017). Second, individuals whose characteristics encompass creative and critical thinking may contribute to the development of systematic and projective organisations. To develop systematic and projective organisations is to hire graduates who can think 'outside the box' by combining thinking with past events, issues, and incidents (Pearl et al., 2019). Specifically, graduates who are critical and creative thinkers respond to issues, guidelines, and sets of criteria appropriately; facts and information inform the graduates who are critical and creative thinkers. As such, critical and creative thinkers contribute to risk-taking strategies that may affect organisations' short and

long-term planning. Graduates who think creatively and critically predict current and prospective incidents and provide reasoning and factors that may exist in the future. By contemplating current and future issues, graduates contribute to organisational well-being through personal experiences.

Studies equated problem-solving abilities with creative and critical thinking. First, graduates or job candidates who can identify and solve recurring problems bolster successful organisational management and operation (Suarta et al., 2017). Second, graduates who solve organisational problems could 1) describe problems in detail, 2) compartmentalise the problem-solving processes, and 3) plan and select solutions before re-evaluating the actions and results. Therefore, graduates might better consider critical thinking and problem-solving skills synonymous with the workforce.

Leadership Skills

It is theoretically acknowledged that soft skills centralise leadership. Used appropriately, individuals whose potential is reserved and undiscovered are sought so that the individuals can be leveraged for their benefit. First, good leaders empower, motivate, and inspire colleagues (Mohamed et al., 2018). Second, proactive leaders are usually recognised as valuable workforce and departmental assets. Third, leadership is often associated with individuals' skills and abilities to influence others to make decisions. Thus, leaders also prompt employees to upgrade their skills and do things out of their norms.

Seven roles of leaders are highlighted by academic literature. Leaders work to 1) achieve organisational goals, 2) convey visions, 3) plan, 4) organise, 5) control, 6) mobilise, and 7) motivate others. First, leaders who display effective leadership help move the organisations forward (Chan et al., 2018). Second, leaders develop and sustain collaborative relationships with superiors, subordinates, peers, and miscellaneous stakeholders (De Carvalho & Junior, 2015). Third, aspiring leaders might better consider skills that build and maintain healthy relationships, particularly across individuals within and outside organisations. Fourth, by expanding workplace networks, organisational productivity and success are elevated. However, given the current circumstances, significant leadership weaknesses and issues may be explained by the lack of experience, education, and training in HEI (Succi & Canovi, 2020). By identifying the issues concerning leadership, long-term organisational planning could be bolstered.

Recent studies highlighted that organisational success depended on leadership qualities. First, strong leadership often demonstrate better and more holistic organisational performance. For instance, strong leadership bolsters greater degrees of customer satisfaction, organisational productivity, financial revenue, and quality of products (Suarta et al., 2017). Second, effective leadership determines employees' sustainability, performance, participation, and motivation. For example, 84% of organisations predicted a deficit of experienced leaders for the next five

years, declining existing performance among leaders (Suarta et al., 2017). The lack of leadership quality and skilled industrial employees are often cited as the primary causes of a decline in the number of experienced leaders. Third, several employers demanded the inclusion of leadership and managerial skills in HEI courses so students could learn the important job skills needed by future leaders (Succi & Canovi, 2020). By focusing on the relevant job skills, future leaders are nurtured, particularly in working in teams.

Teamwork Skills

Most graduate recruiters agree that teamwork is central. First, most employers prioritised employees who could offer exceptional strength to others in teams (Suarta et al., 2017). For instance, the top management and execution emphasise employees who are team players to help organisations grow exponentially with new ideas (De Carvalho & Junior, 2015). However, other graduates may be competent in assessing and 'fuelling' drive to the organisational operationalisation. Second, employers believe that the ability to work and collaborate well with colleagues determines the future of organisations. For example, training and part-time jobs allow graduates to work with other professionals (Succi & Canovi, 2020). Graduates who learn what it means to manage assigned tasks along with colleagues may be successful because teams require diverse elements.

In HEI, teamwork-based activities have been incorporated into the curriculum for

decades. First, teamwork-based activities guided by instructors generate dynamic skills that can be developed and expanded. Teamwork, combined with leadership, may lead to greater organisational success (Cetin & Kinik, 2015). Second, teamwork leads to optimal employee and organisational performance. For instance, teamwork realises organisational vision, mission, plan, and objectives through collaboration. Thus, teamwork upholds employees' performance (Löfsten et al., 2020). Third, teamwork enables team members to improve their skills, knowledge, and abilities while working together (Brock et al., 2017). Finally, effective teamwork behaviours and principles could determine employees' performance and productivity, as employees resolve conflicts and face demanding workplace challenges.

Lifelong Learning and Information Management Skills

Individuals' competencies usually depend upon learning and learning motivation. Learning typically involves changing the state of knowledge, skills, and attitudes, particularly in realising workplace changes. First, lifelong learning among youth is equated with the acquisition, processing, and sharing of a knowledge-based economy (Suarta et al., 2017). As such, students are conscious of the knowledge; graduates could innovate and resolve conflicts generated by challenges of modernisation. Thus, lifelong learning is seen as instrumental in long-term knowledge acquisition. Second, lifelong learning bridges the gap

between workplace and work productivity (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2019). Specifically, lifelong learning is a predictor of competencies among targeted groups; lifelong learning usually determines societal and employment progress (Sangiumvibool & Chonglertham, 2017). Third, given the prevalence of challenges in the labour market, graduates committed to lifelong learning are usually hired.

Graduates may have worked in multiple jobs with fewer than three years of workforce duration. First, preparing students to face and succeed in an unpredictable world is one of the biggest challenges for universities. However, studies raise one complexity; many HEI standards are not streamlined with the employers' expectations (Hairani, 2018). Specifically, although the HEI preparation concerning lifelong learning is made available, students' awareness of the importance of lifelong learning during job hunting seems inadequate (Sangiumvibool & Chonglertham, 2017). Second, studies recommend that students be prepared for employee assessment. Third, participation in internal and external multidisciplinary activities could prompt graduates to be independent (Hairani, 2018). Independent means that graduates have the liberty to explore endless opportunities that real-life knowledge could offer.

Students who can evaluate the necessary knowledge in the workforce demonstrate the students' mastery. One of the attributes could be explained through HEI programme assessments. For context, assessments dynamically bolster lifelong learning

skills and elevate graduates' careers (Succi & Canovi, 2020). Specifically, lifelong learning is equated to assessing information because lifelong learning skills involve individuals' abilities to investigate, evaluate options, and manage relevant information. As such, the information retrieved from various sources is used to regulate new ideas that prompt autonomous learning and the ability to develop inquisitive skills. Thus, lifelong learning generates explicit, implicit, and incidental information.

Ethics, Moral, and Professional Skills

The moral, professional, and ethical skills are typically related to students' ability to apply the principles of ethics and professional ethics. First, the ethics and professional ethics principles present societal, cultural, and environmental awareness insights. Second, moral, professional, and ethical skills encourage students to recontextualise ethical principles to make ethical decisions, particularly those involving the economy, environment, and socio-culture (Ngang & Chan, 2015). Third, the moral, professional, and ethical skills are equated with students' application of ethical principles, moral awareness, intentions, and behaviours while dealing with ethical issues. Furthermore, professional ethics and moral values are often applied in projects, for instance, through practical training, discussion with mentors, and presentations.

Hard skills are often taught through general enrollment standards, uniformed syllabus, and assessment systems. Nevertheless, the exposure to humane-

oriented skills such as ethics, morals, and professional skills is quite complex because it 1) involves immeasurable elements and 2) differs across individuals with varying characteristics and backgrounds (Gelfand, 2016). The lack of ethics, morals, and professional skills among graduates could have been exacerbated by 'rote memorisation,' high-stake exams, and the examination-based education system (Cherualath, 2019). Employees with professional ethics, work culture, and industries seek productivity who can communicate ideas with people worldwide. Merely learning through memorising facts and numbers is irrelevant, incompetent, and undesirable (Ngang & Chan, 2015). Thus, HEI that solely emphasises test scores and HEI that lack moral, professional, and ethical skill training may do a great disservice to prospective candidates. Graduates who demonstrate the expansion of minds and analytical skills are sought by employers. Through ethical, moral, and professional skills, networks are built, conversations occur, and effective completion of projects is materialised.

Entrepreneurship

Entrepreneurship, a skill taught in HEI, is central to graduate employability. While other attributes are prevalent, entrepreneurship is realised based on The Entrepreneurship Action Plan (EAP). EAP, which functions as the cornerstone of entrepreneurship, was first developed to emphasise self-reliance and creativity in enhancing revenues. The EAP has undergone significant changes,

particularly from 2021 through 2025, by considering additional concepts that could attract prospective entrepreneurs. Specifically, innovation and technologies are now prioritised in EAP premised on five domains: 1) new ideas, 2) new products, 3) new processes, 4) new marketing methods, and 5) a new organisational approach to business performance. First, ideas shift through the emphasis on innovation. Second, through innovation, new values are created. Third, alternative methods such as problem-based, work-based, and action-based learning opportunities are being explored. Finally, entrepreneurship skills are further applied. The EAP emphasises HEI, and industries might better consider the five domains. Through HEI and industry collaboration, strategic partnerships through apprenticeships could be established (Manzano-García & Ayala-Calvo, 2020). By focusing on apprenticeship across HEI and industries, training in employability skills is emphasised, and prospective employers' needs may be met. Activities, skills, and knowledge made available to students are kept in the curriculum for the graduate academic foundation.

Career Adaptability

Future recruiters usually prioritise graduate employability skills. Given the unprecedented circumstances, university graduates might take up jobs that may not be desirable and relevant to graduates' academic training. As such, graduates may have trouble navigating work-related challenges. Thus, graduates might better

consider career adaptability before the hiring processes begin. Career adaptability as a psychological notion refers to the tools individuals need to deal with existing and prospective career shifts (Khalid & Ahmad, 2021). First, the workforce is an environment that could be introduced during graduates' academic training as applications of academic exercise and real-life workplace. Second, the students are exposed to theories, but students also get first-hand exposure to potential career options. Once hired, students can adapt to the workplace terms, conditions, norms, and practices when exposed to theories and real-world contexts, experiences, and aspirations. Third, students get to align their academic specialisation with industrial needs and demands. For instance, studies recommend that the real-world workforce be exposed to students because students could set expectations and mindsets as a way to adapt to a work-life balance (Zupan et al., 2017). Thus, HEI could plan activities closely related to career adaptability. By focusing on career adaptability as a framework of employment, students' transition from home to the workplace is seamless. Therefore, graduates' employability could be bolstered through the successful execution of planning, particularly using career adaptability.

Digital Technology

It is theoretically acknowledged that shifts in labour markets affect other things, particularly graduate hiring. First, technology-specific knowledge among graduates is acutely needed, mainly because

many job descriptions require graduates to meet highly sophisticated needs and demands. Second, digital technology is quickly incorporated into individuals' lives and several economic domains. For instance, the digitalisation of living alters working conditions, job dynamics, relevant skills, and holistic expertise (Bejaković & Mrnjavac, 2020). Third, academic literature on graduate employability is alarming; skilled manual labour may no longer be needed because millions of jobs have been massively automated. However, the automation of work paves the way for new jobs and skills. As a result, graduates might better consider digitalisation skills and experiences. Finally, academic training might consider offering digitalisation-related courses.

Furthermore, the digitalisation of the labour market and workforce could mean higher demands for other tasks. For example, studies equated the notion of digitalisation with the increasing needs of employees with higher cognitive abilities, digital skills, and technological expertise. Therefore, by attending digitalisation-related training, graduates could elevate digital skills, bolster the digital economy, and develop societies (Pappas et al., 2018).

Given the prevalence of digitalisation, digital literacy skills for graduates might better be considered by HEI. One of the ways to emphasise digitalisation is to incorporate digital literacy activities and training into the curriculum. For instance, an HEI curriculum might focus on workforce characteristics, mission, and digital

operationalisation that may positively affect the workplace. Furthermore, the importance of digital literacy skills is increasingly becoming basic and instrumental to hiring requirements (Jagannathan et al., 2019). While digitalisation is inevitable, incorporating digital literacy skills poses two issues. First, studies acknowledge the complexity of combining digital literacy skills into the curriculum and the ever-changing technological and industrial needs. Second, with the increasing need for HEI to comply with accreditation board requirements, the immediate changes to the curriculum emphasising digital literacy skills may nearly be impossible. Thus, digital literacy skills across HEI might be recommended to bolster graduates' hiring.

CONCLUSION

The talent management discussed in this paper is based on the DMGT proposed by Gagné (2004). First, the DMGT model is built on a talent management pattern that prioritises interpersonal factors, environment, and opportunity. Second, talent management is also built based on patterns of careers relevant to the current needs that accommodate the needs of industrial recruiters. As expressed in the model, the lens of interpersonal relationships posits that those individuals might better consider mastering interpersonal skills for workplace needs. Thus, the study results are DMGT-aligned in the context of interpersonal relationships. On a broader level, the talent management attributes are necessary for long-term organisational talent, specifically

among graduates. First, the theoretical contribution of this study comprises the expansion of existing knowledge and theory in research fields. Existing models of knowledge and theories could be expanded to bolster the attributes of talent management among graduates in Malaysia. Second, the results of this study function as a reference for future research. Third, from practitioners' perspectives, the findings on graduate employability could guide educators and human resource managers. Human resource development and management programmes could be enhanced at the institutional and organisational levels by focusing on graduate employability attributes. Thus, the graduate employability attributes could benefit prospective students. As graduates who will venture into the workforce, graduates might better consider honing effective and enhanced skills, for instance, career adaptability and digital technology.

RECOMMENDATIONS

Further suggestions that are useful as a guide and reference to other researchers are presented. First, prospective investigators might better consider expanding the scope of the study. By focusing on recontextualising the study, additional knowledge, and information on talent management among graduates could be bolstered. Second, future research might better develop subsequent models. As the existing research only utilised the first catalyst of DMGT, it is worthwhile for other catalysts in DMGT to be investigated further. Other attributes in

talent management could be discussed by focusing on the second and third catalysts. Thus, employment in Malaysia could be comprehensively understood by examining other areas of DMGT.

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REFERENCES

- Adams, W. C. (2015). Conducting semi-structured interviews. In J. S. Wholey, H. P. Harty, & K. E. Newcomer (Eds.), *Handbook of practical program evaluation* (pp. 492-505). Jossey-bass. <https://doi.org/10.1002/9781119171386.ch19>
- Al Aina, R., & Atan, T. (2020). The impact of implementing talent management practices on sustainable organizational performance. *Sustainability, 12*(20), 8372-8384. <http://dx.doi.org/10.3390/su12208372>
- Appleby, D. C. (2017). *The soft skills college students need to succeed now and in the future*. Psychology Student Network. <http://www.apa.org/ed/precollege/psn/2017/09/soft-skills>
- Ayala-Calvo, J. C., & Manzano-García, G. (2020). The influence of psychological capital on graduates' perception of employability: The mediating role of employability skills. *Higher Education Research and Development, 40*(2), 293-308. <https://doi.org/10.1080/07294360.2020.1738350>

- Bejaković, P., & Mrnjavac, Ž. (2020). The importance of digital literacy on the labour market. *Employee Relations*, 42(4), 921-932. <https://doi.org/10.1108/ER-07-2019-0274>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Brock, S. E., Mc Aliney, P. J., Ma, C. H., & Sen, A. (2017). Toward more practical measurement of teamwork skills. *Journal of Workplace Learning*, 29(2), 124-133. <https://doi.org/10.1108/JWL-07-2016-0069>
- Byrne, C. (2020). What determines perceived graduate employability? Exploring the effects of personal characteristics, academic achievements and graduate skills in a survey experiment. *Studies in Higher Education*, 1-18. <https://doi.org/10.1080/03075079.2020.1735329>
- Cetin, M. O., & Kinik, F. S. F. (2015). An analysis of academic leadership behavior from the perspective of transformational leadership. *Procedia of Social and Behavioral Sciences*, 20(7), 519-527. <https://doi.org/10.1016/j.sbspro.2015.10.122>
- Charoensap-Kelly, P., Broussard, L., Lindsly, M., & Troy, M. (2016). Evaluation of a soft skills training program. *Business and Professional Communication Quarterly*, 79(2), 154-179. <https://doi.org/10.1177/2329490615602090>
- Cheong, K. C., Hill, C., Fernandez-Chung, R., & Leong, Y. C. (2016). Employing the 'unemployable': Employer perceptions of Malaysian graduates. *Studies in Higher Education*, 41(12), 2253-2270. <https://doi.org/10.1080/03075079.2015.1034260>
- Cheruvath, R. (2019). Does studying 'ethics' improve engineering students' meta-moral cognitive skills? *Science and Engineering Ethics*, 25(2), 583-596. <https://doi.org/10.1007/s11948-017-0009-x>
- Clarke, M., & Scurry, T. (2020). The role of the psychological contract in shaping graduate experiences: a study of public sector talent management programmes in the UK and Australia. *International Journal of Human Resource Management*, 31(8), 965-991. <https://doi.org/10.1080/09585192.2017.1396545>
- De Carvalho, M. & Junior, R. (2015). Impact of risk management on project performance: The importance of soft skills. *International Journal of Production Research*, 53(2), 321-340. <https://doi.org/10.1080/00207543.2014.919423>
- Eny, Y., Budi, E. S., Tjipto, W., Sudarmiatinb, & Farika, N. (2021). Talent management and organizational performance: The mediating role of employee engagement. *Management Science Letters*, 11(9), 1-6. <https://doi.org/10.5267/j.msl.2021.5.007>
- Gagné, F. (2004). Transforming gifts into talents: The DMGT as a developmental theory. *High Ability Studies*, 15(2), 119-147. <https://doi.org/10.1080/1359813042000314682>
- Gelfand, S. D. (2016). Using insights from applied moral psychology to promote ethical behavior among engineering students and professional engineers. *Science and Engineering Ethics*, 22(5), 1513-1534. <https://doi.org/10.1007/s11948-015-9721-6>
- Ghomi, H., & Ahmadi, H. (2018). Assessment of student's talent management in a corporate university. *Management Science Letters*, 8(12), 1375-1386. <https://doi.org/10.5267/j.msl.2018.9.002>
- Goh, E., & Okumus, F. (2020). Avoiding the hospitality workforce bubble: Strategies to attract and retain generation Z talent in the hospitality workforce. *Tourism Management Perspectives*, 33, 100603. <https://doi.org/10.1016/j.tmp.2019.100603>
- Hairani, E. (2018). Pembelajaran sepanjang hayat menuju masyarakat berpengetahuan [Lifelong

- learning leads to a knowledge society]. *Jurnal Pemikiran Keislaman dan Kemusiaan*, 2(1), 355-377. <https://doi.org/https://doi.org/10.52266/tadjid.v2i1.107>
- Hartono, M. (2021). Changing university students' mindset: From job seekers to job creators. *Technium Social Sciences Journal*, 18(1), 433-443. <https://doi.org/10.47577/tssj.v18i1>
- Heard, J., Scoular, C., Duckworth, D., Ramalingam, D., & Teo, I. (2020). *Critical thinking: Skill development framework*. Australian Council for Educational Research. https://research.acer.edu.au/ar_misc/41
- Jackson, D. (2020). The changing nature of graduate roles and the value of the degree. *Journal of Higher Education Policy and Management*, 43(2), 182-197. <https://doi.org/10.1080/1360080X.2020.1777634>
- Jagannathan, S., Ra, S., & Maclean, R. (2019). Dominant recent trends impacting on jobs and labor markets - An overview. *International Journal of Training Research*, 17(1), 1-11. <https://doi.org/10.1080/14480220.2019.1641292>
- Johennesse, L. C., & Chou, T. (2017). Employee perceptions of talent management effectiveness on retention. *Global Business and Management Research: An International Journal*, 9(3), 46-58.
- Kenayathulla, H. B., Ahmad, N. A., & Idris, A. R. (2019). Gaps between competence and importance of employability skills: Evidence from Malaysia. *Higher Education Evaluation and Development*, 13(2), 97-112. <https://doi.org/10.1108/heed-08-2019-0039>
- Khalid, K., & Ahmad, A. M. (2021). The relationship between employability skills and career adaptability: A case of undergraduate students of the United Arab Emirates. *Higher Education, Skills and Work-Based Learning*, 11(5), 1035-1054. <https://doi.org/10.1108/HESWBL-08-2020-0175>
- Löfsten, H., Klofsten, M., & Cadorin, E. (2020). Science Parks and talent attraction management: University students as a strategic resource for innovation and entrepreneurship. *European Planning Studies*, 28(12), 2465-2488. <https://doi.org/10.1080/09654313.2020.1722986>
- Izwan, M. M., Sidek, M. N., Jamaludin, A., & Wan Marzuki, W. A. (2016). Modul kesediaan kerjaya berdasarkan teori Cognitive Information Processing (CIP) [A structured career module based on the Cognitive Information Processing (CIP) theory]. *Jurnal Kurikulum & Pengajaran Asia Pasifik*, 4(3), 59-75.
- Manzano-García, G., & Ayala-Calvo, J. C. (2020). Entrepreneurial orientation: Its relationship with the entrepreneur's subjective success in SMEs. *Sustainability*, 12(11), 4547-4558. <https://doi.org/10.3390/su12114547>
- McCracken, M., Currie, D., & Harrison, J. (2016). Understanding graduate recruitment, development and retention for the enhancement of talent management: Sharpening 'the edge' of graduate talent. *International Journal of Human Resource Management*, 27(22), 2727-2752. <https://doi.org/10.1080/09585192.2015.1102159>
- McGunagle, D., & Zizka, L. (2020). Employability skills for 21st-century STEM students: The employers' perspective. *Higher Education, Skills and Work-Based Learning*, 10(3), 591-606. <https://doi.org/10.1108/HESWBL-10-2019-0148>
- Ministry of Higher Education. (2020). *Graduate tracer study*. Kementerian Pengajian Tinggi Malaysia. [http://great.mohe.gov.my/penerbitan/LAPORAN%20KAJIAN%20PENGESANAN%20GRADUAN%20SUSULAN%20\(SKPG%20II\)%202020.pdf](http://great.mohe.gov.my/penerbitan/LAPORAN%20KAJIAN%20PENGESANAN%20GRADUAN%20SUSULAN%20(SKPG%20II)%202020.pdf)
- Mok, K. H., Lang, S., & Xiao, H. (2020). The quest for global talent for changing economic needs: A study of student mobility and job prospects for returnees in China. *Globalisation, Societies and*

- Education*, 18(1), 79-96. <https://doi.org/10.1080/014767724.2019.1690734>
- Moore, T., & Morton, J. (2017). The myth of job readiness? Written communication, employability, and the 'skills gap' in higher education. *Studies in Higher Education*, 42(3), 591-609. <https://doi.org/10.1080/03075079.2015.1067602>
- Ngang, T. K., & Chan, T. C. (2015). The importance of ethics, moral and professional skills of novice teachers. *Procedia of Social and Behavioral Sciences*, 205, 8-12. <https://doi.org/10.1016/j.sbspro.2015.09.004>
- O'Connor, H., & Bodicoat, M. (2017) Exploitation or opportunity? Student perceptions of internships in enhancing employability skills. *British Journal of Sociology of Education*, 38(4), 435-449, <https://doi.org/10.1080/01425692.2015.113855>
- Obliopas, R., Afable, F., & Madeja, J. (2019). Talent Management: A Philippine State University graduate school experience. *Indian Journal of Science and Technology*, 12(42), 1-4. <https://doi.org/10.17485/ijst/2019/v12i42/147908>
- Pappas, M. A., Drigas, A. S., Papagerasimou, Y., Dimitriou, H., Katsanou, N., Papakonstantinou, S., & Karabatzaki, Z. (2018). Female entrepreneurship and employability in the digital era: The case of Greece. *Journal of Open Innovation: Technology, Market, and Complexity*, 4(2), 15-25 <https://doi.org/10.3390/joitmc4020015>
- Patacsil, F. F., & Tablatin, C. L. S. (2017). Exploring the importance of soft and hard skills as perceived by it internship students and industry: A gap analysis. *Journal of Technology and Science Education*, 7(3), 347-368. <https://doi.org/10.3926/jotse.271>
- Pearl, A. O., Rayner, G. M., Larson, I., & Orlando, L. (2019). Thinking about critical thinking: An industry perspective. *Industry and Higher Education*, 33(2), 116-126. <https://doi.org/10.1177/0950422218796099>
- Raed Mohamed, M. S., Nusari, M., Ameen, A., & Alrajawy, I. (2018). Leadership in the organization: A conceptual review. *International Journal of Management and Human Science*, 2(4), 52-59.
- Sangiumvibool, P., & Chonglertham, S. (2017). Performance-based budgeting for continuing and lifelong education services: The Thai higher education perspective. *Journal of Higher Education Policy and Management*, 39(1), 58-74. <https://doi.org/10.1080/1360080X.2016.1211977>
- Santiago, J. (2019). The relationship between brand attractiveness and the intent to apply for a job: A millennials' perspective. *European Journal of Management and Business Economics*, 28(2), 142-157. <https://doi.org/10.1108/EJMBE-12-2018-0136>
- Seetha, N. (2014). Are soft skills important in the workplace? A preliminary investigation in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 4(4), 44-56. <http://doi.org/10.6007/IJARBS/v4-i4/751>
- Suarta, I. M., Suwintana, I. K., Sudhana, I. F., & Hariyanti, N. K. (2017). Employability skills required by the 21st century workplace: A literature review of labor market demand. *Proceedings of the International Conference on Technology and Vocational Teachers (ICTVT 2017)*, 102, 337-342. <https://doi.org/10.2991/ictvt-17.2017.58>
- Succi, C., & Canovi, M. (2020). Soft skills to enhance graduate employability: Comparing students and employers' perceptions. *Studies in Higher Education*, 45(9), 1834-1847. <https://doi.org/10.1080/03075079.2019.1585420>
- United Nations Educational, Scientific and Cultural Organization. (2019). *Global report on adult*

- learning and education*. UNESCO Institute for Lifelong Learning. <http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED540497>
- Wrahatnolo, T., & Munoto (2018). 21st centuries skill implication on educational system. *Proceedings of Materials Science and Engineering*, 296(1), 1-7. <https://doi.org/10.1088/1757-899X/296/1/012036>
- Younas, M., & Bari, M. W. (2020). The relationship between talent management practices and retention of generation 'Y' employees: Mediating role of competency development. *Economic Research-Ekonomska Istrazivanja*, 33(1), 1330-1353. <https://doi.org/10.1080/1331677X.2020.1748510>
- Zupan, N., Dziewanowska, K., & Pearce, A. (2017). Wanting it all: The challenges of managing young talent in transition economies. *Baltic Journal of Management*, 12(1), 63-85. <https://doi.org/10.1108/BJM-02-2016-0054>