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## **A Conceptual Framework of Graduate Employability: Integrating University and TVET Pathways**

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**Abstract:** Graduate employability has emerged as a critical concern for higher education systems worldwide, particularly in contexts characterised by rapid labour market transformation and increasing graduate supply. This study examines the key factors determining employability among university and Technical and Vocational Education and Training (TVET) graduates, with a particular focus on employment outcomes, skills alignment, and institutional influences. Drawing on established employability frameworks, the paper conceptualises employability as a multidimensional construct shaped by field-specific competencies, transferable skills, academic performance, internship experience, and institutional reputation. Using a cross-sectional research design, data are collected from two consecutive cohorts of graduates (2024 and 2025) through a structured tracer-study questionnaire. Descriptive and inferential analyses are employed to examine job placement patterns, time to first employment, the relevance of academic performance, and the degree of alignment between graduates' first employment and their field of study. By integrating perspectives from both university and TVET pathways, the study contributes to a more comprehensive understanding of graduate employability in developing and emerging economies. The findings are expected to provide policymakers, higher education institutions, and training providers with empirical insights for designing targeted interventions to enhance curriculum relevance, strengthen industry engagement, and improve graduates' transition into the labour market.

**Keywords:** Employability, University Graduates, TVET Graduates

**JEL Classification:** M5, M54

**Paper Type:** Concept Paper

## 1. INTRODUCTION

University graduate employability has become a critical global issue as higher education systems expand and labour markets undergo rapid technological, economic, and structural changes. Internationally, while universities have traditionally focused on academic knowledge, employers increasingly demand work-ready graduates who possess a blend of technical expertise, soft skills, digital literacy, and adaptability. In many countries, graduates face skills mismatches, underemployment, or unemployment despite holding degrees, due to gaps between university curricula and industry requirements. In advanced economies such as the UK, Australia, and Germany, universities have adopted employability frameworks, work-integrated learning, and career development programs to enhance graduate outcomes. In contrast, in developing nations, issues such as curriculum rigidity, limited industry engagement, and weak career services persist.

In Malaysia, graduate employability has been a policy priority, with the Ministry of Higher Education setting targets to ensure at least 80% of graduates are employed within 6 months of graduation. The national Graduate Tracer Study (2023) reported an overall graduate employability rate of approximately 91.2%, showing improvement compared to the COVID-19 period. However, concerns remain about underemployment, as many graduates take up positions below their qualifications, particularly in fields with saturated labour markets. Employers often highlight deficiencies in communication skills, critical thinking, problem-solving, and digital competencies among Malaysian graduates, which affect their competitiveness in both local and international markets. In response, Malaysian universities have increased emphasis on soft skills training, internship programs, entrepreneurship education, and curriculum alignment with industry needs under initiatives such as the Malaysian Education Blueprint (Higher Education) 2015–2025. Nevertheless, continued collaboration between academia and industry, integration of future skills, and robust career support systems are essential to sustain and improve university graduate employability in Malaysia and globally.

Graduate *employability* remains a pressing global challenge, and its normality is especially acute in developing nations despite sustained intervention by national governments and international development agencies (e.g., Galal, 2007; Ismail, 2011; Nikusekela & Pallangyo, 2016; Okojie, 2003; Simpson, 2011). In many Sub-Saharan African economies, the situation is particularly dire: the number of university graduates entering the labour market has risen steadily, but opportunities for gainful employment have not kept pace (Bello, 2003). In Ethiopia, for example, higher education enrollment soared from approximately 34,000 students in 2000 to nearly 900,000 in 2018 (Ministry of Science and Higher Education, Ethiopia, 2018). Yet, the labour market's absorption capacity remains limited, leaving numerous graduates unemployed or underemployed (Semela, 2011).

The concept of *employability*, frequently defined as an individual's capability and willingness to remain attractive in the labour market (Coetzee & Schreuder, 2011), has become central to debates on higher education's social return. In both developed and developing contexts, governments, educational institutions, and international organizations emphasize graduate employability as a key outcome of tertiary education. Nevertheless, the rapid expansion of higher education has often outpaced efforts to align curricular design, pedagogy, and institutional practices with dynamic labour market needs (Altbach, Reisberg, & Rumbley, 2009; Rojas, Teresita, & Rojas, 2016).

A major determinant of graduate employability is the quality of skills and competencies imparted by educational institutions. Graduates must not only master disciplinary knowledge but also develop transferable skills that enable them to adapt to evolving workplace demands. Yet numerous studies suggest a growing mismatch between university outputs and employer expectations, particularly in rapidly changing economies (Finch, Hamilton, Baldwin, & Zehner, 2013). As the massification of higher education continues, competitive pressure intensifies, more graduates pursue a limited number of suitable jobs, and job search durations have lengthened (Mugabushaka, Schomburg, & Teichler, 2007).

It is essential to examine both *employment outcomes* (e.g., job placement, time to first employment, job relevance to field of study) and the *supply-side factors* within universities (e.g., curriculum relevance, institutional support, internship opportunities, soft skills training) that facilitate or hinder the transition to work. While several tracer studies have been conducted across various African and Asian contexts, there remains an inadequacy of empirical evidence in many countries, including on how supply-side levers can be most effectively leveraged.

## 1.1 Problem Statement

Technical and Vocational Education and Training (TVET) plays a vital role in enhancing graduate employability globally and in Malaysia by equipping learners with practical skills aligned to industry needs. Internationally, TVET systems such as those in Germany and Switzerland have demonstrated strong employability outcomes through robust apprenticeship models, close industry collaboration, and continuous curriculum updates that match evolving technological and labour-market demands. However, many developing countries face challenges such as outdated equipment, skills mismatches, weak industry linkages, and low societal perception of TVET pathways, which can affect graduate employability.

In Malaysia, TVET has become an increasingly important component of national human capital development, with recent reports indicating graduate employability rates as high as 95–99 %. This success reflects government investment, institutional expansion, and greater emphasis on work-based learning. Nevertheless, persistent issues remain, including fragmented governance across multiple agencies, uneven training quality, insufficient soft skills and English proficiency among graduates, limited industry feedback mechanisms, and public perceptions that view TVET as a “second choice” compared to academic pathways.

Employers have also highlighted gaps in communication, problem-solving, and critical thinking skills, which can affect job quality and career progression. To sustain and improve these outcomes, Malaysia is moving towards stronger industry partnerships, curriculum reform, faculty upskilling, and promotional initiatives to enhance TVET’s prestige. Aligning training with Industry 4.0, green skills, and lifelong learning approaches will be crucial to ensure that TVET graduates remain adaptable and competitive in the global labour market.

This study, therefore, aims to shed light on the graduate employability challenge by investigating the employment trajectories and supply-side determinants of bachelor’s degree graduates, more specifically, it seeks to (1) map the job placement profiles of graduates and examine the relevance of academic and institutional factors to their

placement, and (2) identify the key skill sets and competencies that contribute to meeting current workplace demands. By doing so, the study aspires to inform policymakers, university administrators, and educators on strategies to enhance alignment between higher education outputs and labour market needs.

## **1.2 Research Questions and Objectives**

We believe the following research questions should be addressed to investigate the problem empirically.

1. What are the significant factors affecting graduates' employability?
2. What is the time between graduation and first graduate employment?
3. What is the influence of academic grades on employment?
4. What is the fit between the first employment and the course completed by the graduate?

We believe the following research objectives should be addressed to investigate the problem empirically.

1. To identify the significant factors that affect graduands' employability.
2. To determine the duration between graduation and the first employment obtained by graduates.
3. To examine the influence of academic grades on graduate employment outcomes.
4. To assess the degree of alignment between graduates' first employment and their field of study.

## **2. LITERATURE REVIEW**

A combination of individual competencies and broader contextual factors shapes graduate employability. Foundational models (e.g., Dacre Pool & Sewell, 2007; Fox & Morrison, 2010; Mugabushaka et al., 2011) distinguish between field-specific skills and soft or transferable skills (Bhaerman & Spill, 1988; Finch et al., 2013). More recent research extends this perspective to include the influence of internship experience, institutional reputation, and alignment with labour-market demands, particularly in rapidly evolving knowledge economies (Eimer et al., 2023; Tran et al., 2022).

### **2.1 Field-Specific Skills and Academic Performance**

Field-specific or disciplinary skills constitute the first level of employability attributes. These include technical competencies, analytical and problem-solving abilities, communication skills, and academic performance, typically measured by cumulative grade point average (CGPA) (Bhaerman & Spill, 1988; Finch et al., 2013). Effective communication is especially critical for workplace success. As Woods and King (2002) argued, strong communicators tend to excel in their professional roles, and employers consistently rank communication among the most sought-after attributes for new graduates (Honaker, 2005; McKay, 2005).

Contemporary studies corroborate these findings; for instance, Jackson and Bridgstock (2021) highlight that employers continue to prioritize discipline-based competencies alongside communication, digital literacy, and analytical reasoning. Similarly, DeLaRue et al. (2020) found that employers frequently use academic performance, particularly CGPA, as an initial screening criterion due to the oversupply of graduates relative to job openings. In competitive labour markets, academic achievement signals to employers that graduates

possess cognitive abilities and work habits that correlate with job performance (Dhar, 2012; Andrews & Higson, 2008).

## **2.2 Soft Skills and Transferable Competencies**

Soft skills, often described as generic, transferable, or meta-skills, represent the second level of employability factors (Finch et al., 2013; Siraye et al., 2018). These include interpersonal communication, teamwork, time management, adaptability, professionalism, and self-management skills (Chamorro-Premuzic et al., 2010; Hogan et al., 2013). A substantial body of empirical research has demonstrated that these competencies are often as important as or even more critical than technical skills in securing employment (Billing, 2003; Bridgstock, 2009; Heckman & Kautz, 2012; Robinson et al., 2007).

Recent literature reflects this trend. Lievens and Sackett (2012) and Nickson et al. (2012) found that interpersonal and self-regulation skills strongly predict job performance and adaptability in diverse workplaces. More recent analyses (Mikkonen et al., 2023; Velasco et al., 2021) emphasize that soft skills such as emotional intelligence, resilience, and cross-cultural competence are increasingly valued due to the globalized, technology-mediated nature of modern work. Employers seek graduates who can communicate effectively across teams, adapt to rapid change, and demonstrate professionalism in varied contexts (Ashton, 2011; Mat & Zabidi, 2010; Wellman, 2010).

## **2.3 Internship and Pre-Graduation Work Experience**

Beyond individual skills, pre-graduation work experience, including internships, plays a crucial role in shaping employability outcomes. Empirical evidence indicates that graduates with relevant work experience are more likely to transition smoothly into the labour market (Callanan & Benzing, 2004; Finch et al., 2013; Gault et al., 2010). Internships provide students with opportunities to test their skills in real-world settings, bridge the theory-practice gap, and develop professional networks (Coco, 2000; Zopiatis, 2007).

Recent research reinforces these insights. Helyer and Lee (2014) and Divine et al. (2007) found that internships enhance employability by improving work-readiness, clarifying career goals, and signalling motivation to potential employers. More recently, Jackson and Collings (2023) reported that structured work-integrated learning (WIL) experiences are strongly associated with higher employment rates within 6 months of graduation. Such experiences are particularly crucial in contexts where formal graduate recruitment pathways are limited or competitive.

## **2.4 Institutional Reputation**

Institutional factors also shape graduate employability. Institutional reputation, encompassing aspects such as university ranking, branding, programme structure, and perceived quality, influences employer perceptions and recruitment decisions (Bennett & Ali-Choudhury, 2009; Judson et al., 2008; Pampaloni, 2010). A university's academic standing can serve as a heuristic for employers to assess graduate quality, especially when evaluating large pools of applicants (Sauer & O'Donnell, 2006).

Recent studies have elaborated on this relationship. Marginson (2019) argued that institutional prestige can function as a "positional good," amplifying graduates' labour

market advantages regardless of individual ability. Tran et al. (2022) similarly observed that reputation interacts with other factors such as internships and soft skills to enhance employability outcomes, especially in international labour markets.

Overall, the literature underscores that graduate employability is a multifaceted construct shaped by the interplay between discipline-specific knowledge, academic performance, transferable skills, practical experience, and institutional reputation. While these relationships have been well documented across various global contexts, empirical research remains limited in some regions, such as Ethiopia. A notable exception is Siraye et al. (2018), who found that problem-solving, information technology, adaptability, and risk-taking were the most demanded skills among employers of business and economics graduates. This gap highlights the importance of context-specific tracer studies to inform policy and curriculum development.

### **3. RESEARCH METHODOLOGY**

A cross-sectional research design was employed to examine the employment outcomes of University graduates. This design was deemed appropriate as it enables the assessment of employment status and related factors at a single point in time across different cohorts, providing a snapshot of graduate employability patterns (Creswell & Creswell, 2018; Etikan & Bala, 2017).

#### **3.1 Population and Sampling**

The target population comprised two consecutive cohorts of graduates who completed their bachelor's degree courses in 2024 and 2025 through regular programmes. A comprehensive sampling frame was obtained from the University Student Information Management System (SIMS). The database included biographical information and graduates' contact details. The population for TVET graduates comprises the graduands from Akademi Binaan Malaysia who graduated in 2024 and 2025.

A total of graduates will be identified for 2024 and 2025. Using Cochran's (1977) sampling formula, a sample size will be determined to ensure representativeness. The sample will be distributed to the graduates through a stratified random sampling. This stratification ensured that the diversity of programmes and disciplines was adequately reflected in the study, enhancing external validity (Bryman, 2016; Taherdoost, 2017).

#### **3.2 Instrumentation**

Data were collected using a structured questionnaire. The questionnaire captured graduates' demographic details, employment status, time to first employment, academic performance, job-study alignment, and perceptions of employability factors. Prior to data collection, sampled graduates will be contacted by telephone to verify their location (region, city, and organization) and obtain informed consent for participation. This pre-contact strategy improved response rates and minimized non-response bias (Dillman et al., 2014).

#### **3.3 Data Processing and Analysis**

Collected data will be entered into Microsoft Excel and subsequently exported to Statistical Package for the Social Sciences (SPSS) for analysis. Descriptive statistics were used to

summarize graduate characteristics and employment outcomes, while inferential analyses were planned to examine associations between employability factors and employment indicators. Employing SPSS facilitated rigorous statistical handling and minimized data entry errors through built-in validation functions (Pallant, 2020).

#### 4. CONCLUSION

Graduate employability remains a complex and pressing challenge that extends beyond the acquisition of academic qualifications. This study underscores that employability is shaped by the dynamic interaction between individual attributes and institutional conditions, including discipline-specific knowledge, transferable skills, academic performance, work-based learning experiences, and institutional reputation. The review of prior literature highlights consistent evidence that, while academic achievement and technical competencies remain important, employers increasingly prioritise soft skills, adaptability, and practical experience in recruitment decisions.

By focusing on both university and TVET graduates, this study adopts a more inclusive perspective on human capital development and labour market readiness. The proposed tracer-study approach enables a systematic examination of employment outcomes, time to first employment, job-study alignment, and the influence of academic and institutional factors. Such evidence is crucial for identifying skills mismatches and structural gaps that hinder graduates' smooth transition into meaningful employment, particularly in developing contexts where graduate unemployment and underemployment persist despite educational expansion.

The study offers important implications for policymakers and educational institutions. Strengthening curriculum–industry alignment, embedding structured internships and work-integrated learning, and enhancing the development of transferable skills should be prioritised across both university and TVET pathways. Furthermore, improving institutional career support services and fostering sustained collaboration with industry stakeholders are essential for ensuring that graduates remain competitive in an evolving labour market.

Overall, this study contributes to the growing body of employability research by providing a contextualised and comparative examination of the determinants of graduate employability. Future empirical findings from this research are expected to inform evidence-based policy formulation, curriculum reform, and institutional strategies to improve graduate employment outcomes and support sustainable workforce development.

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