

BEYOND SKILLS: PROACTIVE CAREER BEHAVIOUR, POSITIVE TRAITS AND INTERNSHIP EXPERIENCE IN SHAPING EMPLOYABILITY AMONG MALAYSIAN TVET GRADUATES

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Abstract: Graduate employability remains a central concern within Technical and Vocational Education and Training (TVET), particularly in emerging economies facing persistent skills mismatch and labour market volatility. While skills development has long been prioritised in vocational education, growing evidence suggests that employability outcomes are increasingly shaped by behavioural and psychological factors. This study examines the effects of skills, proactive career behaviour and positive personal traits on graduate employability among Malaysian vocational college business management graduates, with internship training experience tested as a moderating variable. Using a quantitative cross-sectional design, survey data were collected from diploma graduates of Malaysian vocational colleges and analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Skills were modelled as a multidimensional construct encompassing academic, technical, employability and entrepreneurial skills. Proactive career behaviour and positive traits were specified as

behavioural and psychological predictors, respectively, while internship training experience was treated as a continuous moderator. The findings reveal that proactive career behaviour and positive traits significantly predict graduate employability, with positive traits emerging as the strongest determinant. In contrast, skills did not exhibit a significant direct effect, indicating that technical and academic competencies may function as baseline requirements rather than competitive differentiators in contemporary labour markets. Furthermore, internship training experience did not moderate the relationships between individual attributes and employability, although it demonstrated a significant direct effect. These results challenge skill-centric interpretations of Human Capital Theory and support more holistic employability frameworks that integrate behavioural and psychological dimensions. The study offers important implications for TVET institutions and policymakers by emphasising the need to embed career self-management competencies, positive psychological development and quality-assured internship structures within vocational education systems.

Keywords: *Graduate employability; Vocational education; Technical and employability skills; Proactive career behaviour; Positive personality traits; Internship training; PLS-SEM.*

Introduction

Technical and Vocational Education and Training (TVET) has become a central pillar of Malaysia's human capital development strategy, particularly in addressing youth unemployment, skills mismatch and labour market volatility (Ramdzan & Arasinah, 2019; Ministry of Education Malaysia, 2021; Economic Planning Unit, 2021). In recent years, the Malaysian government has intensified reforms under national frameworks such as the *Vocational Education Transformation Plan* and the *Twelfth Malaysia Plan*, alongside the establishment of the Malaysian TVET Council (MTVET), to strengthen coordination between education providers and industry stakeholders (Ministry of Education Malaysia, 2021; Economic Planning Unit, 2021). These policy initiatives have contributed to a marked improvement in graduate employment outcomes, with TVET graduate employability reportedly increasing from 87% in 2020 to 94.5% in 2023 (Department of Statistics Malaysia, 2023).

Despite these encouraging trends, persistent concerns remain regarding the quality and sustainability of graduate employment. Malaysian employers continue to report deficiencies in graduates' soft skills, career readiness, adaptability and self-management capabilities, suggesting that employability extends beyond technical competence alone (Ismail et al., 2021; Jackson & Bridgstock, 2021; Halik Bassah & Mohd Noor, 2023). Contemporary employability scholarship conceptualises employability as a multidimensional construct encompassing not only skills and qualifications, but also behavioural, psychological and experiential attributes that enable individuals to obtain, maintain and progress in employment within dynamic labour markets (Clarke, 2020; Tomlinson, 2020; Donald et al., 2023).

Within this context, vocational graduates face a particularly complex employability challenge. While TVET curricula are explicitly designed to be industry-oriented and practice-based, evidence increasingly suggests that technical and academic skills have become baseline expectations rather than differentiating advantages in competitive labour markets (Clarke, 2020; Saleh & Abdul Wahab, 2025). This raises important questions regarding the relative importance of non-cognitive attributes, such as proactive career behaviour and positive psychological traits, in shaping employability outcomes among TVET graduates.

This study addresses these issues by examining the Graduate Marketability Model (GMM), which conceptualises graduate employability as a function of multidimensional skills, proactive career behaviour and positive personal traits, with internship training experience examined as a potential moderating factor. Drawing on Human Capital Theory (Schultz, 1961; Becker, 1975) and Super's Self-Concept Career Development Theory (Super, 1980, 1990), this study investigates how human capital investments interact with behavioural and psychological mechanisms to influence employability outcomes. Using survey data from Malaysian vocational college business management graduates and Partial Least Squares Structural Equation Modeling (PLS-SEM), the study aims to contribute both empirical evidence and theoretical refinement to the growing employability literature within TVET contexts.

Literature Review

Human Capital Theories and Employability

Human Capital Theory (HCT) posits that investments in education, training and skill acquisition enhance individual productivity and labour market value (Schultz, 1961; Becker, 1975). Within vocational education, HCT provides a foundational rationale for skills-based curricula, as employers expect graduates to possess relevant academic knowledge, technical competence and employability skills aligned with industry needs (Ramdzan & Arasinah, 2019; Halik Bassah & Mohd Noor, 2023).

However, recent empirical studies increasingly challenge a simplistic interpretation of HCT. Evidence from Malaysia and other emerging economies indicates that graduates with adequate qualifications may still experience unemployment or underemployment due to labour market saturation, signalling effects and deficiencies in non-cognitive attributes (Ismail et al., 2021; Clarke, 2020). As such, while HCT remains a useful explanatory framework, it requires integration with behavioural and psychological perspectives to fully explain employability outcomes.

Graduate Skills and Employability

A substantial body of literature highlights the importance of both hard and soft skills in shaping graduate employability. Vocational graduates are expected to demonstrate not only job-specific technical skills, but also transferable employability skills such as communication, teamwork, problem-solving and entrepreneurial capability (Ramdzan & Arasinah, 2019; Jackson & Bridgstock, 2021; Halik Bassah & Mohd Noor, 2023). Entrepreneurial skills, in particular, have gained prominence as labour markets become increasingly uncertain, enabling graduates to pursue self-employment or opportunity creation (Olugbola, 2017; Tomlinson et al., 2023).

Nevertheless, emerging research suggests that skills increasingly function as threshold requirements rather than competitive differentiators. Clarke (2020) and Tomlinson (2020) argue that skills alone are insufficient to secure favourable employment outcomes without complementary behavioural and psychological attributes. Accordingly, this study hypothesises: H1: Skills are positively related to graduate employability.

Proactive Career Behaviour

Proactive career behaviour refers to self-initiated actions such as networking, career planning, opportunity scanning and work transition preparation that individuals undertake to shape their own career trajectories (Claes & Ruiz-Quintanilla, 1998). In contemporary career theory, such behaviours are viewed as essential for navigating boundaryless and protean careers characterised by uncertainty and frequent transitions (Spurk et al., 2020; Akkermans et al., 2021).

Empirical evidence consistently demonstrates that individuals who actively manage their careers exhibit higher employability, greater adaptability and more successful school-to-work transitions (De Vos et al., 2021; Akkermans et al., 2021). In the Malaysian context, limited career self-management among graduates has been identified as a persistent employability challenge, particularly within TVET institutions that traditionally emphasise institutional job placement (Ismail et al., 2021; Zixuan et al., 2025). Accordingly, this study proposes:

H2: Proactive career behaviour is positively related to graduate employability.

Positive Personal Traits

Positive personal traits, including optimism, positive self-concept, resilience and goal-oriented learning, reflect individuals' internal psychological resources. These traits have been shown to support employability by enhancing motivation, adaptability and persistence in job search and career development (Fugate et al., 2004; Vanhercke et al., 2020; Donald et al., 2023).

From a self-concept perspective, Super (1980, 1990) emphasised that career success depends on the extent to which individuals' self-perceptions are realised through work roles. Graduates with a clear and positive self-concept are more likely to engage in proactive career behaviours and align their competencies with labour market opportunities. Accordingly, this study hypothesises:

H3: Positive personal traits are positively related to graduate employability.

Internship Training and Its Moderating Role

Internship training constitutes a core component of Malaysian TVET programmes, intended to provide experiential learning and facilitate school-to-work transitions (Walker, 2011; Jackson et al., 2022). While internships are generally associated with improved employability, recent research highlights that their effectiveness depends on quality, supervision, task relevance and reflective integration (Bao & Phee, 2024; Shen et al., 2024).

Beyond their direct effects, internships have increasingly been examined as potential moderators that condition how personal attributes translate into employability outcomes (Shen et al., 2024). Accordingly, this study examines whether internship training experience strengthens the relationships between skills, proactive career behaviour, positive traits and employability:

H4a–H4c: Internship training experience moderates the relationships between skills, proactive career behaviour, positive traits and graduate employability.

Conceptual Framework and Hypotheses

Based on the theoretical framework and prior literature, Figure 1 illustrates the adapted Graduate Marketability Model (GMM) that underpins this study. The model comprises five latent constructs: Skills, Proactive Career Behaviour, Positive Traits, Internship Training Experience and Graduate Employability. Skills are conceptualised as a higher-order construct encompassing four sub-dimensions, namely academic basic skills, employability skills, technical skills and entrepreneurial skills. Graduate Employability is specified as the endogenous (dependent) construct, while Proactive Career Behaviour and Positive Traits function as exogenous predictors. Internship Training Experience is modeled as a continuous moderating variable that conditions the relationships between the three main predictors and Graduate Employability.

Accordingly, the study proposes the following hypotheses: H1 posits a positive relationship between Skills and Graduate Employability; H2 proposes that Proactive Career Behaviour has a positive effect on Graduate Employability; and H3 hypothesizes a positive relationship between Positive Traits and Graduate Employability. In addition, H4a–H4c posit that Internship Training Experience moderates the relationships between Skills, Proactive Career Behaviour and Positive Traits with Graduate Employability, respectively, such that these relationships are strengthened with greater internship experience. The proposed hypotheses are empirically examined using Partial Least Squares Structural Equation Modeling (PLS-SEM).

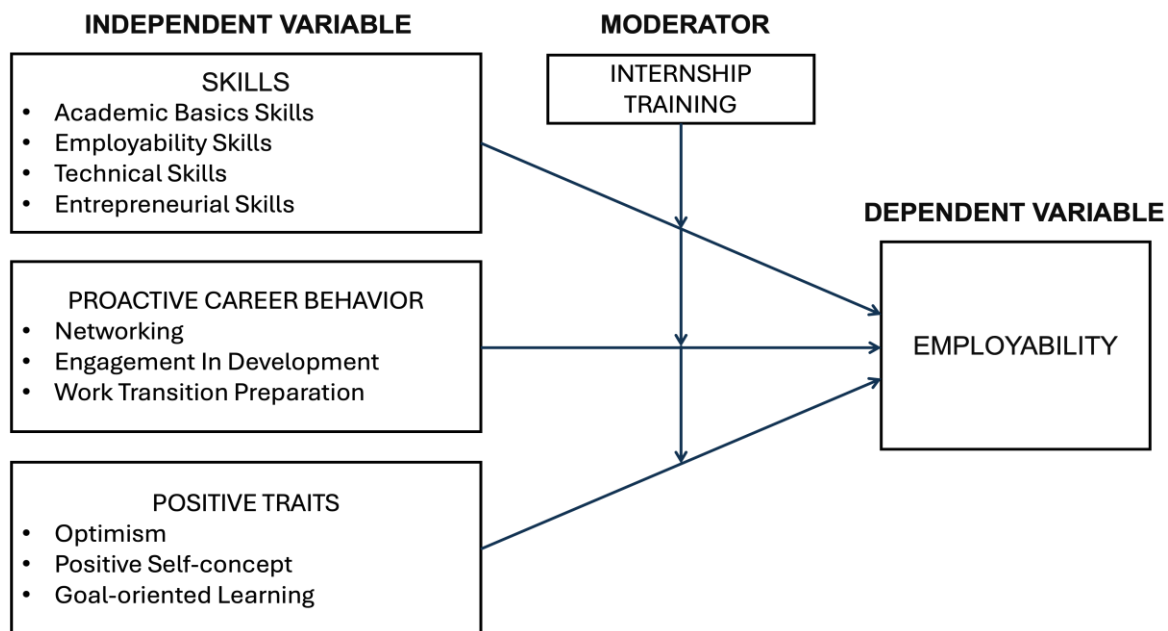


Figure 1: Conceptual framework of the Graduate Marketability Model (GMM)

Methodology

This study employed a quantitative cross-sectional survey design to examine the relationships between skills, proactive career behaviour, positive traits and graduate employability, as well as the moderating role of internship training experience among Malaysian vocational college graduates holding a Diploma in Business Management. Data were collected using an online self-administered questionnaire, an approach widely adopted in recent employability and TVET research to enhance accessibility and response coverage (Akkermans et al., 2021; Donald et al., 2023).

All constructs were measured using validated Likert-scale items adapted from recent empirical studies and established measurement frameworks. Skills were operationalised as a second-order formative construct comprising four first-order reflective dimensions, namely academic, employability, technical and entrepreneurial skills. This multidimensional operationalisation is consistent with contemporary skills frameworks in TVET and employability research, which emphasise the integration of cognitive, technical and transferable competencies (Ismail et al., 2021; Clarke, 2020; Halim et al., 2023). Proactive career behaviour and positive traits were measured using updated and widely cited scales reflecting career self-management, adaptability and positive psychological orientation, which are robust predictors of employability outcomes in recent studies (De Vos et al., 2021; Akkermans et al., 2021; Donald et al., 2023). Internship training experience was measured as a continuous construct capturing the duration and intensity of industrial or practical training, aligning with contemporary work-integrated learning

literature that conceptualises internship quality and exposure as continuous experiential variables rather than dichotomous participation measures (Jackson et al., 2022; Shen et al., 2024). Graduate employability was assessed using indicators of job attainment and self-perceived labour market readiness, consistent with recent multidimensional employability measurement approaches (Vanhercke et al., 2020; Donald et al., 2023).

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS, following the updated analytical procedures recommended in recent methodological literature (Hair et al., 2019; Hair et al., 2021). The measurement model was evaluated for internal consistency reliability using Cronbach's alpha and composite reliability (values exceeding 0.70), convergent validity assessed via average variance extracted ($AVE > 0.50$) and discriminant validity examined using the heterotrait–monotrait (HTMT) criterion. The structural model was subsequently assessed through collinearity diagnostics ($VIF < 5.00$), significance testing of path coefficients using bootstrapping with 5,000 resamples and evaluation of explanatory power (R^2), effect sizes (f^2) and predictive relevance (Q^2), in line with best practices in contemporary PLS-SEM applications (Hair et al., 2019; Sarstedt et al., 2022). Moderation analysis was performed by incorporating interaction terms between internship training experience and each predictor construct to examine their moderating effects on graduate employability. A one-tailed significance test ($t > 1.65$, $p \leq 0.05$) was applied, consistent with directional hypotheses and recent employability modelling studies adopting predictive-oriented PLS-SEM approaches (Hair et al., 2021; Sarstedt et al., 2022).

Results

This section presents the results of the structural model assessment using Partial Least Squares Structural Equation Modeling (PLS-SEM). Following the establishment of construct reliability and validity in the measurement model, the structural model was evaluated to examine the hypothesised relationships among skills, proactive career behaviour, positive traits and graduate employability as well as the moderating effect of internship training experience. The assessment followed the five-step procedure recommended by Hair et al. (2016), namely collinearity assessment, path coefficient significance, coefficient of determination (R^2), effect size (f^2) and predictive relevance (Q^2).

Structural Model Assessment: Collinearity Diagnostics

Prior to hypothesis testing, collinearity among predictor constructs was assessed to ensure that the structural model estimates were not biased. Consistent with Hair et al. (2016), Variance Inflation Factor (VIF) values were examined for each predictor of graduate employability.

As shown in Table 1, all VIF values ranged between 2.230 and 2.688, which are well below the recommended threshold of 5.00. This indicates the absence of multicollinearity issues among the predictor constructs, confirming that each construct contributes uniquely to explaining graduate employability.

Table 1: Variance Inflation Factor (VIF) Values for Collinearity Assessment

Construct	Graduate Employability
Skills	2.688
Proactive Career Behaviour	2.230
Positive Traits	2.684

Structural Model Path Coefficients and Hypothesis Testing

To address Research Question ix, bootstrapping procedures were applied to evaluate the significance of the structural paths. Given the directional nature of the hypotheses, a one-tailed test with a critical t-value of 1.65 at a 5% significance level was employed (Hair et al., 2016). The results of the path coefficient analysis are presented in Table 2.

The findings reveal that skills did not have a statistically significant effect on graduate employability ($t = 0.750$), leading to the rejection of Ha2. In contrast, proactive career behaviour ($t = 2.504$) and positive traits ($t = 6.300$) demonstrated significant positive effects on graduate employability, thus supporting Ha3 and Ha4.

Among the predictors, positive traits emerged as the strongest determinant of graduate employability, followed by proactive career behaviour. The structural model with standardised path coefficients is illustrated in Figure 1.

Table 2: Structural Path Coefficients and Hypothesis Testing Results

Hypothesis	Path Relationship	Sample Mean (M)	Standard Error	t-value	Decision
Ha2	Skills → Graduate Employability	0.067	0.095	0.750	Not Supported
Ha3	Proactive Career Behaviour → Graduate Employability	0.186	0.070	2.504**	Supported
Ha4	Positive Traits → Graduate Employability	0.492	0.078	6.300**	Supported

Note: * $p \leq 0.05$ ($t > 1.65$), ** $p \leq 0.01$ ($t > 1.65$)

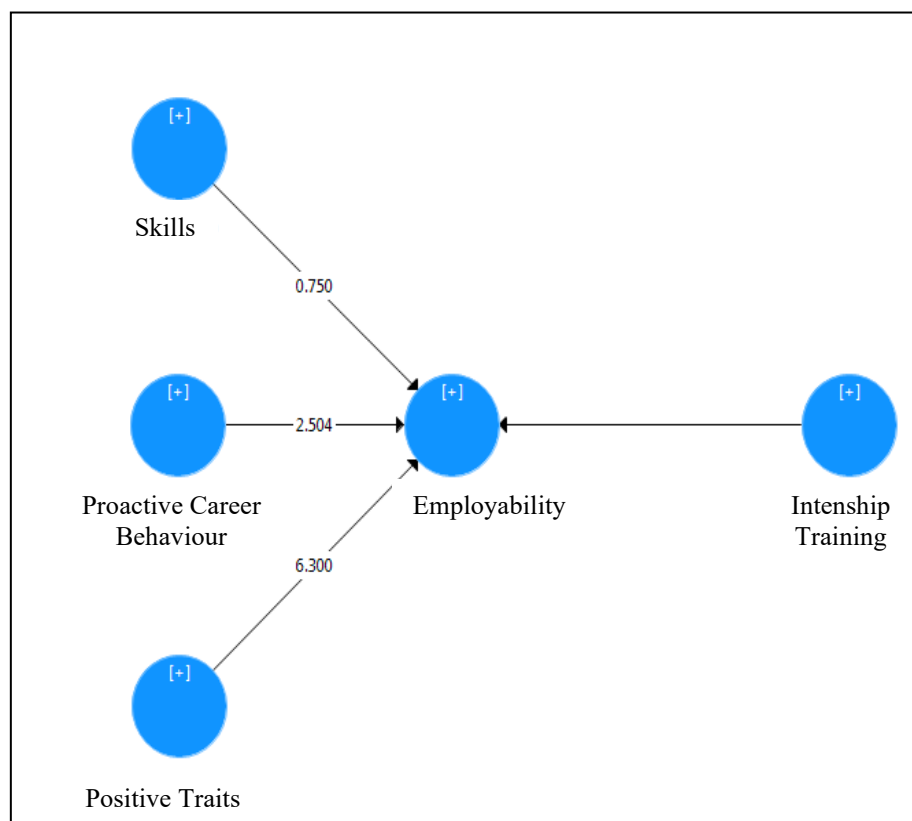


Figure 1: Structural Model of the Graduate Marketability Model (GMM)

Coefficient of Determination (R^2)

The explanatory power of the structural model was assessed using the coefficient of determination (R^2). Graduate employability was specified as the endogenous construct in the model.

As presented in Table 3, the R^2 value for graduate employability was 0.472, indicating that 47.2% of the variance in graduate employability is jointly explained by skills, proactive career behaviour and positive traits. According to Hair et al. (2016), this represents a moderate level of predictive accuracy. The adjusted R^2 value (0.466) further confirms the robustness of the model after accounting for model complexity.

Table 3: Coefficient of Determination (R^2)

Endogenous Construct	R^2	Adjusted R^2
Graduate Employability	0.472	0.466

Effect Size (f^2)

To evaluate the relative contribution of each exogenous construct to graduate employability, effect size (f^2) values were calculated. The results are summarised in Table 4. The results indicate that positive traits exerted the largest effect on graduate employability ($f^2 = 0.170$), while proactive career behaviour and skills showed weak effect sizes. This reinforces the dominant role of personal psychological attributes in shaping employability outcomes.

Table 4: Effect Size (f^2) for Structural Model

Predictor Construct	R^2 Included	R^2 Excluded	f^2 Value	Effect Size
Skills	0.472	0.470	0.004*	Weak
Proactive Career Behaviour	0.472	0.459	0.025*	Weak
Positive Traits	0.472	0.382	0.170**	Moderate

Note: * $0.02 \leq f^2 < 0.15$ (weak), ** $0.15 \leq f^2 < 0.35$ (moderate)

Predictive Relevance (Q^2)

The predictive relevance of the model was assessed using the Stone Geisser Q^2 value obtained through the blindfolding procedure. A Q^2 value greater than zero indicates that the model has predictive relevance for the endogenous construct (Hair et al., 2016). As shown in Table 5, all Q^2 values were positive, confirming that the structural model possesses predictive relevance.

Table 5: Predictive Relevance (Q^2)

Predictor Construct	Q^2 Included	Q^2 Excluded	Q^2 Effect
Skills	0.277	0.276	0.001*
Proactive Career Behaviour	0.277	0.268	0.012*
Positive Traits	0.277	0.224	0.073*

Note: $0.00 \leq Q^2 < 0.15$ (weak predictive relevance)

Summary of Structural Model Results

A summary of the key statistical indicators for hypothesis testing is provided in Table 6.

Table 6: Summary of Structural Model Results

Hypothesis	Relationship	t-value	Decision	f ²	q ²
Ha2	Skills → Graduate Employability	0.750	Not Supported	0.004*	0.001*
Ha3	Proactive Career Behaviour → Graduate Employability	2.504**	Supported	0.025*	0.012*
Ha4	Positive Traits → Graduate Employability	6.300**	Supported	0.170**	0.073*

Moderation Analysis: Internship Training Experience

To address Research Questions x, xi and xii, moderation analysis was conducted to examine whether internship training experience moderates the relationships between the three predictor constructs and graduate employability. The results presented in Table 7 show that all interaction effects had t-values below the critical value of 1.65, indicating no significant moderating effects.

Table 7: Moderating Effects of Internship Training Experience

Hypothesis	Interaction Path	Sample Mean	Std. Error	t-value	Decision
Ha5	Internship × Skills → Graduate Employability	-0.058	0.071	0.816	Not Supported
Ha6	Internship × Proactive Career Behaviour → Employability	0.022	0.075	0.224	Not Supported
Ha7	Internship × Positive Traits → Graduate Employability	0.060	0.068	0.911	Not Supported
–	Internship Training → Graduate Employability	0.206	0.073	2.847**	Significant

The findings indicate that internship training experience does not function as a moderator in the relationships examined. Consequently, hypotheses Ha5, Ha6 and Ha7 were rejected. However, internship training experience demonstrated a significant direct effect on graduate employability ($t = 2.847$), suggesting its independent contribution to employability outcomes. The complete structural model, including the moderator, is illustrated in Figure 2.

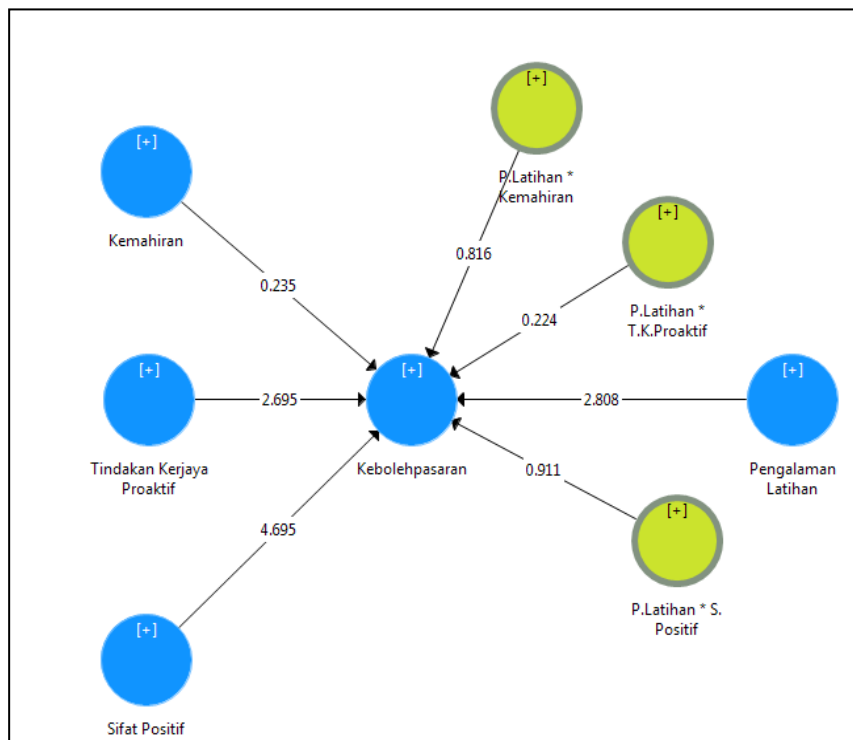


Figure 2. Full Structural Model with Internship Training as Moderator

Discussion

This study examined the role of skills, proactive career behaviour and positive traits in predicting graduate employability among Malaysian vocational college business graduates, with internship training experience tested as a continuous moderator. The findings provide several important insights into graduate employability development within the TVET context, particularly within emerging economies facing skills employability mismatches (Halik Bassah et al., 2025; Tomlinson et al., 2023).

Skills and Graduate Employability

Contrary to expectations grounded in Human Capital Theory, skills did not exert a significant direct effect on graduate employability. The non-significant path ($t = 0.750$) suggests that possession of skills alone is insufficient to translate into employability outcomes in the current labour market context. Similar findings have been reported in recent employability studies, which argue that technical and academic skills increasingly represent baseline expectations rather than competitive advantages (Clarke, 2020; Saleh & Abdul Wahab, 2025).

This finding aligns with emerging empirical evidence indicating that Malaysian graduates may possess adequate technical and academic skills yet face challenges in differentiating themselves in competitive labour markets (Halik Bassah & Mohd Noor, 2023; Ismail et al., 2021). Previous studies have similarly reported a skills saturation phenomenon, whereby employers perceive graduates as technically competent but lacking distinctive employability attributes that signal readiness for work environments (Jackson & Bridgstock, 2021).

Within the vocational education context, this result suggests that skills function more as baseline requirements rather than decisive employability differentiators. This interpretation is supported by the weak effect size ($f^2 = 0.004$) and minimal predictive relevance ($q^2 = 0.001$) associated with the skills construct, indicating limited explanatory contribution once behavioural and psychological attributes are considered (Hair et al., 2022).

Proactive Career Behaviour as an Employability Driver

Proactive career behaviour demonstrated a significant positive influence on graduate employability ($t = 2.504$), albeit with a relatively small effect size ($f^2 = 0.025$). This finding reinforces contemporary career development literature emphasising the importance of self-initiated career management behaviours, including career planning, networking, opportunity scanning and continuous learning (Akkermans et al., 2021; Spurk et al., 2020).

Graduates who actively engage in career-related behaviours appear better positioned to identify opportunities, adapt to labour market demands and navigate employment transitions (De Vos et al., 2021). In the Malaysian TVET context, this finding highlights the importance of embedding career self-management competencies within vocational curricula, rather than relying solely on institutional job placement mechanisms (Zixuan et al., 2025).

Dominant Role of Positive Traits

Positive traits emerged as the strongest predictor of graduate employability, exhibiting a highly significant effect ($t = 6.300$) and a moderate effect size ($f^2 = 0.170$). This indicates that psychological attributes such as optimism, positive self-concept, resilience and goal-oriented learning play a central role in shaping employability outcomes. Recent empirical studies similarly emphasise the growing importance of psychosocial employability attributes in volatile labour markets (Donald et al., 2023; Vanhercke et al., 2020).

This finding is strongly consistent with Super's Self-Concept Career Development Theory, which posits that individuals who possess a clear and positive self-concept are more capable of aligning their competencies with occupational roles. Graduates with positive traits are more likely to demonstrate adaptability, confidence and persistence qualities highly valued by employers yet often underemphasised in formal vocational training (Frontiers in Psychology, 2023).

Overall, the results suggest that employability is increasingly influenced by who graduates are rather than merely what they know or can do, reinforcing the shift toward holistic employability models (Tomlinson, 2020).

Internship Training: Direct Effect but No Moderation

The moderation analysis revealed that internship training experience did not significantly moderate the relationships between skills, proactive career behaviour, positive traits and employability. All interaction effects recorded t -values below the critical threshold ($t < 1.65$), leading to the rejection of H_{a5} , H_{a6} and H_{a7} . This suggests that internship training does not amplify or weaken the effects of individual attributes on employability.

However, internship training exhibited a significant direct effect on graduate employability ($t = 2.847$), indicating that internship experience independently contributes to employability outcomes. This finding aligns with recent studies highlighting that internships enhance employability primarily through experiential exposure and workplace familiarisation rather than interaction effects with personal attributes (Bao & Phee, 2024; Jackson et al., 2022).

One plausible explanation for the absence of moderation effects is variability in internship quality, supervision and task relevance. Contemporary research argues that internships function as effective employability mechanisms only when they are well-structured, reflective and aligned with learning outcomes (Shen et al., 2024). Without such quality assurance, internships may operate as additive rather than interactive employability factors.

Implications

The findings of this study carry significant implications for theory, practice and policy in the context of TVET graduate employability. Theoretically, they underscore that employability extends beyond technical skills, highlighting the pivotal role of psychological traits and proactive career behaviours as primary drivers of employment outcomes. Practically, TVET institutions are encouraged to adopt a more holistic curriculum that balances technical training with the development of positive psychological attributes, career self-management skills and structured internship experiences to enhance students' career agency. From a policy perspective, the results support ongoing TVET reforms by emphasizing the need to integrate psychological and behavioural competencies into national employability standards and to ensure internship programs are well-designed to effectively prepare graduates for the labour market.

Theoretical Implications

This study extends graduate employability literature by empirically validating a multidimensional Graduate Marketability Model (GMM) within a Malaysian TVET context. The findings challenge reductionist interpretations of Human Capital Theory by demonstrating that skills alone do not guarantee employability. Instead, psychological traits and proactive career behaviours emerge as stronger explanatory mechanisms, supporting contemporary integrative employability frameworks (Clarke, 2020; Donald et al., 2023). Furthermore, the absence of moderation effects refines theoretical understanding of work integrated learning by highlighting that internship training functions as an independent employability enhancer rather than a conditional amplifier of other constructs.

Practical Implications for TVET Institutions

For vocational colleges, the findings highlight the importance of moving beyond a purely skills-centric curriculum. While technical and employability skills remain fundamental, comparable emphasis should be placed on fostering positive psychological traits such as resilience, self-efficacy and optimism; embedding proactive career development and career self-management components within the curriculum; and integrating structured, reflective and outcome-oriented internship experiences. In this regard, career guidance units play a critical role in cultivating students' career agency by equipping them with the capacity to actively manage their own employability, rather than relying solely on institutional support or industry placement mechanisms (Akkermans et al., 2021).

Policy Implications

From a policy perspective, the results support national TVET reform initiatives aimed at producing holistic, work-ready graduates. Policymakers should consider revising internship frameworks to emphasise quality, curriculum alignment and learning outcomes. Additionally, psychological and behavioural employability competencies should be explicitly embedded within national graduate employability benchmarks (Halik Bassah et al., 2025).

Conclusion

This study provides empirical evidence that among Malaysian vocational business graduates, skills, proactive career behaviour and positive personality traits play significant roles in enhancing graduate employability, thereby supporting established theoretical perspectives and recent empirical findings [11][16]. While internship training experience was hypothesised to strengthen these relationships, the absence of a significant moderating effect suggests that the mere provision of work-based learning opportunities may be insufficient to amplify employability outcomes. This finding highlights the need for future research to examine more

nuanced dimensions of internship design, such as duration, task relevance, quality of supervision and the degree of structured learning integration to better understand their potential moderating mechanisms. Nonetheless, the practical implications are clear. TVET institutions should prioritise the continuous development of graduates' core skills, proactive career management capabilities and positive psychological attributes, while simultaneously re-evaluating and enhancing internship structures to ensure they deliver meaningful and transformative learning experiences that effectively support graduate employability.

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