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CareerEDGE in Action: Enhancing the employability of Islamic banking and finance graduates in Malaysia's digital economy

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Abstract

The rapid growth of technology has led to changes in today's workforce. Malaysia has witnessed a rise in graduate underemployment, which threatens the country's economic goals. Although employability research is extensive, studies focusing on Islamic banking and finance graduates remain limited. This study examines the relationship between digital literacy, CareerEDGE predictors, self-efficacy as a mediator, and graduate employability. A quantitative cross-sectional survey was conducted among recent graduates of Islamic banking and finance in Malaysia to identify factors that enhance employability in the digital economy. The results provide insightful information for policymakers, educators, and industry stakeholders to enhance employability outcomes.

Keywords: Graduate Employability; CareerEDGE; Digital Literacy; Self-Efficacy

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1.0 Introduction

Employability refers to a graduate's capacity to secure, sustain, and transition between employment opportunities, supported by appropriate skills, knowledge, and personal attributes (Hillage & Pollard, 1998). In Malaysia, the digitalisation of the economy, especially in the Islamic finance sector, has heightened the need for professionals with digital literacy (Aziz et al., 2023). Even with the joint initiatives of Bank Negara Malaysia and higher education institutions, graduates' employment outcomes continue to raise concerns. Only 59% of graduates in Islamic Banking and Finance (IBF) secure employment, frequently in clerical positions that do not align with their qualifications (The International Council of Islamic Finance, 2021), indicating a persistent skills mismatch. Such an outcome indicates a disconnect between the skills acquired by graduates and the requirements of the industry. With the increasing demand from employers for digitally skilled talent, it is essential to tackle the gaps in graduate preparedness.

The CareerEDGE model is commonly utilised to evaluate graduate employability, yet its implementation in digitally driven fields such as Islamic finance remains constrained (Nasreen et al., 2022). Moreover, the functions of emotional intelligence and digital literacy,

along with the mediating influence of self-efficacy, are still inadequately investigated (Alpian et al., 2023). The primary objective of this study is to investigate the multifaceted factors influencing employability within Malaysia's digital economy among IBF graduates. Specifically, the study examines the interplay between digital literacy, CareerEDGE predictors (career development learning, experience, degree subject knowledge, generic skills, and emotional intelligence), self-efficacy, and employability.

2.0 Literature Review

This study employs CareerEDGE (Pool & Sewell, 2007) as its primary framework and incorporates the Digital Literacy Framework (DLF) (Martin, 2006) to explore graduate employability in the context of the IBF sector.

2.1 Formulation of Hypotheses

a) CareerEDGE Predictors

The CareerEDGE model identifies five key predictors: emotional intelligence, career development learning (CDL), experience, degree subject knowledge, and generic skills. These enhance employability by fostering reflection, particularly in terms of self-efficacy (Liu et al., 2020). In contrast to other employability frameworks, CareerEDGE distinctly incorporates emotional intelligence, a crucial aspect in today's digital workforce. A study from (KachallaWujema et al., 2022) confirms the impact of these predictors on self-efficacy. However, only limited research addresses their relevance in specialised digital fields, like Islamic finance. This study proposes:

H1: Emotional intelligence positively affects self-efficacy.

H2: Career development learning positively affects self-efficacy.

H3: Experience positively affects self-efficacy.

H4: Degree subject knowledge positively affects self-efficacy.

H5: Generic skills positively affect self-efficacy.

This study will build upon the identified gap by further leveraging emotional intelligence as a predictor. Emotional intelligence is also believed to influence digital literacy. Studies by (Alpian et al., 2023; Kf & Escarlos G, 2024) show that emotional intelligence enhances digital knowledge, competence, and usage. Although the majority of the evidence indicates a favourable connection between emotional intelligence and digital literacy, there is still a lack of clarity regarding the impact on a particular landscape in the IBF sector. Most prior studies concentrate on students and educators; however, there has been insufficient focus on recent graduates entering the financial sector, where digital literacy is an essential skill.

Collectively, these studies support the notion that emotional intelligence positively affects digital literacy across its dimensions, including digital knowledge, digital competence, and digital usage. Guided by this literature, the study proposes the following hypothesis:

H6a: Emotional intelligence positively affects digital knowledge.

H6b: Emotional intelligence positively affects digital competence.

H6c: Emotional intelligence positively affects digital usage.

b) Digital Literacy

DLF (Martin, 2006) was selected due to its compatibility with the CareerEDGE model, which can be contextualised within the educational environment. (Martin, 2006) defined digital literacy as the awareness, skills, and attitude required to effectively use digital tools for accessing, managing, evaluating, and synthesising information, creating media, and communicating in various life contexts to support informed action and self-reflection.

As noted by (Martin, 2006), digital literacy encompasses three dimensions: digital competence, digital usage, and digital transformation. However, this study focuses on digital knowledge, digital competence, and digital usage, deliberately excluding digital transformation from Martin's framework to emphasise foundational employability skills.

c) Digital Knowledge:

Digital knowledge refers to understanding which tools to use in professional contexts (Martin, 2006). Research confirms a link between digital knowledge and employability (Kee et al., 2023) as well as self-efficacy (Rajabion et al., 2019). However, research examining the link between this relationship remains limited in the landscape of graduate employability. Hence, it is unclear whether this relationship holds in higher education or professional settings, leaving a gap in understanding how digital knowledge contributes to self-efficacy. Based on the reviewed literature, the study proposed two hypothesis statements for digital knowledge as follows:

H7a: Digital knowledge positively affects self-efficacy.

H8a: Digital knowledge positively affects employability.

d) Digital Competence:

Digital competence is known as awareness, attitudes, and a spectrum of skills ranging from basic visual recognition and manual proficiency to more sophisticated analytical, evaluative, and conceptual capacities in engaging with digital technologies (Martin, 2006). Recent research consistently shows a positive relationship between digital competence and job market readiness, such as from (García-Selva et al., 2024).

However, despite the positive relationship, some evidence study reveals ongoing challenges, such as (Aničić et al., 2022; Aryasandy et al., 2025) found disparities between graduates' digital competence and industry expectations, suggesting that while digital competence is important, a number of graduates still experience gaps in meeting employers' needs. Hence, this discrepancy raises

concerns about the effectiveness of the current education program in preparing graduates for employability in the era of digital transformation.

Within the context of self-efficacy, prior studies have highlighted a positive relationship between digital competence and self-efficacy. A study by (Henne et al., 2022) found that university courses designed to promote digital competencies in science education increased students' self-efficacy.

However, (Torres-Coronas et al., 2014) found that having digital competence does not necessarily increase self-efficacy in starting a career in e-business. This conflicting result suggests a need for further investigation, particularly in the Islamic finance sector. Therefore:

H7b: Digital competence positively affects self-efficacy.

H8b: Digital competence positively affects employability.

e) Digital Usage:

According to (Martin, 2006), digital literacy includes the effective use of digital technologies in practical settings. Studies have consistently shown a positive link between digital usage and employability. A study from (Ruiz, 2021) further emphasises that education and ICT training are key factors in determining how digital usage improves job quality.

However, findings on digital usage and employability are not always consistent. A study from (Loh & Chib, 2022) with a larger sample size confirmed its positive influence, but his prior study conducted in 2017 with a small sample size found no significant impact of digital usage on employability among low-income workers in Singapore. These contradictions in the findings suggest that factors such as targeted respondents may influence the extent to which digital usage influences employability.

In the context of self-efficacy, research has shown a strong link between digital usage and self-efficacy, but the findings vary on context and type of digital engagement. Several studies highlighted a positive relationship, such as (Mandal, 2020), in which a study involving students from rural and urban areas in India and Fiji found that effective digital usage enhances self-efficacy. Not all studies found a direct impact. For example, (Loh & Ai Chi, 2018) explored ICTs for employability in Singapore and found different implications of lower- and higher-order digital usage, concluding that only higher-order digital usage significantly contributed to the empowerment of self-efficacy. Hence, it has led to the following hypothesis:

H7c: Digital usage positively affects self-efficacy.

H8c: Digital usage positively affects employability.

a) Self-Efficacy:

Self-efficacy reflects one's confidence in performing job-related tasks. Studies confirm its role in supporting employability (Zhan et al., 2024). However, contradictory findings (Usman & Nuraini, 2022) suggest the relationship may vary by industry or cultural setting. Accordingly:

H9: Self-efficacy positively affects employability.

b) Mediating Effect

Self-efficacy is also theorised to mediate the effects of CareerEDGE components and digital literacy on employability. Prior research supports this mediating role (KachallaWujema et al., 2022), the evidence remains limited in digital or Islamic finance contexts. Hence, this study proposes:

H10a: Self-efficacy positively mediates the relationship between digital literacy and employability.

H10b: Self-efficacy positively mediates the relationship between CareerEDGE predictors and employability.

2.2 Development of Research Framework

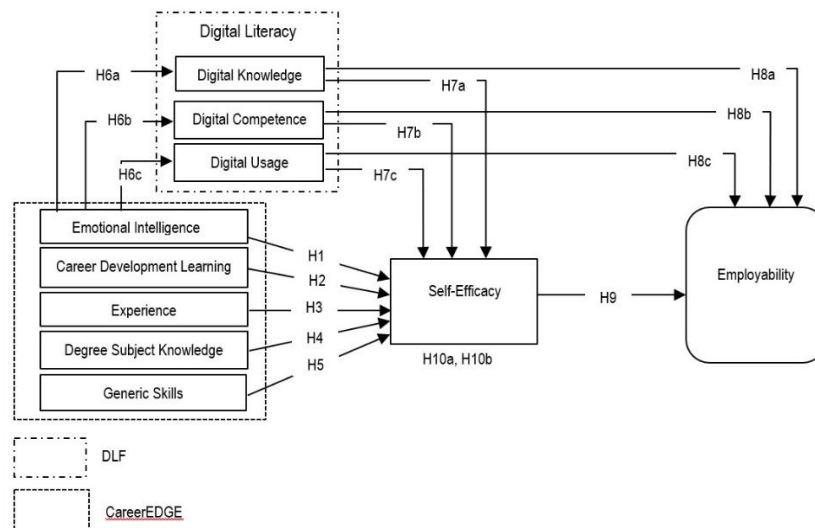


Fig. 1: Research Framework

3.0 Methodology

This study employs a quantitative cross-sectional survey approach with purposive non-probability sampling, focusing on recent graduates from IBF bachelor's programmes who completed their studies within the last six months. The investigation was centred around Selangor and Kuala Lumpur, areas characterised by a significant presence of higher education institutions. The data collection phase took place from August to December 2024, encompassing 4 public and 7 private universities with MQA-accredited IBF programmes.

A total of 412 online questionnaires were disseminated through Google Forms by faculty members, alumni offices, and registrar staff. A total of 165 responses were collected, resulting in a response rate of 40.04%, which is consistent with the acceptable benchmarks for online surveys. After excluding four ineligible responses, eleven cases of straight-lining, and five outliers, researchers retained a total of 145 valid responses, which exceeded the minimum sample size of 109 determined by G*Power software.

Prior studies validated the survey items, assessed using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The analysis of data was conducted through Structural Equation Modelling (SEM), a multivariate regression that seeks to study the structural relationship among multiple variables simultaneously (Hair et al., 2022).

4.0 Findings

4.1 Demographic Profile

The demographic profile reveals that most respondents (64.8%) are aged 21–27, aligning with typical new graduates. Female graduates make up 58.6% of the sample, and the majority are from Selangor and Kuala Lumpur (76.5%). All 145 respondents meet the eligibility criteria, holding a bachelor's degree in Islamic banking and finance and graduating within the last six months. Only 35.9% work in Islamic banking institutions, while 64.1% are employed outside the sector. Most respondents are in full-time jobs (73.8%), with low unemployment (2.8%). Over half earn between RM1,500 and RM3,500 monthly.

4.2 Descriptive Analysis

The descriptive statistics were computed using IBM SPSS Statistics 27. Among all constructs, digital usage and self-efficacy recorded the highest mean (4.26), followed by generic skills (4.19) and employability (4.17). The lowest mean values were found in CDL (3.94) and experience (3.87). Overall, the findings indicate positive perceptions across all constructs with acceptable variation.

4.3 Response Bias Check

A T-test for independent samples was performed to evaluate response bias between two groups: graduates working in Islamic finance institutions and those employed in other sectors or who are unemployed. The analysis assessed average variations across all primary constructs. The findings indicated no notable differences at the 0.05 significance level. This evidence suggests that the responses remain uniform across different employment sectors, thereby affirming the lack of response bias and strengthening the validity of the study's conclusions.

4.4 Measurement Model

The measurement model was assessed using SmartPLS 4. Internal consistency was confirmed with composite reliability values ranging from 0.866 to 0.965, exceeding the 0.70 threshold. One item from digital competence was removed due to low loading (<0.50), while two items in digital usage were excluded to improve convergent validity. All constructs achieved acceptable AVE values (>0.50), supporting convergent validity.

Table 1: Measurement Model

Construct	Item	Average Variance Extracted (AVE)	Composite Reliability (CR)
Career Development Learning (CDL)	5	0.676	0.912
Digital Competence (DC)	6	0.536	0.872
Digital Knowledge (DK)	8	0.557	0.908
Degree Subject Knowledge (DSK)	6	0.675	0.926
Digital Usage (DU)	6	0.519	0.866
Experience (E)	6	0.600	0.900
Emotional Intelligence (EI)	11	0.575	0.937
Employability (GE)	6	0.693	0.931
Generic Skills (GS)	9	0.642	0.942
Self-Efficacy (SE)	8	0.776	0.965

Discriminant validity was assessed using the HTMT criterion. Most correlations remained below the 0.85 threshold, except for (1) digital knowledge and digital competence (0.891), (2) experience and CDL (0.882), (3) generic skills and employability (0.862), and (5) self-efficacy and generic skills (0.875), which slightly exceeded it. However, 95% bootstrapping confidence intervals confirmed that none

surpassed the upper limit of 1.0, ensuring adequate discriminant validity. The final model demonstrated robust measurement properties, validating its suitability for structural model analysis.

4.5 Analysis of Structural Model

The structural model was assessed using SmartPLS 4.1.0.9, following the guidelines of (Hair et al., 2022). The Variance Inflation Factor (VIF) values for all constructs were between 1.000 and 3.577, which shows that there were no problems with collinearity (Hair et al., 2022). Seven out of the 16 direct hypotheses tested received support. Emotional intelligence ($\beta = 0.292$, $t = 3.67$, $p < 0.01$), degree subject knowledge ($\beta = 0.160$, $t = 1.777$, $p < 0.05$), and generic skills ($\beta = 0.557$, $t = 6.004$, $p < 0.01$) had significant positive effects on self-efficacy. Emotional intelligence also significantly influences digital knowledge, digital competence, and digital usage. Additionally, self-efficacy strongly predicted employability ($\beta = 0.688$, $t = 8.234$, $p < 0.01$). Digital literacy factors, however, had no discernible impact on employability. The model's predictive accuracy was robust, with R^2 values of 0.742 for self-efficacy and 0.671 for employability, meeting the substantial threshold. Effect size (f^2) analysis confirmed moderate to large contributions from generic skills and emotional intelligence, while other predictors showed small or negligible effects.

The PLS-Predict results indicated a Q^2 predict value of 0.586 and lower RMSE values for all six employability indicators compared to the linear model benchmark, showing it has strong predictive ability. Mediation analysis using 10,000-sample bootstrapping confirmed that self-efficacy significantly mediated the effects of emotional intelligence, degree subject knowledge, and generic skills on employability. However, the study did not support mediation for digital literacy and experience. Although career development learning demonstrated significant mediation, the negative direction of its coefficient contradicted expectations. These findings validate the mediating role of self-efficacy and the importance of emotional intelligence in enhancing employability outcomes among Islamic banking and finance graduates.

Table 2: Hypotheses Testing

Hypotheses	Relationship	Path Coefficient (β)	t-value	p-value
H1	EI -> SE	0.292	3.67	0
H2	CDL -> SE	-0.15	1.817	0.035
H3	E -> SE	0.079	0.961	0.168
H4	DSK -> SE	0.16	1.777	0.038
H5	GS -> SE	0.557	6.004	0
H6a	EI -> DK	0.727	18.675	0
H6b	EI -> DC	0.66	11.86	0
H6c	EI -> DU	0.582	10.518	0
H7a	DK -> SE	-0.121	1.4	0.081
H7b	DC -> SE	-0.004	0.047	0.481
H7c	DU -> SE	0.085	1.254	0.105
H8a	DK -> GE	-0.008	0.067	0.473
H8b	DC -> GE	0.147	1.412	0.079
H8c	DU -> GE	-0.065	0.979	0.164
H9	SE -> GE	0.688	8.234	0
H10a	DK -> SE -> GE	-0.083	1.416	0.078
	DC -> SE -> GE	-0.003	0.047	0.481
	DU -> SE -> GE	0.059	1.256	0.105
H10b	EI -> SE -> GE	0.201	3.651	0
	CDL -> SE -> GE	-0.103	1.802	0.036
	E -> SE -> GE	0.055	0.941	0.173
	DSK -> SE -> GE	0.11	1.69	0.045
	GS -> SE -> GE	0.383	4.634	0

5.0 Discussion

This study examined the influence of digital literacy and CareerEDGE predictors on employability with self-efficacy as a mediator among recent graduates of the IBF programme in Malaysia. Unexpectedly, digital literacy assessed through digital knowledge, digital competence, and digital usage did not have a significant impact on self-efficacy or employability. This finding is consistent with a recent study from (Aryasandy et al., 2025). Although it is commonly believed that digital literacy improves job readiness, this observation indicates that basic digital literacy might not adequately equip graduates for more complex job positions. Instead, enhanced digital literacy, such as analysing data and utilising technology to solve problems, seems to play a more significant role in promoting self-efficacy and employability (Loh & Ai Chi, 2018). This gap highlights the necessity for higher education institutions to integrate experiential, advanced digital training specifically designed to meet the requirements of the digital Islamic finance sector.

In contrast, emotional intelligence, degree subject knowledge, and general skills were found to be important factors that impact self-efficacy, supporting the ideas of the CareerEDGE model. The findings indicate that emotional intelligence positively affects all three dimensions of digital literacy. The study emphasises emotional intelligence, not just as a personal quality but as a strategic resource that allows individuals to adjust to digital tools, learn efficiently in digital settings, and maintain resilience amid technological shifts. In

the realm of Islamic finance, where ethical behaviour and technological advancements hold significant importance, emotional intelligence enables graduates to navigate complex professional environments with integrity and digital proficiency.

Interestingly, the findings indicate that CDL and experience did not demonstrate notable positive impacts on self-efficacy. In certain instances, there was a negative correlation observed for CDL. This conclusion stands in opposition to a significant amount of existing literature and may indicate insufficient student engagement, a lack of focus from institutions, or a disconnect between career services and the actual conditions job sector (Pitan & Muller, 2020). Furthermore, it is important to note that not all experiences play a similar role in fostering self-efficacy. The results indicate that only well-organised experiences, like relevant internships, industry projects, or leadership positions, are successful in boosting employability (Griffiths et al., 2021). Inadequately integrated experiences might not yield significant results and could potentially undermine students' self-assessment of their preparedness.

The findings indicate that self-efficacy plays a significant role in influencing employability, highlighting its importance as a vital psychological asset for achieving career success. Graduates who possess a strong sense of self-efficacy demonstrate enhanced abilities when navigating the ever-changing labour market, adapting to new technologies, and confidently pursuing emerging career opportunities. Self-efficacy is increasingly vital in fields such as Islamic finance, where fintech, digital banking, and blockchain integration are rapidly evolving.

In summary, this study emphasises changing expectations for graduates entering specialised, digitally evolving fields, such as Islamic finance. Although digital literacy is crucial, it needs to be cultivated at an advanced level and complemented by robust emotional intelligence along with pertinent academic and interpersonal skills. Higher education institutions need to reevaluate their curriculum design to enhance the integration of digital literacy, foster emotional intelligence, and provide valuable career-related experiences.

6.0 Conclusion and Recommendations

The findings highlight the critical mediating role of self-efficacy, particularly in linking emotional intelligence, degree subject knowledge, and generic skills to employability. However, digital literacy, CDL, and experience demonstrated limited direct influence, indicating possible gaps in how these elements are integrated into academic settings. We must acknowledge several limitations. The study did not examine other potential mediators or moderators, such as varying levels of digital literacy. Its cross-sectional nature, reliance on self-reported data, and geographic focus on Klang Valley graduates limit generalisability. External factors, such as labour market dynamics, were also not considered.

Future research should adopt longitudinal designs, include diverse demographic and academic profiles, and explore multiple mediating or moderating factors. Incorporating employer feedback can enhance the validity of employability assessments. Overall, the findings call for curriculum reform and stronger collaboration between academia and industry to produce digitally competent, emotionally intelligent graduates ready to meet the demands of Malaysia's Islamic finance sector.

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Paper Contribution to Related Field of Study

This study provides helpful tips for graduates, educators, and industry players in narrowing the employability gap within Malaysia's Islamic finance sector. Integrating digital literacy into the CareerEDGE model, highlights its importance in today's evolving job market. It also explores the underexamined roles of emotional intelligence and self-efficacy in shaping employability. The findings can help graduates identify key skills, guide universities in curriculum development, support policymakers in updating program standards, and assist employers in refining hiring strategies. Ultimately, this research contributes to national efforts to enhance graduate readiness and support sustainable growth in Malaysia's digital economy.

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