

Determinants of Graduates Employability among Alumni at UiTM Seremban Campus: A Multiple Linear Regression Approach

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ABSTRACT

Graduate employability has become an important issue as the increasing number of graduates has intensified competition in the labour market. Understanding the factors that influence graduates' employability is essential for higher education institutions to enhance graduates' career readiness and reduce graduate unemployment. Therefore, this study aimed to examine the determinants of graduates' employability among alumni of the Faculty of Computer and Mathematical Sciences (FSKM), Universiti Teknologi MARA (UiTM) Seremban Campus. Specifically, the study investigated the relationship between gender, Cumulative Grade Point Average (CGPA), English language skills, technical skills and programme of study with graduates' employment duration. A quantitative research design was employed and data were collected using a structured questionnaire distributed through online platforms. A total of 374 valid responses were obtained after data cleaning. Following the removal of influential observations, 343 observations were retained and analysed using SAS On Demand for Academics. Descriptive statistics and Multiple Linear Regression (MLR) were employed to analyse the data. The findings revealed that CGPA, gender, BSc Management Mathematics and BSc Mathematics were significant predictors, while English language skills, technical skills and BSc Mathematics with Business Economics were not statistically significant. The final regression model was statistically significant, $F(7, 335) = 14.18$, $p < .0001$, and explained 22.86% of the variation in the square-root-transformed employment duration ($R^2 = 0.2286$, Adjusted $R^2 = 0.2125$). The findings suggest that practical competencies and the relevance of academic programmes to industry needs play a more important role in improving graduate employability than demographic or academic achievement alone. It is hoped that the findings of this study will assist universities, policymakers, and future researchers in developing strategies to improve graduate employability and strengthen the alignment between higher education and labour market demands.

Keywords: Graduate Employability, Determinants, Multiple Linear Regression, Significant Variables

INTRODUCTION

Graduate employability is a major concern in Malaysia's higher education sector. Despite high graduation rates, some graduates remain unemployed or underemployed. It reflects how well universities prepare students for the employment market. The importance of graduate employability and industry performance has become a major concern (Abbas & Sagsan, 2020). Unfortunately, high unemployment continues to affect young people around the world (Pouratashi & Zamani, 2019). As a result, graduates face barriers to employment that could be due to their inadequate job skills, low job prospects or lack of proper career counselling and guidance (Okolie et al., 2020). Furthermore, the courses taken by graduates act as a catalyst for their future employment, as they determine whether graduates will secure jobs related to their field or become part of the expanding trend of cross-field employment among recent graduates. Every day, numerous graduates manage to successfully graduate from public and private educational institutions. However, even with their academic success, they do not find employment, making them look into other avenues of employment or become unemployed while awaiting employment opportunities (Othman et al., 2022). Based on a report by the

Department of Statistics Malaysia (DOSM), the number of graduates in Malaysia has been increasing annually. As seen in the Graduate Statistics Report 2023, 1.68 million graduates are currently experiencing skill-related underemployment, meaning that there is a mismatch between qualifications and job availability. Meanwhile, the unemployment rate of Malaysia in December 2024 was at 3.1%, where there were about 544,300 unemployed people (DOSM, 2024). UiTM has an employability rate of 92.1% for its graduates of 2024, including the students that are employed and pursuing further studies (Universiti Teknologi MARA [UiTM], 2025). Even though the university does not release its official unemployment rate, the estimated number of unemployed graduates is about 7.9%.

Therefore, this study aims to examine the influence of demographic and academic factors, namely gender, CGPA, English language skill, technical skill and programme of study, on employment duration and to identify the most influential predictor among these variables. The study uses Multiple Linear Regression to achieve the objectives.

METHODOLOGY

This study adopted a quantitative research design to examine the factors influencing employment duration among graduates of FSKM, UiTM Seremban Campus. The target population consisted of 12,294 FSKM alumni who graduated between 2020 and 2025, based on information obtained from the Academic Affairs Office of UiTM Seremban Campus. The sample for this study comprises FSKM UiTM Seremban Campus graduates who responded to the questionnaire distributed online. This study employed non-probability convenience sampling because the alumni were accessed through online platforms, including WhatsApp, email and LinkedIn. Using the Krejcie and Morgan (1970) table as a guideline, the target sample size was 370 respondents. A total of 374 valid observations were obtained after data cleaning, exceeding the target sample size and the minimum requirement of 10 observations per predictor for multiple linear regression. Following the removal of influential observations, 343 observations were retained for the final regression model.

The main research instrument used in this study was a structured questionnaire consisting of five sections covering demographic information, academic background, employment information, graduates' technical skills and perceptions of factors influencing graduate employability. The theoretical framework of this study was developed to explain the relationship between the factors influencing graduate employability. Graduate employment duration was positioned as the dependent variable while several factors related to higher education outcomes were identified as independent variables namely gender, CGPA, English language skill, programme of study and technical skill. Descriptive analysis and Multiple linear regression were used to analyze the collected data.

In this study, the Multiple Linear Regression model is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 D_1 + [\beta_6 D_2 + \beta_7 D_3 + \varepsilon] \quad \text{---3.2)}$$

Where,

Y = Graduates Employments Duration

X_1 = Technical Skill

X_2 = English Language Skill

X_3 = CGPA

X_4 = Gender

D_1 = 1 if Bachelor of Science (Hons.) Management Mathematics, 0 otherwise

D_2 = 1 if Bachelor of Science (Hons.) Mathematics, 0 otherwise

D_3 = 1 if Bachelor of Science (Hons.) Mathematics & Bachelor of Business

Administration (Hons.) Business Economics, 0 otherwise

Reference category: Bachelor of Science (Hons.) Statistics.

RESULTS AND DISCUSSION

Table 1 presents the descriptive statistics for employment duration, CGPA, technical skill and English language skill.

Table 4.1 Descriptive Statistics for Quantitative Data

Variable	Minimum	Maximum	Mean	Median	Standard Deviation	Skewness
Employment Duration	0	10	4.46	4	2.18	0.6
CGPA	2.75	3.98	3.56	3.6	0.21	-1
Technical Skill	2.86	5	3.93	3.86	0.38	0.26

The respondents recorded a mean employment duration of 4.97 months (SD = 4.11). The mean CGPA was 3.56 (SD = 0.21), while the mean technical skill score was 3.93 (SD = 0.38).

Table 2 presents the results of the final multiple linear regression model.

Table 2

Coefficient

Independent Variable	Unstandardized Coefficients B	Standardized Beta Coefficients	t	Sig.
Constant	3.65173		6.73	<0.0001
Technical Skill	-0.02917	-0.02158	-0.44	0.6569
English Language Skill	0.00551	0.00887	0.18	0.8541
CGPA	-0.50236	-0.19471	-4.02	<0.0001
Gender	0.23622	0.21784	4.53	<0.0001
D1	0.49106	0.29383	5.57	<0.0001
D2	0.4213	0.35513	6.29	<0.0001
D3	0.09414	0.09333	1.6	0.1109

Based on the multiple linear regression analysis, CGPA, gender, BSc Management Mathematics (D_1) and BSc Mathematics (D_2) were statistically significant predictors of graduates' employment duration. In contrast, technical skill, English language skill and BSc Mathematics with Business Economics (D_3) were not statistically significant predictors. All multiple linear regression assumptions were satisfactorily fulfilled, indicating that the final model was statistically appropriate for interpretation. Among the significant predictors, BSc Mathematics (D_2) recorded the highest standardized beta coefficient and was therefore identified as the strongest predictor in the model.

The final regression model was statistically significant, $F(7,355) = 14.18$, $p < .0001$. The model yielded an R^2 value of 0.2286 and an Adjusted R^2 value of 0.2125, indicating that 22.86% of the variation in graduates' square-root-transformed employment duration was explained by CGPA, gender, technical skill, English language skill and programme of study. The remaining 77.14% of the variation was explained by other factors not included in the study.

CONCLUSION

In conclusion, the objectives of this study were successfully achieved. The study not only identified the factors significantly associated with graduates' employment duration but also revealed that (Bachelor of Science

(Hons.) Mathematics) emerged as the most significant predictor among the selected demographic and academic variables.

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