

A WEIGHTED GRADUATE EMPLOYABILITY INDEX FOR FACULTY-LEVEL BENCHMARKING

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Abstract: *Graduate employability involves multiple dimensions that cannot be represented adequately by employment status alone. This study develops a weighted Graduate Employability Index (GEI) for faculty-level benchmarking at Universiti Teknologi MARA (UiTM), Malaysia, using aggregated data from the 2025 Graduate Tracer Study. The source data represent responses from 56,895 graduates who graduated in 2025, which were subsequently aggregated into faculty-level values for institutional reporting. Thirteen institutional graduate employability indicators across 26 faculties were transformed onto a common 0–100 scale using min–max normalisation and aggregated using a predefined weighting scheme. The indicators were assigned weights of 5%, 7.5%, or 10% according to their relative contribution within the institutional benchmarking framework. Faculty GEI scores were ranked, with particular attention given to the Top 10 faculties. Sensitivity analysis was conducted as a robustness check by moderately redistributing the indicator weights while retaining the same 13 indicators. The resulting ranking showed very high agreement with the principal GEI ranking (Spearman's rho = 0.993), while the composition of the Top 10 group remained unchanged. These findings indicate that the principal faculty-level benchmarking result was stable under the tested weight variation. The proposed GEI provides a transparent and interpretable approach for integrating multiple graduate employability indicators into a single comparative measure for institutional benchmarking and performance monitoring.*

Keywords: *Graduate employability; composite index; faculty benchmarking; graduate outcomes; sensitivity analysis.*

Introduction

Graduate employability extends beyond obtaining employment and includes the capacity to secure appropriate work, apply relevant knowledge and skills, and develop sustainable career pathways (Harvey, 2001; Yorke, 2006). Employability frameworks similarly emphasise disciplinary knowledge, generic skills, experience, career development, and personal capabilities (Dacre Pool & Sewell, 2007; Tomlinson, 2017). These perspectives support a multidimensional approach to graduate employability assessment rather than reliance on employment status alone.

Similar employment rates may conceal substantial differences in graduate outcomes. Employment quality can vary according to job-field alignment, occupational skill level, earnings, and other labour-market outcomes (Bol et al., 2019; Basir et al., 2023). Malaysian tracer-study evidence also indicates that employment outcomes are associated with multiple academic, experiential, and employability-related factors (Basir et al., 2022). Reliance on a single employment indicator may therefore provide only a partial representation of graduate outcomes.

Higher education institutions increasingly collect multiple indicators through graduate tracer studies to monitor employment, marketability, employment quality, career pathways, graduate development, and transition into employment. Although these indicators provide useful information individually, interpreting numerous indicators simultaneously can make overall faculty-level comparison difficult. Composite indicators provide a structured approach for integrating multiple measures into a summary measure, although their construction requires explicit decisions concerning normalisation, weighting, and aggregation (OECD & Joint Research Centre, 2008). Weighting choices may influence resulting scores and faculty positions, making methodological transparency and sensitivity testing important when composite indices are used for benchmarking (Ustaoglu et al., 2023; Latifis et al., 2026).

The 2025 UiTM Graduate Tracer Study covered 56,895 graduates who graduated during the 2025 reporting year and completed the institutional graduate tracer survey. Their responses were subsequently aggregated into faculty-level indicator values for institutional reporting. The reporting framework comprises 13 indicators covering employment, marketability, employment quality, career pathways, graduate development, educational experience, employment transition, economic outcomes, and survey coverage. Although these indicators provide useful information separately, an integrated measure can provide an additional overall basis for faculty-level comparison.

Accordingly, this study develops a weighted Graduate Employability Index by integrating the 13 institutional indicators and applies the index to benchmark 26 UiTM faculties and identify the Top 10 faculty group. The study also examines whether the principal faculty ranking remains stable when the predefined indicator weights are moderately varied. The GEI is intended as a relative faculty-level benchmarking and decision-support tool that complements, rather than replaces, interpretation of the individual graduate employability indicators.

Literature Review

Graduate Employability as a Multidimensional Graduate Outcome

Graduate employability is broader than employment status. Harvey (2001) distinguished employability from institutional employment statistics, while Yorke (2006) conceptualised employability as a set of achievements that increases graduates' likelihood of obtaining and

succeeding in employment. The CareerEDGE framework similarly links employability to disciplinary knowledge, generic skills, career development learning, experience, and personal attributes (Dacre Pool & Sewell, 2007).

Employment quality provides another important dimension of graduate outcomes. Graduates classified as employed may differ in whether their jobs correspond to their field of study, require an appropriate skill level, or provide comparable economic returns (Bol et al., 2019; Basir et al., 2023). Tomlinson (2017) further conceptualised employability as involving multiple forms of graduate capital rather than a single labour-market outcome. These perspectives indicate that employment prevalence alone does not represent the full range of graduate outcomes relevant to institutional monitoring.

Graduate pathways may also extend beyond conventional salaried employment. Entrepreneurship represents an alternative career and economic pathway (Uddin et al., 2026), while continued upskilling supports adaptation to changing skill requirements (Alam et al., 2025). International employment represents participation in broader labour markets (Pham et al., 2024), and additional language capabilities may support communication and career mobility (Gómez-Parra & Marín, 2026). Together, these dimensions reinforce the relevance of multidimensional information in graduate employability assessment.

Indicators of Graduate Employability and Graduate Outcomes

The present study adopts the 13 indicators contained within UiTM's institutional graduate employability monitoring framework. The purpose of this study is not to redesign or reselect the institutional indicator set. Rather, the indicators are treated as existing institutional inputs and integrated through normalisation, weighting, and aggregation to construct the GEI.

Graduate Employment provides information on employment participation, while Graduate Marketability represents the broader graduate-outcome classification used within institutional tracer reporting (Ministry of Higher Education Malaysia, 2026). Field-related Employment provides information on job-field alignment, which represents an important aspect of the relationship between higher education and labour-market outcomes (Bol et al., 2019). Skilled Employment captures another aspect of employment quality through participation in occupations requiring relevant professional and employability competencies (Rakowska & de Juana-Espinosa, 2021).

Income provides an economic dimension of graduate outcomes, although graduate earnings may be influenced by factors including field of study and occupation (Basir et al., 2023). Entrepreneurship represents an alternative form of graduate economic participation (Uddin et al., 2026). Employment in multinational companies and overseas employment provide additional information concerning graduate participation in broader employment environments (Roesch et al., 2026; Pham et al., 2024).

Upskilling represents continued competency development in response to changing labour-market requirements (Alam et al., 2025), while Third-language Capability provides an indicator of additional linguistic and communication readiness (Gómez-Parra & Marín, 2026). Curriculum Evaluation captures graduate assessment of the curriculum and educational experience (Akhtar et al., 2024), while First Job within Three Months provides information on the speed of transition into employment (Alemu & Yismaw, 2022). Response Rate represents the survey-coverage component included within the institutional graduate employability monitoring framework.

All 13 indicators are retained in the present GEI. Their inclusion reflects the established institutional monitoring framework rather than an empirical indicator-selection exercise undertaken within this study.

Table 1: Literature basis for the Graduate Employability Index indicators

Indicator	Measurement role	Supporting literature
Response Rate	Survey coverage	Taherdoost & Madanchian (2024)
Graduate Employment	Employment outcome	Harvey (2001); Yorke (2006)
Graduate Marketability	Institutional graduate-outcome classification	Ministry of Higher Education Malaysia (2026)
Entrepreneurship	Alternative career pathway	Uddin et al. (2026)
Field-related Employment	Job-field alignment	Bol et al. (2019)
MNC Employment	Employment in multinational firms	Roesch et al. (2026)
Overseas Employment	International labour-market participation	Pham et al. (2024)
Skilled Employment	Skilled occupational participation	Rakowska & de Juana-Espinosa (2021)
Upskilling	Continued skills development	Alam et al. (2025)
Third-language Capability	Linguistic and communication readiness	Gómez-Parra & Marín (2026)
Curriculum Evaluation	Curriculum relevance and educational experience	Akhtar et al. (2024)
First Job within Three Months	Employment-transition speed	Alemu & Yismaw (2022)
Income above RM4,000	Economic employment outcome	Basir et al. (2023)

Composite Indices for Multidimensional Benchmarking

Composite indicators combine several individual measures into a summary index and are particularly useful when institutional performance is represented through multiple indicators measured on different ranges (OECD & Joint Research Centre, 2008). Their construction generally involves decisions concerning indicator specification, normalisation, weighting, and aggregation. These methodological choices should be clearly reported because they influence the interpretation of the resulting composite score.

Normalisation enables indicators with different observed ranges to be transformed onto a common scale. Min–max normalisation is suitable for relative benchmarking because it retains the relative position of each observation within the observed minimum and maximum. The resulting normalised scores therefore represent relative faculty performance within the observed cohort rather than achievement against an external standard.

Weighting determines the relative contribution assigned to each component of a composite index. A weighted index allows indicators to make different contributions to the overall score according to the priorities established for the intended benchmarking application. However, because changes in weight allocation may influence composite rankings, the weighting

structure should be clearly documented and its influence on the principal findings assessed (Ustaoglu et al., 2023; De Montis et al., 2021).

Weighted linear aggregation provides a transparent method for combining normalised indicators because the contribution of each component to the final index can be directly identified. The approach is compensatory, meaning that stronger performance on one component may offset weaker performance on another. A composite score should therefore be interpreted together with its underlying indicator profile rather than as a replacement for component-level information (OECD & Joint Research Centre, 2008).

Sensitivity analysis provides a means of assessing whether the resulting ranking is highly dependent on the particular weighting structure applied (Saisana et al., 2005). In the present study, sensitivity analysis is used specifically as a robustness check of the predefined GEI weighting scheme. It is not intended to identify or compare competing weighting methods.

Methodology

Research Design and Unit of Analysis

This study employed a quantitative, cross-sectional institutional case-study design using aggregated data from the 2025 UiTM Graduate Tracer Study. The source population comprised 56,895 graduates who graduated during the 2025 reporting year and completed the institutional graduate tracer survey. Their responses were subsequently aggregated into faculty-level indicator values for institutional reporting.

The analytical unit for the present study was therefore the faculty rather than the individual graduate. A total of 26 faculties with complete aggregated information across the 13 institutional graduate employability indicators were included in the analysis. Each faculty-level value represented the aggregated percentage reported for the corresponding indicator based on graduate responses within that faculty.

The study used the aggregated institutional values as provided and did not access or analyse individual graduate-level records. All 26 faculties were included in the GEI calculation and sensitivity analysis. The analytical procedure consisted of indicator specification, min–max normalisation, predefined weighting, GEI aggregation, faculty ranking, and sensitivity analysis. The detailed faculty-level institutional dataset and complete faculty ranking are not publicly reproduced because they constitute restricted institutional management information. The article therefore reports the methodological procedure, aggregate findings, and Top 10 benchmarking results.

Graduate Employability Indicators

The 13 indicators were adopted from UiTM's existing institutional graduate employability monitoring framework. Table 2 presents their operational meaning within the present analysis.

Table 2: Graduate Employability Index indicators

Dimension	Indicator	Operational meaning
Survey coverage	Response Rate	Faculty-level graduate tracer survey response rate
Core outcome	Graduate Employment (GE)	Graduate employment outcome under the institutional reporting definition
Core outcome	Graduate Marketability (GM)	Graduate marketability under the institutional reporting definition
Career pathway	Entrepreneurship	Graduates recorded as entrepreneurs
Employment quality	Field-related Employment	Graduates working in fields related to their studies
Employment quality	MNC Employment	Graduates employed in multinational companies
Employment quality	Overseas Employment	Graduates working outside Malaysia
Employment quality	Skilled Employment	Graduates employed in skilled occupations
Development	Upskilling	Graduates participating in skills-enhancement programmes
Development	Third-language Capability	Graduates reporting capability in a language beyond Malay and English
Educational experience	Curriculum Evaluation	Graduates recording curriculum evaluation scores of 8–10
Transition	First Job within Three Months	Graduates obtaining their first employment within three months
Economic outcome	Income above RM4,000 (First-Degree Graduates Only)	First-degree graduates earning above RM4,000 monthly

The study used faculty-level aggregated percentages generated through the institutional Graduate Tracer Study reporting system rather than reconstructing the indicators from individual graduate-level records. Consequently, the operational definitions and eligible populations followed the institutional reporting rules applicable to each indicator.

Graduate Employment and Graduate Marketability were retained as separate institutional indicators because they represent different reporting measures within the institutional tracer framework. Their percentages should therefore be interpreted according to their respective institutional definitions rather than assumed to represent identical classifications. All 13 indicators were retained throughout the analysis. Consistent with the institutional GEI framework, higher reported values contributed positively to the final composite index after normalisation.

Normalisation

Min–max normalisation was used to transform each indicator onto a common 0–100 scale (OECD & Joint Research Centre, 2008):

$$Z_{ij} = \frac{X_{ij} - \min(X_j)}{\max(X_j) - \min(X_j)} \times 100$$

where Z_{ij} represents the normalised score for faculty i on indicator j , X_{ij} represents the observed faculty-level value, and $\min(X_j)$ and $\max(X_j)$ represent the minimum and maximum observed values of indicator j across the 26 faculties.

The transformation assigns the lowest observed faculty value a score of 0 and the highest observed faculty value a score of 100. Intermediate scores represent the relative position of each faculty within the observed range. The resulting normalised scores are therefore cohort-relative and should not be interpreted as external performance thresholds.

No zero-range indicator occurred in the analysed dataset. If identical values were observed for all faculties for a particular indicator, that indicator would provide no discriminatory information for relative faculty ranking.

Predefined Judgement-Based Weighting Scheme

Weighting determines the relative contribution of individual indicators to a composite index (OECD & Joint Research Centre, 2008). In this study, the weighting structure was predefined within the institutional GEI development process before calculation of the final faculty scores and ranking positions.

Three levels of relative contribution were used: 10%, 7.5%, and 5%. Indicators assigned 10% were given the greatest contribution within the institutional benchmarking framework. Indicators assigned 7.5% provided complementary information on broader graduate outcomes, employment environment, transition, and economic outcomes. Indicators assigned 5% remained part of the GEI but made a comparatively smaller contribution to the composite score.

Table 3: Weighting scheme for the Graduate Employability Index

Indicator	Weight (%)
Response Rate	5.0
Graduate Employment	10.0
Graduate Marketability	7.5
Entrepreneurship	10.0
Field-related Employment	10.0
MNC Employment	7.5
Overseas Employment	5.0
Skilled Employment	10.0
Upskilling	10.0
Third-language Capability	5.0
Curriculum Evaluation	5.0
First Job within Three Months	7.5
Income above RM4,000 (First-Degree Graduates Only)	7.5
Total	100.0

The assigned weights represent predefined institutional judgements concerning the relative contribution of the 13 indicators to faculty-level graduate employability benchmarking. They are not interpreted as statistically estimated or statistically optimal weights. The weighting scheme instead provides the principal specification for the GEI, while sensitivity analysis is used to determine whether a moderate redistribution of these weights materially changes the resulting ranking.

GEI Aggregation and Faculty Ranking

The normalised indicators were combined using weighted linear aggregation:

$$GEI_i = \sum_{j=1}^{13} w_j Z_{ij}$$

where GEI_i represents the Graduate Employability Index score for faculty i , w_j represents the fractional weight assigned to indicator j , and Z_{ij} represents the corresponding normalised indicator score.

Percentage weights in Table 3 were converted into fractional weights before calculation:

$$w_j = \frac{W_j}{100}$$

where W_j represents the percentage weight assigned to indicator j . The 13 fractional weights were non-negative and summed to 1.00.

The resulting GEI was expressed on a 0–100 scale. Faculties were ordered in descending GEI score to establish their relative benchmarking positions. Ranking was based on the unrounded GEI scores, while scores displayed in the results were rounded to two decimal places.

Weighted linear aggregation is compensatory because relatively high performance on one indicator can offset relatively lower performance on another (OECD & Joint Research Centre, 2008). The composite ranking should therefore be interpreted together with the underlying indicator profiles.

Sensitivity Analysis

Sensitivity analysis was conducted to determine whether the faculty ranking produced by the predefined weighting scheme was highly sensitive to moderate changes in the indicator weights. The weighting structure presented in Table 3 remained the principal GEI specification throughout the study.

For the sensitivity analysis, the same 13 indicators were retained and only their relative weights were moderately redistributed. Response Rate and Overseas Employment were assigned 4%; Graduate Employment, Entrepreneurship, Field-related Employment, and Skilled Employment remained at 10%; Graduate Marketability and MNC Employment were assigned 8%; Upskilling was assigned 8%; Third-language Capability and Curriculum Evaluation were assigned 6%; and First Job within Three Months and Income above RM4,000 were assigned 8%. The redistributed weights summed to 100%.

This sensitivity specification was used solely as a robustness check of the predefined weighting scheme and was not treated as an alternative GEI model. The resulting faculty ranking was compared with the principal GEI ranking using Spearman's rank correlation coefficient (Spearman, 1904). Top 10 membership was also compared to determine whether the composition of the leading faculty group changed.

Results and Discussion

Overall GEI Scores and Rankings

The GEI scores for the 26 faculties ranged from 23.73 to 61.52, with a mean of 41.57 and a standard deviation of 10.75. The observed variation reflects differences in the combined normalised and weighted profiles of the 13 institutional graduate employability indicators. The GEI values represent relative composite scores within the 2025 UiTM faculty cohort. They should therefore not be interpreted as graduate employment percentages or as absolute standards of faculty quality.

All 26 faculties were included in the computation of the principal GEI ranking and sensitivity analysis. Because the complete faculty-level dataset and internal ranking constitute restricted institutional information, the article reports the Top 10 benchmarking group rather than reproducing the complete institutional ranking.

Top 10 Faculty Rankings

Table 4 presents the Top 10 faculties based on the predefined GEI weighting scheme. The Faculty of Mechanical Engineering recorded the highest GEI score, followed by the Faculty of Health Sciences and the Faculty of Electrical Engineering.

Table 4: Top 10 faculties based on GEI scores

Rank	Faculty	GEI Score
1	Faculty of Mechanical Engineering	61.52
2	Faculty of Health Sciences	57.69
3	Faculty of Electrical Engineering	56.56
4	Faculty of Dentistry	55.24
5	Faculty of Medicine	53.17
6	Faculty of Civil Engineering	51.96
7	Faculty of Music	50.48
8	Faculty of Accountancy	49.11
9	Faculty of Pharmacy	47.79
10	Faculty of Communication and Media Studies	45.82

The Top 10 threshold represents the institutional reporting focus of the GEI rather than a statistically derived classification boundary. It provides a manageable group of leading faculties for benchmarking and comparative institutional review.

The Top 10 group included faculties from several academic areas, indicating that relatively high composite performance was not confined to one disciplinary area. Nevertheless, faculty positions should be interpreted within their respective disciplinary and labour-market contexts. Some neighbouring ranking positions were separated by relatively small GEI differences. For example, the Faculty of Electrical Engineering and the Faculty of Dentistry differed by 1.32 GEI points. The ranking is therefore most useful for identifying relative benchmarking positions and the broader leading group rather than implying substantial performance differences between every adjacent rank.

Sensitivity Analysis and Ranking Robustness

The sensitivity analysis compared the principal GEI ranking with the ranking obtained after moderately redistributing the indicator weights while retaining all 13 institutional indicators.

Table 5: Ranking stability under the sensitivity specification

Ranking comparison	Spearman's rho	Top 10 overlap
Principal weighting vs sensitivity weighting	0.993	10/10

Spearman's rho of 0.993 indicates very high agreement between the two complete faculty rankings. The composition of the Top 10 group also remained unchanged, with all ten faculties retaining membership in the leading group under the sensitivity specification. The original analysis reported the same 0.993 correlation and complete Top 10 overlap for this weight redistribution.

The result indicates that the principal Top 10 benchmarking outcome was stable under the tested weight variation. The sensitivity analysis does not imply that weights are irrelevant or that every possible weighting arrangement would produce identical results. Rather, the result shows that the principal ranking was not highly dependent on the specific allocation of 5%, 7.5%, and 10% when compared with the moderate redistribution examined.

Accordingly, the finding is interpreted as evidence of ranking robustness under the tested weight variation rather than as independent validation of the GEI.

Indicator Profile of the Top 10 Faculties

Table 6 compares the indicator profiles of the Top 10 faculties with the remaining faculties. The values represent unweighted averages of the aggregated faculty-level indicator values. The comparison is descriptive and is intended to illustrate the profile associated with the Top 10 group rather than to provide an independent validation of the index.

Table 6: Indicator profile of the Top 10 and remaining faculties

Indicator	Top 10 Mean (%)	Remaining Faculties Mean (%)	Difference (pp)
Response Rate	98.2	97.5	+0.7
Graduate Employment	97.6	93.3	+4.3
Graduate Marketability	96.0	93.1	+2.9
Entrepreneurship	5.4	7.8	-2.4
Field-related Employment	84.8	59.0	+25.8
MNC Employment	11.8	13.1	-1.3
Overseas Employment	0.5	0.2	+0.3
Skilled Employment	89.4	68.2	+21.2
Upskilling	12.8	10.1	+2.7
Third-language Capability	20.3	23.8	-3.5
Curriculum Evaluation	80.6	76.0	+4.6
First Job within Three Months	70.5	72.9	-2.4
Income above RM4,000 (First-Degree Graduates Only)	23.0	4.7	+18.3

The largest descriptive differences between the two groups were observed for Field-related Employment (+25.8 percentage points), Skilled Employment (+21.2 percentage points), and Income above RM4,000 among first-degree graduates (+18.3 percentage points). The original analysis similarly identified these indicators as the largest differences between the Top 10 and remaining faculties.

Job-field alignment provides information beyond general employment status because graduates may be employed but work outside fields associated with their educational preparation (Bol et

al., 2019). Skilled Employment similarly provides additional information about the occupational level of graduate employment (Rakowska & de Juana-Espinosa, 2021). These indicators therefore allow the GEI to capture dimensions of graduate outcomes that would not be represented by Graduate Employment alone.

The Top 10 faculties did not record higher averages for every indicator. Entrepreneurship, MNC Employment, Third-language Capability, and First Job within Three Months recorded lower averages than among the remaining faculties. The leading faculty positions therefore reflect the combined weighted profile across all 13 indicators rather than uniform superiority on every component.

Practical Implications

The GEI provides university management with a common framework for comparing faculty-level graduate employability performance while retaining the 13 individual institutional indicators for detailed interpretation. The composite score provides an overall benchmarking position, while the underlying indicators show the areas contributing to each faculty's performance.

This integrated approach provides information beyond Graduate Employment alone. Faculties with similarly high employment levels may differ substantially in Field-related Employment, Skilled Employment, income outcomes, graduate development, and other dimensions represented within the institutional framework. The GEI therefore provides an additional summary layer to existing graduate employability monitoring rather than replacing the individual indicators.

The Top 10 faculties can serve as institutional reference points for further comparative review. Their indicator profiles may help identify areas of relative strength and areas that warrant further investigation. Any comparison of faculty practices should nevertheless consider differences in academic discipline and relevant labour-market conditions.

The GEI should therefore be applied as a faculty-level benchmarking and decision-support instrument rather than as an absolute measure of faculty quality. Graduate employment outcomes may be influenced by disciplinary and labour-market conditions outside the direct control of individual faculties (Brown et al., 2022). Faculty positions should consequently be interpreted together with their component indicator profiles and relevant institutional context.

Conclusion, Limitations and Future Research

This study developed a weighted Graduate Employability Index by integrating 13 institutional graduate employability indicators into a single faculty-level benchmarking measure. The analysis used aggregated Graduate Tracer Study data derived from 56,895 UiTM graduates who graduated in 2025. Their responses were aggregated into faculty-level indicator values covering 26 faculties.

The indicators were transformed using min-max normalisation and combined using a predefined weighting structure in which each indicator received a weight of 5%, 7.5%, or 10%. The resulting GEI enabled faculties to be compared using a common composite measure while retaining the underlying indicator profiles for more detailed interpretation.

The principal finding was the identification of the Top 10 faculty group under the predefined GEI weighting scheme. The Faculty of Mechanical Engineering recorded the highest GEI score,

while the broader Top 10 comprised faculties from several academic areas. The indicator-profile comparison showed that the Top 10 group was characterised particularly by higher Field-related Employment, Skilled Employment, and Income above RM4,000, although it did not record higher averages for every indicator.

The sensitivity analysis further demonstrated that the principal ranking was robust to the tested moderate redistribution of the indicator weights. Spearman's rank correlation between the principal and sensitivity rankings was 0.993, and all ten faculties remained within the Top 10. These findings support the stability of the principal benchmarking result under the specific weight variation examined.

Several limitations should be recognised. The study covers one institution and one reporting cycle. Min-max normalisation depends on the observed faculty range and therefore generates cohort-relative scores rather than external standards of performance. The weighting structure reflects predefined institutional judgements regarding the relative contribution of the indicators rather than statistically estimated importance. Graduate outcomes may also be influenced by disciplinary and labour-market conditions not represented directly within the index. In addition, the study uses aggregated faculty-level data and does not seek to establish causal relationships between faculty practices and graduate outcomes.

Future research may apply the GEI across multiple reporting cycles to examine temporal stability, investigate additional reasonable variations in the weighting structure, and evaluate whether faculty-level benchmarking patterns remain consistent over time. The principal contribution of the present study is a transparent and practical approach for integrating an established set of institutional graduate employability indicators into a weighted faculty-level benchmarking index.

Data Availability Statement

The study used aggregated faculty-level data derived from the 2025 UiTM Graduate Tracer Study. The detailed faculty-level dataset and complete institutional ranking are not publicly available because they constitute restricted institutional management information.

References

- Akhtar, P., Moazzam, M., Ashraf, A., & Khan, M. N. (2024). The interdisciplinary curriculum alignment to enhance graduates' employability and universities' sustainability. *The International Journal of Management Education*, 22, 101037. <https://doi.org/10.1016/j.ijme.2024.101037>
- Alam, M. J., Noman, S., Mujib, M. N. I., & Khan, W. S. (2025). An assessment of graduates skills gap for sustainable employability during the 4IR in Bangladesh. *Social Sciences & Humanities Open*, 12, 101780. <https://doi.org/10.1016/j.ssaho.2025.101780>
- Alemu, M., & Yismaw, B. (2022). Understanding waiting time from graduation to first employment: Survival analysis-based evidence from Ethiopia. *Education Research International*, 2022, Article 9001679. <https://doi.org/10.1155/2022/9001679>
- Basir, N. M., Wahab, D. A., Zubair, Y. Z., & Jani, R. (2023). Determinants of graduates' starting salary using CHAID analysis. *Jurnal Ekonomi Malaysia*, 57(2), 135–147. <https://doi.org/10.17576/JEM-2023-5702-10>
- Basir, N. M., Zubairi, Y. Z., Jani, R., & Wahab, D. A. (2022). Soft skills and graduate employability: Evidence from Malaysian tracer study. *Pertanika Journal of Social Sciences & Humanities*, 30(4), 1975–1989.
- Bol, T., Ciocca Eller, C., van de Werfhorst, H. G., & DiPrete, T. A. (2019). School-to-work linkages, educational mismatches, and labor market outcomes. *American Sociological Review*, 84(2), 275–307. <https://doi.org/10.1177/0003122419836081>
- Brown, J. L., Hammer, S., Perera, H. N., & McIlveen, P. (2022). Relations between graduates' learning experiences and employment outcomes: A cautionary note for institutional performance indicators. *International Journal for Educational and Vocational Guidance*, 22, 137–156.
- Dacre Pool, L., & Sewell, P. (2007). The key to employability: Developing a practical model of graduate employability. *Education + Training*, 49(4), 277–289. <https://doi.org/10.1108/00400910710754435>
- De Montis, A., Serra, V., Calia, G., Trogu, D., & Ledda, A. (2021). To weight or not to weight, that is the question: The design of a composite indicator of landscape fragmentation. *Applied Sciences*, 11(7), 3208. <https://doi.org/10.3390/app11073208>
- Gómez-Parra, M.-E., & Marín, F. J. (2026). Comparing student perspectives on employability through bilingual education. *Discover Education*, 5, 456. <https://doi.org/10.1007/s44217-026-01518-6>
- Harvey, L. (2001). Defining and measuring employability. *Quality in Higher Education*, 7(2), 97–109. <https://doi.org/10.1080/13538320120059990>
- Kelemen, A., Szabo, Z., Bozoki, S., Szadoczki, Z., & Hartvig, A. (2024). A sensitivity analysis of composite indicators: Min/max thresholds. *Environmental and Sustainability Indicators*, 23, 100453. <https://doi.org/10.1016/j.indic.2024.100453>
- Latifis, K., Sidiropoulos, A., & Evangelidis, G. (2026). International university rankings: Composite indicators and methodological approaches. *Frontiers in Research Metrics and Analytics*, 11, 1828850. <https://doi.org/10.3389/frma.2026.1828850>
- Ministry of Higher Education Malaysia. (2026). *Graduate tracer study 2025* [Institutional dataset].
- OECD & Joint Research Centre. (2008). *Handbook on constructing composite indicators: Methodology and user guide*. OECD Publishing. <https://doi.org/10.1787/9789264043466-en>
- Pham, T., Soltani, B., & Singh, J. K. N. (2024). Employability capitals as essential resources for employment obtainment and career sustainability of international graduates. *Journal of Further and Higher Education*, 48(4), 436–448. <https://doi.org/10.1080/0309877X.2024.2344771>

- Rakowska, A., & de Juana-Espinosa, S. (2021). Ready for the future? Employability skills and competencies in the twenty-first century: The view of international experts. *Human Systems Management*, 40(5), 669–684. <https://doi.org/10.3233/HSM-201062>
- Roesch, M., Gerritse, M., & Karreman, B. (2026). Careers in multinational enterprises. *Journal of International Economics*, 161, 104236. <https://doi.org/10.1016/j.jinteco.2026.104236>
- Saisana, M., Saltelli, A., & Tarantola, S. (2005). Uncertainty and sensitivity analysis techniques as tools for the quality assessment of composite indicators. *Journal of the Royal Statistical Society: Series A*, 168(2), 307–323. <https://doi.org/10.1111/j.1467-985X.2005.00350.x>
- Spearman, C. (1904). The proof and measurement of association between two things. *The American Journal of Psychology*, 15(1), 72–101. <https://doi.org/10.2307/1412159>
- Taherdoost, H., & Madanchian, M. (2024). The impact of survey response rates on research validity and reliability. In A. Rahal & M. Adorján (Eds.), *Design and validation of research tools and methodologies* (pp. 183–212). IGI Global. <https://doi.org/10.4018/979-8-3693-1135-6.ch009>
- Tomlinson, M. (2017). Forms of graduate capital and their relationship to graduate employability. *Education + Training*, 59(4), 338–352. <https://doi.org/10.1108/ET-05-2016-0090>
- Uddin, M., Bal, H., Hoque, N., & Mamun, A. (2026). Entrepreneurship education and graduate employability in emerging economies: A moderated–mediated model of employability orientation and career awareness. *The International Journal of Management Education*, 24, 101415. <https://doi.org/10.1016/j.ijme.2026.101415>
- Ustaoglu, E., Ortega Lopez, G., & Gutierrez-Alcoba, A. (2023). Building composite indicators for the territorial quality of life assessment in European regions: Combining data reduction and alternative weighting techniques. *Environment, Development and Sustainability*.
- Yorke, M. (2006). *Employability in higher education: What it is—What it is not*. Higher Education Academy.