



Article Unveiling University Groupings: A Clustering Analysis for Academic Rankings [†]

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- ⁺ This paper is an extended version of our paper published in 2023 14th International Conference on Information, Intelligence, Systems & Applications (IISA), Volos, Greece, 10–12 July 2023.

Abstract: The evaluation and ranking of educational institutions are of paramount importance to a wide range of stakeholders, including students, faculty members, funding organizations, and the institutions themselves. Traditional ranking systems, such as those provided by QS, ARWU, and THE, have offered valuable insights into university performance by employing a variety of indicators to reflect institutional excellence across research, teaching, international outlook, and more. However, these linear rankings may not fully capture the multifaceted nature of university performance. This study introduces a novel clustering analysis that complements existing rankings by grouping universities with similar characteristics, providing a multidimensional perspective on global higher education landscapes. Utilizing a range of clustering algorithms—K-Means, GMM, Agglomerative, and Fuzzy C-Means—and incorporating both traditional and unique indicators, our approach seeks to highlight the commonalities and shared strengths within clusters of universities. This analysis does not aim to supplant existing ranking systems but to augment them by offering stakeholders an alternative lens through which to view and assess university performance. By focusing on group similarities rather than ordinal positions, our method encourages a more nuanced understanding of institutional excellence and facilitates peer learning among universities with similar profiles. While acknowledging the limitations inherent in any methodological approach, including the selection of indicators and clustering algorithms, this study underscores the value of complementary analyses in enriching our understanding of higher educational institutions' performance.

Keywords: clustering of universities; clustering; K-means; GMM; agglomerative; fuzzy C-means; Quacquarelli Symonds

1. Introduction

Finding a distinguished university is a critical step in securing a high-quality education, offering students a sturdy foundation of knowledge, skills, and credentials. Furthermore, it can lead to heightened career prospects post-graduation, as employers tend to favor graduates from prestigious universities, often translating into more enhanced job opportunities. These esteemed universities offer students the chance to participate in cutting-edge research, gain invaluable experiential insights, and cultivate essential skill sets crucial for their forthcoming endeavors.

Evaluating and ranking universities is a complex and multifaceted process that involves careful consideration of various indicators to ensure an objective and precise assessment. Leading ranking organizations, such as the Academic Ranking of World Universities (ARWU) [1], Quacquarelli Symonds (QS) [2], and Times Higher Education World University Rankings (THE) [3], employ sophisticated algorithms to evaluate universities based on a



Citation: Matlis, G.; Dimokas, N.; Karvelis, P. Unveiling University Groupings: A Clustering Analysis for Academic Rankings. *Data* **2024**, *9*, 67. https://doi.org/10.3390/ data9050067

Academic Editor: Kesheng (John) Wu

Received: 5 February 2024 Revised: 3 May 2024 Accepted: 6 May 2024 Published: 11 May 2024



Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). wide range of factors, including academic reputation, faculty–student ratio, academic citations, and international diversity. Each indicator is assigned a specific weight to reflect its relative importance in the university evaluation process. According to [4], an examination of these indicators reveals the following:

- The low similarity of indicators across ranking lists implies that organizations primarily rely on distinct sets of criteria when assessing universities.
- The weight assigned to indicate the significance of an indicator can vary across different ranking lists.
- The research production and impact-related indicators are similar among ranking lists.

University rankings not only aid students in making informed decisions, but also incentivize universities to enhance their performance in critical domains like research, teaching, and internationalization, all of which are essential to their stakeholders. While these rankings offer significant benefits, they are not without limitations, including the following:

- Subjectivity—The choice of indicators and their associated weights may rely on subjective and contentious criteria, resulting in rankings that do not accurately reflect the genuine capabilities and performance of universities.
- Narrow Focus—The indicators employed in ranking systems might fall short of encompassing the entire spectrum of activities and outputs of universities, potentially resulting in a limited and partial assessment of their performance. For instance, rankings primarily centered around research productivity may not adequately gauge the quality of teaching or the broader impact of universities on their local communities.
- Incentive Distortion—Ranking systems can incentivize universities to prioritize specific activities over others, potentially distorting their original missions and objectives.
- Lack of Transparency—The lack of transparency in the methodology and data sources employed by ranking organizations poses a challenge for universities to pinpoint and address areas for improvement. Additionally, this opacity may foster skepticism and mistrust among stakeholders towards the reliability of the rankings.

Recognizing the limitations of existing ranking systems, this study is motivated by the pursuit of a complementary analytical approach. By employing clustering algorithms to group universities based on similar characteristics, we aim to provide a more nuanced perspective on the global higher education landscape. This clustering analysis is not intended to replace traditional rankings but to augment them, offering interested parties an alternative approach for viewing and assessing the strengths and similarities among groups of universities. Such an approach acknowledges the diversity of university missions and the importance of multiple factors in determining institutional success, thus encouraging a more holistic and collaborative understanding of educational excellence. Our motivations are rooted in the belief that a multidimensional analysis can facilitate more informed decision-making for students, educators, policymakers, and institutions alike, promoting a richer dialogue about the qualities that define leading universities worldwide. This approach may also be preferable to a straightforward ranking of universities from top to bottom for several compelling reasons, such as the following:

- A limitation of criteria—Ranking methodologies often rely on a narrow set of criteria for assessing university performance, yet certain universities excel in diverse domains of expertise. Consequently, employing clustering methods can highlight their individual strengths and areas of excellence.
- Diverse needs—Every individual harbors distinct priorities when it comes to selecting a university, encompassing factors like expenses, geographic location, and available academic programs.
- Avoiding Stigma—Establishing a ranking hierarchy where universities are sorted from the best to the worst can result in the marginalization of lower-ranked institutions. To alleviate this effect and promote a more constructive and inclusive view of universities, clustering them based on specific attributes or areas of expertise can be a valuable alternative.

The remainder of the article is organized as follows: In Section 2, we review other related studies, while Section 3 presents the dataset and the data pre-processing phase. Section 4 presents the methodology, and finally, Section 5 concludes our study.

2. Related Work

Clustering is a machine learning technique that belongs to the category of unsupervised learning and aims to group related objects together into distinct clusters. There are several different types of clustering, each with their own benefits and drawbacks. Some of the types of clustering are as follows:

- Hierarchical—Utilizing this methodology, clusters are structured within a dendritic, tree-like arrangement, in which each smaller cluster serves as a subset of a more comprehensive cluster. Two fundamental modes of hierarchical clustering are evident: agglomerative [5] and divisive [6]. Within the agglomerative clustering technique, each data point originates within its own distinct cluster, culminating in the eventual amalgamation of all clusters into a unified entity. Conversely, the divisive clustering method commences with all data points situated within a solitary cluster, subsequently undergoing incremental partitioning into smaller clusters through the algorithm.
- **K-Means**—One widely employed clustering method is K-Means clustering [7]. In this technique, the dataset is partitioned into *K* clusters, where *K* is a modifiable parameter. The objective is to minimize the total sum of squared distances between each data point and its designated cluster center.
- **Fuzzy Clustering**—This approach enables data points to exhibit multiple degrees of membership across multiple clusters. Among the field, Fuzzy C-Means (FCM) clustering [8] stands as the most widely utilized algorithm for fuzzy clustering.
- Density-Based—The density-based clustering technique involves the grouping of data points that are in close proximity within high-density regions, while being separated by regions of lower density. Among these methods, DBSCAN [9], which stands for "Density-Based Spatial Clustering of Applications with Noise", is the most widely recognized density-based clustering algorithm.
- **Model-Based**—This methodology posits a mixture of probability distributions as the origin of the data points. Among model-based clustering techniques, the Gaussian Mixture Model (GMM) algorithm [10] stands as the most prevalent and widely employed approach.

Considerable research has been undertaken in the field of evaluating and ranking academic institutions, spanning universities, departments, and diverse academic domains.

A renowned technique employed for the evaluation of university rankings is rank fusion [11]. Rank fusion, also referred to as meta-ranking, constitutes a procedure for amalgamating the outcomes of multiple university rankings, which include assessments based on multiple factors and criteria, thereby yielding a more encompassing and dependable overall ranking. The process of rank fusion entails the normalization of diverse rankings and their amalgamation through a weighted averaging mechanism, wherein the assigned weights quantify the significance attributed to each respective ranking.

In contrast to individual ranking systems, the process of rank fusion presents several advantages. It fosters a greater degree of stability and dependability in the rating system, diminishing the impact of outliers or inaccuracies within individual rankings. Additionally, it possesses the capacity to consider a broader spectrum of factors or perspectives, thereby furnishing a more comprehensive assessment of the performance or quality of the ranked entities. However, it is imperative to exercise caution when employing rank fusion, as the weights applied to amalgamate the rankings may carry a degree of subjectivity or bias.

A useful method for ranking universities is the Borda Count method [12]. The Borda Count method is a single-winner, voting-based technique for aggregating and consolidating rankings from different sources or criteria. In this method, each university is assigned a score in each individual ranking, typically based on its position in that ranking. The scores are then summed across all rankings, and universities are ranked based on their total scores.

The higher a university ranks in an individual ranking, the more points it receives. The Borda Count allows for the integration of diverse indicators into a single composite ranking. It is particularly useful when dealing with university rankings from various organizations, as it provides a way to balance and combine these rankings to create a unified assessment of university performance that reflects the collective preferences of the rankings.

There exists a multitude of scholarly investigations concerning the ranking of universities, drawing inspiration from conventional methodologies such as Data Envelopment Analysis (DEA) [13,14], multicriteria sorting [15], the application of the Pareto Front [16], as well as the aforementioned rank fusion technique. Nevertheless, it is important to acknowledge that each university ranking entity may adopt a distinct ranking framework or devise proprietary methodologies to appraise the performance of individual universities, thereby yielding divergent ranking lists.

For our study, we relied on [17], although [18] is very similar to our analysis. In [17], the authors clustered the top 500 universities from the National Taiwan University (NTU) ranking list. The NTU ranking list is based on eight validated research performance indicators, organized into three main categories, each with a corresponding weight:

- Research productivity—25%
- **Research impact**—35%
- **Research excellence**—40%

The outcomes of their clustering experiments, involving 12 and 43 clusters, utilizing the DBSCAN, EM (Expectation-Maximization) [19], and K-Means algorithms, demonstrated a strong similarity to the ranking provided by the NTU ranking list. This similarity was notably pronounced with the EM and K-Means algorithms, while the DBSCAN algorithm did not yield comparable results. Within the 12 and 43 clusters derived from their analysis, a singleton cluster emerged at the top, containing a single university recognized for its exceptional performance. As a result, they concluded that K-Means stands out as the most suitable algorithm for university clustering.

In the study [18], the dataset from Quacquarelli Symonds (QS) for the year 2022 served as the basis for clustering and analysis. The author employed six score indicators, elaborated in Section 3, and opted for GMM as the primary clustering algorithm. Differing from the eight research-oriented indicators employed in [17], the QS indicators encompass a broader spectrum of criteria for evaluating university performance. The determination of the optimal number of clusters, set at four, was accomplished using Akaike's Information Criteria (AIC) [20] and Bayesian Information Criteria (BIC) [21]. In contrast to QS's existing ranking system, the study's findings introduced a novel classification scheme for universities, where each cluster portrayed universities in a manner distinct from their assigned rankings in the QS list.

In [22], the authors classified the top 500 universities into 21 types according to their disciplinary characteristics, using data from the Institute of Higher Education, Shanghai Jiao Tong University. The indicators used for the classification are the percentage of publications in six broad disciplinary areas:

- 1. Arts/Humanities and Social Sciences
- 2. Natural Sciences and Mathematics
- 3. Engineering/Technology and Computer Sciences
- 4. Life Sciences
- 5. Clinical Medicine
- 6. Interdisciplinary and Multidisciplinary Sciences

Universities were categorized based on their focus, priority, and orientation with specific disciplinary groups. The universities that did not fall into any of the aforementioned categories were designated as "balanced". An examination was conducted to assess the distribution of various types of universities across nations and ranking systems. In the clustering procedure, a customized algorithm was employed, utilizing the Squared Euclidean Distance as the similarity metric.

There are other notable studies related to our work of clustering universities, such as those in [23–26]. In [23], the object of research is the internal structure of management in universities, its relationship to rating, and the clustering of universities in the Republic of Kazakhstan in order to determine the effectiveness of management. The authors considered three clustering models, each of which presented intriguing results regarding the clustering parameters and their values. In [24], to enable a more suitable and fair comparison of knowledge exchange performance among English institutions, a cluster analysis sought to identify groups of universities based on their structural characteristics that shape knowledge-sharing possibilities and challenges. The study also recognized the criticality of diverse higher educational institutions and the difficulties that arise from clustering them. In [25], the study highlights the universities located in countries that host 90% of the top-ranked universities in Latin America by presenting the findings of a descriptive analysis based on clusters of 85 Latin American universities found in the top 50 positions of the ARWU, SIR Scimago, QS, and Webometrics rankings. For the purposes of performing the descriptive statistical analysis, clusters were constructed by taking into account the frequency of the presence of universities in the top 50 of the four rankings, their location, and the country they belong to. In [26], the purpose of the study was to classify Korean universities according to their research performance, and validate the classifications by comparing their research performance to those that are located in the U.S. As compared to U.S. peers, Korean universities' research performance was comparable. Furthermore, the study revealed that the classification outcomes produced by the performance-based method were comparable to those of conventional classifications that used predetermined criteria. However, the above studies are limited only to national or regional data.

Compared to the analyses conducted in studies [17,18,22], our study employed K-Means, GMM, Agglomerative, and Fuzzy C-Means algorithms to offer a more comprehensive and nuanced perspective on the dataset. This approach aimed to unveil diverse patterns and structures that may remain concealed when relying on a single algorithm. To ensure a fair and equitable university clustering process, we expanded upon the six indicators utilized in study [18] by incorporating three additional indicators sourced from the ranking list, as detailed in Section 3. In contrast to the methodologies applied in studies [17,22], which predominantly incorporated research-focused indicators, our approach encompassed a broader spectrum of indicators for evaluating university performance. Despite Fuzzy C-Means calculating the probability of a university belonging to multiple clusters, our algorithm ultimately assigned each university to a single cluster.

3. Dataset and Data Pre-Processing

3.1. Dataset

For the purposes of this research, we acquired a dataset from the official website of Quacquarelli Symonds (QS) for the year 2023. In the dataset, there are over 1400 universities from all over the world, including universities from diverse locations in Europe, Asia, and North America. We selected this particular dataset due to the presence of diverse indicators used for the assessment of university performance, in contrast to other university rankings that primarily rely on bibliographic-related metrics.

In total, there are 27 columns in the dataset, but, according to the QS ranking, each university is ranked and assessed using only the six following columns/indicators:

- 1. Academic Reputation (ar score)—Evaluates the teaching and research quality of the university.
- 2. **Employer Reputation** (er score)—Evaluates how competent, innovative, and effective students and graduates are for the employment market.
- 3. **Faculty/student ratio** (fsr score)—Evaluates how universities provide students with meaningful access to faculty staff.
- 4. **Citations per faculty** (cpf score)—Evaluates the total number of academic citations about the papers published in the last five years.

- 5. **International student ratio** (isr score)—Evaluates the ability of a university to attract foreign students.
- 6. **International faculty ratio** (ifr score)—Evaluates the ability of a university to attract foreign faculty staff.

The above indicators each, in turn, get a percentage of 40%, 10%, 20%, 20%, 5%, and 5% of the total score, a proportion specified by QS [2].

In our analysis, we included the following three additional indicators:

- 1. **Size**—The total number of full-time degree-seeking students.
- 2. **Focus**—The broad subject areas of each university, e.g., Arts, Humanities, Engineering and Technology, Natural Sciences, etc.
- 3. Age Band—The age of each university.

The selection of the three supplementary indicators was premised on their ability to facilitate the categorization of universities according to their respective values, as shown in Table 1. This enables the establishment of distinct and equitable rankings among the institutions, thus providing a more comprehensive evaluation of their performance across multiple dimensions. Each of the three indicators captures a percentage of the total number of universities. All the above indicators have been selected to be applicable to all universities, regardless of their geographical area.

Table 1. Size, focus, and age band categories' definitions according to QS [2]. Reprinted with permission from Ref. [27].

	Size	Students	Perc. (%)
XL	Extra Large	More than 30,000	23.8
L	Large	≥12,000	46.6
М	Medium	\geq 5000	23.8
S	Small	Fewer than 5000	5.8
	Focus	Faculty Area	
FC	Full Comprehensive	5 Faculty Areas and Medical School	41.6
CO	Comprehensive	5 Faculty Areas	32.5
FO	Focused	3 or 4 Faculty Areas	22.0
SP	Specialist	2 or Fewer Faculty Areas	3.9
	Classification	Age	
5	Historic	100 Years Old and More	37.5
4	Mature	50–99 Years Old	34.4
3	Established	25–49 Years Old	20.4
2	Young	10–24 Years Old	6.7
1	New	Less than 10 Years Old	0.9

3.2. Data Pre-Processing

Following the description of the indicators used in our analysis, it was important to undertake certain data pre-processing steps as a necessary precursor to the clustering process. As an initial step, the exclusion of universities with missing data in any of the aforementioned nine indicators was essential to ensure equitable evaluation. Subsequently, categorical string values within the "size" and "focus" indicators were mapped into categorical numerical values spanning from 0 to 100. This conversion was conducted in order for the clustering algorithms to function properly, as they receive only numerical values. Lastly, to scrutinize the correlation among the indicators, whether categorical or continuous, we employed the Spearman rank correlation coefficient [28]. The Spearman rank correlation coefficient is a statistical measure that assesses the strength and direction of the monotonic relationship between two variables. It is based on the ranks of the data rather than their actual values. The resulting correlation matrix for the nine indicators is provided in Table 2.

	size	focus	age	ar	er	fsr	cpf	ifr	isr
size	1								
focus	0.44	1							
age	0.22	0.21	1						
ar	0.34	0.39	0.33	1					
er	0.18	0.24	0.23	0.79	1				
fsr	-0.22	0.11	0.13	0.32	0.28	1			
cpf	0.11	0.26	0.2	0.51	0.32	0.07	1		
ifr	-0.068	0.12	-0.003	0.45	0.42	0.21	0.45	1	
isr	-0.1	0.05	0.09	0.39	0.33	0.28	0.41	0.69	1

Table 2. Spearman rank correlation matrix for the nine indicators.

Upon scrutinizing the aforementioned tables, several pertinent observations can be deduced, contributing to the formulation of meaningful conclusions in the context of the present research. The academic and employer reputation indicators have a relatively strong correlation with most of the other indicators and especially with one another, implying that, as the academic reputation of a university increases, employers are more likely to hire students who graduated from that university. Furthermore, a strong correlation is observed in the relationship between the number of international students and the presence of foreign faculty staff. This outcome aligns with expectations, as a university's acceptance of a substantial number of international students logically corresponds with the recruitment of foreign faculty members. Another strong and obvious correlation emerges between a university's academic reputation and the quantity of citations per faculty. This alignment is unsurprising, given that a higher volume of citations stemming from a school's research activities naturally increases the university's overall academic standing. Noteworthy observations can be made regarding the size, focus, and age band indicators. It is apparent that the size of a university influences its focus, and vice versa, but does not significantly impact the age of the university. Therefore, the presence of an extensive array of faculty areas in a university does not necessarily imply an older age but rather suggests a relatively larger student population. Additionally, upon analyzing their correlation with the other continuous indicators, it is clear that the size, age, and broad subject areas do not exert a significant influence on a university's overall performance.

Having established the relative significance of the indicators within our cluster analysis, our subsequent action was to define custom indicator weights, which maintain a proportional ratio to the initial weight assignments provided by QS. Before assessing the clustering algorithms, two distinct normalization techniques were considered:

- 1. We normalize the data and apply indicator weights.
- 2. We normalize the data without applying indicator weights.

For normalization, we employed the MinMaxScaler method:

$$x_{\text{scaled}} = \frac{x - x_{\min}}{x_{\max} - x_{\min}}.$$
 (1)

Each technique was used once per experimentation cycle. One experimentation cycle involves the following steps:

- 1. Normalizing the data using one of the aforementioned techniques.
- 2. Clustering the data with different numbers of clusters.
- 3. Computing the pairwise similarity between all combinations of clustering algorithms using the Rand Index (RI) [29]. The Rand Index measures the similarity between two clustering results by comparing the agreements and disagreements in pairwise cluster assignments.

By calculating the similarity between a pair of clustering algorithms, we gain insights into the degree of proximity between them. However, our objective was to compare the ranking list generated through the amalgamation of clusters produced by a clustering algorithm, with the QS ranking list. Details of how a ranking list is produced from the clustering algorithms are discussed in Section 4. To facilitate this comparison, we created distinct clusters (named QS clusters) to represent the QS ranking list, separate from those produced by the algorithms. The size of these QS clusters corresponded to the size of the clusters generated by the clustering algorithms. Consequently, the members of each QS cluster were organized to match the order of universities as presented in the QS ranking list. For example, if the first cluster (after applying a clustering algorithm) has a size of 100, then the first QS cluster encompasses the first one hundred universities from the QS ranking list. Respectively, the second QS cluster, irrespective of its size, encompasses the consecutive universities following the top one hundred universities from the first cluster. This approach allowed us to essentially compare the QS ranking list, which is represented by the QS clusters, with the rankings produced by the clustering algorithms.

4. Clustering Analysis

The clustering algorithms that were used for this analysis are the following:

- 1. **K-Means**—K-Means can be a useful algorithm for university clustering when simplicity, efficiency, and intuitive results are important.
- 2. GMM—GMM was selected due to its capability to model the data as coming from a mixture of Gaussian distributions, which is appropriate given the continuous nature of our data. GMM provides a probabilistic model that not only assigns memberships to clusters but also accounts for the covariance structure of the data, thus allowing for a more nuanced understanding of the relationships between universities. GMM was also utilized in a previous study [18], which is relevant to our own research.
- 3. **Agglomerative**—Agglomerative clustering can be used when a hierarchy of clusters is needed, or when flexibility and interpretability are important. However, it may not be the best choice for all situations, particularly when the underlying data have complex relationships or non-linear distributions.
- 4. **Fuzzy C-Means**—Fuzzy C-Means was chosen for its ability to allow each university to belong to multiple clusters with varying degrees of membership. This method is particularly useful in capturing the inherent overlaps in university characteristics, which are too complex to be neatly partitioned into crisp clusters.

K-Means and GMM initialized their centroids using the K-Means++ method, which selects initial cluster centroids using sampling based on an empirical probability distribution of the points' contribution to the overall inertia. This technique sped up convergence. The algorithm implemented was "Greedy K-Means++". Fuzzy C-Means initialized the centroids randomly.

To find the optimal number of clusters using the nine indicators we considered the following:

- 1. The elbow method for a maximum of 30 clusters using the K-Means algorithm to calculate the sum of squared distances from each point to its assigned center.
- 2. The AIC and BIC for a maximum of 30 clusters. The maximum number of clusters was chosen arbitrarily. Since AIC and BIC are both statistical measures used for model selection and comparison, we used the GMM algorithm for these measures.

By applying the elbow method, the graph in Figure 1 came up. By taking a closer look at the graph, it is apparent that the elbow method does not work well because, as we will see later on, the data are not very clustered. As a result, there is a smooth curve and the optimal value of K is unclear, thus making this method unfit for use.



Figure 1. Elbow method for a maximum of 30 clusters using the K-Means algorithm.

Using the AIC and BIC measures we came up with the graph that is shown in Figure 2. The number of clusters for the minimum value of BIC is seven, which is identical to the results of the EM algorithm. The number of clusters for the minimum value of AIC is approximately 29 but we used 24, as the difference between the AIC value of 29 and 24 clusters is quite small. In order to visualize the clusters, we used the Multidimensional Scaling (MDS) algorithm [30] to reduce the initial dimensions of the data to two.



Figure 2. AIC and BIC values for a maximum of 30 clusters and a minimum of two. Reprinted with permission from Ref. [27].

The clusters were ordered according to the mean value of each cluster (*CM*). The mean value of a cluster was calculated as follows:

$$CM = \frac{\sum_{i=1}^{\text{cluster size}} \frac{\sum_{i=1}^{9} \text{ indicator}_{j,i}}{9}}{\text{cluster size}}.$$
 (2)

We calculated a university's overall performance by summing up its individual indicator values and then dividing the total by nine, the number of indicators, to derive the mean score. Next, by aggregating the means of all universities within a cluster and dividing this sum by the cluster's size, we obtained the cluster's mean score. This methodology generates a cluster ranking that subsequently reflects the ranking of universities within each respective cluster.

The clustering results for seven clusters and nine indicators without weights are shown in Figure 3. The sizes of each cluster for every algorithm are shown in Table 3. Table 4 presents the similarity between every pair of algorithms.



Figure 3. Visualization for seven clusters without weights. (a) K-Means, (b) GMM, (c) Agglomerative, and (d) Fuzzy C-Means.

	1	2	3	4	5	6	7
KM	112	91	183	126	153	332	311
GMM	441	166	183	130	97	128	163
Agg	99	138	166	183	145	220	357
Fuzzy	138	221	214	161	62	81	431

Table 3. Cluster sizes for seven clusters without weights.

Table 4. Rand Index for seven clusters without weights.

	KM	GMM	Agg	Fuzzy	QS
KM	1				
GMM	0.729509	1			
Agg	0.86622	0.736062	1		
Fuzzy	0.831163	0.723259	0.819637	1	
QS	0.776705	0.760719	0.78335	0.784693	1

By visualizing the results of the clustering algorithms and calculating the Rand Index (see Table 4), we can make a few observations. First of all, the cluster with the highest mean (the red cluster), for every algorithm, has a very low density. That is to be expected given that universities in that cluster tend to have diverse values for their indicators, whereas

universities in clusters with lower means tend to have similar values for these indicators. Thus, clusters with a lower mean have a higher density.

It is important to note that the clusters exhibit overlap, meaning that universities belonging to one cluster may appear in others. This overlap is a result of two key factors. Firstly, the clustering process relies on nine distinct indicators, while the visualization phase reduces these indicators to just two dimensions. This dimensionality reduction can lead to errors in accurately representing the data. Secondly, the differentiation between the cluster members of a clustering algorithm and the QS clusters contributes to the observed overlap. For the sake of comparison, we assumed that the cluster members of a clustering algorithm mirrored those of the QS clusters (the clusters created to compare the QS ranking list to the ranking list produced by the clustering algorithms). This assumption implies that, regardless of their size, each cluster of a clustering algorithm will encompass the same members (universities) as its corresponding counterpart of the QS clusters. In practice, however, the cluster members of a clustering algorithm often differed from those of the QS clusters. In other words, a university may find itself within a cluster featuring a lower mean, while, according to the clustering of QS, it should have been placed in a cluster with the highest mean, or vice versa. As a result, some universities may appear in different clusters, according to the QS clusters. In order to compare the clusters derived from the clustering methods with those of the QS, we selected the algorithm that demonstrated the highest similarity to the QS, as defined by the Rand Index.

Table 5 illustrates the difference among the cluster members of Fuzzy C-Means and QS, and Figure 4 provides a visual representation corresponding to the findings presented in Table 5. The Cluster Differentiation (CD) row in Table 5 enumerates the difference between the cluster members of Fuzzy C-Means and QS clusters. For example, the first cluster has a CD of 15, implying that there are 15 universities in the first cluster of QS that are not present in the first Fuzzy C-Means cluster. In Figure 4, the university nodes are delineated by two colors. The left color designates the cluster to which a university belongs according to the results of Fuzzy C-Means, while the right color designates the cluster a university is expected to be a part of based on the clustering of QS. The complete/detailed list of clusters for all clustering algorithms can be found in Table A1.



Figure 4. Fuzzy C-Means for seven clusters without weights. The color of the sixth cluster in Figure 3 has been altered from its original light green to pink to enhance visual interpretability.

Cluster	1	2	3	4	5	6	7
CD	15	130	133	114	56	77	127

Table 5. Differentiation between cluster members of Fuzzy C-Means and QS for seven clusters without weights.

In terms of university distribution within the clusters, the K-Means algorithm and the Agglomerative method exhibit considerable similarity. The outcomes of one align closely with the results of the other, and their Rand Index demonstrates a relatively high level of agreement compared to other algorithms. Fuzzy C-Means shares similarities with K-Means and Agglomerative methods, but upon closer examination through the graph and size table, it becomes evident that Clusters 5 and 6 contain significantly fewer universities than their counterparts in the other two methods. Interestingly, the number of universities in the final cluster of Fuzzy C-Means exceeds those in K-Means and Agglomerative by a considerable margin. GMM stands out distinctly from all other algorithms, characterized by an exceptionally large size of the first cluster, and notably, the smallest size of the last cluster in comparison to corresponding clusters in the other algorithms. Furthermore, GMM reveals that a significant number of universities from the higher mean clusters are intermixed with universities from clusters of lower means to a degree not observed in the other clusters.

To assess the significance of each indicator to the clustering process, we employed the following steps:

- We aggregated the results of K-Means, GMM, Agglomerative, and Fuzzy C-Means to determine the cluster each university belongs to according to the prevailing consensus among the clustering methods. This consensus is determined by identifying the cluster assignment that is most frequently agreed upon by the different clustering algorithms. In other words, we identify the cluster that is most commonly assigned to a university across the various clustering methods.
- 2. We computed the Spearman correlation coefficient between each indicator and the cluster assignment of universities.

Table 6 shows the strength and nature of the correlation between an indicator and a university's cluster. The nature of the correlation is negative, which indicates a reverse relationship between cluster assignments and indicator values. Some universities have high scores across the nine indicators and are assigned to clusters, such as Cluster 1, characterized by high mean values. Conversely, when universities are assigned to clusters with lower mean values, their individual indicator values tend to decrease. This negative correlation between cluster assignment and indicator values suggests that, as universities are grouped into clusters with lower mean values, diminishes. Regarding the strength of the correlation, certain indicators, such as focus, academic and employer reputation, citations per faculty, and international faculty and student ratios, showcase a strong correlation with cluster assignments. These indicators likely experience a considerable decrease when universities are assigned to clusters with lower mean values.

Table 6. Correlation of indicators and university cluster assignments for seven clusters without weights.

	Size	Focus	Age	ar	er	fsr	cpf	ifr	isr
Cluster	-0.14	-0.45	-0.2	-0.62	-0.52	-0.37	-0.54	-0.66	-0.57

4.2. Clustering without Weights for 24 Clusters

The clustering results for 24 clusters and nine indicators without weights are shown in Figures 5 and 6. According to Table 7, the Rand Index between every pair of algorithms has significantly increased and the results are now closer to QS. As the number of clusters

increases, there are more possible ways to assign universities to clusters. Consequently, the probability of random agreement between two clustering results also increases. Since the Rand Index considers both the number of agreements and disagreements, it tends to increase with the number of clusters.

Moreover, Table 8 presents the cluster sizes, while Table 9 lists the differentiation between cluster members of Agglomerative and QS clusters for 24 clusters without weights.



Figure 5. Visualization for 24 clusters without weights. (a) K-Means, (b) GMM, (c) Agglomerative, and (d) Fuzzy C-Means.



Figure 6. Agglomerative for 24 clusters without weights.

	KM	GMM	Agg	Fuzzy	QS
KM	1				
GMM	0.895197	1			
Agg	0.939602	0.897548	1		
Fuzzy	0.898327	0.848678	0.885155	1	
QS	0.90274	0.872009	0.90325	0.832328	1

Table 7. Rand Index for 24 clusters without weights.

Table 8. Cluster sizes for 24 clusters without weights.

	1	2	3	4	5	6	7	8	9	10	11	12
	28	34	17	21	24	29	70	30	41	62	24	47
KM	13	14	15	16	17	18	19	20	21	22	23	24
	42	37	79	60	31	154	37	111	70	100	91	69
	11	8	23	19	196	22	11	11	20	132	37	59
GMM	13	14	15	16	17	18	19	20	21	22	23	24
	33	24	165	80	28	42	28	91	73	69	49	77
	24	19	56	24	48	65	36	30	27	22	44	37
Agg	13	14	15	16	17	18	19	20	21	22	23	24
	33	32	47	57	95	88	42	31	125	120	132	74
	42	62	49	16	3	55	92	34	109	67	4	130
Fuzzy	13	14	15	16	17	18	19	20	21	22	23	24
	1	3	2	2	1	2	258	1	1	2	121	251

Table 9. Differentiation between cluster members of Agglomerative and QS clusters for 24 clusters without weights.

Cluster	1	2	3	4	5	6	7	8	9	10	11	12
	8	12	33	22	40	49	33	26	26	21	41	37
CD	13	14	15	16	17	18	19	20	21	22	23	24
	31	30	43	54	84	75	37	31	106	97	100	65

4.3. Clustering with Weights for Seven Clusters

The clustering results for seven clusters and nine indicators multiplied with weights are shown in Figure 7. The academic reputation indicator carries the highest weight as it exerts the most substantial correlation on the other indicators. In the university categorization process, the size, age, and focus indicators have each been assigned a weight of 0.1. This assignment reflects the fact that these indicators were not considered by the QS in their university rankings. The initial weight values for the faculty-to-student ratio (fsr) and citations per faculty (cpf) indicators were set at half the weight of the academic reputation indicator. By assigning a weight of 0.125, we have maintained this initial proportion. To avoid bias against universities that may not admit or have the legal capacity to accept foreign students or faculty, the international student and faculty ratio indicators were assigned smaller weight values.

The Rand Index (Table 10) between the weighted clustering, utilizing nine indicators multiplied by weights, and the unweighted clustering shows a relatively modest change. Specifically, we observe a slight increase in the similarity between the Fuzzy C-Means algorithm and Agglomerative, which results in an improvement in the similarity between Agglomerative and QS. K-Means exhibits a higher similarity with QS.



Figure 7. Visualization for seven clusters and nine indicators multiplied with weights. (**a**) K-Means, (**b**) GMM, (**c**) Agglomerative, and (**d**) Fuzzy C-Means.

	KM	GMM	Agg	Fuzzy	QS
KM	1				
GMM	0.75669	1			
Agg	0.843652	0.721143	1		
Fuzzy	0.823669	0.733421	0.774022	1	
QS	0.783811	0.769252	0.739359	0.7783	1

Table 10. Rand Index for seven clusters with weights [27].

In terms of the configuration and size of the clusters (Table 11), the graphs reveal that clusters generated by the K-Means, Agglomerative, and Fuzzy C-Means algorithms are more distinctly separated in the weighted approach, making it easier to discern the distribution of universities. However, this improvement does not extend to the GMM algorithm, in which clusters remain mixed. The differentiation between cluster members of K-Means and QS clusters for seven clusters with weights is presented in Table 12 and visualized in Figure 8. The indicators and their corresponding weights are shown in Table 13.

Table 11. Cluster sizes for seven clusters with weights.

	1	2	3	4	5	6	7
KM	85	152	162	166	312	202	229
GMM	30	350	136	189	162	219	222
Agg	77	138	29	117	211	422	314
Fuzzy	78	138	236	193	1	242	420



Figure 8. K-Means for seven clusters with weights.

Table 12. Differentiation between cluster members of K-Means and QS clusters for seven clusters with weights.

Cluster	1	2	3	4	5	6	7
CD	9	53	98	107	216	144	171

Table 13. Weights for the nine indicators. Reprinted with permission from Ref. [27].

Size	Age	Focus	ar	er	fsr	cpf	ifr	isr
0.1	0.1	0.1	0.25	0.1	0.125	0.125	0.05	0.05

Table 14 shows the correlation of the indicators with the cluster assignments using the weights specified in Table 13. The correlations of the size and age indicators have notably increased compared to their correlations in Table 6, when weights were not considered. Additionally, the correlations of the academic reputation, employer reputation, and faculty/student ratio indicators have shown an increase. This suggests that, as the cluster assignment increases, the indicator values now decrease to a greater extent than before, when weights were not applied. However, the correlation of the citations per faculty indicator remains unchanged, while the correlation of the international faculty and student ratio indicators has decreased in relation to the cluster assignment.

Table 14. Correlation of indicators and university cluster assignments for seven clusters with weights.

	Size	Focus	Age	ar	er	fsr	cpf	ifr	isr
Cluster	-0.27	-0.45	-0.45	-0.75	-0.59	-0.44	-0.54	-0.34	-0.35

4.4. Clustering with Weights for 24 Clusters

In the case of clustering with 24 clusters in Figure 9, there are no noteworthy observations regarding the K-Means and Agglomerative methods. In the case of Fuzzy C-Means, it is notable that results are provided for only 20 clusters (Table 15). This is due to the presence of four clusters with zero universities. This is not surprising, given that there are already two clusters that have only one university. The specific identity of these clusters with zero universities does not carry particular significance, as universities are generally assigned to a cluster before the calculation of cluster means. The calculation of the mean value of each cluster is the key determinant of a cluster's significance, and, in this context, clusters with zero universities are excluded from that process.

The differentiation between cluster members of K-Means and QS clusters for 24 clusters with weights is presented in Table 16 and visualized in Figure 10. Finally, according to Table 17, K-Means demonstrates a higher similarity with QS for 24 clusters with weights.



Figure 9. Visualization for 24 clusters with weights. (**a**) K-Means, (**b**) GMM, (**c**) Agglomerative, and (**d**) Fuzzy C-Means.

	1	2	3	4	5	6	7	8	9	10	11	12
	40	38	28	48	23	23	44	53	35	41	33	56
KM	13	14	15	16	17	18	19	20	21	22	23	24
	34	68	80	59	53	38	133	81	96	38	94	72
	17	8	8	10	140	34	136	19	18	43	31	16
GMM	13	14	15	16	17	18	19	20	21	22	23	24
	101	25	39	70	147	27	114	35	60	40	143	27
	38	14	25	44	7	38	56	22	57	35	42	60
Agg	13	14	15	16	17	18	19	20	21	22	23	24
	82	39	58	131	39	64	48	56	60	138	68	87
	28	27	24	39	43	27	38	82	121	98	92	1
Fuzzy	13	14	15	16	17	18	19	20	21	22	23	24
	76	15	12	23	262	1	2	297	0	0	0	0

Table 15. Cluster sizes for 24 clusters with weights.

Cluster	1	2	3	4	5	6	7	8	9	10	11	12
	4	18	21	30	19	22	32	38	31	33	28	45
CD	13	14	15	16	17	18	19	20	21	22	23	24
	31	64	66	51	47	37	119	72	69	38	67	63

Table 16. Differentiation between cluster members of K-Means and QS clusters for 24 clusters with weights.



Figure 10. K-Means for 24 clusters with weights.

Table 17. Rand Index for 24 clusters with weights.

	KM	GMM	Agg	Fuzzy	QS
KM	1				
GMM	0.904505	1			
Agg	0.938935	0.907833	1		
Fuzzy	0.879995	0.847311	0.873114	1	
QS	0.916053	0.882512	0.908657	0.845611	1

4.5. Discussion

Among the methods tested, Fuzzy C-Means emerged as the most promising method for seven clusters without weights, exhibiting the highest Rand Index (RI). We decided to opt for seven clusters over 24 clusters due to interpretability considerations, as fewer clusters are easier to interpret. Additionally, clustering methods with weights were not chosen as promising methods due to their arbitrary nature. Although the QS ranking system has established predetermined weights for its indicators, there are numerous ways to adjust these weights while maintaining their original ratio. This highlights the importance of selecting appropriate clustering methods and cluster numbers based on both performance metrics and interpretability requirements.

This study's primary insight lies in revealing the positioning of universities into clusters, as explicitly outlined in Table A1. Interestingly, despite being expected to reside within the same cluster according to the QS ranking, some universities are instead placed in a distant cluster, characterized by a significantly different cluster mean. This understanding

underscores that these universities exhibit greater similarity to the universities within their current cluster than to those they were expected to be grouped with according to the QS ranking. This information can aid universities in assessing their performance by offering a different perspective on their rankings.

While the current study has provided valuable insights into clustering universities, it is important to acknowledge its limitations. A significant limitation lies in the use of only nine indicators. With a broader range of indicators, we could obtain more accurate and comprehensive data results. Another limitation arises from the time-dependent nature of university rankings. QS publishes university rankings annually, potentially assigning different ranks to individual universities, and different weights to the indicators each year. Consequently, the clustering process must be conducted every year. Finally, a limitation is related to the visualization of the data and, more precisely, the case where different universities seem to overlap across different clusters. This is because of the transition from nine to two dimensions.

5. Conclusions

Rankings offer a clear and straightforward way to compare universities, while clustering provides a more nuanced understanding of the diversity and similarities within the higher education landscape. Instead of a strict numerical ranking, clustering provides a more comprehensive view by highlighting similarities and differences between groups of universities, allowing for better comparisons and assessments. Clustering analysis introduces a dynamic aspect to rankings, highlighting that institutions can move between clusters based on their performance over time. Moreover, grouping universities may impact their reputation positively or negatively, depending on the cluster they belong to. Institutions in higher-ranked clusters may experience an improvement in their global reputation, attracting more students, faculty, and research collaborations.

In this article, we conducted a thorough analysis of university ranking data and concluded that clustering methods can be applied to group institutions with similar characteristics and provide a ranking between different groups. The latter is achieved by ordering clusters based on the performance of institutions within them. When examining the distribution of institutions within each cluster, discernible differences emerged among clusters generated through different algorithms, varied cluster numbers, or the inclusion of adjusted weights, as opposed to those formed without incorporating weights. Moreover, a comprehensive analysis of the features utilized in the clustering analysis revealed the degree of correlation and importance of each feature in assessing an institution's performance. Overall, creating a hierarchical ranking that ranks universities from best to worst or relying on a narrow set of indicators to assess an institution's performance may restrict the richness of results. Alternatively, leveraging clustering methods allows us to overcome these limitations and achieve a more nuanced understanding.

Table A1 illustrates the distribution of universities across clusters based on their profile similarities. It demonstrates that our method groups institutions not by their ordinal rankings, but by their shared attributes and challenges, enhancing the comprehension of what constitutes institutional excellence beyond mere numerical ranking. The consistency in cluster membership, as shown in Table A1, provides empirical evidence that our clustering approach enables a deeper and more stable understanding of universities' characteristics, aligning with our goal of facilitating peer learning among similarly profiled institutions.

Opportunities for future research abound in refining and expanding upon the current study's findings. One avenue for exploration involves further refinement of distance functions used in assessing university similarity or proximity, with a focus on tailoring these functions to better capture nuances in university performance. Moreover, future research could delve into the exploration of additional indicators and weights influencing university clustering, such as geographical location, academic disciplines, or institutional characteristics. To enrich the clustering process, we might consider incorporating supplementary indicators from alternative sources or organizations. By integrating these elements into

the clustering framework, researchers can gain deeper insights into the complex dynamics of university groupings and their implications for various stakeholders in the higher education landscape. A more comprehensive analysis could extend beyond our clustering process to delve into the question of which indicators and their corresponding values lead certain universities to be grouped into clusters with means different from those anticipated based on QS rankings. Moving forward, we intend to consider the implications of the Variance Inflation Factor (VIF) more thoroughly in future work, exploring methods to integrate this important aspect of data pre-processing. This will enable us to refine our model further and enhance the interpretability and validity of our findings.

Author Contributions: Conceptualization, N.D. and P.K.; methodology, N.D., P.K., and G.M.; software, G.M.; validation, G.M.; formal analysis, G.M., N.D., and P.K.; investigation, G.M. and N.D.; resources, G.M.; data curation, G.M.; writing—original draft preparation, G.M., P.K., and N.D.; writing—review and editing, N.D., P.K., and G.M.; visualization, G.M.; supervision, N.D. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: https://www.topuniversities.com/world-university-rankings/2023 (accessed on 5 January 2024).

Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A

Table A1. The table presents the universities grouped by cluster for each clustering algorithm alongside their corresponding QS cluster without using weights. Within the table, the QS columns represent the cluster assignment based on the QS clustering method, while the remaining columns denote the cluster assignments according to the Fuzzy C-Means, K-Means, GMM, and Agglomerative clustering methods.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Massachusetts Institute of Technology (MIT)	1	1	1	1	1	1	2	1	1
University of Cambridge	2	1	1	1	1	1	1	1	1
Stanford University	3	1	1	1	1	1	1	1	1
University of Oxford	4	1	1	1	1	1	1	1	1
Harvard University	5	1	1	1	1	1	1	1	1
California Institute of Technology (Caltech)	6=	1	1	1	1	1	2	1	1
Imperial College London	6=	1	1	1	1	1	1	1	1
UĈL	8	1	1	1	1	1	1	1	1
ETH Zurich—Swiss Federal Institute of Technology	9	1	1	1	1	1	2	1	1
University of Chicago	10	1	1	1	1	1	1	1	1
National University of Singapore (NUS)	11	1	1	1	1	1	1	1	1
Peking University	12	1	1	1	1	1	1	1	1
University of Pennsylvania	13	1	1	1	1	1	1	1	1
Tsinghua University	14	1	1	1	2	1	1	1	1
The University of Edinburgh	15	1	1	1	1	1	1	1	1
EPFL	16=	1	1	1	1	1	2	1	1
Princeton University	16=	1	1	1	1	1	2	1	1
Yale University	18	1	1	1	1	1	1	1	1
"Nanyang Technological University, Singapore (NTU)"	19	1	1	1	1	1	1	1	1
Cornell University	20	1	1	1	1	1	1	1	1
The University of Hong Kong	21	1	1	1	1	1	1	1	1
Columbia University	22	1	1	1	1	1	1	1	2
The University of Tokyo	23	1	1	1	2	1	1	1	1
Johns Hopkins University	24	1	1	1	1	1	1	1	1
University of Michigan-Ann Arbor	25	1	1	1	2	1	1	1	1
Université PSL	26	1	1	1	1	1	2	1	1
"University of California, Berkeley (UCB)"	27	1	1	1	1	1	1	1	1

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
The University of Manchester	28	1	1	1	1	1	1	1	1
Seoul National University	29	1	1	1	2	1	1	1	1
The Australian National University	30	1	1	1	1	1	1	1	1
McGill University	31	1	1	1	1	1	1	1	1
The University	32	1	1	1	2	1	1	1	1
Fudan University of Melbourne	33 24-	1	1	1	1	1	1	1	1
Luniversity of Terente	34= 24-	1	1	1	1	1	1	1	1
Kyoto University	34- 36	1	1	1	2	1	1	1	1
King's College London	37	1	1	1	1	1	1	1	1
The Chinese University of Hong Kong (CUHK)	38	1	1	1	1	1	1	1	1
New York University (NYU)	39	1	1	1	2	1	1	1	2
The Hong Kong University of Science and Technology	40	1	1	1	1	1	2	1	1
The University of Sydney	41	1	1	1	1	1	1	1	1
KAIST—Korea Advanced Institute of Science & Technology	42=	1	1	1	2	1	2	1	1
Zhejiang University	42=	1	1	1	1	1	1	1	1
"University of California, Los Angeles (UCLA)"	44	1	1	1	2	1	1	1	1
The University of New South Wales (UNSW Sydney)	45	1	1	1	1	1	1	1	1
Shanghai Jiao Tong University	46	1	1	1	2	1	1	1	1
University of British Columbia	47	1	1	1	1	1	1	1	1
Institut Polytechnique de Paris	48	1	1	1	1	1	2	1	1
Technical University of Munich	49	1	1	1	1	1	2	1	2
Duke University	50=	1	1	1	2	1	1	1	2
The University of Queensland	50=	1	1	1	1	1	1	1	1
Carnegie Mellon University	52	1	1	1	1	1	1	1	1
"University of California, San Diego (UCSD)"	53	1	1	1	1	1	1	1	1
City University of Hong Kong	54	1	1	1	1	1	2	1	1
Tokyo Institute of Technology (Tokyo Tech)	55	1	1	1	2	1	2	1	1
The London School of Economics and Political Science (LSE)	56	1	1	1	1	1	2	1	1
Monash University	57	1	1	1	1	1	1	1	1
University of Amsterdam	58 50	1	1	1	1	1	1	1	1
Sorbonno University	59 60	1	1	1	2	1	1	1	4
Delft University of Technology	61-	1	1	1	1	1	2	1	- 1
University of Bristol	61=	1	1	1	1	1	1	1	1
Brown University	63	1	1	1	1	1	1	1	2
The University of Warwick	64	1	1	1	1	1	1	1	1
Ruprecht-Karls-Universität Heidelberg	65=	1	1	1	2	1	1	1	2
The Hong Kong Polytechnic University	65=	1	1	1	1	1	2	1	1
Universidad de Buenos Aires (UBA)	67	1	1	1	2	1	1	1	2
Osaka University	68	1	1	1	2	1	1	1	1
Université Paris-Saclay	69	1	1	1	2	1	2	1	1
Universiti Malaya (UM)	70	1	1	1	2	1	1	1	2
Pohang University of Science And Technology (POSTECH)	71	1	3	1	2	1	2	1	4
University of Texas at Austin	72	1	1	1	2	1	1	1	2
Yonsei University	73	1	1	1	2	1	1	1	2
Korea University	74	1	1	1	2	1	1	1	2
Lomonosov Moscow State University	75	1	1	1	2	1	1	1	2
KU Leuven	76	1	1	1	1	1	1	1	1
National Taiwan University (NTU)	77	1	1	1	2	1	1	1	2
University of Southampton	78	1	1	1	1	1	1	1	1
Tohoku University	79	1	3	1	2	1	1	1	2
University of Washington	80	1	1	1	2	1	1	1	2
University of Glasgow	81	1	1	1	1	1	1	1	1
University of Copenhagen	82	1	1	1	2	1	1	1	2
University of Wisconsin-Wadison	83=	1	1	1	۲ 1	1	1	1	2
University of Illinois at Urbana Champaign	05= 85	1	1	1	1	1	1	1	2
University of Lorda	85	1	1	1	2 1	1	1	1	2 1
The University of Auckland	00 97	1	1	1	1	1	1	1	1
Georgia Institute of Technology	07 88	1	1	1 1	1	1 1	2	1 1	1
KTH Royal Institute of Technology	80 80	1	1	1 1	1	1 1	∠ 2	1 1	2
The University of Western Australia	07 Q()	1	1	1 1	1	1 1	∠ 1	1 1	∠ 1
Inversity of Birmingham	90 Q1	1	1	1 1	1	1 1	1	1 1	1
	02	1	1	1	1	1	1	1	1
Durham University									
Durham University Pennsylvania State University	92	1	1	1	2	1	1	1	2

Table A1. Cont.

Jund University 95 1 <th1< th=""> 1 1</th1<>	University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
The University of Sheffield 96= 1 <th1< td=""><td>Lund University</td><td>95</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></th1<>	Lund University	95	1	1	1	1	1	1	1	1
University of Landerson9e111<	The University of Sheffield	96=	1	1	1	1	1	1	1	1
"Inity Callege Dablin, The University of Dablin"98111 <th1< th="">11111<!--</td--><td>University of St Andrews</td><td>96=</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></th1<>	University of St Andrews	96=	1	1	1	1	1	1	1	1
Sunpticulaxian University (SKU) ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< ''< <th''<< th=""> ''< ''<</th''<<>	"Trinity College Dublin, The University of Dublin"	98	1	1	1	1	1	1	1	1
Back University of Oolo 10 1 </td <td>Sungkyunkwan University (SKKU)</td> <td>99</td> <td>1</td> <td>3</td> <td>1</td> <td>2</td> <td>1</td> <td>1</td> <td>1</td> <td>2</td>	Sungkyunkwan University (SKKU)	99	1	3	1	2	1	1	1	2
University of Calo 101 1	Rice University	100	1	1	1	1	1	1	2	1
"University of California Davis"102=1111121Technical University of Demmark104=1111122Conversided Ancienal Automark104=1111122Conversided Ancienal Automark106=1111122Enverside Ancienal Automark106=11111122Enverside Ancienal Automark100=11111122Enverside Albeha1001111111222Enverside Albeha100111111222112221122211222112221122211222112221122211222112221122211222112221122211222112211222112221122111	University of Oslo	101	1	1	1	1	1	1	2	2
"Universidy of North Canolina, Chapel Hill"102=13111 <td>"University of California, Davis"</td> <td>102=</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>2</td> <td>1</td>	"University of California, Davis"	102=	1	1	1	1	1	1	2	1
Technical University OPC 104= 1	"University of North Carolina, Chapel Hill"	102=	1	3	1	2	1	1	2	2
Universidad Nacional Auctionana de Micoia (UNAM) 104= 1	Technical University of Denmark	104=	1	1	1	1	1	2	2	2
King Abdubizi University (KAU) 106= 1	Universidad Nacional Autónoma de México (UNAM)	104=	1	3	1	2	1	1	2	2
University of Adelaide 108 1 </td <td>King Abdulaziz University (KAU)</td> <td>106=</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td>	King Abdulaziz University (KAU)	106=	1	1	1	1	1	1	2	2
Bosion University of Adelaide 109 1	University of Helsinki	106=	1	1	1	2	1	2	2	2
The University of Adelaide 199 1 <td< td=""><td>Boston University</td><td>108</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td></td<>	Boston University	108	1	1	1	1	1	1	2	1
University of Alberta 110 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 2 1 1 1 2 1 <td>The University of Adelaide</td> <td>109</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>2</td> <td>1</td>	The University of Adelaide	109	1	1	1	1	1	1	2	1
Ecole Normale Superieure de Lyon 111 1 1 1 1 1 1 1 2 1 1 2 2 1 Nagoya University Nottingham 112 1 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 2 1 1 1 2 2 2 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1	University of Alberta	110	1	1	1	1	1	1	2	1
Nagong Liniversity112=11221122112211221122112211221112211122111 <th1< th="">111111</th1<>	École Normale Supérieure de Lyon	111	1	1	1	4	1	2	2	4
Utrective Nothingham 112- 1 1 2 4 1 1 2 4 1 1 2 4 1 1 2 4 1 1 2 4 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 2 1 1 2 2 2 2 2 2 1 1 2 1 1 2 1 1 2 1 1 2 2 2 2 2 2 1 1 2 2 2 2 2 2 1 1 2 2 2 <td>Nagoya University</td> <td>112=</td> <td>1</td> <td>3</td> <td>1</td> <td>2</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td>	Nagoya University	112=	1	3	1	2	1	1	2	2
University of Nottingham 114 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 Aalto University de Montréal 116– 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 2 1 1 2 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 </td <td>Utrecht University</td> <td>112=</td> <td>1</td> <td>1</td> <td>2</td> <td>4</td> <td>1</td> <td>1</td> <td>2</td> <td>4</td>	Utrecht University	112=	1	1	2	4	1	1	2	4
Universidade de São Paulo 115 1 3 2 2 1 1 2 2 3 Universide de Montréal 116- 1 1 2 2 1 1 2 2 3 Universide de Montréal 118- 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 2 1 1 2 2 2 1 1 1 2 2 2 1 1 1 2 2 2 1 1 1 2 2 2 1 1 1 2 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 <td< td=""><td>University of Nottingham</td><td>114</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td></td<>	University of Nottingham	114	1	1	2	1	1	1	2	1
Aalto University 116- 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 2 1 1 1 2 2 1 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 1 1 1 1 1	Universidade de São Paulo	115	1	3	2	2	1	1	2	2
University de Montréal 116- 1 1 2 1 1 1 2 2 Washington Universitiste Berlin 118- 1 1 2 2 1 1 1 2 2 Pontificia University OBern 120 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 <td>Aalto University</td> <td>116=</td> <td>1</td> <td>2</td> <td>2</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td> <td>3</td>	Aalto University	116=	1	2	2	1	1	2	2	3
Preie University of SL Louis 118- 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2	Université de Montréal	116=	1	1	2	1	1	1	2	2
Washington University in St. Louis 118–1 1 2 1 1 1 2 2 Pontificia University of Bern 120 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 2 2 1 1 2 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1	Freie Universitaet Berlin	118=	1	1	2	2	1	1	2	2
University of Bern 120 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 1 2 2 1 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1	Washington University in St. Louis	118=	1	1	2	1	1	1	2	2
Pontificia Universidad Catolica de Chile (UC) 121 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 2 Wageningen University Research 125= 1 1 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 1 1 2 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 <	University of Bern	120	1	2	2	1	1	2	2	2
Newcastle University 122 1 1 2 1 1 2 1 1 2 1 University of Research 124 1 3 2 5 1 2 2 2 Queen Mary University of London 125= 1 1 2 1 1 2 1 1 2 2 2 Queen Mary University of London 125= 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 2 1 1 2 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1	Pontificia Universidad Católica de Chile (UC)	121	1	1	2	2	1	1	2	2
University Kasesarch 124 1 2 2 1 1 2 2 Chalmers University Kasesarch 125= 1 2 1 1 2 2 Queen Mary University of London 125= 1 1 2 1 1 2 1 University of Geneva 125= 1 1 2 1 1 2 1 University of Geneva 129= 1 1 2 1 1 2 2 University of Concerva 129= 1 1 2 2 1 1 2 2 Humboldt-University Berlin 131= 1 2 2 1 1 2 2 Leiden University of Southern California 134 1 2 2 1 1 2 2 University of Technology Sydney 136 1 2 1 1 2 2 1 University of Technology Sydney 136 1 2 1 1 2 2 1 Indenkoro	Newcastle University	122	1	1	2	1	1	1	2	1
Wageningen University & Research 124 1 3 2 5 1 2 2 2 Chalmers University of London 125= 1 1 2 1 1 2 1 University of Geneva 125= 1 1 2 1 1 2 1 Uppsala University 128 1 2 2 1 1 2 2 University Kebangsaan Malaysia (UKM) 129= 1 3 2 2 1 1 2 2 Humboldt-University Kebangsaan Malaysia (UKM) 129= 1 1 2 1 1 2 2 Leiden University 131= 1 1 2 1 1 2 1 Naning University 133 1 2 2 1 1 2 1 University of Southern California 134 1 2 2 1 1 2 2 1 University of Technology 136 1 2 2 1 1 2	Universiti Putra Malaysia (UPM)	123	1	1	2	2	1	1	2	2
Chalmers University of lechnology 125 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1	Wageningen University & Research	124	1	3	2	5	1	2	2	2
Queen Mary University of London 125= 1 1 2 1 1 2 1 Upiversity of Geneva 128 1 1 2 1 1 2 1 Purdue University 129= 1 2 2 1 1 2 2 Humboldt-Universiti Kebangsaan Malaysia (UKM) 129= 1 2 2 1 1 2 2 Humboldt-Universiti Kebangsaan Malaysia (UKM) 131= 1 1 2 2 1 1 2 2 Leiden University 133 1 1 2 2 1 1 2 2 1 Kyushu University 135 1 3 2 2 1 1 2 2 University of Technology Sydney 137 1 2 2 1 1 2 2 1 Hohoven University of Technology Sydney 138 1 2 2 1 1 2 2 1 Hokaido University 1440 2 1 2<	Chalmers University of Technology	125=	1	1	2	1	1	2	2	2
University of Geneva 12 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1	Queen Mary University of London	125=	1	1	2	1	1	1	2	1
Uppeaka University 129 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 2 2 1 1 1 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1	University of Geneva	125=	1	1	2	1	1	1	2	1
Puriversity 129= 1 1 2 2 1 1 2 2 Humboldt-University zu Berlin 131= 1 1 2 2 1 1 2 2 Leiden University 131= 1 1 2 1 1 2 2 Leiden University 133 1 1 2 1 1 2 1 Nanjing University 133 1 1 2 1 1 2 1 Kyushu University of Southern California 134 1 1 2 1 1 2 2 1 University of Technology Sydney 135 1 3 2 2 1 1 2 2 1 University of Technology 141a 3 2 2 1 1 2 2 1 The Ohio State University 141= 2 3 2 2 1 1 2 2 1 University of Groningen 143= 1 2 1	Uppsala University	128	1	1	2	1	1	1	2	1
Differentiate debangsant Malaysia (UKM) 12 ⁹ 1 3 2 2 1 1 2 2 Humboldt University 131= 1 1 2 2 1 1 2 2 Nanjing University 131= 1 1 2 4 1 1 2 4 University of Southern California 134 1 1 2 1 1 2 1 Kyushu University of Southern California 135 1 3 2 2 1 1 2 2 University of Technology Sydney 137 1 2 2 1 1 2 2 1 Politecnico di Milano 138 1 2 2 1 1 2 2 1 The Ohio State University 140 2 1 2 2 1 1 2 2 1 Ghent University 143= 2 3 2 2 1 1 2 1 University of Groningen 145	Purdue University	129=	1	1	2	2	1	1	2	2
Humbolic University 131= 1 1 2 2 1 1 2 2 Nanjing University 133 1 1 2 4 1 2 4 University of Southern California 134 1 1 2 1 1 2 2 University of Southern California 135 1 3 2 2 1 1 2 2 University of Technology Sydney 136 1 1 2 1 1 2 2 3 Eindhoven University of Technology 138 1 2 2 1 1 2 2 1 1 2 2 1 The Ohio State University 140 2 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2	Universiti Kebangsaan Malaysia (UKM)	129=	1	3	2	2	1	1	2	2
Leiter University13111 <th1< th="">11111<!--</td--><td>Humboldt-Universität zu Berlin</td><td>131=</td><td>1</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>2</td><td>2</td></th1<>	Humboldt-Universität zu Berlin	131=	1	1	2	2	1	1	2	2
Naming University 133 1 1 2 4 1 2 4 University of Southern California 134 1 1 2 1 1 2 2 University of Southern California 135 1 3 2 2 1 1 2 2 University of Technology Sydney 137 1 2 2 1 1 2 2 1 University of Technology Sydney 138 1 2 2 1 1 2 2 1 The Ohio State University 140 2 1 1 2 2 1 1 2 2 1 Ghent University 141= 2 3 2 2 1 1 2 2 1 University of Groningen 143= 2 1 2 1 1 2 2 1 Lancaster University 146 2 2 1 1 1 2 2 1 1 2 2 1 1	Nanjing University	131=	1	1	2	1	1	1	2	1
Differsity of bother California19411111111211112111121111211112111121111211112111121111211111211112111121111211112111121112211112111211112111121112111121111211121112111 <th1< th="">111<th< td=""><td>Indigiting University University of Southern California</td><td>133</td><td>1</td><td>1</td><td>2</td><td>1 1</td><td>1</td><td>1</td><td>2</td><td>4 1</td></th<></th1<>	Indigiting University University of Southern California	133	1	1	2	1 1	1	1	2	4 1
Number133132211221University of Basel13611211121University of Technology Sydney13712211223Eindhoven University of Technology138122112221Politecnico di Milano1392122112221The Ohio State University140212211221Hokkaido University141=232211222Hokkaido University143=232211222Universiti Sains Malaysia (USM)143=23221121University of Groningen14521211121RWTH Aachen University147=21211121University of Califonia, Santa Barbara (UCSB)"147=2121122University of Vienna15121211221University of Vienna15121211221University of Waterloo15422211	Viliversity of Southern California	134	1	1	2	1	1	1	2	1
Difference10011 <th< td=""><td>Lupivoreity of Basel</td><td>135</td><td>1</td><td>1</td><td>2</td><td>2 1</td><td>1</td><td>1</td><td>2</td><td>ے 1</td></th<>	Lupivoreity of Basel	135	1	1	2	2 1	1	1	2	ے 1
Diriciting of reducing of yound of the second of the se	University of Technology Sydney	137	1	2	2	1	1	2	2	3
Initiation of the function of y13011 <th1< th="">111<th< td=""><td>Findhoven University of Technology</td><td>138</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>2</td><td>2</td><td>2</td></th<></th1<>	Findhoven University of Technology	138	1	2	2	1	1	2	2	2
The Ohio State University160212211221122112211221122112221112211221112211122111221112211122111221111211121111211121112111211112111111111111 <td>Politecnico di Milano</td> <td>139</td> <td>2</td> <td>1</td> <td>2</td> <td>2</td> <td>1</td> <td>2</td> <td>2</td> <td>1</td>	Politecnico di Milano	139	2	1	2	2	1	2	2	1
Hockaido University14021221122"KIT, Karlsruhe Institute of Technology"141=21211221Ghent University143=212211221University of Groningen143=23221122Lancaster University1462221121RWTH Aachen University147=2121121University of Rochester147=2121122"University of California, Santa Barbara (UCSB)"1492224122University of Vienna151212112121McMaster University150232211222University of Vienna15121211222University153222312221University of Waterloo154223221122Indian Institute of Science155=23221122Indian Institute of Science15723221122Indian I	The Obio State University	140	2	1	2	2	1	1	2	2
"KIT, Karlsruhe Institute of Technology" 141= 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 1 2 2 1	Hokkaido University	141=	2	3	2	2	1	1	2	2
Chent University143=21111222111222Universiti Sains Malaysia (USM)143=232211122University of Groningen14521211121Lancaster University14622211121RWTH Aachen University147=21211121University of California, Santa Barbara (UCSB)"147=21211122"University of California, Santa Barbara (UCSB)"14922241222University of Vienna15023221122University of Vienna1512121122University of Waterloo1532221122University of Waterloo1542221122Indian Institute of Science155=23221122Indian Institute of Science155=23221122Indian Institute of Science155=23221122Indian Institute of Science155=232<	"KIT Karlsruhe Institute of Technology"	141=	2	1	2	1	1	2	2	1
Universiti Sains Malaysia (USM)143=23221122University of Groningen14521211121Lancaster University14622211121RWTH Aachen University147=21211121University of Rochester147=21211122"University of California, Santa Barbara (UCSB)"1492224122McMaster University15023221121McMaster University of Vienna1512121122McMaster University1522121122Stockholm University1532221122University of Waterloo1542221122Indian Institute of Science155=23221122Indian Institute of Science15723221122Michigan State University158212221122Michigan State University of Petroleum & Minerals16021231122	Ghent University	143=	2	1	2	2	1	1	2	2
University of Groningen14521211121Lancaster University14622211121RWTH Aachen University147=21211121University of Rochester147=21211122"University of California, Santa Barbara (UCSB)"1492224122"University of Vienna15023221122University of Vienna15121211122McMaster University15221211122Stockholm University15322211221University of Waterloo15422211222Indian Institute of Science155=23221122Indian Institute of Science15723221122Michigan State University1582122221122King Fahd University of Petroleum & Minerals16021231122	Universiti Sains Malaysia (USM)	143=	2	3	2	2	1	1	2	2
Lancaster University14622211121RWTH Aachen University147=21211121University of Rochester147=21211122"University of California, Santa Barbara (UCSB)"14922241224Al-Farabi Kazakh National University15023221122University of Vienna15121211122University of Vienna15221211122McMaster University15322231221University of Waterloo15422211221University155=232211222Indian Institute of Science155=23221122Hanyang University157232211222Michigan State University of Petroleum & Minerals16021231122	University of Groningen	145	2	1	2	1	1	1	2	1
RWTH Aachen University147=21211121University of Rochester147=21211122"University of California, Santa Barbara (UCSB)"14922241224Al-Farabi Kazakh National University15023221122University of Vienna15121211122McMaster University15221211122Stockholm University15322211221University of Waterloo15422211221Indian Institute of Science155=23221122Hanyang University15723221122Technische Universität Berlin (TU Berlin)15821221122Michigan State University of Petroleum & Minerals16021231122	Lancaster University	146	2	2	2	1	1	1	2	1
University of Rochester147=21211122"University of California, Santa Barbara (UCSB)"14922241224Al-Farabi Kazakh National University15023221122University of Vienna15121211122McMaster University15221211122Stockholm University15322211221University of Waterloo15422211223Emory University155=23241223Indian Institute of Science155=23241222Hanyang University15723221122Technische Universität Berlin (TU Berlin)1582122222Michigan State University of Petroleum & Minerals16021231122	RWTH Aachen University	147=	2	1	2	1	1	1	2	1
"University of California, Santa Barbara (UCSB)"14922241224Al-Farabi Kazakh National University15023221122University of Vienna151212111221McMaster University152212111222Stockholm University15322231221University of Waterloo15422211223Emory University155=232511222Indian Institute of Science155=232211224Hanyang University157232211222Technische Universität Berlin (TU Berlin)158212221122Michigan State University of Petroleum & Minerals16021231122	University of Rochester	147=	2	1	2	1	1	1	2	2
Al-Farabi Kazakh National University15023221122University of Vienna15121211121McMaster University15221211122Stockholm University15322231221University of Waterloo15422211223Emory University155=232511222Indian Institute of Science155=232211224Hanyang University157232211222Technische Universität Berlin (TU Berlin)15821221122Michigan State University of Petroleum & Minerals16021231122	"University of California, Santa Barbara (UCSB)"	149	2	2	2	4	1	2	2	4
University of Vienna1512121121McMaster University15221211122Stockholm University15322231221University of Waterloo15422211223Emory University155=232511222Indian Institute of Science155=232211224Hanyang University157232211222Technische Universität Berlin (TU Berlin)15821221122Michigan State University of Petroleum & Minerals16021231122	Al-Farabi Kazakh National University	150	2	3	2	2	1	1	2	2
McMaster University15221211122Stockholm University15322231221University of Waterloo15422211223Emory University155=232511222Indian Institute of Science155=23241224Hanyang University15723221122Technische Universität Berlin (TU Berlin)1582122122Michigan State University of Petroleum & Minerals16021231122	University of Vienna	151	2	1	2	1	1	1	2	1
Stockholm University15322231221University of Waterloo15422211223Emory University155=232511222Indian Institute of Science155=23241224Hanyang University15723221122Technische Universität Berlin (TU Berlin)1582122122Michigan State University15921221122King Fahd University of Petroleum & Minerals16021231122	McMaster University	152	2	1	2	1	1	1	2	2
University of Waterloo15422211223Emory University155=232511222Indian Institute of Science155=23241224Hanyang University157232211224Hanyang Universitit Berlin (TU Berlin)15821221222Michigan State University of Petroleum & Minerals16021231122	Stockholm University	153	2	2	2	3	1	2	2	1
Emory University155=23251122Indian Institute of Science155=23241224Hanyang University157232211222Technische Universität Berlin (TU Berlin)15821221222Michigan State University15921221122King Fahd University of Petroleum & Minerals16021231122	University of Waterloo	154	2	2	2	1	1	2	2	3
Indian Institute of Science155=23241224Hanyang University15723221122Technische Universität Berlin (TU Berlin)15821221222Michigan State University15921221122King Fahd University of Petroleum & Minerals16021231122	Emory University	155=	2	3	2	5	1	1	2	2
Hanyang University15723221122Technische Universität Berlin (TU Berlin)15821221222Michigan State University15921221122King Fahd University of Petroleum & Minerals16021231122	Indian Institute of Science	155=	2	3	2	4	1	2	2	4
Technische Universität Berlin (TU Berlin)158212212222Michigan State University15921221122King Fahd University of Petroleum & Minerals16021231122	Hanyang University	157	2	3	2	2	1	1	2	2
Michigan State University 159 2 1 2 2 1 1 2 2 King Fahd University of Petroleum & Minerals 160 2 1 2 3 1 1 2 2	Technische Universität Berlin (TU Berlin)	158	2	1	2	2	1	2	2	2
King Fahd University of Petroleum & Minerals 160 2 1 2 2 3 1 1 2 2	Michigan State University	159	2	1	2	2	1	1	2	2
	King Fahd University of Petroleum & Minerals	160	2	1	2	3	1	1	2	2

Table A1. Cont.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Aarhus University	161	2	2	2	4	1	1	2	4
University of York	162	2	2	2	1	1	1	2	1
The University of Exeter	163	2	2	2	1	1	1	2	1
Texas A&M University	164=	2	4	2	2	1	1	2	2
"University of Maryland, College Park"	164=	2	3	2	4	1	1	2	2
Cardiff University	166	2	1	2	1	1	1	2	1
Alma Mater Studiorum—University of Bologna	167=	2	4	2	2	1	1	2	2
Universidad de Chile	167=	2	3	2	2	1	1	2	2
Eberhard Karls Universität Tübingen	169	2	3	2	5	1	1	2	2
Tecnológico de Monterrey	170	2	1	2	2	1	1	2	2
Sapienza University of Rome	171	2	4	2	2	1	1	2	2
Indian Institute of Technology Bombay (IITB)	172=	2	3	2	2	1	2	2	2
Western University	172=	2	2	2	1	1	1	2	3
Ecole des Ponts Paris lech	174=	2	3	2	5	1	2	2	2
Indian Institute of Technology Delhi (IITD)	174=	2	3	2	2	1	2	2	2
Case western Reserve University	176	2	3	2	5	1	1	2	2
National Ising Hua University	177	2	3	2	4	1	2	2	2
Tashniasha Universität Wisen	170	2	4	2	4	1	1	2	2
Lipixorejty of Bath	179=	2	2	2	1	1	2	2	5 1
Khalifa University of Science and Technology	179-	2	2	2	3	1	2	2	3
University College Dublin	181-	2	2	2	1	1	1	2	1
University of Pittsburgh	181-	2	2	2	5	1	1	2	5
Universitat de Barcelona	184	2	4	2	2	1	1	2	2
University of Gothenburg	185=	2	2	2	3	1	1	2	2
University of Minnesota Twin Cities	185=	2	3	2	2	1	1	2	2
University of Wollongong	185=	2	2	2	3	1	1	2	3
University of Florida	188	2	3	2	2	1	1	2	2
Albert-Ludwigs-Universitaet Freiburg	189	2	2	2	4	1	1	2	4
RMIT University	190=	2	2	2	1	1	2	2	3
University of Liverpool	190=	2	2	2	1	1	1	2	1
"The University of Newcastle, Australia (UON)"	192	2	2	2	4	1	1	2	4
Curtin University	193	2	2	2	3	1	2	2	3
Wuhan University	194	2	2	2	4	1	1	2	4
Macquarie University	195=	2	2	2	1	1	1	2	3
Université catholique de Louvain (UCLouvain)	195=	2	2	2	1	1	1	2	4
Keio University	197=	2	3	2	2	1	1	2	2
Ulsan National Institute of Science and Technology (UNIST)	197=	2	3	2	4	1	2	2	4
Vanderbilt University	199	2	3	2	5	1	1	2	2
Technische Universität Dresden	200	2	3	2	2	1	1	2	2
Rheinische Friedrich-Wilhelms-Universität Bonn	201	2	3	2	5	1	1	2	2
National Yang Ming Chiao Tung University	202	2	3	2	2	1	1	2	4
Universiti Teknologi Malaysia	203=	2	3	2	2	1	2	2	2
University of Lausanne	203=	2	2	3	3	1	2	2	3
Dartmouth College	205=	2	3	3	4	1	1	2	4
Waseda University	205=	2	3	3	2	1	2	2	2
University of Bergen	207	2	2	3	5	1	1	2	2
Ostar University	208=	2	2	2	1	1	۲ 1	2	3
Universidade Estadual de Campinas (Unicamp)	200-	2	4	3	1	1	1	2	3
Universite libre de Bruvelles	210-	2	+ 2	3	1	1	1	2	2
Tongii University	210=	2	2	3	1	1	1	2	4
University of Twente	212=	2	2	3	3	1	2	2	3
Vrije Universiteit Amsterdam	212	2	2	3	4	1	1	2	4
Universidad Autónoma de Madrid	215=	2	3	3	2	1	1	2	2
University of Göttingen	215=	2	3	3	5	1	1	2	2
Harbin Institute of Technology	217=	2	3	3	4	1	2	2	4
University of Otago	217=	2	2	3	3	1	1	2	4
Arizona State University	219	2	2	3	4	1	2	2	4
Universidad de los Andes	220=	2	3	3	2	1	1	2	2
University of Aberdeen	220=	2	2	3	1	1	1	2	3
Queensland University of Technology (QUT)	222=	2	2	3	3	1	2	2	3
The Hebrew University of Jerusalem	222=	2	3	3	5	1	1	2	2
Chulalongkorn University	224=	2	3	3	2	1	1	2	2
National Cheng Kung University (NCKU)	224=	2	3	3	2	1	1	2	2
Complutense University of Madrid	226=	2	3	3	2	1	1	2	2
Southern University of Science and Technology	226=	2	3	3	5	1	2	2	4

Table A1. Cont.

Diversiti Analysis 228 2 3 3 4 1 2 4 Diversity Analysis 230 2 3 3 5 1 1 2 2 Gadjah Mad Livversity 231 2 2 3 3 5 1 1 2 2 Gadjah Mad Livversity 232 2 2 3 3 1 1 2 2 3 Maching Institute of Exclored 235 2 2 3 3 1 1 2 2 3 Vinversity of Calored, Frine 255 2 2 3 3 1 1 3 3 University of Calored, Frine 257 2 2 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 <	University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
University of Roading 29 2 3 3 1 2 2 3 Gadja Mada University 231 2 3 3 1 1 2 2 Gadja Mada University 232 2 3 3 1 1 1 2 2 Gadja Mada University 233 2 2 3 3 1 1 2 2 3 Bandang Instatus of Echonology (ITB) 235 2 2 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 <	Universität Hamburg	228	2	3	3	4	1	1	2	4
Bauman Moscow Sake Technical University 210 2 3 3 5 1 1 2 2 Radboul University 222 2 3 3 1 1 2 4 University Constrait Personal University 233 2 2 3 3 1 1 2 3 University Calibratia, Innec 235 2 2 3 3 1 1 2 3 University Calibratia, Innec 237 2 2 3 1 1 3 3 University Cales Texm 237 2 2 3 1 1 3 3 University Cales Texm 241 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 <	University of Reading	229	2	2	3	3	1	2	2	3
Cadipant Diversity2112133341122Quersity Linversity Chara233223341123Banding Institute of Technology (TFI)23522331122223311222222222222222222222222222222222222233111332113331113331113 <t< td=""><td>Bauman Moscow State Technical University</td><td>230</td><td>2</td><td>3</td><td>3</td><td>5</td><td>1</td><td>4</td><td>2</td><td>2</td></t<>	Bauman Moscow State Technical University	230	2	3	3	5	1	4	2	2
Radio University I Conversity Weissi Relias232 222331124 2University Calloring, Irvine"233 2223311223Bandung, Issitule of Technology (ITB)255 22233111223University of Calloring, Irvine"275 2223311123311133311133311133311133311133311133311 <td>Gadjah Mada University</td> <td>231</td> <td>2</td> <td>3</td> <td>3</td> <td>2</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td>	Gadjah Mada University	231	2	3	3	2	1	1	2	2
Quency in Version Vers	Radboud University	232	2	2	3	4	1	1	2	4
Universite Tomple Fabre (Target) 23.5 2 2 3 2 1 2 2 3 Bunding Institute of Technology (TIP) 23.5 2 2 3 3 1 1 2 2 University of California, Irvine" 23.5 2 2 3 3 1 1 1 3 3 University of California, Irvine" 23.7 2 2 3 3 1 1 3 3 University of Calaor 24.2 2 2 3 3 1 1 3 3 Universiti of Calaor 24.3 2 4 3 4 1 1 3 2 Universiti of Padva 24.3 2 1 3 2 1 1 3 2 Universiti of Padva 24.8 2 4 3 4 1 1 3 2 University of Mate Padva 24.8 2 4 3 4 1 2 3 4 1 1 3 2	Queen's University Belfast	233=	2	2	3	3	1	1	2	3
Bandung Institutie of Technology (ITB) 235 2 3 3 1 1 2 3 King Saud University Callformi, Inversity 237 2 2 3 1 1 3 4 University of Callformi, Inversity States 247 2 2 3 3 1 1 1 3 3 University of Callformi, Inversity States 240 2 2 3 3 1 1 3 3 University of Stases 240 2 2 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 2 1 1 3 3 1 1 3 3 1 1 3 2 1 1 3 3 1 1 3 3 1 1 3<	Universitat Pompeu Fabra (Barcelona)	233=	2	2	3	4	1	2	2	3
"University of California, Irvine" King Saud University of Cape Town University of Cape Town University of Clawa 237-223333 University of Clawa 237-22333 University of Clawa 237-22333 University of Clawa 237-2233 University of Clawa 237-2233 University of Clawa 240-22333 University of Clawa 240-2233 241 1 2 3 3 1 1 2 3 3 University of Clawa 242 2 2 3 3 1 1 1 3 2 University of Clawa 242 2 2 3 3 1 1 1 3 2 University of Clawa 242 2 2 3 3 1 1 1 3 2 University of Clawa 242 2 2 3 3 1 1 1 3 2 1 1 1 3 2 1 University of Clawa 242 2 2 3 3 1 1 1 3 2 1 University of Clawa 242 2 2 3 3 1 1 1 3 2 1 University of Clawa 242 2 2 3 3 2 1 1 1 3 2 1 University of Clawa 244 2 4 3 2 4 1 1 2 4 1 1 3 2 1 University of Clawa 244 2 4 3 4 4 1 1 1 3 2 1 University of Clawa 244 2 4 3 4 4 1 1 1 3 2 1 University of Clawa 244 2 4 3 4 4 1 1 1 3 2 1 University of Clawa 244 2 4 3 4 4 1 1 1 3 2 4 1 University of Clawa 244 2 4 3 4 4 1 1 1 3 2 4 1 University of Clawa 244 2 4 3 4 4 1 1 1 3 2 4 1 University of Clawa 244 2 4 3 4 4 1 1 1 3 2 4 1 1 1 3 2 4 1 1 1 3 2 4 1 1 1 3 2 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 4 1 1 1 3 2 2 3 3 4 1 2 3 4 1 1 3 2 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 4 4 1 2 3 4 4 1 4 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4	Bandung Institute of Technology (ITB)	235=	2	3	3	2	1	2	2	2
King Sand University (Cape Town) 277= 2 2 3 1 1 3 4 University of Otawa 237= 2 2 3 3 1 1 1 3 University of Sussex 240= 2 3 3 1 1 3 3 University of Sussex 240= 2 3 3 1 1 3 3 University of Calgary 242 2 3 3 1 1 3 2 University of Notre Dame 243= 2 4 3 4 1 2 3 2 1 1 3 2 University of Notre Dame 243= 2 4 3 4 1 2 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 3 1 1 3 3 1 1 3 3	"University of California, Irvine"	235=	2	2	3	3	1	1	2	3
University of Chape Town 277 2 2 3 1 1 3 3 University of Sussex 240 2 2 3 3 1 1 3 3 University of Calgary 240 2 2 3 3 1 1 3 3 University of Calgary 242 2 2 3 3 1 1 3 2 University of Automa bare 243 2 4 3 2 1 1 3 2 University of Automa bare 243 2 4 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 3 1 1 3 3 1 1	King Saud University	237=	2	2	3	3	1	1	2	2
University of Otiawa 237= 2 2 3 1 1 1 3 3 University of Susse 240= 2 2 3 3 1 1 3 3 University of Calgary 242 2 3 3 1 1 3 2 University of Calgary 243= 2 4 3 4 1 1 3 2 University of Note Dame 243= 2 4 3 4 1 1 3 2 University of Note Dame 246= 2 1 2 3 2 1 1 3 2 University of Note Dame 246= 2 1 3 2 2 3 3 1 1 3 2 University of Note Dame 250 2 3 3 1 1 1 3 2 University of Naschuetts Amberst 253 2 2 3 3 1 1 3 3 University of Navara 256= <td>University of Cape Town</td> <td>237=</td> <td>2</td> <td>2</td> <td>3</td> <td>2</td> <td>1</td> <td>1</td> <td>3</td> <td>4</td>	University of Cape Town	237=	2	2	3	2	1	1	3	4
University of Sussex 240= 2 2 3 3 1 1 3 3 University of Calgary 240= 2 2 3 3 1 1 3 3 University of Calgary 243= 2 4 3 2 1 1 3 2 University of Notre Dame 243= 2 4 3 4 1 1 3 2 Queer's University of Kingston 246= 2 2 3 3 1 1 3 2 University of Kingston 246= 2 2 3 3 1 1 3 2 University of Kingston 250 2 4 3 4 1 2 3 3 1 1 3 2 University of Masachusetts Anaberst 23a= 2 2 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 5 1 1	University of Ottawa	237=	2	2	3	1	1	1	3	3
USH—University of Calgary 242 2 3 3 1 1 1 3 2 University of Naconal de Colombia 243= 2 4 3 4 1 1 3 2 University of Note Dame 243= 2 3 2 1 1 3 2 University of Note Dame 246= 2 3 2 1 1 3 2 Queers' University at Kingston 246= 2 3 3 1 1 3 2 University at Kingston 246= 2 3 3 1 1 3 2 University of Nacran 251 2 3 3 1 1 3 2 University of Nacran 253= 2 3 3 1 1 3 2 University of Vingnia 256= 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 <t< td=""><td>University of Sussex</td><td>240=</td><td>2</td><td>2</td><td>3</td><td>3</td><td>1</td><td>1</td><td>3</td><td>3</td></t<>	University of Sussex	240=	2	2	3	3	1	1	3	3
University of Calgary 242 2 2 3 1 1 3 3 University of Notre Dume 243= 2 4 3 2 1 1 3 2 University of Notre Dume 243= 2 4 3 2 1 1 3 2 Queer's University at Kingston 246= 2 2 3 3 1 1 3 2 Universite AntiOmesia 248= 2 4 3 4 1 2 3 1 1 3 2 Universite AntiOnesia 248= 2 4 3 4 1 2 3 3 1 1 3 2 University of Maschabestis Amberst 256= 2 2 3 3 1 1 3 2 University Measchabestis Amberst 256= 2 3 5 1 2 3 5 1 2 3 5 1 2 3 5 1 2 3 5 1	USI—Università della Svizzera italiana	240=	2	2	3	3	1	2	3	3
Universidad Nacional de Colombia 243- 2 4 3 2 1 1 3 2 Universidi of Notro Dame 243- 2 3 2 1 1 3 2 Queers' Linversity at Kingston 246- 2 2 3 2 1 1 3 2 University at Kingston 248- 2 4 3 4 1 2 3 2 University of Pairs Ché 248- 2 4 3 4 1 2 3 2 1 1 3 2 University of Masachuests Amberst 253- 2 3 3 1 1 3 2 1 1 3 2 University of Navarra 255- 2 3 3 1 1 3 3 5 1 2 3 3 1 1 3 3 5 1 2 3 3 1 1 3 3 5 1 2 3 3 1 1 3<	University of Calgary	242	2	2	3	3	1	1	3	3
University of Notro Dame 243= 2 3 3 4 1 1 3 2 Queen's University at Kingston 246= 2 3 2 1 1 3 4 University at Kingston 246= 2 3 2 1 1 3 4 University at Kingston 248= 2 4 3 4 1 2 3 4 Indiain Institute of Technology Madras (ITM) 251 2 2 3 3 1 1 3 2 University of Massachusetts Amherst 253= 2 3 3 1 1 3 2 University of Navara 256= 2 3 3 1 1 3 3 Sciences Po 256= 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 5 1 1 3 3 5 1 2	Universidad Nacional de Colombia	243=	2	4	3	2	1	1	3	2
University of Notre Dame 24a 2 3 2 1 1 2 3 2 1 1 3 2 Quere's University at Kingston 24ba 2 2 3 4 1 2 3 2 1 1 3 2 Inviersity at Indonesia 24ba 2 3 3 1 1 3 2 Marcian University of Beirut (AUB) 252 2 3 3 1 1 3 2 University of Masachuests Amherst 253a 2 3 3 1 1 3 2 Loughborough University for Winginia 256a 2 2 3 3 1 1 3 3 Geiences Po 259a 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 1 3 4 1 1 3 3 5 <t< td=""><td>Università di Padova</td><td>243=</td><td>2</td><td>4</td><td>3</td><td>4</td><td>1</td><td>1</td><td>3</td><td>2</td></t<>	Università di Padova	243=	2	4	3	4	1	1	3	2
Queers's University a Kingston 246 2 1 3 4 University and indonesia 248 2 1 3 4 University and indonesia 248 2 4 3 4 1 2 3 4 Indiain Institute of Technology Madras (ITIM) 250 2 2 3 3 1 1 3 2 Vrije University of Massachusetts Amherst 253 2 3 3 1 1 3 2 University of Navara 253 2 3 3 1 1 3 2 University of Navara 256 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 3 3 5 1 3 3 1 1 3 3	University of Notre Dame	243=	2	3	3	2	1	2	3	2
University Indonesia 248– 2 1 3 2 1 1 3 2 Indian Institute of Technology Madras (IITM) 250 2 4 3 4 1 2 3 2 Vije University of Beirut (AUB) 251 2 2 3 3 1 1 3 2 University of Massachusetts Anherst 253- 2 3 3 1 1 3 2 Longiborough University Of Navarna 256- 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 1 1 3 2 <td< td=""><td>Queen's University at Kingston</td><td>246=</td><td>2</td><td>2</td><td>3</td><td>2</td><td>1</td><td>1</td><td>3</td><td>4</td></td<>	Queen's University at Kingston	246=	2	2	3	2	1	1	3	4
Universite Paris Cité 248- 2 4 3 4 1 2 3 3 Indian Institute of Technology Madras (ITM) 250 2 2 3 3 1 1 3 2 American University of Struct (AUB) 252 2 3 3 1 1 3 2 University of Navara 253- 2 3 3 2 1 1 3 2 University of Navara 256- 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 1 1 3 4 1	Universitas Indonesia	248=	2	1	3	2	1	1	3	2
Indian Institute of Technology Madras (IITM) 250 2 3 3 1 1 3 2 American University of Beirut (AUB) 252 2 2 3 3 1 1 3 2 University of Masschuettstich Anherst 253- 2 3 3 2 1 1 3 2 University of Variania 253- 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 5 1 1 3 5 1 1 3 5 1 1 3 5 5 1 1 3 5 5 1 1 3 5 5 1 1 3 4 1 1 3 3 5 1 1 3 5 5 1 1 3 5 5 1 1 3 3 1 1	Université Paris Cité	248=	2	4	3	4	1	2	3	4
Wile University of Example 14 (UB) 251 2 2 3 3 1 1 3 2 American University of Massachusetts Amherst 253= 2 3 3 1 1 3 2 University of Navarra 253= 2 3 3 2 1 1 3 2 University of Navarra 253= 2 3 3 2 1 1 3 2 University Tomei Darussalam (UBD) 256= 2 2 3 3 5 1 2 3 5 Novosibinsk State University 260= 2 3 3 5 1 2 3 4 Beijing Normal University 260= 2 4 3 4 1 2 3 4 Indian Institute of Technology Kanpur (IITK) 264= 2 3 5 1 4 3 5 Doakin University 267= 2 3 3 1 1 3 2 Doakin University 267= 2	Indian Institute of Technology Madras (IITM)	250	2	4	3	4	1	2	3	2
American University of Beirut (AUB) 252 2 2 3 1 1 3 2 University of Massachusetts Amherst 253- 2 3 3 1 1 3 2 University of Massachusetts Amherst 253- 2 3 3 1 1 3 2 Loughborough University Virginia 256- 2 3 3 1 1 3 5 University Virginia 266- 2 3 3 5 1 2 3 5 Sciences Po 290- 2 3 3 5 1 2 3 5 Nevosibirsk State University 260- 2 3 3 1 1 3 4 Indian Institute of Technology Kapur (IITK) 264- 2 3 3 1 1 3 5 Deakin University 264- 2 3 3 1 1 3 2 Deakin University 264- 2 3 3 1 1 3 2	Vrije Universiteit Brussel (VUB)	251	2	2	3	3	1	1	3	2
University of Massachusetts Amherst 234 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 5 1 2 3 5 1 2 3 5 1 2 3 5 1 1 3 3 5 1 1 3 3 4 1 2 3 3 1 1 3 3 5 1	American University of Beirut (AUB)	252	2	2	3	3	1	1	3	2
University of Navarra 253 2 3 2 1 1 3 2 Lowephbrough University 256 2 2 3 3 1 2 3 3 Mahidol University 256 2 3 3 1 2 3 3 Sciences Po 259 2 3 3 5 1 2 3 4 Roycosibinsk State University 260 2 3 3 5 1 2 3 4 Beijins Normal University 262 2 4 3 4 1 1 3 2 Indian Institute of Technology Kanpur (IITK) 264	University of Massachusetts Amherst	253=	2	2	3	4	1	2	3	4
University of Virginia 253- 2 3 3 2 1 1 3 2 Loughborough University 256- 2 2 3 3 5 1 1 3 5 University Tunei Darussalam (UBD) 256- 2 2 3 3 5 1 2 3 5 Sciences Po 290- 2 3 3 5 1 2 3 4 Beijing Normal University 260- 2 4 3 4 1 2 3 4 Beijing Normal University 262- 2 3 3 1 1 3 2 Indian Institute of Technology Kanpur (IITK) 264- 2 3 3 1 1 3 3 Moscow Institute of Physics and Technology (MIPT/Moscow Phystech) 267- 2 3 3 1 1 3 2 Indian Institute of Technology Kharagpur (IIT-KGP) 270- 2 3 3 1 1 3 2 Indian Institute of Techonology	University of Navarra	253=	2	3	3	2	1	1	3	2
Long horough University 266= 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 5 1 1 3 5 University Brunei Darussalam (UBD) 256= 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 1 3 4 1 2 3 4 1 2 3 4 1 1 3 2 1 1 1 3 2 1 2 3 3 1 1 3 3 1 1 3 3 1 1 3 2 1 1 3 3 1 1 3 3 3 <	University of Virginia	253=	2	3	3	2	1	1	3	2
Mahadol University 206= 2 3 3 5 1 1 3 5 Sciences Po 259 2 3 3 5 1 2 3 5 Novosibrisk State University 260= 2 3 3 5 1 2 3 4 1 1 3 4 Beijing Normal University 260= 2 4 3 4 1 2 3 4 Beijing Normal University 262= 2 4 3 4 1 2 3 4 The University of Arizona 262= 2 3 3 5 1 4 3 5 Deakin University 264= 2 3 3 2 1 2 3 2 Sundarsetture of Physics and Technology (MIPT/Moscow Phystech) 267= 2 3 3 1 1 3 2 Sundarsetture of Physics and Technology Kharagpur (IT-KGP) 270= 2 3 3 1 1 3 2	Loughborough University	256=	2	2	3	3	1	2	3	3
Driversity Brune Datussalam (DBD) 206 2 3 3 1 2 3 3 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 2 3 3 5 1 1 3 4 1 1 3 4 1 1 3 4 1 1 3 4 1 1 3 4 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 4 3 4 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1	Mahidol University	256=	2	3	3	5	1	1	3	5
Sciences for 299 2 3 3 5 1 2 3 3 5 1 2 3 5 1 2 3 5 1 2 3 5 1 2 3 5 1 1 1 3 4 The University 262= 2 4 3 4 1 2 3 4 The University of Arizona 262= 2 3 3 5 1 1 3 2 Indian Institute of Technology Kanpur (IITK) 264= 2 4 3 4 1 2 3 3 1 1 3 3 5 1 1 3 2 1 1 3 3 5 1 1 3 3 5 1 1 3 3 5 1 1 3 2 3 3 1 1 3 2 3 1 1 3 2 3 1 1 3 2 3 1 1 3 </td <td>Universiti Brunei Darussalam (UBD)</td> <td>256=</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td> <td>1</td> <td>2</td> <td>3</td> <td>3</td>	Universiti Brunei Darussalam (UBD)	256=	2	2	3	3	1	2	3	3
Novosibirsk State University 260= 2 3 3 5 1 2 3 3 4 1 1 3 4 Beijing Normal University 262= 2 4 3 4 1 2 3 4 The University of Arizona 262= 2 3 3 5 1 1 3 2 Indian Institute of Technology Kanpur (IITK) 264= 2 3 3 5 1 4 3 3 Deakin University 266 2 3 3 5 1 2 3 3 2 1 2 3 3 2 3 3 5 1 3 2 2 3 3 1 1 3 2 3 3 1 1 3 2 3 3 1 1 3 2 3 3 1 1 3 2 3 1 1 3 2 3 1 1 3 2 3 1 1 3	Sciences Po	259	2	3	3	5	1	2	3	5
101 20 2 4 3 4 1 1 3 4 Beijing Normal University 262= 2 3 3 5 1 1 3 2 Indian Institute of Technology Kanpur (IITK) 264= 2 3 3 5 1 4 3 Tomsk State University 264= 2 3 3 1 1 3 3 Moscow Institute of Physics and Technology (MIPT/Moscow Phystech) 267= 2 3 3 2 1 2 3 2 Indian Institute of Technology Kharagpur (IIT-KGP) 270= 2 3 3 1 1 3 2 Indian Institute of Technology Kharagpur (IIT-KGP) 270= 2 3 3 1 1 3 2 Indian Institute of Technology Kharagpur (IIT-KGP) 270= 2 3 3 1 1 3 2 Saint Petersburg State University 270= 2 3 3 1 1 3 2 University of Porto 275= 2 </td <td>Novosibirsk State University</td> <td>260=</td> <td>2</td> <td>3</td> <td>3</td> <td>5</td> <td>1</td> <td>2</td> <td>3</td> <td>5</td>	Novosibirsk State University	260=	2	3	3	5	1	2	3	5
beiging Normal University 262 2 4 3 4 1 2 3 4 The University of Arzona 262= 2 3 5 1 1 3 2 Indian Institute of Technology Kanpur (IITK) 264= 2 3 3 5 1 2 3 5 Deakin University 266 2 2 3 3 1 1 3 2 State University 266 2 2 3 3 1 1 3 2 State University 267= 2 3 3 4 1 1 3 2 Indian Institute of Technology Kharagpur (IIT-KGP) 270= 2 7 3 4 1 1 3 2 Saint Petersburg State University 270= 2 3 3 1 1 3 2 National University of Porto 274 2 4 3 4 1 1 3 3 Victoria University of Mellington 275= 2	lel Aviv University	260=	2	4	3	4	1	1	3	4
Indian Institute of Iechnology Kanpur (IITK) 264= 2 3 3 5 1 1 3 2 Indian Institute of Physics and Technology (MIPT / Moscow Phystech) 266 2 3 3 5 1 2 3 3 Moscow Institute of Physics and Technology (MIPT / Moscow Phystech) 267= 2 3 3 2 1 2 3 2 Sun Yat-sen University-New Brunswick 267= 2 3 3 5 1 1 3 2 Indian Institute of Technology Kharagpur (IIT-KGP) 270= 2 7 3 4 1 1 3 2 National University of Ireland Galway 270= 2 3 3 1 1 3 2 University of Porto 275= 2 3 3 1 1 3 3 Victoria University of Vellington 277= 2 3 3 1 1 3 3 University of Leicester 279 2 3 3 1 1 3 3 3	The Lucies of Agine of	262=	2	4	3	4	1	2	3	4
Initial institute or rechnology (Kaipur (IITK) 264= 2 4 3 4 1 2 3 3 Tomak State University 266 2 2 3 3 1 1 3 3 Moscow Institute of Physics and Technology (MIPT/Moscow Phystech) 267= 2 3 3 2 1 2 3 2 Sun Yat-sen University 267= 2 3 3 4 1 1 3 2 Indian Institute of Technology Kharagpur (IIT-KGP) 270= 2 7 3 4 1 1 3 2 National University of Ireland Galway 270= 2 3 3 1 1 3 2 Saint Petersburg State University Darmstadt 275= 2 2 3 3 1 2 3 3 1 1 3 3 3 1 1 3 3 3 1 1 3 3 3 1 1 3 3 3 1 1 3 3 3	Ine University of Arizona	262=	2	3	3	3	1	1	3	4
Indust State University 264= 2 3 3 1 4 3 5 Deakin University 267= 2 3 3 1 1 3 3 Moscow Institute of Physics and Technology (MIPT/Moscow Phystech) 267= 2 3 3 4 1 1 3 2 Sun Yatsen University-New Brunswick 267= 2 3 3 4 1 1 3 2 Indian Institute of Technology Kharagpur (IIT-KGP) 270= 2 3 5 1 1 3 2 National University of Ireland Galway 270= 2 3 5 1 1 3 2 Saint Petersburg State University of Dorto 274 2 4 3 4 1 1 3 2 Technical University of Darmstadt 275= 2 2 3 1 4 3 3 University of Antwerp 280 2 3 3 1 1 3 3 University of Antwerp 281= 2 3 </td <td>Tomole State University</td> <td>264=</td> <td>2</td> <td>4</td> <td>3</td> <td>4</td> <td>1</td> <td>4</td> <td>3</td> <td>4</td>	Tomole State University	264=	2	4	3	4	1	4	3	4
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Beijing Institute of Technology $355=$ 2 7 3 4 1 2 3 4
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Universität Stuttgart 355= 2 4 3 4 1 3 3 4
"University of Chemistry and Technology, Prague" 358 2 3 5 1 2 3 5
ITMO University 359= 2 3 3 5 1 4 3 5
University of Victoria (UVic) 359= 2 2 3 1 3 3 3

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Universiti Teknologi PETRONAS (UTP)	361	2	2	3	3	1	3	3	3
George Washington University	362	3	3	3	4	1	1	3	4
Kobe University	363=	3	3	3	5	1	1	3	5
Pontificia Universidad Católica del Perú	363=	3	7	3	7	1	2	3	7
Quaid-i-Azam University	363=	3	5	3	4	1	2	3	4
University of South Australia	363=	3	2	3	3	1	3	3	3
Virginia Polytechnic Institute and State University	363=	3	2	3	4	1	1	3	4
Lincoln University	368	3	2	3	3	1	2	3	3
Airlangga University	369=	3	3	3	2	1	1	3	2
American University of Sharjah	369=	3	2	3	3	1	3	3	3
Indian Institute of Technology Roorkee (IITR)	369=	3	7	3	4	1	2	3	4
Umea University	369=	3	3	3	5	1	1	3	5
Universidade Nova de Lisboa	369=	3	4	3	4	1	1	3	4
University of Kansas	369=	3	3	3	5	1	1	3	2
"University of California, Santa Cruz"	375=	3	2	3	4	1	2	3	4
University of Kent	375=	3	2	3	3	1	3	3	3
University Ulm	3/5=	3	3	3	5	1	2	3	5
Czech Technical University in Prague	3/8=	3	3	3	5	1	4	3	5
Nankai University	3/8=	3	4 7	3	4	1	1	3	4
University of Heurai'i at Manaa	380=	2	2	2	4	1	2 1	2	4
Diliversity of Flaw at 1 at Marioa Poter the Creat St. Potershurg Polytechnia University	380=	2	3	2	4	1	1	2	4 5
Pontificia Universidad Javariana	382-	2	3	2	2	1	1±	2	7
Indian Institute of Technology Cuwabati (IITC)	384-	3	4	3	4	1	2	3	1
Sultan Oaboos University	384-	3	2	3	3	1	1	3	2
Tainei Medical University (TML)	384-	3	3	3	5	1	2	3	7
Westfälische Wilhelms-Universität Münster	384-	3	3	3	6	1	1	3	2
I appeenranta-I abti University of Technology I UT	388-	3	7	3	4	1	2	3	4
Northeastern University	388=	3	2	4	3	1	3	3	3
Universidad de Palermo (UP)	390=	3	3	4	5	1	4	3	5
Chung-Ang University (CAU)	392=	3	3	4	5	1	1	3	5
Tokyo Medical and Dental University (TMDU)	392=	3	3	4	5	1	2	3	5
University of Oulu	392=	3	2	4	4	1	1	3	4
University of Utah	392=	3	3	4	5	1	1	3	2
Shandong University	396=	3	4	4	4	1	1	3	4
National Research Tomsk Polytechnic University	398=	3	3	4	5	1	4	3	5
Tilburg University	398=	3	2	4	3	1	2	3	3
Universitat Politècnica de València	400=	3	3	4	5	1	2	3	5
Vilnius University	400=	3	3	4	5	1	1	3	5
Colegio de México	402=	3	3	4	5	1	4	3	5
Royal Holloway University of London	402=	3	2	4	3	1	3	3	3
University of Pisa	404	3	4	4	6	1	1	3	6
Satbayev University	405	3	3	4	5	1	4	3	5
Sichuan University	406=	3	4	4	4	1	6	3	4
South China University of Technology	406=	3	4	4	4	1	6	3	4
Colorado State University	408=	3	3	4	5	1	2	4	5
Technion—Israel Institute of Technology	408=	3	2	4	4	1	1	4	4
HUFS—Hankuk (Korea) University of Foreign Studies	410=	3	3	4	5	1	4	4	5
Julius-Maximilians-Universität Würzburg	410=	3	4	4	4	1	1	4	4
Brunel University London	412=	3	2	4	3	1	3	4	3
University of Johannesburg	412=	3	2	4	3	1	2	4	3
University of the Philippines	412=	3	3	4	6	1	1	4	2
Tampere University	415	3	4	4	4	1	1	4	4
Kunr-Universität Docnum	416=	3	4	4	4	1	1	4	4
The American University in Cairo	416=	3	3	4	3	1	1	4	4
The American University in Cairo	416=	3	2	4	3	1	2 1	4	2
Johannes Cutenherg Universität Mainz	416=	2	4	4	4	1	1	4	4
National Technical University of Athens	420-	2	3	4	4	1	2	4 1	4
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Swancas University	425-	3	2	+ 1	3	1 1	1	т 4	2
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"University of Colorado, Denver"	428=	3	3	4	5	1	1	4	5
University of Science and Technology Reijing	428-	3	6	4	4	1	6	- <u>-</u> 4	4
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Universida Austal 428- 3 2 4 4 1 1 4 4 Universida Austal 433 3 2 4 5 1 4 4 En Faster Freeder Livicensity 438- 3 3 2 4 5 1 4 4 En Faster Freeder Livicensity 438- 3 4 4 7 1 2 4 5 Universida Churoensity 438- 3 4 4 7 1 2 4 3 Oxicol Brooks Liniversity 438- 3 4 5 1 1 4 4 5 1 1 4 4 3 4 5 1 1 4 4 5 1 1 4 4 3 4 4 1 1 4 4 3 4 4 1 1 4 4 4 1 1 4 4 4 4 1 1 4 4 1 1 4 4 1<	University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Universitid Austral 432 3 3 4 5 1 4 4 5 Far Estare Rederal University 431= 3 3 4 5 1 4 4 5 Université d'Arabourg 431= 3 4 5 1 1 4 5 Université d'Arabourg 438= 3 4 5 1 1 4 5 Oricher Bookes University Golomb Bookes University 438= 3 4 5 1 1 4 5 Université d'Estardandes 411= 3 4 5 1 1 4 5 Université d'Estardandes 411= 3 4 4 1 1 4 5 Université d'Estardandes 411= 3 4 4 1 1 4 4 Maizo Sout Maxahistan Introvensity 443 3 2 4 4 4 4 3 1 4 4 Bioarg Agricultand Liniversity 449 3 2 2	University of Witwatersrand	428=	3	2	4	4	1	1	4	4
Universitic Land 433 3 2 4 5 1 1 4 2 Par basen Faderal University 434= 3 4 4 7 1 2 4 4 University Chemology 436= 3 4 4 7 1 2 4 7 University Chemology 438= 3 3 4 5 1 1 4 5 University Checkeral de Son Paulo 441= 3 3 4 5 1 1 4 5 University Checkeral de Son Paulo 441= 3 3 4 5 1 1 4 5 University Checkeral de Son Paulo 443= 3 3 4 5 1 4 4 5 Behnag University Checkeral de Son Paulo 443= 3 2 4 3 2 4 4 4 4 4 4 4 4 4 4 4 5 1 4 4 4 4 4 4 4	Universidad Austral	432	3	3	4	5	1	4	4	5
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University of Cehnology 434= 3 4 4 7 1 1 4 4 University Albach Sante San Rafinale 436= 3 4 5 1 2 4 5 University of Countern 438= 3 2 4 5 1 1 4 6 Wake Forset University 438= 3 3 4 5 1 1 4 5 University of Countern 438= 3 3 4 5 1 1 4 5 University of Enchology 411= 3 3 4 5 1 1 4 5 Sold Sharestry ty former BUA() 413= 3 4 4 1 3 4	Far Eastern Federal University	434=	3	3	4	5	1	4	4	5
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Beinang University Ormer BUAA) 443- 3 4 4 1 6 4 4 1 6 4 4 3 2 4 4 1 6 4 4 3 2 4 4 2 1 4 4 3 2 4 4 2 1 4 4 3 4 5 2 2 4 4 2 1 4 4 5 2 2 4 4 2 1 4 4 5 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 1 4	Auezov South Kazakhstan University (SKU)	443=	3	3	4	5	1	4	4	5
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Washington State University 443-2 3 4 4 2 1 4 4 Hassel University 449-2 3 3 4 5 2 2 4 5 Hassel University 449-3 3 2 4 5 2 1 4 5 University Of California, Riverside" 453 3 2 4 4 2 1 4 6 University Of Tomso The Arctic University of Norway 454-3 3 4 5 2 1 4 6 University Of Tomso The Arctic University of Norway 456 3 2 4 4 2 1 4 6 Jones Cook University 457-7 3 3 4 5 2 4 4 1 1 4 4 2 1 4 6 3 4 4 2 1 4 6 3 4 4 2 1 4 4 2 1 4 4 2 1 4 4 2 <t< td=""><td>SOAS University of London</td><td>443=</td><td>3</td><td>2</td><td>4</td><td>3</td><td>2</td><td>3</td><td>4</td><td>3</td></t<>	SOAS University of London	443=	3	2	4	3	2	3	4	3
Dagon Agricultural University 4492 3 4 5 2 4 4 5 2 4 4 5 2 4 5 2 4 5 2 4 5 2 4 5 2 1 4 2 Universidad de Montevideo (UM) 4499 3 3 4 5 2 1 4 5 2 1 4 5 2 1 4 5 2 1 4 5 2 1 4 6 1 1 4 5 2 1 4 6 1 1 4 4 5 2 1 4 6 1 1 3 4 5 2 1 4 6 1 1 3 4 4 2 1 4 4 5 2 1 4 4 5 2 1 4 3 4 5 2 </td <td>Washington State University</td> <td>443=</td> <td>3</td> <td>2</td> <td>4</td> <td>4</td> <td>2</td> <td>1</td> <td>4</td> <td>4</td>	Washington State University	443=	3	2	4	4	2	1	4	4
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Universidad de Montevaelo (UM) 449= 3 3 2 1 4 5 'University of California, Riverside'' 454= 3 3 4 4 2 1 4 6 Stellenbosch University Tormso The Arctic University of Norway 454= 3 3 4 5 2 1 4 6 Institut National des Sciences Appliquées de Lyon (INSA) 457= 3 3 4 5 2 4 4 2 1 4 6 Jointersity OTrento 457= 3 4 4 2 1 4 4 Quniversity OTrento 457= 3 4 4 2 1 4 4 Southass University OTrento 461= 3 4 4 2 1 4 4 Outiversity OTrento 461= 3 4 4 2 1 4 5 University de de Santiago de Chile (USACH) 465= 3 4 6 2 1 4 5 University de de Santiago de Chile (USACH)	Umm Al-Qura University	449=	3	2	4	3	2	1	4	2
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0 Iniversity of Sakatchewan 473= 3 2 4 3 2 1 4 3 Chang Gung University of Sakatchewan 475= 3 3 4 5 2 2 4 5 University of Sakatchewan 475= 3 3 4 5 2 2 4 5 University of Turin 475= 3 5 4 6 2 1 4 6 Imam Abdulrahman Bin Faisal University (IAU) (formerly UNIVERSITY OF DAMMAM) 477= 3 3 4 6 2 1 4 7 UNESP 477= 3 3 4 6 2 1 4 5 Dongguk University 481= 3 2 4 3 2 1 4 5 Iowa State University 481= 3 5 4 4 2 3 4 4 Kazakh National Agrarian University KazNAU 481= 3 7 4 7 2 4 4 5 University University Getec	University of Cyprus (UCV)	473-	3	2	4	3	2	2	+ 1	4
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How a blace of inversityHom </td <td>Jowa State University</td> <td>401-</td> <td>3</td> <td>5</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td> <td>1</td> <td>4</td>	Jowa State University	401-	3	5	1	1	2	2	1	4
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Table A1. Cont.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Jilin University	497=	3	3	4	6	2	1	4	2
Central South University	499=	3	5	4	4	2	6	4	4
University of Rome Tor Vergata	499=	3	7	4	7	2	2	4	7
Western Sydney University	501-510	3	2	4	3	2	1	4	3
Bar-Ilan University	501-510	3	4	4	4	2	1	4	4
Colorado School of Mines	501-510	3	7	4	4	2	2	4	4
Kyungpook National University	501-510	3	3	4	5	2	1	4	5
Middle East Technical University	501-510	3	5	4	6	2	2	4	7
Missouri University of Science and Technology	501-510	3	2	4	4	2	2	4	4
Université de Montpellier	501-510	3	7	4	4	2	3	4	4
University of Aveiro	501-510	3	7	4	4	2	6	4	4
University of St.Gallen (HSG)	501-510	3	2	4	3	2	2	4	3
University of Stirling	501-510	3	2	4	3	2	3	4	4
University of Tehran	501-510	3	6	4	4	2	2	4	6
Yokohama City University	501-510	3	3	4	5	2	7	4	5
Abai Kazakh National Pedagogical University	511-520	3	3	4	5	2	4	4	5
Florida State University	511-520	3	4	4	6	2	1	4	6
"Goldsmiths, University of London"	511-520	3	2	4	3	2	3	4	3
Universidad de Alcalá	511-520	3	3	4	5	2	1	4	4
Università Cattolica del Sacro Cuore	511-520	3	7	4	7	2	4	4	7
University of Bayreuth	511-520	3	3	4	5	2	2	4	3
University of Canberra	511-520	3	2	4	3	2	3	4	3
"University of Missouri, Columbia"	511-520	3	3	5	6	2	1	4	4
Altai State University	521-530	3	3	5	5	2	4	4	5
The New School	521-530	3	3	5	5	2	4	4	5
Université de Liège	521-530	3	4	5	4	2	1	4	4
University of Bordeaux	521-530	3	7	5	6	2	2	4	6
University of Delhi	521-530	3	5	5	6	2	1	4	6
University of Texas Dallas	521-530	3	4	5	4	2	1	4	4
Warsaw University of Technology	521-530	3	7	5	7	2	2	4	7
Hitotsubashi University	531-540	3	7	5	7	2	2	4	7
Inha University	531-540	3	3	5	5	2	1	4	5
Sabanci University	531-540	3	4	5	7	2	3	4	7
Saint Joseph University of Beirut (USJ)	531-540	3	2	5	3	2	1	4	2
"Universidad Central "Marta Abreu" de Las Villas"	531-540	3	3	5	5	2	7	4	5
University of Balamand	531-540	3	3	5	5	2	4	4	5
University of Limerick	531-540	3	2	5	3	2	1	4	3
Canadian University Dubai	541-550	3	2	5	3	2	3	4	3
East China Normal University	541-550	3	4	5	4	2	3	4	4
Savitribai Phule Pune University	541-550	3	3	5	5	2	2	4	5
Southern Federal University	541-550	3	3	5	5	2	4	4	5
Universidad Nacional de La Plata (UNLP)	541-550	3	4	5	6	2	1	4	6
Universidad Panamericana (UP)	541-550	3	3	5	5	2	4	4	5
Universität Konstanz	541-550	3	2	5	3	2	2	4	3
Universität Mannheim	541-550	3	7	5	4	2	2	4	4
V. N. Karazin Kharkiv National University	541-550	3	3	5	5	2	4	4	4
Cairo University	551-560	3	5	5	6	2	1	4	6
Concordia University	551-560	3	2	5	3	2	3	4	3
Jeonbuk National University	551-560	3	3	5	5	2	1	4	5
Masaryk University	551-560	3	4	5	3	2	3	4	4
National Research Saratov State University	551-560	3	3	5	5	2	4	4	5
Northwestern Polytechnical University	551-560	3	4	5	4	2	6	4	5
Sejong University	551-560	3	4	5	4	2	3	4	7
Universidad de Zaragoza	551-560	3	3	5	6	2	1	4	5
University of Eastern Finland	551-560	3	4	5	7	2	2	4	7
University of Szeged	551-560	3	3	5	5	2	1	4	4
Almaty Technological University	561-570	3	3	5	5	2	4	4	5
Applied Science University—Bahrain	561-570	3	2	5	3	2	3	4	3
Aston University	561-570	3	2	5	3	2	3	4	3
Bilkent University	561-570	3	2	5	7	2	3	4	3
Boston College	561-570	3	4	5	6	2	3	4	6
Dalian University of Technology	561-570	3	5	5	4	2	6	4	4
Murdoch University	561-570	3	2	5	3	2	3	4	3
Niigata University	561-570	3	3	5	5	2	7	4	5
Singapore Management University	561-570	3	2	5	3	2	3	4	3
"Sofia University "St. Kliment Ohridski""	561-570	3	3	5	5	2	4	4	5
Universidad de Sevilla	561-570	3	4	5	6	2	1	4	6

Table A1. Cont.

University of Linan501-37036542146University of Linan501-370335522145Hally n University of Linan571-580333552145Hally n University of Kasik571-580325327542145Hally funiversity of Kasik571-5803253234542146Universiti de Fabourg571-5803253234542146Universiti de Valexies571-5803375423477223477223477223477223477223477223447722344772234477223447722344772234477223447722344772234	University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
University of Electronic Science and Technology of China 561–570 3 3 5 5 2 1 4 5 Hallym University S71–580 3 3 5 5 2 1 4 5 Hallym University S71–580 3 3 5 5 2 1 4 5 Universitid of Valencia S71–580 3 4 5 4 2 1 4 6 Universitid of Pathoarg S71–580 3 4 5 4 2 1 4 7 Macau University of Science and Technology S81–590 3 2 5 3 2 2 3 4 7 Starzhon University S81–590 3 4 5 4 2 6 4 7 Starzhon University S81–590 3 7 5 4 2 6 4 7 Starzhon University S91400 4 7 5 7 2 6 4 4 7 U	Università degli Studi di Pavia	561-570	3	4	5	4	2	1	4	6
University of Ulam 561-570 3 3 5 5 2 1 4 5 Hally Diniversity of Scalik 571-580 3 3 5 5 2 1 4 5 Holy Spin: University of Scalik 571-580 3 2 5 3 2 5 3 2 3 4 5 Universiti du Fishourg 571-580 3 2 5 3 2 3 4 4 Indian Institute of Technology Hydrabhal 581-590 3 7 5 4 2 3 4 5 Natanal Central University 581-590 3 7 5 4 2 6 4 7 University of Maschneett Betonetter 581-590 3 7 5 4 2 6 4 4 University of Maschneett Betonetter 581-590 3 7 5 4 2 3 4 4 University of Maschneett Betonetter 581-590 3 7 5 4 2 3 4<	University of Electronic Science and Technology of China	561-570	3	6	5	4	2	6	4	4
Hallyn UniversityS71-5803335522745Nagaski UniversityS71-580333552746UniversityS71-580355562146UniversityS71-580345562146UniversityS71-58034572247MacuUniversityS81-59034572247MacuUniversityS81-5903454234744UniversityS81-59034542344	University of Ulsan	561-570	3	3	5	5	2	1	4	5
Holy Spirit University CASIIK 571–580 3 2 5 2 1 4 2 Universitid e Valencia 571–580 3 5 5 2 1 4 6 Universitid e Frihourg 571–580 3 2 5 3 2 6 4 7 Maccu University of Science and Technology 581–590 3 3 5 7 2 3 4 7 Shenzhen University 581–590 3 3 7 5 2 2 4 7 Shenzhen University 581–590 3 3 7 5 2 2 4 7 University Olassachuseth Boston 581–590 3 7 5 4 2 6 4 4 University Olassachuseth Boston 591-600 4 4 5 4 2 6 4 4 5 4 2 1 4 5 University Olassachuseth Boston 591-600 4 4 5 4 2 1 4	Hallym University	571-580	3	3	5	5	2	7	4	5
Nagaski University571-5803552746Universiti de Pribourg571-58032532343Universiti de Chibourg571-580342343343Universiti de Chibourg571-58034572347343355234734734734734734734734734734734744542644746474647444744744744744744744744744744747474474474474474474474474444444444444444444444444444444444444 <td< td=""><td>Holy Spirit University of Kaslik</td><td>571-580</td><td>3</td><td>2</td><td>5</td><td>3</td><td>2</td><td>1</td><td>4</td><td>2</td></td<>	Holy Spirit University of Kaslik	571-580	3	2	5	3	2	1	4	2
Lniversiti de Valencia 571-580 3 5 5 2 1 4 6 Université du Quebec 571-580 3 2 5 3 2 3 4 5 Iniversité du Quebec 571-580 3 7 5 7 2 3 4 3 Iniversité du Chebec 581-590 3 7 5 7 2 3 4 3 Dentaneu University 581-590 3 7 5 7 2 6 4 7 University Delaware 581-590 3 7 5 4 2 6 4 4 University Delaware 591-600 4 4 5 4 2 6 4 4 University 591-600 4 4 5 5 2 7 4 5 University Ordenta 591-600 4 4 5 6 2 1 4 4 Pollechind diffa 591-600 4 4 5 6	Nagasaki University	571-580	3	3	5	5	2	7	4	5
Université de l'phourg 571-580 3 2 5 4 2 1 4 4 Indran Institute of Technology 581-590 3 7 5 4 2 6 4 7 Macuu University 581-590 3 3 5 7 2 6 4 5 Benzhen University 581-590 3 3 5 7 2 6 4 7 University Maschuzett Boton 581-590 3 7 5 4 2 6 4 4 University Maschuzett Boton 581-590 3 7 5 4 2 6 4 4 University Maschuzett Boton 591-600 4 4 5 4 2 6 4 4 Euliternicu al Barin 591-600 4 4 5 4 2 1 4 4 University Maschuzett Boton 591-600 4 4 5 <	Universitat de Valencia	571-580	3	5	5	6	2	1	4	6
University of Crede Open Hyderabad \$17.1580 3 4 5 4 2 1 4 4 Macau University of Science and Icchnology \$81.590 3 2 5 7 2 3 4 7 Macau University of Science and Icchnology \$81.590 3 7 5 4 2 3 4 7 University of Absachuse III \$81.590 3 7 5 4 2 2 3 4 7 University of Absachusetis Boton \$81.590 3 7 5 4 2 6 4 7 Hunan University 591-600 4 5 4 2 6 4 7 Sungshin Worne's University 591-600 4 5 4 2 7 4 5 University of Crete 591-600 4 5 6 2 1 4 4 5 6 2 1 4 4 5 6 2 1 4 4 5 6 2 1 4 <td>Université de Fribourg</td> <td>571-580</td> <td>3</td> <td>2</td> <td>5</td> <td>3</td> <td>2</td> <td>3</td> <td>4</td> <td>3</td>	Université de Fribourg	571-580	3	2	5	3	2	3	4	3
Indian Institute of lechnology Hyderabad S81-590 3 7 5 3 2 5 3 4 5 3 4 5 3 4 5 3 4 5 7 2 3 4 7 National Central University S81-590 3 7 5 7 2 2 4 7 University of Massachauset Boton S81-590 3 7 5 4 2 6 4 4 University of Massachauset Boton S91-600 4 4 5 4 2 6 4 4 University of Minho 591-600 4 4 5 5 2 7 4 4 5 University of Caleph 591-600 4 4 5 6 2 1 4 4 University of Minho 591-600 4 4 5 6 2 1 4 6 Aba Abademi University 601-650 4 2 5 3 2 1 4 6	Université du Québec	571-580	3	4	5	4	2	1	4	4
Macan Lonversity of Scenee and Technology S81-590 3 2 5 7 2 3 4 5 Shenzhen University S81-590 3 5 7 5 2 4 4 University In Babaier Toulouse III S81-590 3 7 5 7 2 4 4 University Massachuetts Boston S81-590 3 4 5 4 2 6 4 4 University On Massachuetts Boston S91-600 4 6 5 4 2 6 4 4 University On Massachuetts Boston S91-600 4 6 5 4 2 6 4 4 University On Crete S91-600 4 5 5 2 2 4 4 University On Guelph S91-600 4 4 5 6 2 1 4 5 University On Guelph S91-600 4 4 5 6 2 1 4 5 University On Minho S91-600 4	Indian Institute of Technology Hyderabad	581-590	3	7	5	4	2	6	4	7
National Central University Sel ->00 3 4 5 7 2 3 4 5 University Paul Subalar Poulouse III Sel ->00 3 7 5 7 2 2 4 7 University Paul Subalar Poulouse III Sel ->00 3 7 5 7 2 2 4 7 University Paul Subalar Poulouse III Sel ->00 4 4 5 4 2 6 4 4 China Agricultural University Sel -000 4 4 5 7 2 2 4 4 University of Intiversity Sel -000 4 4 5 5 4 2 1 4 4 University of Intiversity Sel -000 4 5 6 2 1 4 4 University of Intiversity Gl -650 4 2 3 4 3 University of Intiversity Gl -650 4 2 3 <	Macau University of Science and Technology	581-590	3	2	5	3	2	3	4	3
ShetZpet University SBI-590 3 3 3 3 3 3 3 3 3 3 7 5 7 2 2 4 7 University of Delaware SBI-590 3 4 5 4 2 6 4 4 University of Masschusetis Botion SBI-590 3 4 4 2 6 4 4 University of Masschusetis Botion SBI-590 4 4 2 6 4 4 Publichterity SPI-600 4 4 5 5 2 2 6 4 4 Publichterity SPI-600 4 4 5 6 2 1 4 5 University of Cate SPI-600 4 4 5 4 2 3 4 4 University of Minho SPI-600 4 4 5 4 2 3 4 4 Al Al University GOI-650 4 2 5 3 2 3 5	National Central University	581-590	3	4	5	7	2	3	4	7
Driversity of Delaware 581-590 3 7 2 2 4 4 University of Massachusetts Boston 581-590 3 7 5 4 2 6 4 4 University of Massachusetts Boston 591-600 4 5 4 2 6 4 4 University of Massachusetts Boston 591-600 4 6 5 4 2 6 4 4 Human University 591-600 4 6 5 5 2 7 4 4 Pollecnico di Bari University of Iordan 591-600 4 4 5 6 2 1 4 6 University of Iordan 591-600 4 4 5 6 2 1 4 6 Al Ain University 601-650 4 4 5 6 2 1 4 6 Al Ain University 601-650 4 2 5 3 2 3 4 3 Bargor University 601-650 4 <td< td=""><td>Shenzhen University</td><td>581-590</td><td>3</td><td>3</td><td>5</td><td>5</td><td>2</td><td>6</td><td>4</td><td>5</td></td<>	Shenzhen University	581-590	3	3	5	5	2	6	4	5
University of Masachusetts Boston 381-590 3 4 2 6 4 4 China Agricultural University 591-600 4 4 2 6 4 4 Linkursity of Masachusetts Boston 591-600 4 4 2 6 4 4 Lehigh University 591-600 4 4 2 6 4 4 Sungain Womer's University 591-600 4 3 5 5 2 7 4 5 University of Caleph 591-600 4 4 5 6 2 1 4 4 University of Caleph 591-600 4 4 5 6 2 1 4 4 University of Patona 591-600 4 4 5 6 2 1 4 4 University of Patona 591-600 4 4 5 5 2 2 5 5 2 1 4	Universite Paul Sabatier Toulouse III	581-590	3	1	5	1	2	2	4	1
China Agriculture diversity 397-30 3 7 3 7 2 0 4 4 Huan University 591-600 4 6 5 4 2 6 4 4 Huan University 591-600 4 6 5 7 2 6 4 4 Singabin Wome's University 591-600 4 5 5 2 7 4 5 University of Catelph 591-600 4 4 5 6 2 1 4 6 University of Catelph 591-600 4 4 5 6 2 1 4 6 Al Ain University of Pretoria 591-600 4 4 5 6 2 1 4 6 Al Ain University of Pretoria 601-650 4 2 3 4 3 3 3 3 2 3 4 3 3 3 3 3 3 3 3 2 3 5 5 2 1 5 5	University of Delaware	581-590	2	4 7	5	4	2	5	4	4
Conservation Servace 4 6 5 4 2 0 4 4 Ladigh University Sp1-600 4 4 5 4 2 3 4 4 Singelin Workersity Sp1-600 4 7 5 5 2 2 7 4 5 University of Cate Sp1-600 4 4 5 4 2 1 4 6 University of Cate Sp1-600 4 4 5 6 2 1 4 6 Abo Akademi University Offactor 5 4 2 3 4 4 6 Abo Akademi University Offactor 4 4 5 4 2 3 4 4 Cateon University Offactor 4 4 5 5 2 3 5 4 2 3 5 4 2 3 5 4 3 5	China Agricultural University	591-590	1	1	5	4 1	2	6	4	47
Intra University 504-600 4 4 5 4 2 5 4 4 Politecnic of Bari 591-600 4 3 5 5 2 7 4 Singshin Wormers's University 591-600 4 4 5 6 2 1 4 University of Cacle 591-600 4 4 5 6 2 1 4 University of Cacle 591-600 4 4 5 6 2 1 4 University of Maho 591-600 4 4 5 6 2 1 4 6 Abo Akademi University 601-650 4 4 5 6 2 1 4 6 Carleton University 601-650 4 5 5 2 7 5 4 2 5 5 4 2 5 5 4 6 6 6 1 5 5 2 7 5 5 5 5 5 5 5 5 <td< td=""><td>Hunan University</td><td>591-600</td><td>4 1</td><td>4</td><td>5</td><td>4 1</td><td>2</td><td>6</td><td>4</td><td>1</td></td<>	Hunan University	591-600	4 1	4	5	4 1	2	6	4	1
Delicenic of Jaari 591-600 4 7 5 7 2 6 4 3 5 5 2 7 4 5 Sungshin Women's University 591-600 4 4 5 4 2 1 4 5 University of Catelp 591-600 4 4 5 6 2 1 4 4 University of Gradn 591-600 4 4 5 6 2 1 4 4 University of Gradn 591-600 4 4 5 6 2 1 4 4 Abo Akademi University 601-650 4 2 5 3 2 3 4 4 Chiang Mai University 601-650 4 2 5 5 6 2 1 4 4 5 6 2 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 6 2 1 5 5 </td <td>Lehigh University</td> <td>591-600</td> <td>4</td> <td>4</td> <td>5</td> <td>-+ 4</td> <td>2</td> <td>3</td> <td>-+ 4</td> <td>4</td>	Lehigh University	591-600	4	4	5	-+ 4	2	3	-+ 4	4
Samgabin Women's University 501-400 4 5 5 2 7 4 5 University of Crete 501-400 4 4 5 4 2 1 4 4 University of Maho 501-600 4 4 5 6 2 1 4 4 University of Maho 501-600 4 4 5 6 2 1 4 6 Abc Akademin University 601-650 4 4 5 4 2 3 4 3 Bangor University 601-650 4 4 5 4 2 3 4 4 Carleton University 601-650 4 5 5 2 1 4 5 East China University 601-650 4 3 5 2 2 5 5 Iniversity 601-650 4 3 5 2 1 5 5 I	Politecnico di Bari	591-600	4	т 7	5	7	2	6	4	4
University of Crete 591-600 4 5 5 4 2 1 4 7 University of Guelph 591-600 4 4 5 6 2 1 4 4 University of Iordan 591-600 4 4 5 6 2 1 4 4 University of Protoria 591-600 4 4 5 6 2 1 4 6 Abo Akademi University 601-650 4 2 5 3 2 1 4 4 Chiang Mai University 601-650 4 2 5 3 2 3 4 Edith Chinouriversity 601-650 4 2 5 5 2 7 5 5 4 2 5 3 2 3 5 5 2 7 5 5 1 4 2 5 3 2 3 5 5 2	Sungshin Women's University	591-600	4	3	5	5	2	7	4	5
University of Gacaph 591-600 4 4 5 6 2 2 4 4 University of Minho 591-600 4 4 5 6 2 1 4 4 University of Minho 591-600 4 4 5 6 2 1 4 4 Abo Akadem 601-650 4 4 5 4 2 3 4 4 Al An University 601-650 4 2 5 3 2 3 4 4 Carleton University 601-650 4 2 5 5 2 7 5 6 2 1 5 6 2 1 5 6 2 1 5 6 2 1 5 5 2 3 5 5 2 3 5 5 2 3 5 5 2 7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5<	University of Crete	591-600	4	5	5	4	2	1	4	7
University of Jordan 591-600 4 4 5 6 2 1 4 4 University of Minho 591-600 4 4 5 6 2 1 4 4 University of Pretoria 591-600 4 4 5 6 2 1 4 6 Abo Akademi University 601-650 4 2 5 3 2 3 4 3 Bangor University 601-650 4 2 5 3 2 3 5 4 2 3 5 4 2 3 5 4 2 5 3 2 3 5 5 4 2 5 5 4 2 5 5 4 2 5 5 4 2 5 5 4 2 5 5 4 2 5 5 4 5 5 5 4 4 5 5 5 4 5 5 5 4 5 5 5 5	University of Guelph	591-600	4	4	5	4	2	2	4	4
University of Minho 591-600 4 4 5 6 2 1 4 6 University of Pretoria 601-680 4 4 5 6 2 3 4 4 Al An University 601-680 4 4 5 4 2 3 4 4 Carleon University 601-680 4 2 5 3 2 3 4 4 Carleon University 601-680 4 5 6 2 1 5 6 2 1 5 6 2 1 5 6 2 1 5 6 2 1 5 5 6 2 1 5 5 6 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2<	University of Jordan	591-600	4	4	5	6	2	1	4	4
University of Pretoria 591-600 4 4 5 6 2 1 4 6 Abo Akademi University 601-650 4 4 5 4 2 3 4 4 Al Ain University 601-650 4 2 5 3 2 1 4 Chiang Mai University 601-650 4 4 5 6 2 1 5 4 East Chian University 601-650 4 7 5 4 2 5 3 2 3 5 5 4 2 5 3 2 3 5 5 4 2 6 5 4 2 5 5 1 4 4 5 5 2 7 5 5 1 4 5 5 2 7 5 5 1 5 5 2 7 5 5 1 5 5 2 7 5 5 1 5 5 2 1 5 5 2	University of Minho	591-600	4	4	5	6	2	1	4	5
Abademi University 601-650 4 4 5 4 2 3 4 3 Al Ain University 601-650 4 2 5 3 2 3 4 3 Bangor University 601-650 4 2 5 3 2 1 4 4 Chiang Mai University 601-650 4 4 5 4 2 6 5 6 East China University of Science and Technology 601-650 4 7 5 2 2 5 3 2 3 5 5 Istanbul Technical University 601-650 4 3 5 5 2 7 5 5 Istanbul Technical University 601-650 4 3 5 5 2 7 5 5 Istanbul Technical University 601-650 4 3 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 </td <td>University of Pretoria</td> <td>591-600</td> <td>4</td> <td>4</td> <td>5</td> <td>6</td> <td>2</td> <td>1</td> <td>4</td> <td>6</td>	University of Pretoria	591-600	4	4	5	6	2	1	4	6
Al Ain University 601-650 4 2 5 3 2 3 4 3 Bangor University 601-650 4 2 5 3 2 1 5 4 Chiang Mai University 601-650 4 5 6 2 1 5 6 East Chian University 601-650 4 7 5 4 2 3 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2 3 5 5 2 7 5 5 4 2 5 3 2 3 5 5 2 7 5 5 1 1 5 5 2 7 5 5 5 4 3 5 5 2 7 5 5 7 1 5 5 2 1 5 5 5 2 1 5 5 2 1 5 5 5 2 3 5 5	Abo Akademi University	601-650	4	4	5	4	2	3	4	4
Bangor University 601-650 4 2 5 3 2 1 4 4 Carleton University 601-650 4 5 5 6 2 1 5 4 Chang Mai University 601-650 4 7 5 4 2 6 5 4 East China University 601-650 4 3 5 5 2 7 5 5 Edith Cowan University 601-650 4 3 5 5 2 7 5 5 Istanbul Technical University 601-650 4 3 5 5 2 1 5 5 Vana Jaxakhishvili Tbilis State University 601-650 4 3 5 2 1 5 5 Lahore University London" 601-650 4 4 5 6 2 1 5 3 2 1 5 3 2 1 5 5 1 4 4 5 6 2 1 5 5 2 <t< td=""><td>Al Ain University</td><td>601-650</td><td>4</td><td>2</td><td>5</td><td>3</td><td>2</td><td>3</td><td>4</td><td>3</td></t<>	Al Ain University	601-650	4	2	5	3	2	3	4	3
Carlieton University 601-650 4 4 5 5 6 2 1 5 6 East China University of Science and Technology 601-650 4 7 5 4 2 6 5 4 Edith Covan University 601-650 4 3 5 5 2 7 5 5 Istanbul Technical University 601-650 4 3 5 5 2 7 5 5 Istanbul Technical University 601-650 4 3 5 5 2 1 5 5 7 7 5 5 2 7 5 5 5 7 2 2 5 7 7 2 5 5 7 2 5 5 7 2 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 5 2 1 5 <td< td=""><td>Bangor University</td><td>601-650</td><td>4</td><td>2</td><td>5</td><td>3</td><td>2</td><td>1</td><td>4</td><td>4</td></td<>	Bangor University	601-650	4	2	5	3	2	1	4	4
Chang Mai University 601-650 4 5 6 2 1 5 6 East China University of Science and Technology 601-650 4 2 5 3 2 3 5 3 Gifu University 601-650 4 3 5 5 2 7 5 5 Immanuel Kant Baltic Federal University 601-650 4 3 5 5 2 2 5 5 Istanbul Technical University 601-650 4 3 5 2 1 5 5 Kanazawa University 601-650 4 3 5 2 1 5 7 Lahore University Condon" 601-650 4 2 5 3 2 3 5 3 2 1 5 3 1 5 3 2 1 5 3 2 1 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2	Carleton University	601-650	4	4	5	4	2	3	5	4
East China University of Science and Technology 601-650 4 7 5 4 2 6 5 3 Edith Cowan University 601-650 4 3 5 5 2 7 5 5 Immanuel Kant Baltic Federal University 601-650 4 3 5 5 2 4 5 5 Istabul Technical University 601-650 4 3 5 5 2 7 5 5 Kanazawa University 601-650 4 3 5 5 2 7 5 3 Kanazawa University 601-650 4 4 5 7 2 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2 3 <td< td=""><td>Chiang Mai University</td><td>601-650</td><td>4</td><td>5</td><td>5</td><td>6</td><td>2</td><td>1</td><td>5</td><td>6</td></td<>	Chiang Mai University	601-650	4	5	5	6	2	1	5	6
Edith Cowan University 601-650 4 2 5 3 2 3 5 5 Immanuel Kant Baltic Federal University 601-650 4 3 5 5 2 4 5 5 Istanbul Technical University 601-650 4 3 5 5 2 7 5 Vane Javakhishvili Tbilis State University 601-650 4 3 5 5 2 1 5 Kingston University, London" 601-650 4 2 5 3 2 3 5 3 2 1 5 7 Lebanese University Management Sciences (LUMS) 601-650 4 2 5 3 2 3 5 3 Lebanese University Hannover 601-650 4 2 5 3 2 3 5 3 Management and Science University 601-650 4 2 5 3 2 3 5 5 2 1 5 6 National Chengchi University 601-650 4 3	East China University of Science and Technology	601-650	4	7	5	4	2	6	5	4
Gifu University 601-650 4 3 5 5 2 7 5 5 Immanuel Kant Baltic Federal University 601-650 4 3 5 5 2 2 5 5 Ivane Javakhishvili Tbilisi State University 601-650 4 3 5 5 2 7 5 5 Kanazawa University 601-650 4 3 5 5 2 1 5 5 Kingston University of Management Sciences (LUMS) 601-650 4 4 5 6 2 1 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2 1 5 5 6 <	Edith Cowan University	601-650	4	2	5	3	2	3	5	3
Immanuel Kant Baltic Federal University 601-650 4 3 5 5 2 4 5 5 Istanbul Technical University 601-650 4 3 5 5 2 7 5 5 Kanazawa University 601-650 4 3 5 5 2 7 5 5 Kingston University, London" 601-650 4 4 5 7 2 2 5 7 Lebanese University 601-650 4 4 5 6 2 1 5 3 2 3 5 5 2 3 5 5 7 Lebanese University 601-650 4 4 5 6 2 1 5 4 7 1 5 3 2 3 5 3 2 3 5 3 2 3 5 3 2 3 5 5 2 1 5 6 2 1 5 6 2 1 5 5 3 3 </td <td>Gifu University</td> <td>601-650</td> <td>4</td> <td>3</td> <td>5</td> <td>5</td> <td>2</td> <td>7</td> <td>5</td> <td>5</td>	Gifu University	601-650	4	3	5	5	2	7	5	5
Istanbul Technical University 601-650 4 7 5 7 2 2 5 7 Ivane Javakhishvili Tbilisi State University 601-650 4 3 5 5 2 1 5 5 "Kingston University Management Sciences (LUMS) 601-650 4 4 5 6 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 3 2 1 5 6 2 1 5 6 2 1 5 6 2 1 5 6 2 1 5 6 2 1 5 6 1 3 5 5 3 2 3 5 5 3 2	Immanuel Kant Baltic Federal University	601-650	4	3	5	5	2	4	5	5
Ivane Javakhishvili Tbilisi State University 601–650 4 3 5 5 2 7 5 5 Kanazava University 601–650 4 3 5 5 2 1 5 5 Lahore University of Management Sciences (LUMS) 601–650 4 2 5 3 2 3 5 3 Lebanese American University 601–650 4 2 5 3 2 1 5 3 Lebanese American University 601–650 4 2 5 3 2 3 5 3 Leibniz University Hannover 601–650 4 2 5 3 2 3 5 3 Management and Science University 601–650 4 4 5 6 2 1 5 6 National And Kapodistrian University 601–650 4 4 5 6 2 3 5 5 2 7 5 5 Orkayama University 601–650 4 3 5 5 2	Istanbul Technical University	601–650	4	7	5	7	2	2	5	7
Kanazawa University 601-650 4 3 5 5 2 1 5 5 "Kingston University, London" 601-650 4 2 5 3 2 3 5 7 Labore University Management Sciences (LUMS) 601-650 4 2 5 3 2 1 5 3 Lebanese American University 601-650 4 4 5 6 2 2 5 4 Leibniz University Hannover 601-650 4 4 5 6 2 2 5 3 2 3 5 3 Management and Science University 601-650 4 2 5 3 2 3 5 3 2 3 5 3 3 3 3 3 3 3 3 3 3 3 3 5 5 2 1 5 5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 5	Ivane Javakhishvili Tbilisi State University	601–650	4	3	5	5	2	7	5	5
"Kingston University London" 601-650 4 2 5 3 2 3 5 3 Lahore University Management Sciences (LUMS) 601-650 4 4 5 6 2 1 5 3 Lebanese American University 601-650 4 4 5 6 2 1 5 3 Leibniz University Hannover 601-650 4 4 5 6 2 2 5 3 2 3 5 3 Management and Science University 601-650 4 2 5 3 2 3 5 3 3 3 National and Kapodistrian University 601-650 4 2 5 6 2 1 5 6 Oregon State University 601-650 4 4 5 7 2 4 5 7 Oregon State University 601-650 4 3 5 2 7 5 5 Pontificia University 601-650 4 3 5 3 2	Kanazawa University	601–650	4	3	5	5	2	1	5	5
Lahore University of Management Sciences (LUMS) 601–650 4 4 5 7 2 5 5 7 Lebanese American University 601–650 4 4 5 6 2 1 5 3 Lebanese University 601–650 4 4 5 6 2 2 5 4 Leibniz University Hannover 601–650 4 4 5 6 2 2 5 3 Management and Science University 601–650 4 2 5 3 2 3 5 3 National Chengchi University 601–650 4 4 5 7 2 5 7 5 Okayama University 601–650 4 4 5 6 2 3 5 5 7 5 5 7 5 5 6 2 3 5 5 7 5 5 7 5 5 5 7 5 5 5 7 5 5 5 5 5	"Kingston University, London"	601–650	4	2	5	3	2	3	5	3
Lebanese American University 601-650 4 2 5 3 2 1 5 3 Lebanese University 601-650 4 4 5 6 2 2 5 4 Leibniz University Hannover 601-650 4 2 5 3 2 3 5 3 Management and Science University 601-650 4 2 5 3 2 3 5 3 National And Kapodistrian University 601-650 4 4 5 7 2 4 5 7 2 4 5 7 5 5 6 2 1 5 5 6 2 1 5 5 3 2 3 5 3 2 3 5 3 2 3 5 5 7 7 3 2 7 5 5 7 0 0 601-650 4 3 5 5 2 7 5 5 3 1 5 5 7 3 <	Lahore University of Management Sciences (LUMS)	601-650	4	4	5	7	2	5	5	7
Lebanese University 601-650 4 4 5 6 2 1 5 4 "Lingnan University Hannover 601-650 4 4 5 6 2 2 3 5 3 Management and Science University 601-650 4 2 5 3 2 3 5 3 National and Kapodistrian University of Athens 601-650 4 4 5 6 2 1 5 6 National Chengchi University 601-650 4 3 5 5 2 7 5 5 Okayama University 601-650 4 3 5 5 2 7 5 5 Oregon State University 601-650 4 4 5 6 2 3 5 5 Pontificia University 601-650 4 3 5 7 3 2 5 7 Samara National Research University of China 601-650 4 3 5 7 3 2 5 5	Lebanese American University	601-650	4	2	5	3	2	1	5	3
Leioniz University Hannover 601-650 4 4 5 6 2 2 5 4 "Lingnan University, Hong Kong" 601-650 4 2 5 3 2 3 5 3 Management and Science University 601-650 4 2 5 6 2 1 5 6 National And Kapodistrian University 601-650 4 4 5 7 2 4 5 7 Okayama University 601-650 4 4 5 6 2 3 5 5 Oregon State University 601-650 4 4 5 6 2 3 5 5 Pontificia University 601-650 4 3 5 5 2 7 5 5 Pontificia University 601-650 4 4 5 6 3 1 5 5 Renmin (People's) University of China 601-650 4 3 5 5 3 7 5 5 5 5 5	Lebanese University	601-650	4	4	5	6	2	1	5	4
"Lingnan University, Hong Kong" 601–650 4 2 5 3 2 3 5 3 Management and Science University 601–650 4 2 5 6 2 1 5 6 National Chengchi University 601–650 4 4 5 7 2 4 5 7 Okayama University 601–650 4 4 5 6 2 3 5 5 Oregon State University 601–650 4 4 5 6 2 3 5 5 Pontificia University 601–650 4 3 5 5 2 7 5 5 Pontificia University 601–650 4 7 5 7 3 2 5 7 Pusan National Research University of China 601–650 4 3 5 5 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Leibniz University Hannover	601-650	4	4	5	6	2	2	5	4
Matagement and Science University $001-650$ 4 2 5 5 2 3 5 5 National and Kapodistrian University $601-650$ 4 4 5 7 2 4 5 7 National Chengchi University $601-650$ 4 4 5 7 2 4 5 7 Okayama University $601-650$ 4 4 5 6 2 3 5 5 Oregon State University $601-650$ 4 4 5 6 2 3 5 5 Pontificia University $601-650$ 4 4 5 6 3 1 5 5 Pontificia University of China $601-650$ 4 4 5 6 3 1 5 5 Samara National Research University (Samara University) $601-650$ 4 3 5 5 3 7 5 5 Sunway University $601-650$ 4 3 5 5 3 7 5 5 Sunway University $601-650$ 4 3 5 5 3 7 5 5 University of Georgia $601-650$ 4 4 5 6 3 1 5 6 Universidad Anáhuac México $601-650$ 4 4 5 6 3 5 5 7 Universidad Pontificia Bolivariana $601-650$ 4 4 5 6 3 <td< td=""><td>"Lingnan University, Hong Kong"</td><td>601-650</td><td>4</td><td>2</td><td>5</td><td>3</td><td>2</td><td>3</td><td>5</td><td>3</td></td<>	"Lingnan University, Hong Kong"	601-650	4	2	5	3	2	3	5	3
National and Rapodistrian University of Athens 601–650 4 5 5 6 2 1 5 6 National Chengchi University 601–650 4 4 5 7 2 4 5 7 Okayama University 601–650 4 3 5 5 2 7 5 5 Oregon State University 601–650 4 3 5 5 2 7 5 5 Pontificia University 601–650 4 3 5 5 2 7 5 5 Pusan National University 601–650 4 7 5 7 3 2 5 7 Samara National Research University (Samara University) 601–650 4 3 5 5 3 4 5 5 St. Louis University 601–650 4 3 5 5 3 7 5 5 Sumway University 601–650 4 3 5 5 3 1 5 6 "The University	Management and Science University	601-650	4	2	5	3	2	3	5	3
National Chergen University 601-650 4 4 5 7 2 4 5 7 Okayama University 601-650 4 3 5 5 2 7 5 5 Oregon State University 601-650 4 3 5 5 2 7 5 5 Pontificia University 601-650 4 3 5 5 2 7 5 5 Pusan National University of China 601-650 4 7 5 7 3 2 5 7 Samara National Research University (Samara University) 601-650 4 3 5 5 3 4 5 5 St. Louis University 601-650 4 3 5 5 3 7 5 5 St. Louis University 601-650 4 3 5 6 3 1 5 6 University of Georgia 601-650 4 3 5 3 3 3 5 5 University of Tennessee, Knoxv	National and Kapodistrian University of Atnens	601-650	4	5	Э Е	6 7	2	1	5	6 7
Oregon State University 601-650 4 4 5 5 2 7 5 5 Oregon State University 601-650 4 3 5 5 2 7 5 5 Pontificia University 601-650 4 3 5 5 2 7 5 5 Posaka City University 601-650 4 7 5 7 3 2 5 7 Pusan National University of China 601-650 4 7 5 7 3 2 5 7 Samara National Research University (Samara University) 601-650 4 3 5 5 3 4 5 5 St. Louis University 601-650 4 3 5 7 3 4 5 7 Sunway University 601-650 4 3 5 7 3 4 5 7 The University of Georgia 601-650 4 4 5 6 3 1 5 6 Universidad Anáhuac México <td>Okayama University</td> <td>601-650</td> <td>4</td> <td>4</td> <td>5</td> <td>5</td> <td>2</td> <td>4 7</td> <td>5</td> <td>5</td>	Okayama University	601-650	4	4	5	5	2	4 7	5	5
Osaka City University 601-650 4 3 5 5 2 7 5 7 Pontificia University 601-650 4 7 5 7 3 2 5 7 Pusan National University 601-650 4 4 5 6 3 1 5 5 Renmin (People's) University of China 601-650 4 7 5 7 3 2 5 7 Samara National Research University (Samara University) 601-650 4 3 5 5 3 4 5 5 St. Louis University 601-650 4 3 5 5 3 7 5 5 Sunway University 601-650 4 3 5 7 3 4 5 6 3 1 5 6 Way University 601-650 4 4 5 6 3 1 5 6 Winiversity of Georgia 601-650 4 4 5 6 3 1 5 5 <td>Oragon State University</td> <td>601-650</td> <td>4</td> <td>3</td> <td>5</td> <td>6</td> <td>2</td> <td>3</td> <td>5</td> <td>5</td>	Oragon State University	601-650	4	3	5	6	2	3	5	5
Bond Chy Oniversity 601-650 4 7 5 7 3 2 5 7 Pontificia Universidade Católica do Rio de Janeiro 601-650 4 7 5 7 3 2 5 7 Pusan National University 601-650 4 7 5 7 3 2 5 7 Samara National Research University (Samara University) 601-650 4 3 5 5 3 4 5 5 St. Louis University 601-650 4 3 5 5 3 7 5 5 Sunway University 601-650 4 3 5 7 3 4 5 7 Sunway University 601-650 4 3 5 7 3 4 5 7 The University of Georgia 601-650 4 4 5 6 3 1 5 6 University of Tennessee, Knoxville" 601-650 4 4 5 3 3 5 3 3 5 5	Ocaka City University	601-650	4	3	5	5	2	7	5	5
Pusan National University 601-650 4 4 5 6 3 1 5 5 Renmin (People's) University of China 601-650 4 7 5 7 3 2 5 7 Samara National Research University (Samara University) 601-650 4 3 5 5 3 4 5 5 St. Louis University 601-650 4 3 5 5 3 4 5 5 Sunway University 601-650 4 3 5 7 3 4 5 7 The University of Georgia 601-650 4 4 5 6 3 1 5 6 "The University of Tennessee, Knoxville" 601-650 4 4 5 4 3 1 5 6 Universidad Anáhuac México 601-650 4 4 5 5 3 4 5 5 Universidad Pontificia Bolivariana 601-650 4 3 5 5 3 4 5 5 U	Pontifícia Universidade Católica do Rio de Janeiro	601-650	4	7	5	7	3	2	5	7
Renmin (People's) University of China601-6504757325Samara National Research University (Samara University)601-65043553455St. Louis University601-65043553755Sunway University601-65043573457The University of Georgia601-65044563156"The University of Tennessee, Knoxville"601-65044543156Ulster University601-65044543156Universidad Anáhuac México601-65044563355Universidad Pontificia Bolivariana601-65043553455Universität Bremen601-65043553455Universität Potsdam601-65044563355Universität Potsdam601-65044563354University to Claude Bernard Lyon 1601-65044563156University to Claude Bernard Lyon 1601-65044563156University to Claude Bernard Lyon 1601	Pusan National University	601-650	4	4	5	6	3	1	5	5
Samara National Research University (Samara University) 601-650 4 3 5 5 3 4 5 5 St. Louis University 601-650 4 3 5 5 3 7 5 5 Sunway University 601-650 4 3 5 7 3 4 5 7 The University of Georgia 601-650 4 4 5 6 3 1 5 6 "The University of Tennessee, Knoxville" 601-650 4 4 5 4 3 1 5 6 Ulster University of Tennessee, Knoxville" 601-650 4 4 5 4 3 1 5 6 Universidad Anáhuac México 601-650 4 2 5 3 4 5 5 Universidad Pontificia Bolivariana 601-650 4 3 5 5 3 4 5 5 Universidad Pontificia Comillas 601-650 4 3 5 5 3 5 7 Universität P	Renmin (People's) University of China	601-650	4	7	5	7	3	2	5	7
St. Louis University 601-650 4 3 5 5 3 7 5 5 Sunway University 601-650 4 3 5 7 3 4 5 7 The University of Georgia 601-650 4 4 5 6 3 1 5 6 "The University of Tennessee, Knoxville" 601-650 4 4 5 4 3 1 5 6 Ulster University 601-650 4 4 5 4 3 1 5 6 Universidad Anáhuac México 601-650 4 2 5 3 3 5 5 Universidad Pontificia Bolivariana 601-650 4 3 5 5 3 4 5 5 Universidad Pontificia Comillas 601-650 4 3 5 5 3 4 5 5 Universität Bremen 601-650 4 7 5 7 3 2 5 7 Universität Potsdam 601-650	Samara National Research University (Samara University)	601-650	4	3	5	5	3	4	5	5
Sunway University601-65043573457The University of Georgia601-65044563156"The University of Tennessee, Knoxville"601-65044543156Ulster University601-650442533353Universidad Anáhuac México601-65043553455Universidad de Concepción601-65044563557Universidad Pontificia Bolivariana601-65043553455Universität Bremen601-65047573257Universität Potsdam601-65044563354University vol Liubliana601-65044563156	St. Louis University	601-650	4	3	5	5	3	7	5	5
The University of Georgia601–65044563156"The University of Tennessee, Knoxville"601–65044543156Ulster University601–65042533353Universidad Anáhuac México601–65043553455Universidad de Concepción601–65044563557Universidad Pontificia Bolivariana601–65043553455Universidad Pontificia Comillas601–65047573257Universität Bremen601–65044563354Universität Potsdam601–65044563156University of Liubliana601–65044563156	Sunway University	601–650	4	3	5	7	3	4	5	7
"The University of Tennessee, Knoxville"601–65044543156Ulster University601–65042533353Universidad Anáhuac México601–65043553455Universidad de Concepción601–65043553455Universidad Pontificia Bolivariana601–65043553455Universidad Pontificia Comillas601–65047573257Universität Bremen601–65044563354Universität Potsdam601–65044563354University of Liubliana601–65044563156	The University of Georgia	601-650	4	4	5	6	3	1	5	6
Ulster University601–65042533353Universidad Anáhuac México601–65043553455Universidad de Concepción601–65044563557Universidad Pontificia Bolivariana601–65043553455Universidad Pontificia Comillas601–65047573257Universität Bremen601–65044563354Universität Potsdam601–65044563354University of Liubliana601–65044563156	"The University of Tennessee, Knoxville"	601-650	4	4	5	4	3	1	5	6
Universidad Anáhuac México601–65043553455Universidad de Concepción601–650444563557Universidad Pontificia Bolivariana601–65043553455Universidad Pontificia Comillas601–65047573257Universität Bremen601–65044563354Universität Potsdam601–65044563156Université Claude Bernard Lyon 1601–65044563156University of Liubliana601–65044563156	Ulster University	601-650	4	2	5	3	3	3	5	3
Universidad de Concepción601–65044563557Universidad Pontificia Bolivariana601–65043553455Universidad Pontificia Comillas601–65047573257Universität Bremen601–65044563354Universität Potsdam601–65044573354Université Claude Bernard Lyon 1601–65044563156University of Liubliana601–65044563156	Universidad Anáhuac México	601-650	4	3	5	5	3	4	5	5
Universidad Pontificia Bolivariana601–65043553455Universidad Pontificia Comillas601–65047573257Universität Bremen601–65044563354Universität Potsdam601–65044573354Université Claude Bernard Lyon 1601–65044563156University of Liubliana601–65044563156	Universidad de Concepción	601-650	4	4	5	6	3	5	5	7
Universidad Pontificia Comillas601–65047573257Universität Bremen601–65044563354Universität Potsdam601–65044573354Université Claude Bernard Lyon 1601–65044563156University of Liubliana601–65044563156	Universidad Pontificia Bolivariana	601-650	4	3	5	5	3	4	5	5
Universität Bremen 601–650 4 4 5 6 3 3 5 4 Universität Potsdam 601–650 4 4 5 7 3 3 5 4 Universität Potsdam 601–650 4 4 5 6 3 1 5 6 Université Claude Bernard Lyon 1 601–650 4 4 5 6 3 1 5 6 University of Liubliana 601–650 4 4 5 6 3 1 5 6	Universidad Pontificia Comillas	601–650	4	7	5	7	3	2	5	7
Universität Potsdam 601–650 4 4 5 7 3 5 4 Université Claude Bernard Lyon 1 601–650 4 4 5 6 3 1 5 6 University of Liubliana 601–650 4 4 5 6 3 1 5 6	Universität Bremen	601–650	4	4	5	6	3	3	5	4
Université Claude Bernard Lyon 1 601–650 4 5 6 3 1 5 6 University of Liubliana 601–650 4 4 5 6 3 1 5 6	Universität Potsdam	601–650	4	4	5	7	3	3	5	4
University of Liubliana 601–650 4 4 5 6 3 1 5 6	Université Claude Bernard Lyon 1	601–650	4	4	5	6	3	1	5	6
	University of Ljubljana	601–650	4	4	5	6	3	1	5	6

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
University of Milano-Bicocca	601–650	4	7	5	7	3	6	5	4
University of Salamanca	601-650	4	4	5	6	3	1	5	7
University of Sharjah	601-650	4	2	5	3	3	3	5	3
University of South Florida	601-650	4	4	5	4	3	3	5	4
Wayne State University	601-650	4	3	5	5	3	1	5	5
Aberystwyth University	651-700	4	2	5	3	3	3	5	4
Abu Dhabi University	651-700	4	2	5	3	3	3	5	3
Ahlia University	651-700	4	2	5	3	3	3	5	3
Ajman University	651-700	4	2	5	3	3	3	5	3
Alfaisal University	651-700	4	2	5	3	3	3	5	3
American University in Dubai	651–700	4	2	5	3	3	3	5	3
Aristotle University of Thessaloniki	651–700	4	5	5	6	3	1	5	6
Ateneo de Manila University	651-700	4	4	5	6	3	1	5	7
Central Queensland University (CQUniversity Australia)	651-700	4	2	5	3	3	3	5	3
China University of Geosciences	651-700	4	7	5	7	3	6	5	7
Chongqing University	651-700	4	7	5	4	3	6	5	4
Comenius University in Bratislava	651-700	4	7	5	5	3	4	5	7
Coventry University	651-700	4	2	5	3	3	3	5	3
Drexel University	651-700	4	4	5	6	3	1	5	6
Gunma University	651-700	4	3	5	3	3	6	5	5
Indian Institute of Technology (DFIO) varanasi	651-700	4	1	5	4	3	0	5	4
Karagan da Stata Taghnigal University	651-700	4	4	5	5	3	1	5	4 5
Karaganua State Technical University	651-700	4	3	5	5	3	4	5	3
Kall-Hallzens-Universitäet Glaz	651 700	+ 1	4	5	5	3	1	5	4 5
Kumamoto University	651-700	+ 1	3	5	5	3	1	5	5
National Chung Heing University	651 700	-	5	5	6	3	3	5	5
"National Technical University "Kharkiy Polytechnic Institute""	651-700	4	3	5	5	3	4	5	5
New Jersey Institute of Technology (NIIT)	651-700	4	2	5	3	3	3	5	3
Northumbria University at Newcastle	651-700	4	2	5	3	3	3	5	3
O.P. Jindal Global University	651-700	4	3	5	7	3	4	5	7
Palacký University Olomouc	651-700	4	4	5	7	3	3	5	6
Plekhanov Russian University of Economics	651-700	4	7	5	7	3	4	5	7
Prince Mohammad Bin Fahd university	651-700	4	2	5	3	3	3	5	3
S.D. Asfendiyarov Kazakh National Medical University	651-700	4	3	5	7	3	4	5	5
Sechenov University	651-700	4	3	5	5	3	4	5	5
Soochow University	651-700	4	7	5	4	3	6	5	4
Taras Shevchenko National University of Kyiv	651-700	4	5	5	6	3	4	5	7
Thammasat University	651-700	4	4	5	6	3	1	5	6
Universidad de Antioquia	651-700	4	5	5	6	3	5	5	6
Universidad Externado de Colombia	651-700	4	7	5	7	3	2	5	7
Universidad ICESI	651-700	4	3	6	5	3	7	5	5
Universidad Peruana Cayetano Heredia (UPCH)	651-700	4	3	6	5	3	7	5	5
Universitat Ramon Llull	651–700	4	2	6	3	3	2	5	3
Universiti Teknologi MARA—UiTM	651-700	4	5	6	6	3	5	5	7
University of Debrecen	651-700	4	4	6	6	3	1	5	4
University of Genoa	651-700	4	5	6	6	3	1	5	6
University of Huddersfield	651-700	4	2	6	3	3	3	5	3
University of Hull	651-700	4	2	6	3	3	1	5	4
University of Nebraska—Lincoln	651-700	4	4	6	4	3	3	5	4
University of Plymouth	651-700	4	4	6	4	3	1	5	4
Amorican University	701 750	4	2	6	5	3	3	5	3
American University of the Middle Fast	701-750	+ 1	2	6	2	3	3	5	2
Ročazici University	701-750	-	6	6	6	3	5	5	7
Brno University of Technology	701-750	+ 1	7	6	7	3	4	5	4
Charles Darwin University	701-750	4	2	6	3	3	3	5	3
City University of New York	701-750	4	5	6	6	3	1	5	6
Fötyös Loránd University	701-750	4	7	6	6	3	2	5	6
Free University of Bozen-Bolzano	701-750	4	2	6	3	3	3	5	3
Institut Teknologi Sepuluh Nopember (ITS Surabaya)	701-750	4	7	6	7	3	4	5	7
Jinan University (China)	701-750	4	2	6	3	3	1	5	4
Jouf University	701-750	4	2	6	3	3	1	5	3
Kagoshima University	701-750	4	3	6	5	3	7	5	5
Khoja Akhmet Yassawi International Kazakh-Turkish University	701-750	4	3	6	5	3	1	5	5
King Khalid University	701-750	4	2	6	3	3	1	5	3

Table A1. Cont.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
"National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"	701–750	4	7	6	7	3	4	5	7
Pavol Jozef Šafárik University in Košice	701-750	4	3	6	5	3	1	5	4
Princess Nourah bint Abdulrahman University	701-750	4	2	6	3	3	3	5	3
Ritsumeikan University	701-750	4	4	6	6	3	2	5	7
Southern Cross University	701-750	4	2	6	3	3	3	5	3
Stevens Institute of Technology	701-750	4	4	6	3	3	3	5	4
Tallinn University of Technology (TalTech)	701-750	4	7	6	7	3	3	5	7
Tokushima University	701-750	4	3	6	5	3	7	5	5
Tokyo Metropolitan University	701-750	4	7	6	7	3	6	5	7
Tokyo University of Agriculture and Technology	701–750	4	7	6	7	3	6	5	7
Universidad Católica del Uruguay (UCU)	701–750	4	4	6	7	3	4	5	7
Universidad de La Sabana	701–750	4	4	6	6	3	5	5	7
Universidad Iberoamericana IBERO	701–750	4	4	6	6	3	1	5	7
Universidad San Francisco de Quito (USFQ)	701–750	4	3	6	7	3	1	5	7
Universidade Federal de Minas Gerais	701-750	4	5	6	6	3	1	5	6
Universiti Tenaga Nasional (UNITEN)	701-750	4	7	6	7	3	2	5	7
University of Bradford	701-750	4	2	6	3	3	3	5	4
University of Cincinnati	701-750	4	4	6	6	3	I	5	6
University of Haira	701-750	4	1	6		3	0	5	
University of Kentucky	701-750	4	4 7	6	6 7	3	1	5	6 7
University of New Brunswick	701-750	4	2	6	2	3	3	5	1
University of New Maxico	701-750	4	4	6	6	3	1	5	4
University of Oklahoma	701-750	4	4	6	6	3	1	5	6
University of Oregon	701-750	4	+ 7	6	6	3	6	5	6
University of Pecs	701-750	4	4	6	6	3	1	5	4
University of Portsmouth	701-750	4	2	6	3	3	3	5	3
University of South Carolina	701-750	4	4	6	6	3	1	5	6
University of the Basque Country	701-750	4	7	6	6	3	6	5	5
University of Trieste	701–750	4	5	6	4	3	1	5	4
University of Vermont	701-750	4	3	6	6	3	1	5	5
University of Westminster	701-750	4	2	6	3	3	3	5	3
Victoria University	701-750	4	2	6	3	3	3	5	3
Vilnius Gediminas Technical University	701-750	4	7	6	7	3	4	5	7
Virginia Commonwealth University	701-750	4	3	6	6	3	1	5	5
Zayed University	701-750	4	2	6	3	3	3	5	3
Beijing University of Technology	751-800	4	7	6	6	3	6	5	5
Belarusian National Technical University (BNTU)	751-800	4	7	6	7	3	4	5	7
Chonnam National University	751-800	4	4	6	6	3	1	5	5
Chungnam National University	751-800	4	4	6	6	3	1	5	5
Clark University	751-800	4	4	6	7	3	3	5	7
CY Cergy Paris University	751-800	4	7	6	3	3	2	6	3
Dankook University	751-800	4	3	6	5	3	7	6	5
Florida International University	751-800	4	4	6	6	3	1	6	6
Howard University	751-800	5	3	6	5	3	7	6	5
Instituto Politecnico Nacional (IPN)	751-800	5	2	6	/ 7	3	5	6	7
Instituto Techologico Autonomo de Mexico (TTRA)	751-800	5	2	6	7	3	2	6	7
Koola University	751-800	5	4	6	2	2	4	6	1
Lanzbou University	751-600	5	2 7	6	5	3	1	6	4
Lahzhou University	751-800	5	7	6	5	3	4	6	7
"Maninal Academy of Higher Education Maninal Karnataka India"	751-800	5	4	6	6	3	т 1	6	5
Memorial University of Newfoundland	751-800	5	4	6	6	3	1	6	4
Michigan Technological University	751-800	5	4	6	7	3	6	6	7
Middlesex University	751-800	5	2	6	3	3	3	6	3
Osaka Prefecture University	751-800	5	4	6	5	3	7	6	7
Paris Lodron University of Salzburg	751-800	5	2	6	3	3	3	6	3
Philipps-Universität Marburg	751-800	5	4	6	6	3	1	6	6
Pontificia Universidad Católica de Valparaíso	751-800	5	7	6	6	3	5	6	7
Riga Technical University	751-800	5	4	6	7	3	4	6	4
Saint Petersburg Electrotechnical University ETU-LETI	751-800	5	7	6	5	3	4	6	7
Shiraz University	751-800	5	7	6	4	3	6	6	4
Syracuse University	751-800	5	7	6	6	3	3	6	7
Temple University	751-800	5	5	6	6	3	1	6	6
Universidad Adolfo Ibáñez	751-800	5	7	6	7	3	4	6	7
Universidad Autónoma Chapingo	751-800	5	3	6	5	3	7	6	5

Table A1. Cont.

Universidad Católica Andres Bello751–80057673567Universidad de la República (Udelar)751–80054663166Universidad de San Andrés—UdeSA751–80057673467Universidad de Rosario751–80057673567Universidade de Santiago de Compostela751–8005766366Universidade Federal do Rio Grande Do Sul751–80055663166Universitas Padjadjaran751–80057673466	
Universidad de la República (Udelar)751-80054663166Universidad de San Andrés—UdeSA751-80057673467Universidad del Rosario751-80057673567Universidade de Santiago de Compostela751-8005766366Universidade Federal do Rio Grande Do Sul751-80055663166Universitas Padjadjaran751-80057673466	
Universidad de San Andrés—UdeSA751-80057673467Universidad del Rosario751-80057673567Universidade de Santiago de Compostela751-80057663666Universidade Federal do Rio Grande Do Sul751-80055663166Universitas Padjadjaran751-80057673466	
Universidad del Rosario751–80057673567Universidade de Santiago de Compostela751–8005766366Universidade Federal do Rio Grande Do Sul751–80055663166Universitas Padjadjaran751–80057673466	
Universidade de Santiago de Compostela 751–800 5 7 6 6 3 6 6 Universidade Federal do Rio Grande Do Sul 751–800 5 5 6 6 3 1 6 6 Universitas Padjadjaran 751–800 5 7 6 7 3 4 6 6	
Universidade Federal do Rio Grande Do Sul 751–800 5 6 6 3 1 6 6 Universitas Padjadjaran 751–800 5 7 6 7 3 4 6 6	
Universitas Padjadjaran 751–800 5 7 6 7 3 4 6 6	
Universitat Rovira i Virgili 751-800 5 5 6 6 3 1 6 7	
Université Côte d\'Azur 751-800 5 4 6 6 3 1 6 4	
Université de Lille 751–800 5 7 6 7 3 2 6 7	
Université de Sherbrooke 751–800 5 4 6 6 3 1 6 4	
Universite de Sousse /51–800 5 3 6 5 3 / 6 5	
University of Denver /51-800 5 4 6 5 5 / 6 /	
University of Huderbad 751 800 5 7 6 6 3 6 6 7	
University of Fyderadad 751–800 5 5 6 6 3 1 6 6	
Academician Y A Buketov Karaganda University 801–1000 5 7 6 7 3 4 6 7	
"Adam Mickiewicz University Poznań" 801-1000 5 7 6 6 3 6 6 6	
AGH University of Science and Technology 801–1000 5 7 6 6 3 7 6 5	
Ain Shams University 801–1000 5 4 6 6 3 1 6 6	
Australian Catholic University 801–1000 5 2 6 3 3 3 6 3	
Beijing Foreign Studies University 801–1000 5 7 6 7 3 4 6 7	
Beijing Jiaotong University 801–1000 5 7 6 7 3 6 6 7	
Beijing University of Posts and Telecommunications801–10005767367	
Beirut Arab University 801–1000 5 2 6 3 1 6 3	
Bournemouth University 801–1000 5 2 6 3 3 6 3	
Budapest University of Technology and Economics 801–1000 5 7 6 7 3 6 7	
Ca' Foscari University of Venice 801–1000 5 7 6 7 3 6 6	
Catania University 801-1000 5 6 6 6 3 1 6 6	
Chandigarh University 801–1000 5 7 6 7 3 4 6 7	
Chang Jung Christian University 801–1000 5 7 6 7 3 7 6 7	
Charles Sturt University 801–1000 5 7 6 3 3 3 6 3	
Clarkson University 801–1000 5 4 6 4 3 5 6 4 Clarkson University 801–1000 5 7 6 6 2 6 6	
Cellinson University 001-1000 5 7 6 7 5 5 6 6	
Cracow University of Technology (Politechnika Krakowska) 801–1000 5 7 6 7 4 5 6 7	
Crach University of Life Sciences in Prague $801-1000$ 5 7 6 7 4 3 6 4	
$\begin{array}{c} \text{Be La Salle University} \\ \text{Be La Salle University} \\ \end{array} \qquad \qquad$	
De Montfort University 801-1000 5 2 6 3 4 3 6 3	
Diponegoro University 801–1000 5 5 6 6 4 1 6 6	
Donghua University 801–1000 6 7 6 7 4 6 6 7	
Duy Tan University 801–1000 6 7 6 7 4 3 6 4	
Edinburgh Napier University 801–1000 6 2 6 3 4 3 6 3	
Gdańsk University of Technology 801–1000 6 7 6 7 6 7 6 7 6 7 <th7< th=""> 7</th7<> <th7< td="" th7<<=""><td></td></th7<>	
Georgia State University 801–1000 6 7 6 6 4 3 6 6	
German Jordanian University 801–1000 6 7 6 7 4 3 6 3	
Gulf University for Science and Technology 801–1000 6 2 6 3 4 3 6 3	
Hacettepe University 801–1000 6 6 6 4 5 6 6	
Harbin Engineering University 801–1000 6 7 6 7 4 6 6 7	
Indian Institute of Technology Bhubaneswar 801–1000 6 7 6 7 4 6 6 7	
Indiana University-Purdue University Indianapolis $801-1000$ 6 4 6 6 4 1 6 4	
Instituto lecnologico de Santo Domingo (INTEC) 801–1000 6 / 6 / 4 4 6 /	
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Kansas State University 801–1000 6 4 6 6 4 3 6 4	
Kasetsart University 801–1000 6 7 6 6 4 5 6 6	
Kaunas University of Technology 801–1000 6 7 6 7 4 6 7	
Kazakh-British Technical University 801–1000 6 7 6 7 4 5 6 7	
Khon Kaen University 801–1000 6 5 6 4 5 6 7 6 6 7 7 6 6 7 7 6 6 7 7 6 6 7 7 6 6 7 7 6 6 7 7 6 6 7 7 6 6 7 <th7< th=""> <th7< th=""> <th7< td="" th<=""><td></td></th7<></th7<></th7<>	
King Faisal University 801–1000 6 2 6 3 4 3 6 3	
King Mongkut's University of Technology Thonburi801–100067674567	
Kyrgyz-Turkish Manas University 801–1000 6 2 6 3 4 3 6 3	
Liverpool John Moores University 801–1000 6 4 6 7 4 3 6 4	

Table A1. Cont.

University	Rank	QS	Fuzzy	QS	КМ	QS	GMM	QS	AGG
Lodz University of Technology	801-1000	6	7	6	7	4	7	6	7
London Metropolitan University	801-1000	6	2	6	3	4	3	6	3
London South Bank University	801-1000	6	2	6	3	4	3	6	3
Louisiana State University	801-1000	6	7	6	6	4	6	6	6
Loyola University Chicago	801-1000	6	5	6	6	4	1	6	6
Lviv Polytechnic National University	801-1000	6	7	6	6	4	7	6	5
Manchester Metropolitan University (MMU)	801-1000	6	4	6	6	4	3	6	4
Maynooth University	801-1000	6	2	6	3	4	3	6	3
Mendel University in Brno	801-1000	6	7	6	7	4	4	6	7
Nanjing University of Aeronautics and Astronautics	801-1000	6	7	6	7	4	6	6	7
National Chung Cheng University	801-1000	6	7	6	1	4	4	6	7
NICOlaus Copernicus University	801-1000	6	4	6	2	4	2	6	2
Northwest University (China)	801-1000	6	2 4	6	5	4 4	7	6	5
Notre Dame University-Louaize NDU	801-1000	6	2	6	3	4	3	6	3
Nottingham Trent University	801-1000	6	2	6	3	4	3	6	4
Novosibirsk State Technical University	801-1000	6	7	6	7	4	4	6	7
Oklahoma State University	801-1000	6	4	6	6	4	1	6	4
Perm State National Research University	801-1000	6	7	6	7	4	7	6	7
Pondicherry University	801-1000	6	7	6	7	4	6	6	7
Pontificia Universidad Católica del Ecuador (PUCE)	801-1000	6	5	6	6	4	1	6	6
Pontifícia Universidade Católica de São Paulo	801-1000	6	5	6	6	4	1	6	7
Poznań University of Technology	801-1000	6	7	6	7	4	7	6	7
Prince of Songkla University	801-1000	6	5	6	6	4	5	6	6
Princess Sumaya University for Technology	801-1000	6	7	6	7	4	3	6	3
Qassim University	801-1000	6	2	6	3	4	1	6	3
"Queen Margaret University, Edinburgh"	801-1000	6	2	6	3	4	3	6	3
Riga Stradins University	801-1000	6	7	6	7	4	4	6	4
Ritsumeikan Asia Pacific University	801-1000	6	2	6	3	4	3	6	3
Robert Gordon University	801-1000	6	2	6	3	4	3	6	3
Russian Presidential Academy of National Economy and Public Administration	801-1000	6	7	6	7	4	2	6	1
Rutgers University-Newark	801-1000	6	7	6	7	4	3	6	+ 7
Saint-Petersburg Mining University	801-1000	6	7	6	7	4	4	6	7
Shinshu University	801-1000	6	5	6	6	4	7	6	, 7
Shoolini University of Biotechnology and Management Sciences	801-1000	6	7	6	7	4	3	6	7
Slovak University of Technology in Bratislava	801-1000	6	7	6	7	4	7	6	7
Sophia University	801-1000	6	4	6	6	4	4	6	6
South Ural State University (National Research University)	801-1000	6	7	6	7	4	4	6	5
Southern Methodist University	801-1000	6	7	6	7	4	6	6	7
Sumy State University	801-1000	6	4	6	5	4	1	6	4
Széchenyi István University	801-1000	6	6	6	7	4	1	6	7
Szent Istvan University	801-1000	6	7	6	7	4	4	6	7
Technical University of Kosice	801-1000	6	7	6	7	4	4	6	7
Technical University of Liberec	801-1000	6	7	6	7	4	4	6	7
Technological University Dublin	801-1000	6	7	6	7	4	3 F	6	4 7
Televa University of Science	801-1000	6	7	6	7	4	5	6	7
TU Dortmund University	801-1000	6	7	6	6	4	3	6	6
Ufa State Aviation Technical University	801-1000	6	7	6	7	4	7	6	5
Universidad Autónoma del Estado de Hidalgo (UAEH)	801-1000	6	3	6	6	4	7	6	5
Universidad Autónoma del Estado de México (UAEMex)	801-1000	6	6	6	6	4	5	6	6
Universidad Autónoma Metropolitana (UAM)	801-1000	6	6	6	6	4	5	6	7
Universidad de Guadalajara (UDG)	801-1000	6	5	6	6	4	1	6	6
Universidad de las Américas Puebla (UDLAP)	801-1000	7	4	6	6	4	1	6	7
Universidad de Los Andes—(ULA) Mérida	801-1000	7	5	6	6	4	1	6	6
Universidad de los Andes—Chile	801-1000	7	5	6	6	4	5	6	7
Universidad del Valle	801-1000	7	6	6	6	4	5	6	6
Universidad Diego Portales (UDP)	801-1000	7	5	6	6	4	5	6	7
Universidad EAFIT	801-1000	7	7	6	7	4	5	6	7
Universidad Nacional de Córdoba—UNC	801-1000	7	7	6	6	4	5	6	6
Universidad Simón Bolívar (USB)	801-1000	7	7	6	7	4	5	6	7
Universidada Católica Portuguesa LUCP	801-1000 801-1000	/ 7	1	6	6	4	4 1	6	7
Universidade Catolica Portuguesa—UCP	801-1000 801-1000	/ 7	о 5	ь 6	о 6	4 1	1	ь 6	6
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Table A1. Cont.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Universidade Federal de Santa Catarina	801-1000	7	5	6	6	4	1	6	6
Universidade Federal de São Carlos (UFSCar)	801-1000	7	5	6	6	4	1	6	6
Universidade Federal do Paraná—UFPR	801-1000	7	5	6	6	4	1	6	6
Universita' degli Studi di Ferrara	801-1000	7	6	6	6	4	6	6	6
Università degli Studi di Perugia	801-1000	7	5	6	6	4	6	6	6
Università degli studi Roma Tre	801-1000	7	7	6	6	4	6	6	7
Universita' Politecnica delle Marche	801-1000	7	7	6	7	4	6	6	7
Universitas Brawijaya	801-1000	7	6	6	6	4	5	6	6
Universität Duisburg-Essen	801-1000	7	4	6	6	4	1	6	4
Université de Lorraine	801-1000	7	7	6	6	4	3	6	6
Université de Nantes	801-1000	7	7	6	6	4	3	6	6
Universite de Kennes I	801-1000	7	7	6	7	4	3	6	7
Universiti Malaysia Panang	801-1000	7	7	6	7	4	3	6	7
Universiti Malaysia Ferns	801-1000	7	7	6	7	4	1	6	7
Universiti Fendidikan Sultan Juris (UFSI)	801-1000	7	6	6	6	4	4 5	6	7
University at Albany SUNV	801-1000	7	7	6	6	4 1	5	6	6
University of Alicante	801-1000	7	7	6	7	-+ -1	6	6	7
University of Baghdad	801-1000	7	4	6	6	4	7	6	, 5
University of Babrain	801-1000	7	2	6	3	4	3	6	3
University of Bari	801-1000	7	6	6	6	4	6	6	6
University of Brescia	801-1000	7	7	6	7	4	6	6	7
University of Brighton	801-1000	7	2	6	3	4	3	6	3
University of Calcutta	801-1000	7	7	6	6	4	3	6	6
University of Central Florida	801-1000	7	5	6	6	4	1	6	6
University of Central Lancashire	801-1000	7	4	6	3	4	3	6	3
University of Dhaka	801-1000	7	5	6	6	4	5	6	6
University of Dubai	801-1000	7	2	6	3	4	3	6	3
University of East London	801-1000	7	2	6	3	4	3	6	3
University of Engineering & Technology (UET) Lahore	801-1000	7	7	6	7	4	5	6	7
UNIVERSITY OF GDANSK	801-1000	7	7	6	7	4	6	6	7
University of Greenwich	801-1000	7	2	6	3	4	3	6	3
University of Hartford	801-1000	7	7	6	7	5	4	6	7
University of Hertfordshire	801-1000	7	2	6	3	5	3	6	3
University of Hohenheim	801-1000	7	7	6	7	5	3	6	7
University of Hradec Kralove	801-1000	7	7	6	7	5	4	6	7
University of Kwazulu-Natal	801-1000	7	4	6	6	5	1	6	6
University of Lincoln	801-1000	7	2	6	3	5	3	6	4
University of Lodz	801-1000	7	1	6	6	5	6 1	6	5
University of Malta	801-1000	7	4 1	6	0 7	5	1	6	4 5
University of Maribor	801-1000	7	5	6	6	5	1	6	5
"University of Maryland Baltimore County"	801-1000	7	4	6	6	5	1	6	4
University of Messina (UniME)	801-1000	7	5	6	6	5	6	6	6
University of Mississippi	801-1000	7	5	6	6	5	7	6	5
University of Modena and Reggio Emilia	801-1000	7	5	6	6	5	6	6	6
University of Murcia	801-1000	7	4	6	6	5	1	6	6
University of New England Australia	801-1000	7	7	6	7	5	6	6	7
University of New Hampshire	801-1000	7	7	6	6	5	6	6	6
University of Parma	801-1000	7	6	6	6	5	6	6	6
University of Patras	801-1000	7	6	6	6	5	1	6	6
University of Salford	801-1000	7	7	6	3	5	3	6	4
University of Santo Tomas	801-1000	7	4	6	6	5	1	6	4
University of Seoul	801-1000	7	7	6	7	5	7	6	7
University of the Punjab	801-1000	7	7	6	6	5	5	6	7
University of the West of England	801-1000	7	4	6	3	5	3	6	3
University of Tulsa	801-1000	7	7	6	7	5	6	6	7
University of Tyumen	801-1000	7	7	6	7	5	4	6	7
University of Wroclaw	801-1000	7	7	6	6	5	4	6	5
University of Wyoming	801-1000	7	7	6	7	5	6	6	7
University of Zagred	801-1000	/	5	6	6 7	5 F	1	6	6
University of Zilina	801-1000	/	1	6		5 F		6	/ 7
verona University	801-1000	/	6 7	6	6	5 F	6	6 7	/ 7
viet ivam ivational University Ho Chi Minh City (VNU-HCM)	801-1000	/ 7	/ 7	6	6 7	5 E	5	/ 7	/ 7
viemani ivanonai University, Hanoi Vytautae Magnus University	801-1000 801-1000	7	7	6	7	5	5	7	7
	001-1000	/	1	U	1	5	Ŧ	1	/

Table A1. Cont.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Worcester Polytechnic Institute	801-1000	7	4	6	7	5	3	7	7
Wroclaw University of Science and Technology (WRUST)	801-1000	7	7	6	7	5	4	7	7
Yamaguchi University	801-1000	7	4	6	5	5	7	7	7
Yerevan State University	801-1000	7	7	6	6	5	7	7	5
Yeungnam University	801-1000	7	4	6	6	5	1	7	4
Yokohama National University	801-1000	7	7	6	7	5	3	7	7
Al Quds University The Arab University in Jerusalem	1001-1200	7	4	6	7	5	1	7	7
Alexandria University	1001-1200	7	6	6	6	5	1	7	6
Aligarh Muslim University	1001-1200	7	7	6	6	5	7	7	6
Amity University	1001-1200	/ 7	1	6		5	3	7	7
Amrita visnwa vidyapeetnam	1001-1200	7	4	6	6	5	1	7	6
Ankara Universitesi An Najah National University	1001 - 1200 1001 1200	7	4	6	6	5	1	7	4
Asia University Taiwan	1001 - 1200 1001 - 1200	7	4 7	6	7	5	6	7	4 7
Assiut University	1001 - 1200 1001 - 1200	7	5	6	6	5	1	7	6
Athens University of Economics and Business	1001-1200	7	7	6	7	5	2	7	7
Auburn University	1001-1200	7	7	6	6	5	6	7	6
Azerbaijan State University of Economics	1001-1200	7	7	6	7	5	7	7	7
Babes-Bolyai University	1001-1200	7	7	6	6	5	4	7	6
Baku State University	1001-1200	7	7	6	7	5	7	7	7
Banaras Hindu University	1001-1200	7	6	6	6	5	1	7	6
Baylor University	1001-1200	7	7	6	6	5	7	7	6
Belarusian State University of Informatics and Radioelectronics	1001-1200	7	7	6	7	5	4	7	7
Benemérita Universidad Autónoma de Puebla	1001-1200	7	6	6	6	5	5	7	6
Bielefeld University	1001-1200	7	7	6	6	5	3	7	6
Bina Nusantara University (BINUS)	1001-1200	7	7	6	7	5	4	7	7
Binghamton University SUNY	1001-1200	7	7	6	6	5	6	7	6
"Birla Institute of Technology and Science, Pilani"	1001-1200	7	7	6	6	5	3	7	6
Birmingham City University	1001-1200	7	4	6	3	5	3	7	3
BRAC University	1001-1200	/ 7	7	6		5	5	7	
Brock University	1001 - 1200 1001 1200	7	7	6	6	5	0	7	6
Canterbury Christ Church University	1001 - 1200 1001 - 1200	7	7	6	7	5	3	7	6
CELUDiversities	1001 - 1200 1001 - 1200	7	7	6	6	5	4	7	7
Chungbuk National University	1001-1200	7	5	6	6	5	7	7	5
COMSATS University Islamabad	1001-1200	7	7	6	6	5	5	7	7
Corvinus University of Budapest	1001-1200	7	7	6	7	5	4	7	7
CUNY The City College of New York	1001-1200	7	6	6	6	5	6	7	7
Doshisha University	1001-1200	7	7	6	6	5	4	7	6
Escuela Politécnica Nacional	1001-1200	7	7	6	7	5	7	7	7
Escuela Superior Politécnica del Litoral (ESPOL)	1001-1200	7	7	6	7	5	5	7	7
Financial University under the Government of the Russian Federation	1001-1200	7	7	6	7	5	7	7	7
Fordham University	1001-1200	7	7	6	6	5	6	7	6
Future University in Egypt	1001-1200	7	7	7	7	5	4	7	7
Gazi Universitesi	1001-1200	7	6	7	6	5	5	7	6
George Mason University	1001-1200	7	7	7	6	5	6	7	6
Glasgow Caledonian University	1001-1200	7	7	7	7	5	3	7	4
Hughong Agricultural University	1001 - 1200 1001 1200	7	7	7	6	5	5	7	6
Imam Mohammad Ibn Saud Islamic University—IMSIU	1001 - 1200 1001 - 1200	7	7	7	7	5	3	7	6
Istanbul Avdin University	1001-1200	7	7	7	, 7	5	3	7	4
Ivan Franko National University of Lviv	1001-1200	7	7	7	6	5	7	7	5
Ieiu National University	1001-1200	7	6	7	6	5	7	7	7
Kangwon National University	1001-1200	7	6	7	6	5	7	7	7
Kazakh Ablai Khan University of International Relations and World Languages	1001-1200	7	7	7	7	5	7	7	7
Kazan National Research Technological University	1001-1200	7	7	7	7	5	4	7	7
Kent State University	1001-1200	7	7	7	6	5	3	7	6
Kharkiv National University of Radio Electronics	1001-1200	7	7	7	7	5	4	7	7
Kookmin University	1001-1200	7	7	7	7	5	4	7	5
Kuwait University	1001-1200	7	5	7	6	5	1	7	4
Kyoto Institute of Technology	1001-1200	7	7	7	7	5	6	7	7
Kyushu Institute of Technology	1001-1200	7	7	7	7	5	6	7	7
Leeds Beckett University	1001-1200	7	7	7	7	5	3	7	4
Mandalaay University of Chamical Tachnology	1001 - 1200 1001 - 1200	/ 7	7	7	7	0 6	/ 7	/7	7
Mississippi State University	1001 - 1200 1001, 1200	7	7	/ 7	6	6	6	7	6
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Mutanerish University 1001-1200 7 7 7 7 6 6 1 7 5 Mutan University 1001-1200 7 6 6 1 7 5 Mutan University 1001-1200 7 7 6 6 1 7 7 Nagor Institute of Technology (NIT) 1001-1200 7 7 7 6 6 7 7 North South University 1001-1200 7 7 7 6 6 7 7 North South University 1001-1200 7 7 7 6 6 7 7 Obtic University 1001-1200 7 7 7 6 6 7 7 Obtic University 1001-1200 7 7 7 6 6 7 7 Statis University 1001-1200 7 7 7 6 6 7 7 Statis University 1001-1200	University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Match University 1001-120 7 4 7 6 1 7 5 Match University 1001-120 7 <	Multimedia University (MMU)	1001-1200	7	7	7	7	6	4	7	7
Mutab Non-res 7 7 6 1 7 7 Myckals Non-res 7 7 7 6 4 7 Naterial Tanwares Non-res Non-res 7 7 7 6 6 7 Naterial Tanwares Non-res Non-res 7 7 7 6 6 7 Naterial Tanwares Non-res Non-res 7 7 7 6 6 7 7 Non-res Non-res Non-res Non-res 7 7 7 6 6 7 7 Occound University 1001-1200 7 7 7 6 6 7 7 Social National University 1001-1200 7 7 7 6 6 7 7 Social National University 1001-1200 7 7 7 6 6 7 7 Social National University 1001-1200 7<	Mustansiriyah University	1001-1200	7	4	7	6	6	1	7	5
Mysons Remeric University 1001-120 7 7 7 7 6 6 7 7 National Diversity 1001-1200 7 7 7 7 6 6 7 7 National Diversity 1001-1200 7 7 7 7 6 6 7 7 North South Diversity 1001-1200 7 7 7 6 6 7 7 Outs-south Diversity 1001-1200 7 7 7 6 6 7 7 Outs-Outversity 1001-1200 7 7 7 7 6 6 7 7 7 6 6 7 7 7 7 6 6 7 </td <td>Mutah University</td> <td>1001-1200</td> <td>7</td> <td>6</td> <td>7</td> <td>7</td> <td>6</td> <td>1</td> <td>7</td> <td>4</td>	Mutah University	1001-1200	7	6	7	7	6	1	7	4
Nagon Institute of Technology (NIT) 1001–1200 7 7 7 7 6 6 7 7 National Tawas (Acean University 1001–1200 7 7 7 7 6 6 7 7 North South University 1001–1200 7 7 7 7 6 6 7 7 North South University 1001–1200 7 7 7 7 6 6 7 7 Cocan University A Chrian 1001–1200 7 7 7 7 6 6 7 7 Rochester Institute of Technology (RIT) 1001–1200 7 7 7 7 6 6 7 7 Sainana Loniversity 1001–1200 7 7 7 7 6 6 7 7 Sainana Loniversity 1001–1200 7 7 7 6 6 7 7 Sainana Loniversity of Source and Technology 1001–1200 7	Mykolas Romeris University	1001-1200	7	7	7	7	6	4	7	7
Naliani Taiwan Ocean University 1001–1200 7 7 7 6 6 7 Natterul Civicensity of Kyin-Mohyla Academy (NaUKMA) 1001–1200 7 7 7 7 6 6 7 7 North South University 1001–1200 7 7 7 7 6 6 7 7 Ocean University of China 1001–1200 7 7 7 7 6 6 7 7 Othess LI Machinkov National University 1001–1200 7 7 7 7 6 6 7 7 Souther Stream and University 1001–1200 7 7 7 7 6 6 7 7 South National University 1001–1200 7 7 7 6 6 7 7 South Mational University 1001–1200 7 7 7 6 6 7 7 South Beschied University 1001–1200 7 7 7	Nagova Institute of Technology (NIT)	1001-1200	7	7	7	7	6	6	7	7
National University of Spir-Molyla Academy (NaUKMA) 1001-1200 7	National Taiwan Ocean University	1001-1200	7	7	7	7	6	6	7	7
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Souid Number 1001–1200 7	South University	1001-1200	7	7	7	7	6	4	7	7
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Binsian O'Attasantian Opernation Opernational Opernation of the statisty of the statis the statisty of the statisty of the stat	Siberian Federal University, SibFU	1001-1200	7	7	7	7	6	5	7	3
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Universidad de Ialca 1001-1200 7 7 7 7 6 5 7 7 Universidad de Valparaíso (UV) 1001-1200 7 5 7 6 6 5 7 6 Universidad del Norte 1001-1200 7 5 7 6 6 5 7 6 Universidad del Pacífico 1001-1200 7 7 7 7 6 5 7 6 Universidad Nacional Agraria la Molina 1001-1200 7 7 7 7 6 6 1 7 6 Universidad Nacional de Cuyo 1001-1200 7 7 7 7 6 6 1 7 6 Universidad Nacional, Costa Rica'' 1001-1200 7 7 7 7 6 6 1 7 7 Universidad Peruana de Ciencias Aplicadas 1001-1200 7 7 7 6 6 5 7 7 Universidad Tecnica Federico Santa María (USM) 1001-1200 7 7 7 7 6 <td>Universidad de Monterrey (UDEM)</td> <td>1001-1200</td> <td>7</td> <td>7</td> <td>7</td> <td>7</td> <td>6</td> <td>5</td> <td>7</td> <td>7</td>	Universidad de Monterrey (UDEM)	1001-1200	7	7	7	7	6	5	7	7
Universidad de Valparaiso (UV) 1001-1200 7 6 7 6 6 5 7 7 Universidad del Norte 1001-1200 7 5 7 6 6 5 7 6 Universidad del Pacífico 1001-1200 7 7 7 6 6 5 7 6 Universidad Nacional Agraria la Molina 1001-1200 7 7 7 7 6 6 1 7 7 Universidad Nacional de Cuyo 1001-1200 7 7 7 6 6 1 7 6 Universidad Nacional de Cuyo 1001-1200 7 7 7 6 6 1 7 6 Universidad Nacional, Costa Rica'' 1001-1200 7 7 7 6 6 5 7 7 Universidad Rey Juan Carlos 1001-1200 7 7 7 6 6 5 7 7 Universidad Tecnica Federico Santa María (USM) 1001-1200 7 7 7 6 7 7 7	Universidad de Talca	1001-1200	7	7	7	7	6	5	7	7
Universidad del Norte 1001–1200 7 5 7 6 6 5 7 6 Universidad del Pacífico 1001–1200 7 7 7 6 5 7 7 Universidad Industrial de Santander—UIS 1001–1200 7 7 7 6 6 5 7 7 Universidad Nacional Agraria la Molina 1001–1200 7 5 7 6 6 1 7 6 Universidad Nacional de Cuyo 1001–1200 7 5 7 6 6 1 7 6 Universidad Nacional, Costa Rica" 1001–1200 7 7 7 7 6 5 7 7 Universidad Nacional, Costa Rica" 1001–1200 7 7 7 6 5 7 7 Universidad Rey Juan Carlos 1001–1200 7 7 7 6 5 7 7 Universidad Tecnológica de Panamá (UTP) 1001–1200 7 7 7 6 6 7 7 Universidade de Cruña	Universidad de Valparaíso (UV)	1001-1200	7	6	7	6	6	5	7	7
Universidad del Pacifico 1001-1200 7 7 7 7 6 5 7 7 Universidad Industrial de Santander—UIS 1001-1200 7 6 7 6 6 5 7 6 Universidad Nacional de Cuyo 1001-1200 7 7 7 6 6 1 7 6 Universidad Nacional de La Asunción 1001-1200 7 5 7 6 6 1 7 6 "Universidad Nacional, Costa Rica" 1001-1200 7 7 7 7 6 5 7 7 Universidad Rey Juan Carlos 1001-1200 7 7 7 6 6 5 7 7 Universidad Técnica Federico Santa María (USM) 1001-1200 7 7 7 6 4 7 7 Universidad de Vigo 1001-1200 7 7 7 6 4 7 7 Universidad de Coruña 1001-1200 7 7 7 6 6 7 7 Universidade de Stado do Rio	Universidad del Norte	1001-1200	7	5	7	6	6	5	7	6
Universidad Industrial de Santander—UIS1001–120076766576Universidad Nacional Agraria la Molina1001–1200777766177Universidad Nacional de Cuyo1001–120075766176Universidad Nacional de La Asunción1001–120075766176"Universidad Peruana de Ciencias Aplicadas1001–120077776577Universidad Rey Juan Carlos1001–1200777766577Universidad Tecnica Federico Santa María (USM)1001–1200777766577Universidad Cecnuña1001–1200777766577Universidad Ecológica de Panamá (UTP)1001–120077776677Universidade de Vigo1001–120077776677Universidade de Vigo1001–120077776677Universidade de Distado do Rio de Janeiro (UERJ)1001–120077776677Università degli Studi della Tuscia (University of Tuscia)1001–120077776677 <tr <tr="">Università Sebela</tr>	Universidad del Pacifico	1001-1200	7	7	7	7	6	5	7	7
Universidad Nacional Agraria la Molina1001–1200777777777777777777777777761761766176617661766176617661766176617661766176617661766176617661766176617766177661776617776617776617777661777766577701001-120077776657771001-12007777667777766777776677777766777777777777 <th< td=""><td>Universidad Industrial de Santander—UIS</td><td>1001-1200</td><td>7</td><td>6</td><td>2</td><td>6</td><td>6</td><td>5</td><td>7</td><td>6</td></th<>	Universidad Industrial de Santander—UIS	1001-1200	7	6	2	6	6	5	7	6
Universidad Nacional de Cuyo 1001–1200 7 5 7 6 6 1 7 6 Universidad Nacional de la Asunción 1001–1200 7 5 7 6 6 1 7 6 "Universidad Nacional, Costa Rica" 1001–1200 7 7 7 6 6 5 7 7 Universidad Peruana de Ciencias Aplicadas 1001–1200 7 7 7 6 6 5 7 7 Universidad Técnica Federico Santa María (USM) 1001–1200 7 7 7 6 4 7 7 Universidad de Coruña 1001–1200 7 7 7 6 4 7 7 Universidade da Coruña 1001–1200 7 7 7 6 4 7 7 Universidade da Coruña 1001–1200 7 7 7 6 6 7 7 Universidade da Coruña 1001–1200 7 7 7 6 6 7 7 Universidade do Estado do Rio de Janeiro (UERJ) 10	Universidad Nacional Agraria la Molina	1001-1200	7	7	7	7	6	7	7	7
Universidad Nacional de la Asunción1001–120075766176"Universidad Nacional, Costa Rica"1001–120077776577Universidad Peruana de Ciencias Aplicadas1001–1200777766577Universidad Rey Juan Carlos1001–1200777766377Universidad Técnica Federico Santa María (USM)1001–120077776577Universidad Tecnológica de Panamá (UTP)1001–120077776477Universidade da Coruña1001–120077776677Universidade de Vigo1001–120077776677Universidade de Vigo1001–120077776677Universidade Federal de Pernambuco (UFPE)1001–120077776677Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Università Sebelas Maret1001–1200777766777Università Sebelas Maret1001–1200777766576Università Siegen1001–12007<	Universidad Nacional de Cuyo	1001-1200	7	5	7	6	6	1	7	6
"Universidad Nacional, Costa Rica" 1001–1200 7 7 7 6 5 7 7 Universidad Peruana de Ciencias Aplicadas 1001–1200 7 7 7 6 6 5 7 7 Universidad Rey Juan Carlos 1001–1200 7 7 7 6 6 3 7 Universidad Técnica Federico Santa María (USM) 1001–1200 7 7 7 6 4 7 Universidad a Coruña 1001–1200 7 7 7 6 4 7 Universidade da Coruña 1001–1200 7 7 7 6 7 7 Universidade de Vigo 1001–1200 7 7 7 6 6 7 7 Universidade do Estado do Rio de Janeiro (UERJ) 1001–1200 7 7 7 6 6 5 7 6 Universidade Federal de Pernambuco (UFPE) 1001–1200 7 7 7 6 6 7 7 Università degli Studi di Udine 1001–1200 7 7 7	Universidad Nacional de la Asunción	1001-1200	7	5	7	6	6	1	7	6
Universidad Peruana de Ciencias Aplicadas1001–120077766577Universidad Rey Juan Carlos1001–120077776637Universidad Técnica Federico Santa María (USM)1001–1200777766577Universidad Tecnológica de Panamá (UTP)1001–120077776477Universidade da Coruña1001–120077776677Universidade do Stado do Rio de Janeiro (UERJ)1001–120077776677Universidade Federal de Pernambuco (UFPE)1001–120077776677Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Universitas Basanuddin1001–120077776677Universitat Siegen1001–120077776677	"Universidad Nacional, Costa Rica"	1001-1200	7	7	7	7	6	5	7	7
Universidad Rey Juan Carlos1001–120077766377Universidad Técnica Federico Santa María (USM)1001–1200777776577Universidad Tecnológica de Panamá (UTP)1001–1200777776477Universidade da Coruña1001–1200777766777Universidade do Coruña1001–1200777766777Universidade do Estado do Rio de Janeiro (UERJ)1001–120076766576Universidade Federal de Pernambuco (UFPE)1001–120077776677Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Universitas Hasanuddin1001–120077776677Universitas Sebelas Maret1001–1200777766576Universität Siegen1001–120076766577	Universidad Peruana de Ciencias Aplicadas	1001-1200	7	7	7	6	6	5	7	7
Universidad Técnica Federico Santa María (USM)1001–120077776577Universidad Tecnológica de Panamá (UTP)1001–1200777776477Universidade da Coruña1001–1200777776777Universidade de Vigo1001–120077776677Universidade do Estado do Rio de Janeiro (UERJ)1001–120077766576Universidade Federal de Pernambuco (UFPE)1001–120077776677Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Universitas Hasanuddin1001–120077776677Universitas Sebelas Maret1001–120076766576Universität Siegen1001–120077766577	Universidad Rey Juan Carlos	1001-1200	7	7	7	6	6	3	7	7
Universidad Tecnológica de Panamá (UTP)1001–120077776477Universidade da Coruña1001–1200777766777Universidade de Vigo1001–1200777766777Universidade do Estado do Rio de Janeiro (UERJ)1001–120076766576Universidade Federal de Pernambuco (UFPE)1001–120077776677Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Università Basanuddin1001–1200777766576Universita Sebelas Maret1001–120076766576Universităt Siegen1001–120077766576	Universidad Técnica Federico Santa María (USM)	1001-1200	7	7	7	7	6	5	7	7
Universidade da Coruña1001–120077776777Universidade de Vigo1001–120077776677Universidade do Estado do Rio de Janeiro (UERJ)1001–120076766576Universidade Federal de Pernambuco (UFPE)1001–12007677776677Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Università Hasanuddin1001–120077776677Universita Sebelas Maret1001–120076766576Universită Siegen1001–120077766576	Universidad Tecnológica de Panamá (UTP)	1001-1200	7	7	7	7	6	4	7	7
Universidade de Vigo1001–120077776677Universidade do Estado do Rio de Janeiro (UERJ)1001–120076766576Universidade Federal de Pernambuco (UFPE)1001–120076766576Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Università degli Studi di Udine1001–120077776677Universitas Hasanuddin1001–12007766576Universitä Sebelas Maret1001–120076766577Universität Siegen1001–120077766377	Universidade da Coruña	1001-1200	7	7	7	7	6	7	7	7
Universidade do Estado do Rio de Janeiro (UERJ) 1001–1200 7 6 7 6 5 7 6 Universidade Federal de Pernambuco (UFPE) 1001–1200 7 6 7 6 5 7 6 Università degli Studi della Tuscia (University of Tuscia) 1001–1200 7 7 7 6 6 7 7 Università degli Studi di Udine 1001–1200 7 7 7 6 6 7 7 Universitas Hasanuddin 1001–1200 7 6 7 6 5 7 6 Universitas Sebelas Maret 1001–1200 7 6 7 6 5 7 7 Universität Siegen 1001–1200 7 7 7 6 6 5 7 7	Universidade de Vigo	1001-1200	7	7	7	7	6	6	7	7
Universidade Federal de Pernambuco (UFPE)1001–120076766576Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Università degli Studi di Udine1001–120077776677Universitas Hasanuddin1001–120076766576Universitas Sebelas Maret1001–120076766577Universität Siegen1001–120077766376	Universidade do Estado do Rio de Janeiro (UERJ)	1001-1200	7	6	7	6	6	5	7	6
Università degli Studi della Tuscia (University of Tuscia)1001–120077776677Università degli Studi di Udine1001–120077776677Universitas Hasanuddin1001–120076766576Universitas Sebelas Maret1001–120076766577Universität Siegen1001–120077766376	Universidade Federal de Pernambuco (UFPE)	1001-1200	7	6	7	6	6	5	7	6
Università degli Studi di Udine1001–120077776677Universitas Hasanuddin1001–120076766576Universitas Sebelas Maret1001–120076766577Universität Siegen1001–120077766376	Università degli Studi della Tuscia (University of Tuscia)	1001-1200	7	7	7	7	6	6	7	7
Universitas Hasanuddin1001–12007676576Universitas Sebelas Maret1001–120076766577Universität Siegen1001–120077766376	Università degli Studi di Udine	1001-1200	7	7	7	7	6	6	7	7
Universitas Sebelas Maret 1001–1200 7 6 7 6 5 7 7 Universität Siegen 1001–1200 7 7 7 6 6 3 7 6	Universitas Hasanuddin	1001-1200	7	6	7	6	6	5	7	6
Universität Siegen 1001–1200 7 7 7 6 6 3 7 6	Universitas Sebelas Maret	1001-1200	7	6	7	6	6	5	7	7
	Universität Siegen	1001-1200	7	7	7	6	6	3	7	6

Table A1. Cont.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Université de Toulouse II-Le Mirail	1001-1200	7	7	7	6	6	4	7	6
Université Lumière Lyon 2	1001-1200	7	7	7	7	6	4	7	7
Université Toulouse 1 Capitole	1001-1200	7	7	7	7	6	4	7	4
Universiti Kuala Lumpur (UniKL)	1001-1200	7	5	7	6	6	7	7	7
Universiti Malaysia Sabah (UMS)	1001-1200	7	6	7	6	6	1	7	7
Universiti Malaysia Sarawak (UNIMAS)	1001-1200	7	4	7	6	6	1	7	7
Universiti Malaysia Terengganu (UMT)	1001-1200	7	7	7	7	6	6	7	7
Universiti Tun Hussein Onn University of Malaysia (UTHM)	1001-1200	7	7	7	7	6	6	7	7
"University of Agriculture, Faisalabad"	1001-1200	7	7	7	6	6	3	7	6
University of Arkansas Fayetteville	1001-1200	7	7	7	7	6	6	7	7
University of Belgrade	1001-1200	7	6	7	6	6	1	7	6
University of Bucharest	1001-1200	7	7	7	6	6	5	7	6
University of Calabria	1001-1200	7	7	7	6	6	6	7	6
University of Derby	1001-1200	7	7	7	7	6	3	7	4
University of Kufa	1001-1200	7	5	7	6	6	7	7	5
University of Latvia	1001-1200	7	5	7	6	6	1	7	4
University of Miskolc	1001-1200	7	7	7	7	6	7	7	7
University of Missouri Saint Louis	1001-1200	7	7	7	7	6	6	7	7
"University of Missouri, Kansas City"	1001-1200	7	7	7	7	6	6	7	7
University of Montana Missoula	1001-1200	7	7	7	7	6	6	7	7
University of Mumbai	1001-1200	7	6	7	6	6	1	7	6
University of Naples Parthenope	1001-1200	7	7	7	7	6	6	7	7
University of North Texas	1001-1200	7	6	7	6	6	6	7	6
University of Ostrava	1001-1200	7	7	7	7	6	4	7	7
University of Palermo	1001-1200	7	7	7	6	6	6	7	6
University of Pardubice	1001-1200	7	7	7	7	6	6	7	7
University of Peradeniya	1001-1200	7	7	7	7	6	7	7	7
University of Primorska	1001-1200	7	7	7	7	6	3	7	4
University of Regina	1001-1200	7	7	7	7	6	3	7	1
University of Knode Island	1001-1200	7	/	7	6	6	6	/	6
University of Rijeka	1001-1200	7	1	7	7	6	7	7	1
University of Salerno	1001-1200	7	6 7	7	6 7	6	6 7	7	6 7
University of San Diego	1001 - 1200 1001 - 1200	7	7	7	7	6	1	7	7
University of San Francisco	1001-1200	7	7	7	7	6	4	7	7
University of the Pacific	1001 - 1200 1001 - 1200	7	7	7	7	6	7	7	7
University of the Sunshine Coast	1001 - 1200 1001 - 1200	7	7	7	7	6	3	7	7
University of the Western Cane	1001 - 1200 1001 - 1200	7	7	7	6	6	3	7	6
University of Warmia and Mazury in Oleztyn	1001 - 1200 1001 - 1200	7	7	7	7	6	7	7	7
University of Wisconsin Milwaukee	1001 - 1200 1001 - 1200	7	7	7	7	6	6	7	7
University of Wolverhampton	1001 - 1200	7	4	7	3	6	3	7	4
Vellore Institute of Technology (VIT)	1001-1200	7	7	7	7	6	3	7	7
Voronezh State University	1001-1200	7	7	7	6	6	4	7	7
Warsaw University of Life Sciences-SGGW (WULS-SGGW)	1001-1200	7	7	7	7	6	6	7	7
West Virginia University	1001-1200	7	5	7	6	6	6	7	6
Western Michigan University	1001-1200	7	4	7	6	6	1	7	4
Xi'an Jiaotong Liverpool University	1001-1200	7	2	7	3	6	3	7	3
Yildiz Technical University	1001-1200	7	7	7	6	6	4	7	6
Don State Technical University	1201-1400	7	7	7	6	6	4	7	6
Akdeniz Üniversitesi	1201-1400	7	7	7	6	6	7	7	7
Al-Azhar University	1201-1400	7	7	7	6	6	6	7	6
Al-Balga Applied University	1201-1400	7	7	7	6	6	7	7	7
Alexandru Ioan Cuza University	1201-1400	7	7	7	7	6	6	7	7
Anadolu University	1201-1400	7	7	7	7	6	7	7	7
Aoyama Gakuin University	1201-1400	7	7	7	6	6	5	7	6
Birzeit university	1201-1400	7	7	7	7	6	4	7	7
British University in Egypt	1201-1400	7	7	7	7	6	7	7	7
California State University—Los Angeles	1201-1400	7	7	7	6	6	7	7	6
Católica de Córdoba	1201-1400	7	6	7	6	7	7	7	7
Central Michigan University	1201-1400	7	6	7	6	7	7	7	6
China University of Political Science and Law	1201-1400	7	7	7	7	7	5	7	7
Chung Yuan Christian University	1201-1400	7	7	7	7	7	6	7	7
Cleveland State University	1201-1400	7	7	7	6	7	6	7	6
Dokuz Eylül Üniversitesi	1201-1400	7	7	7	6	7	7	7	7
EGE UNIVERSITY	1201-1400	7	6	7	6	7	7	7	7
Feng Chia University	1201-1400	7	7	7	7	7	6	7	7

Table A1. Cont.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Florida Atlantic University—Boca Raton	1201-1400	7	6	7	6	7	7	7	6
Fu Jen Catholic University	1201–1400	7	6	7	6	7	1	7	6
Fundación Universidad De Bogotá-Jorge Tadeo Lozano	1201-1400	7	7	7	7	7	7	7	7
Gebze Yüksek Teknoloji Enstitüsü (GYTE)	1201-1400	7	7	7	7	7	7	7	7
German University in Cairo	1201-1400	7	7	7	7	7	5	7	7
Hanoi University of Science and Technology	1201-1400	7	7	7	7	7	5	7	6
Helwan University	1201-1400	7	7	7	6	7	7	7	7
Hongik University	1201-1400	7	7	7	7	7	4	7	7
Humboldt State University	1201-1400	7	7	7	7	7	7	7	7
Illinois State University	1201-1400	7	7	7	7	7	7	7	7
Indiana State University	1201-1400	7	7	7	7	7	7	7	7
International Islamic University Islamabad (IIU)	1201-1400	7	7	7	7	7	7	7	7
Irkutsk State University	1201-1400	7	7	7	7	7	7	7	7
Istanbul Bilgi Universitesi	1201-1400	7	7	7	7	7	4	7	7
Izmir Institute of Technology (IZTECH)	1201-1400	7	7	7	7	7	7	7	1
Kindai University (Kinki University)	1201 - 1400 1201 1400	7	6 7	7	6 7	7	5	7	6 7
King Mongkut \ S Institute of Technology Laukrabang	1201 - 1400 1201 1400	7	7	7	6	7	3	7	6
Lucian Blaga University of Sibiu	1201 - 1400 1201 - 1400	7	7	7	6	7	7	7	7
Makarara University	1201 - 1400 1201 - 1400	7	6	7	6	7	7	7	6
Mansoura University	1201 - 1400 1201 - 1400	7	6	7	6	7	5	7	6
Marmara University	1201 - 1400 1201 - 1400	7	7	7	6	7	7	7	6
Meijii University	1201 - 1400	7	7	7	6	7	4	7	6
Miami University	1201-1400	7	7	7	6	7	6	7	6
MIREA—Russian Technological University	1201-1400	7	7	7	7	7	7	7	7
Moscow City University	1201-1400	7	7	7	7	7	7	7	7
Moscow Pedagogical State University	1201-1400	7	7	7	7	7	4	7	7
National Dong Hwa University	1201-1400	7	7	7	7	7	6	7	7
National Research University Moscow Power Engineering Institute (MPEI)	1201-1400	7	7	7	7	7	4	7	7
National Taipei University	1201-1400	7	7	7	7	7	7	7	7
National University of Life and Environmental Sciences of Ukraine	1201-1400	7	7	7	7	7	7	7	7
Northern Arizona University	1201-1400	7	7	7	6	7	6	7	6
Nova Southeastern University	1201–1400	7	7	7	6	7	7	7	6
Obuda University	1201–1400	7	7	7	7	7	6	7	7
Pontificia Universidad Catolica Madre y Maestra	1201-1400	7	7	7	7	7	4	7	7
Pontificia Universidade Católica do Campinas—PUC Campinas	1201-1400	7	7	7	7	7	7	7	7
Pontificia Universidade Católica do Parana	1201-1400	7		7	6	7	7	7	1
Pontincia Universidade Catolica do Rio Grande do Sul (PUCRS)	1201 - 1400 1201 1400	7	6 7	7	6	7	6	7	6
Pulsiona National University	1201 - 1400 1201 1400	7	7	7	0 7	7	6	7	07
Rikkyo University	1201 - 1400 1201 - 1400	7	7	7	7	7	4	7	6
Russian State Agrarian University—Moscow Timiryazev Agricultural Academy	1201 - 1400 1201 - 1400	7	7	7	7	7	- 7	7	7
Russian State University for the Humanities	1201 - 1400 1201 - 1400	7	7	7	7	7	7	7	7
Saken Seifullin Kazakh Agrotechnical University	1201-1400	7	7	7	7	7	7	7	7
San Francisco State University	1201-1400	7	7	7	6	7	6	7	6
Shanghai University of Finance and Economics	1201-1400	7	7	7	7	7	5	7	7
Shibaura Institute of Technology	1201-1400	7	7	7	7	7	3	7	7
Slovak University of Agriculture in Nitra	1201-1400	7	7	7	7	7	6	7	7
Soochow University (Taiwan)	1201-1400	7	7	7	7	7	7	7	7
Soongsil University	1201-1400	7	7	7	7	7	3	7	7
Southwest University	1201-1400	7	7	7	6	7	6	7	7
SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	1201-1400	7	7	7	6	7	7	7	7
Stefan cel Mare University of Suceava	1201-1400	7	7	7	7	7	4	7	4
Suez Canal University	1201–1400	7	6	7	6	7	7	7	7
Suranaree University of Technology	1201-1400	7	7	7	7	7	6	7	7
Tamkang University	1201-1400	7	7	7	7	7	6	7	7
Ianta University	1201-1400	7	7	7	7	7	7	7	6 7
The Hechemite University of Cluj-Mapoca	1201 - 1400 1201 1400	7	1	7	6	7	/	7	7
"The Institute Oniversity of Notro Dama Australia"	1201 - 1400 1201 - 1400	7	7	/ 7	7	/ 7	1 7	/ 7	7
The University of Texas at Arlington	1201-1400	7	7	7	6	7	3	7	6
Toraighvroy University	1201-1400	7	7	, 7	7	, 7	7	7	7
Transilvania University of Brasov	1201-1400	7	6	7	6	7	, 7	7	6
Tunghai University	1201-1400	7	7	7	6	7	6	7	6
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University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
Universidad Autónoma de Baja California	1201-1400	7	7	7	6	7	7	7	6
Universidad Autónoma de Chile	1201-1400	7	7	7	7	7	5	7	7
Universidad Autónoma de Querétaro (UAQ)	1201-1400	7	6	7	6	7	7	7	6
Universidad Autónoma de San Luis de Potosí	1201-1400	7	6	7	6	7	7	7	6
Universidad Autonoma de Yucatan	1201-1400	7	7	7	6	7	7	7	6
Universidad Autónoma del Estado de Morelos (UAEM)	1201-1400	7	6	7	6	7	7	7	6
Universidad Bernardo O'Higgins	1201-1400	7	7	7	7	7	5	7	7
Universidad Católica de Colombia	1201-1400	7	7	7	7	7	7	7	7
Universidad Católica de La Santísima Concepción—UCSC	1201-1400	7	7	7	6	7	7	7	7
Universidad Católica del Norte	1201-1400	7	6	7	6	7	5	7	7
Universidad Central de Chile	1201-1400	7	7	7	7	7	7	7	7
Universidad de Cartagena	1201-1400	7	6	7	6	7	7	7	6
Universidad de Cuenca	1201-1400	7	6	7	6	7	7	7	6
Universidad de Guanajuato	1201–1400	7	7	7	6	7	5	7	6
Universidad de La Frontera (UFRO)	1201–1400	7	7	7	7	7	6	7	7
Universidad de La Salle	1201–1400	7	7	7	7	7	7	7	7
Universidad de La Serena	1201-1400	7	7	7	7	7	7	7	7
Universidad de las Fuerzas Armadas ESPE (Ex-Escuela Politécnica del Ejército)	1201-1400	7	7	7	6	7	7	7	6
Universidad de Medellin	1201-1400	7	7	7	7	7	7	7	7
Universidad de Panama	1201-1400	7	7	7	7	7	5	7	6
Universidad de Piura	1201-1400	7	7	7	1	7	5	7	7
Universidad de Puerto Rico	1201-1400	/	6	/	6	7	5	7	6
Universidad de Sonora	1201-1400	7	7	7	6	7	7	7	6
Universidad del Bio-Bio	1201-1400	7	7	7	6	7	5	7	6
Universidad del Cauca	1201-1400	/ 7	7	/ 7	6 7	/ 7	4	7	6
Universidad del Desarrollo (UDD)	1201-1400	7	7	7		7	5	7	
Universidad del Magdalena	1201-1400	7	7	7	6 7	7	1	7	6 7
Universidad del Valle de Mexico (UVM)	1201 - 1400 1201 1400	7	7	7	7	7	4 5	7	6
Universidad La Salle (ULSA)	1201 - 1400 1201 1400	7	6	7	6	7	5	7	07
Universidad Mayor de San Andrés (UMSA)	1201 - 1400 1201 1400	7	6	7	6	7	5	7	6
Universidad Matronolitana	1201 - 1400 1201 1400	7	7	7	7	7	5	7	7
Universidad Nacional de Ouilmes	1201 - 1400 1201 - 1400	7	7	7	7	7	7	7	7
Universidad Nacional de San Martín (UNSAM)	1201-1400	7	7	7	7	7	6	7	7
Universidad Nacional del Litoral	1201-1400	7	7	7	6	7	5	7	6
Universidad Popular Autónoma del Estado de Puebla (UPAEP)	1201-1400	7	7	7	7	7	7	7	7
Universidad San Ignacio de Lovola	1201-1400	7	7	7	7	7	5	7	7
Universidad Tecnica Particular De Loja (UPTL)	1201–1400	7	7	7	7	7	5	7	6
"Universidad Tecnológica de la Habana Iosé Antonio Echeverría, Cujae"	1201-1400	7	7	7	7	7	7	7	7
Universidad Tecnológica de Pereira	1201-1400	7	7	7	6	7	7	7	6
Universidade Estadual de Londrina	1201-1400	7	6	7	6	7	7	7	6
Universidade Federal da Bahia	1201-1400	7	6	7	6	7	5	7	6
Universidade Federal da Paraíba	1201-1400	7	7	7	6	7	7	7	6
Universidade Federal de Goiás	1201-1400	7	7	7	6	7	7	7	6
Universidade Federal de Santa Maria	1201-1400	7	6	7	6	7	7	7	6
Universidade Federal de Uberlândia	1201-1400	7	7	7	6	7	7	7	7
Universidade Federal de Viçosa (UFV)	1201-1400	7	6	7	6	7	7	7	6
Universidade Federal do Ceará (UFC)	1201-1400	7	6	7	6	7	7	7	6
Universidade Federal do Parà—UFPA	1201-1400	7	6	7	6	7	7	7	6
Universidade Federal Fluminense	1201-1400	7	6	7	6	7	5	7	6
Universidade Presbiteriana Mackenzie	1201-1400	7	7	7	6	7	5	7	6
"Universita' degli Studi "G. d'Annunzio" Chieti Pescara"	1201-1400	7	7	7	7	7	6	7	7
Università degli studi di Bergamo	1201–1400	7	7	7	7	7	3	7	7
Universitas Andalas	1201-1400	7	7	7	6	7	7	7	6
Universitas Muhammadiyah Surakarta	1201–1400	7	7	7	7	7	7	7	7
Universitas Sumatera Utara	1201-1400	7	6	7	6	7	7	7	6
Universitatea de Vest din Timisoara/West University of Timisoara	1201-1400	7	7	7	7	7	7	7	7
Université de Caen Normandie	1201-1400	7	6	7	6	7	1	7	6
Université Les Manar	1201-1400	7	6 7	7	6	7	5	7	7
Université Jean Moulin Lyon 3	1201-1400	7	7	7	1	7	4	7	1
Universite r'aris-Nanterre	1201 - 1400 1201 1400	/ 7	1	/ 7	6	/ 7	5 7	/ 7	6 7
University of Colombo	1201 - 1400 1201 1400	/ 7	б 7	7	0	/ 7	/	7	6
University of Colombo	1201 - 1400 1201 1400	/ 7	1	/ 7	0	/ 7	Э Е	/ 7	0
University of International Business and Economics	1201 - 1400 1201 - 1400	7	0 7	/ 7	0 7	/ 7	5 4	7	0 7
University of Marachi	1201 - 1400 1201 1400	7	7	/ 7	6	/ 7	+ 5	/ 7	6
	1201-1400	/	1	/	U	1	5	1	0

Table A1. Cont.

University	Rank	QS	Fuzzy	QS	KM	QS	GMM	QS	AGG
University of Kragujevac	1201-1400	7	7	7	7	7	7	7	7
University of North Carolina at Charlotte	1201-1400	7	7	7	6	7	6	7	6
University of North Carolina at Greensboro	1201-1400	7	7	7	6	7	6	7	6
University of Silesia in Katowice	1201-1400	7	7	7	6	7	7	7	6
University of Split	1201-1400	7	7	7	6	7	7	7	7
University of Texas El Paso	1201-1400	7	7	7	7	7	6	7	7
University POLITEHNICA of Bucharest	1201-1400	7	7	7	7	7	7	7	7
"University Politehnica of Timisoara, UPT"	1201-1400	7	7	7	7	7	7	7	7
VSB—Technical University of Ostrava	1201-1400	7	7	7	7	7	4	7	7
Western Washington University	1201-1400	7	7	7	6	7	5	7	6
Yarmouk University	1201-1400	7	6	7	6	7	1	7	7
Youngsan University	1201-1400	7	7	7	7	7	7	7	7
Yuan Ze University	1201-1400	7	7	7	7	7	6	7	7
Zagazig University	1201-1400	7	7	7	6	7	7	7	7
Ataturk University	1401+	7	7	7	6	7	7	7	6
Cukurova University	1401+	7	7	7	6	7	7	7	7
Damascus University	1401+	7	7	7	6	7	7	7	6
Erciyes Üniversitesi	1401+	7	7	7	6	7	7	7	7
Sakarya University	1401+	7	7	7	6	7	1	7	7
Sudan University of Science and Technology	1401+	7	7	7	6	7	7	7	7
"Universidad Católica Boliviana "San Pablo""	1401+	7	7	7	7	7	7	7	7
Universidad Católica de Santiago de Guayaquil	1401+	7	7	7	7	7	7	7	7
Universidad Tecnológica de Bolívar	1401+	7	7	7	7	7	5	7	7
Université Mohammed V de Rabat	1401+	7	7	7	6	7	7	7	7
University of Oradea	1401+	7	7	7	6	7	1	7	6

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