The Comparative Study of Ranking System of Islamic Countries Universities and National Ranking of Universities in Iran Using the Most Famous Ranking Systems in the World

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This research is aiming at a comparative study of Islamic countries university's ranking system and Iran's universities' national ranking system with the most famous ranking system in the world which are Academic Ranking of World University (ARWU), The Times Higher Education World University Rankings (THE), The Quacquarelli Symonds World University Rankings (QS), The U.S. News rankings (USN), Center for World University Rankings (CWUR). In this research, the criteria and indicators of each of the five higher education ranking systems are described based on the two ranking systems of ISC and National Ranking of universities of Iran and using George Bradley's comparative analysis and considering the list of top universities in the last update of the Internet portal by the date 05/09/2017. In this research, it is revealed that there is not any similarity between QS ranking system and ISC ranking system. However, based on the results, Iran and ISC ranking systems are mostly compatible with THE, from among the globally most famous ranking systems. Combining THE and Iran's ranking systems could offer a far more global system which is capable of covering all aspects of ranking and universities' universal status. THE and ARWU can be named as the most complete combined systems, from among the global and most famous ranking systems, which can be used as a substitution for Iran's ranking system.

Key words: *Comparative Study; ranking; higher education; ISC ranking; George Bradley's analysis*

Introduction

Universities are the institutions that pave the way for the implementation of development policies. Survival of universities is dependent on adapting to a dynamic and varied world, and their mission is significant in the scientific, cultural, and economic developments, and in improving the lives of people of the

community[1]. Nevertheless, universities face serious challenges. One of the challenges is the burgeoning development of higher education institutions, increased demand for higher education, the existence of virtual education, the internationalization of higher education, knowledge-based development, access to more resources, attracting intellectual capital and promoting the position of universities, which has led to a fundamental transformation in their structure and content.[2]

Universities usually compete with higher education institutions to attract students, professors, resources and social support.[3] The competition for achieving these cases and the achievement of significant successes in the field of science requires a university ranking system. If the university has a decent position, it can absorb forces and capabilities. In this way, university ranking is considered as one of the tools for assessing the performance, competitiveness and success of universities.[4]

Ranking results can identify the strengths and weaknesses of universities. The results can help students and faculty members choose a place of study or work that is compatible with their interests; they can assist better planning for satisfying the community needs and better allocation of resources.[5] For many years, the evaluation of universities and higher education institutions was carried out only by assessing their implicit reputation and there was no objective information to support this reputation.[6] In recent decades that when countries have identified the value and significance of knowledge and consider it as the most important factor in creating added value in international markets, the concentration and investment of universities have been put on the collection and re-production of knowledge. Moreover, universities need to have students, professors, skilled staff and advanced facilities in order to generate knowledge and attract the resulting interests. Today, universities use the results of these rankings to attract resources,

1 Mahdi, Reza. (2013). Future Studies in Higher Education: Features of Excelling Universities in the Future. *Rahyaft* 55, 79–90.

2 Zarebanadokooki, M. R. – Vahdatzadeh, M. A. – Oulia, M. S. – Lotfi, M. M. (2015). On the analysis of universities' ranking systems: A critical approach. *Quarterly of Iran's engineering training* 17(65): 95–131.

3 Mansouri, R. (1991). University and its definition. *Rahyaft* 24(1): 1–28.

4 Porzionato, M. – De Marco, F. (2015). Excellence and diversification of higher education institutions' missions. In *The European Higher Education Area* (285–292). Springer International Publishing.

5 Zarebanadokooki, M. R. – Vahdatzadeh, M. A. – Oulia, M. S. – Lotfi, M. M. (2016). Analyzing and extracting the effective factors on universities' ranking based on outreach documents. *Policy, Science and Technology*: 31(1): 55–70.

6 Shin, J. C. – Toutkoushian, R. K. – Teichler, U. (Eds.) (2011). *University rankings: Theoretical basis, methodology and impacts on global higher education*, Vol. 3. Springer Science & Business Media.

strong work force and material benefits; and the policy makers of Higher Education Institutions use these results as information resources in planning.[7]

In addition to its mission of informing people about the performance of higher education institutions and universities, academic rankings also make a comparative study among universities, which can ultimately lead to the development of a sense of competition among universities.[8] In Iran, universities compete for attracting students as well; and in line with the international orientation, the researchers in Iran have started to pay attention to the university rankings.[9]

In Iran, universities are annually ranked by the Islamic World Science Citation Center (ISC).[10] Since the ranking of universities and higher education institutions is an inseparable part of the higher education system, continuous improvement of quality can be achieved only with structured targeted monitoring of their performance. Considering the importance of the subject and governing characteristics of higher education system in Iran, this paper intends to compare 5 higher education ranking systems of ARWU, THE, QS, CWUR and USN with the ranking system of ISC and Iran's National Ranking System. In this research, the criteria and indicators of each of the five higher education ranking systems are described based on the two ranking systems of ISC and National Ranking of universities of Iran and using George Bradley's comparative analysis and considering the list of top universities in the last update of the Internet portal by the date 05/09/2017. Then comparative analysis of the five world famous ranking systems with the ranking system of Islamic countries and national ranking of Iran is done.

1. Academic Ranking of World University (ARWU)

The primary objective of this ranking was to examine the position of Chinese universities in comparison with that of the world's universities to provide solutions for improving the Chinese universities position; but after completion, many experts called for the publication of its results on an annual and international

7 Pakzad, M. – Khaledi, A. – Teimoori, M. (2012). A comparative analysis of international systems of university and higher education centers` rankings. *Rahyaft* 5: 71–94

8 Rajabali Boglue, R. – Jookar, A. (2006). The relationship between global universities' ranking and their dependency based on Shanghai University of China and Times Higher Education. *Informology* 13 & 14: 179–190.

9 Zare Benadakoki et al. (2015); Mansouri, 1991; Pakzad et al. (2012).

10 Zarebanadokooki, M. R. – Vahdatzadeh, M. A. – Oulia, M. S. – Lotfi, M. M. (2016). Analyzing and extracting the effective factors on universities' ranking based on outreach documents. *Policy, Science and Technology*: 31(1): 55–70.

basis.[11] Today, this system is one of the most widely used ranking systems of the world's universities. Based on the assumption that not all the world universities can be compared with one another, the scientific ranking system of the world universities has considered world-class universities as its target community and scope of focus.[12]

In 2009, Shanghai Ranking Consultancy started publishing the rankings of world universities based on academic subjects. The first group of ranked subjects were Mathematics, Physics, Chemistry, Computer Science and Economics/Business. Shanghai Ranking then extended the subject rankings to cover seven engineering subjects in 2016. Consideration of methodological consistency was the main reason for the slow progress of expanding ARWU rankings into more subjects. The use of award indicator is one unique feature in the methodology of Shanghai Ranking's ARWU and subject rankings. Award indicators such as counting the universities' staff winning Nobel Prize in physics, chemistry, physiology/medicine, economics and fields medals in mathematics. However, it was unknown whether there are Nobel Prize like awards or at least globally recognized ones in many other subjects. Under this context, Shanghai Ranking decided to ask academic leaders of the top universities to identify these awards together with other important measures of academic performance. Today, Shanghai Ranking Consultancy releases Shanghai Ranking's Global Ranking of Academic Subjects (GRAS) 2017. Since 2009, Shanghai Ranking began to publish Academic Ranking of World Universities (ARWU) by academic subjects. It includes rankings of universities in 52 subjects across natural sciences, engineering, life sciences, medical sciences, and social sciences. More than 4000 universities were ranked overall.

Institutions are ranked based on 52 subjects across natural sciences, engineering, life sciences, medical sciences, and social sciences in 2017 Global Ranking of Academic Subjects.

Surveying 1500 deans, chairs and heads of faculties and departments of the top 100 universities across a wide range of subjects is the starting point in Shanghai Ranking Academic Excellence Survey. The names and affiliated institutions of all participants are published on the contrary to a conventional survey. However, their answers to the survey questions are not published. Therefore, the results of this survey that are presented to the public in a transparent way are achieved from reputable and influential leaders covering different subject fields. The survey is emailed to each participant with a customized link with the participant's personal information.

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11 Rauhvargers, A. (2011). Global university rankings and their impact. *Leadership for WorldClass Universities Challenges for Developing Countries* (June).

12 http://shanghairanking.com/ARWU-Methodology-2011.html.

The survey asks three sets of non-compulsory questions. The participants are asked to list the top tier journals in their primary subjects in the first question. The second question asks the participants to identify the most influential and credible international awards in their primary subjects. The participants are asked to list the names of living researchers who have made the most important contribution to the body of knowledge in their primary subjects in the third question. The list of TOP researchers will not be published or included in the survey. In June 2003, the Academic Ranking of World Universities (ARWU) was published for the first time by the Center for World-Class Universities (CWCU), Graduate School of Education (formerly the Institute of Higher Education) of Shanghai Jiao Tong University, China, and updated on an annual basis.

Table 1 shows the indicators of this system in the 2017 ranking.

Table 1. Indicators and Weights for ARWU.

Criteria	Indicator	Code	Weight
Quality of Education	Alumni of an institution winning Nobel Prizes and Fields Medals	Alumni	10%
Quality of Faculty	Staff of an institution winning Nobel Prizes and Fields Medals	Award	20%
	Highly cited researchers in 21 broad subject categories	HiCi	20%
Research Output	Papers published in Nature and Science*	N&S	20%
	Papers indexed in Science Citation Index-expanded and Social Science Citation Index	PUB	20%
Per Capita Performance	Precariat academic performance of an institution	PCP	10%
Total			100%

* For institutions specialized in humanities and social sciences such as London School of Economics, N&S is not considered, and the weight of N&S is relocated to other indicators.
http://shanghairanking.com/ARWU-Methodology-2017.html

Table 2. Data Sources.

Indicator	Data Source
Nobel laureates	http://nobelprize.org/
Fields Medals	http://www.mathunion.org/index.php?id=prizewinners
Highly cited researchers	http://www.highlycited.com/
Papers published in Nature and Science	http://www.webofscience.com/
Articles indexed in Science Citation Index-Expanded and Social Science Citation Index	http://www.webofscience.com/
Others	Number of academic staff. Data is obtained from national agencies such as National Ministry of Education, National Bureau of Statistics, National Association of Universities and Colleges, National Rector's Conference.

http://shanghairanking.com/ARWU-Methodology-2017.html

Table 3. Academic Ranking of World Universities 2017.

World Rank	Institution*	National Rank	Total Score	Score on Alumni
1	Harvard University	1	100.0	100.0
2	Stanford University	2	76.5	44.5
3	University of Cambridge	1	70.9	81.4
4	Massachusetts Institute of Technology (MIT)	3	70.4	68.7
5	University of California, Berkeley	4	69.1	64.4
6	Princeton University	5	61.1	54.4
7	University of Oxford	2	60.1	50.8
8	Columbia University	6	58.8	62.8
9	California Institute of Technology	7	57.3	50.5
10	University of Chicago	8	53.9	59.2

http://shanghairanking.com/ARWU2017.html

This ranking is presented on an annual basis and its results are available at http://shanghairanking.com. These results have been shown as the universities with ranking of higher than 500 and rankings between 500 and 800 in 2017; and institutions within the same rank range are listed alphabetically. The statistical

results are available in the two forms of the number of universities in each continent and the number of universities in each country in the ranking above 20 –100–200–300–400–500 and 501 to 800. The ranking of Iranian universities in the ARWU ranking system is as follows:

Table 4. Ranking of Iranian Universities.

World Rank	Institution*	By location	National Rank	Score on Alumni
301'400	University of Tehran		1	12.4
401'500	Amirkabir University of Technology		2	0.0

2. The *Times Higher Education* World University Rankings (THE)

Founded in 2004, the *Times Higher Education* World University Rankings (THE) provide the definitive list of the world's best universities, evaluated across teaching, research, international outlook, reputation and more. Governments and universities trust the data provided by the THE, which is a vital source for students, helping them choose their place of study.

Times Higher Education World University Rankings is the data provider underpinning university excellence in every continent across the world. As the company behind the world's most influential university ranking, the THE ranking have an unparalleled expertise on the trends underpinning university performance globally with almost five decades of experience as a source of analysis and insight on higher education. Many of the world's most prestigious universities use its data and benchmarking tools to achieve their strategic goals.

The *Times Higher Education* World University Rankings are the only global performance tables that judge research-intensive universities across all their core missions including teaching, research, knowledge transfers and international outlook. Thirteen carefully calibrated performance indicators are used to provide the most comprehensive and balanced comparisons, trusted by students, academics, university leaders, industry and governments. In Table 5, the indices of this ranking have been reported in five main categories:

Table 5. Definition of THE System Ranking Indices.

Indicators	Definition	Percentage Voted
Teaching	Reputation survey	15%
	Staff-to-student ratio	4.5%
	Doctorate-to-bachelor's ratio	2.25%
	Doctorates-awarded-to-academic-staff ratio	6%
	Institutional income	2.25%
Research	Reputation survey	18%
	Research income	6%
	Research productivity	6%
Citations	research influence	30%
International outlook	International-to-domestic-student ratio	2.5%
	International-to-domestic-staff ratio	2.5%
	International collaboration	2.5%
Industry income	knowledge transfer	2.5%

https://www.timeshighereducation.com/world-university-rankings/methodology-world-university-rankings-2016-2017

3. Data collection

Institutions use the ranking systems to provide and sign off their institutional data. On the rare occasions when a particular data point is not provided, low estimate between the average value of the indicators and the lowest value reported would be reached: the 25th percentile of the other indicators. Penalizing an institution too harshly was avoided with a "zero" value for the data that overlooks or is not provided; the institution for withholding the data has not been rewarded as well (https://www.timeshighereducation.com/world-university-rankings/methodology-world-university-rankings-2016-2017). The list of top ten universities in this ranking system has been shown in Table 6.

Table 6. The 10 Top Ranking Universities.

Rank	Name	Overall	Teaching	Research	Citations	Industry Income	International Outlook
1	University of Oxford	95.0	89.6	99.1	99.2	62.5	94.5
2	California Institute of Technology	94.3	95.5	95.7	99.8	90.8	63.4
3	Stanford University	93.8	92.6	95.9	99.9	60.9	76.5
4	University of Cambridge	93.6	90.6	97.2	96.8	50.4	92.4
5	Massachusetts Institute of Technology	93.4	90.3	92.3	99.9	88.4	85.6
6	Harvard University	92.7	87.5	98.3	99.7	47.3	77.9
7	Princeton University	90.2	89.5	88.4	99.2	49.9	77.2
8	Imperial College London	90.0	86.4	86.6	97.3	67.5	96.5
9	ETH Zurich – Swiss Federal Institute of Technology Zurich	89.3	81.5	93.7	92.5	63.7	98.1
10	University of California, Berkeley	88.9	82.4	96.1	99.8	37.6	59.6

https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking#!/page/0/length/25/sort_by/rank/sort_ord

The calculation of the THE World University Rankings 2016–2017 has been independently audited by professional services firm Price Waterhouse Coopers (PWC).

This annual ranking is available at https://www.timeshighereducation. com and is presented as follows.

This ranking shows the best universities for Overall, Teaching, Research, Citations, Industry income, International outlook in any country offering any subject, or find specific universities by name. Top 10 Iranian universities in this ranking system are as follows:

Table 7. The10 Top Iranian University in the THE Ranking System.

Rank	Name	Overall	Teaching	Research	Citations	Industry Income	International Outlook
501–600	Iran University of Science and Technology	27.6–32.5	23.2	23.7	41.8	50.7	13.9
501–600	Sharif University of Technology	27.6–32.5	25.1	27.4	37.6	85.3	17.9
601–800	Amir kabir University of Technology	18.6–27.5	22.7	18.9	35.5	59.9	15.4
601–800	Isfahan University of Technology	18.6–27.5	19.5	20.0	38.4	89.8	18.9
601–800	K.N. Toosi University of Technology	18.6–27.5	18.9	13.2	28.0	43.0	14.3
601–800	Shiraz University	18.6–27.5	19.1	19.4	17.7	54.7	15.2
601–800	University of Tehran	18.6–27.5	27.8	12.6	22.1	32.1	19.1
601–800	Tehran University of Medical Sciences	18.6–27.5	50.2	14.2	14.1	33.6	15.5
> 800	Ferdowsi University of Mashhad	8.3–18.5	21.6	8.6	16.1	0.6	19.3
> 800	Islamic Azad University Karaj	8.3–18.5	14.0	7.8	15.2	32.1	15.8

https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking#!/page/0/length/25/locations/IR/sort_by/rank/sort_order/asc/cols/stats

4. The QS World University Rankings (QS)

The QS World University Rankings continue to enjoy a remarkably consistent methodological framework that is compiled using six simple metrics that capture university performance, as it is effectively believed. This ranking has avoided fundamental changes since faculty area normalization was introduced in 2015 to ensure that institutions specializing in Life Sciences and Natural Sciences were not unduly advantaged. In doing so, the ranking aims to ensure that year-on-year comparisons remain valid, and that unnecessary volatility is minimized.

Thus, universities continue to be evaluated according to the following six metrics:

Academic Reputation, Employer Reputation, Faculty/Student Ratio, Citations per faculty, International Faculty Ratio, International Student Ratio.

The definition of these indicators has been shown in Table 8.

Table 8. Definition of QS Ranking System Indicators.

Indicators	Definition	Percentage Voted
Academic Reputation	The highest weighting of any metric is allotted to an institution's Academic Reputation score. In fact, it collates the expert opinions of over 70,000 individuals and give a report.	40%
Employer Reputation	Students assume a university education as a means of receiving an invaluable preparation for the employment market. *Employer Reputation* metric is based the responses that asks employers to identify those institutions. The *QS Employer Survey* is also the world's largest of its kind.	10%
Faculty/Student Ratio	For comparing institutions using a ranking, teaching quality is typically cited by students as the metric of highest importance to them. In fact, measuring teacher/student ratios is the most effective proxy metric for teaching quality. It assesses the extent to which institutions are able to provide students with meaningful access to lecturers and tutors.	20%
Citations per faculty	Teaching is one key pillar of an institution's mission. Another is research output. Institutional research quality is measured using its *citations per Faculty* metric. To calculate it, the total number of citations received by all papers produced by an institution across a five-year period by the number of faculty members at that institution. To account for the fact that different fields have very different publishing cultures. In other words, citation received for a paper in philosophy is measured differently from one received for a paper on physiology both citations are given equal weight. In comparison with the past five years, an attempt has made that one alteration to citation counts for this year, this accounts for the fact that new research requires time to be effectively disseminated throughout the academic community, and papers published in the same year as the rankings table have typically had little time to gain traction. All citations data is sourced using Elsevier's *Scopus* database, the world's largest repository of academic journal data. This year, QS assessed 99 million citations from 10.3 million papers once self-citations were excluded.	20%
International Faculty Ratio/ International Student Ratio	A real international university should have some advantages. It demonstrates an ability to attract faculty and students from around the world, which in turn suggests that it possesses a strong international brand. It implies a highly global outlook: essentially for institutions operating in an internationalized higher education sector. It also provides both students and staff alike with a multinational environment, facilitating exchange of best practices and beliefs. In doing so, it provides students with international sympathies and global awareness: soft skills increasingly valuable to employers. Both of these metrics are worth 5% of the overall total.	10% (5% each)

https://www.topuniversities.com/qs-world-university-rankings/methodology

Use the interactive ranking table to explore the world's top universities, with options to sort the results by country and region. The ranking results can also be sorted based on the six individual indicators.

The top 10 list in this rating system is described in Table 9.

Table 9. Top 10 Universities in the QS Ranking System.

Rank	Name	Overal Source	Academic Reputation	Citations per Faculty	Employer Reputation	Faculty Student	International Faculty	International Students
1	Massachusetts Institute of Technology	100	100	99.9	100	100	100	96.1
2	Stanford University	98.7	100	99.4	100	100	99.6	72.7
3	Harvard University	98.4	100	99.9	100	98.3	96.5	75.2
4	California Institute of Technology	97.7	99.5	100	85.4	100	93.4	89.2
5	University of Cambridge	95.6	100	78.3	100	100	97.4	97.7
6	University of Oxford	95.3	100	76.3	100	100	98.6	98.5
7	UCL (University College London)	94.6	99.7	74.7	99.5	99.1	96.6	100
8	Imperial College London	93.7	99.4	68.7	100	100	100	100
9	University of Chicago	93.5	99.9	85.9	92.9	96.5	71.9	79.8
10	ETH Zurich – Swiss Federal Institute of Technology Zurich	93.3	99.6	98.7	99.4	68.2	100	98.8

https://www.topuniversities.com/university-rankings/world-university-rankings/ 2018

The results of this ranking are available to the public at https://www.topuniversities.com and have been presented in ranking format in each index in such a way that the university with the highest score is ranked first based on the index. The first ranking of each of the indicators has been reported in Table 10.

Table 10. Top Universities in Each of the QS Ranking Indicators.

Rank	Overal Source	Academic Reputation	Citations per Faculty	Employer Reputation	Faculty Student	International Faculty	International Students
1	Massachusetts Institute of Technology (MIT)	Harvard University	King Abdullah University of Science & Technology	University of Cambridge	Baylor College of Medicine	American University in Dubai	INSEAD

https://www.topuniversities.com/university-rankings/world-university-rankings/ 2018

The ranking of Iranian universities in the QS ranking system is as follows.

Table 11. Ranking of Iranian Universities in the QS Ranking System.

Location	University	Rank
Iran	Sharif University of Technology	471–480
Iran	Amir kabir University of Technology	501–550
Iran	Iran University of Science and Technology	551–600
Iran	University of Tehran	601–650
Iran	Shahid Beheshti University (SBU)	801–1000

https://www.topuniversities.com/university-rankings/world-university-rankings/ 2018

4. The U.S. News ranking

The third annual U.S. News Best Global Universities rankings were produced to provide insight into how universities are globally compared. The best global universities rankings – which focus specifically on schools' academic research and reputation overall and not on their separate undergraduate or graduate programs – can help those applicants who plan to enroll in universities outside of their own country accurately compare institutions around the world.

The Best Global Universities rankings also show the position of U.S. universities – which U.S. News has been ranking separately for more than 30 years – in the world. Today, all universities can benchmark themselves against schools in their own country and region, become more visible on the world stage and find top schools in other countries.

The overall Best Global Universities rankings encompass the top 1,000 institutions spread across 65 countries – up from the top 750 universities in 57 countries ranked last year. The first step in producing these rankings was creating a pool of 1,262 universities that were used to rank the top 1,000 schools.

To create the pool of 1,262, U.S. News first included the top 200 universities in the results. Next, U.S. News was added to the institutions that had published the largest number of articles during the most recent five-year period (2010–2014) that was used for the bibliometric data, de-duplicated with the top 200 from the reputation survey.

Many stand-alone graduate schools, including Rockefeller University and the University of California – San Francisco, were eligible to be ranked and were included in the ranking universe because of these criteria.

Calculating the rankings using the 12 indicators and weights that U.S. News chose to measure global research performance was the second step. In order to allow students to compare each school's standing in each indicator, each school's profile page on usnews.com for the top 1,000 universities lists the overall global

score as well as numerical ranks for the 12 indicators. The indicators and their weights in the ranking formula and the related indicators are listed in the table below.

Table 12. Definition of U.S.N Ranking System Indices.

Indicators	Definition	Percentage Voted
Global research reputation	Global research reputation represents the aggregation of the latest five years of the Academic Reputation Survey outcomes for the best universities worldwide for research.	12.5%
Regional research reputation	Regional research reputation represents the aggregation of the Academic Reputation Survey results within the latest five years for the best universities for research in the region; regions were determined based on the United Nations definition.	12.5%
Publications	Publication is a measurement tool for university`s overall research productivity based on the total number of scholarly papers – reviews, articles and notes which contain affiliations of a university that are published in high-quality, journals with good impact factor.	10%
Books	The usage of book as a ranking indicator provides a useful source to the data on articles and represents universities in a way that the focus would be on social sciences and arts and humanities.	2.5%
Conferences	The formal publication of conference proceedings show genuine research breakthroughs in some special fields	2.5%
Normalized citation impact	The total number of citations per paper represents the overall impact of the research of the university and is independent of the size or age of the university	10%
Total citations	This indicator measures the influence of the special university that has had on the global research community.	7.5%
Number of publications that are among the 10 percent most cited	This indicator shows that how many papers have been assigned are considered as the top 10 percent of the most highly cited papers in the world for their respective fields	12.5%
Percentage of total publications that are among the 10 percent most cited	This indicator shows the percentage of a university's total papers that are in the top 10 percent of the most highly cited papers in the world – per field and publication year.	10%
International collaboration	This indicator is the proportion of the institution's total papers that contain international co-authors divided by the proportion of internationally co-authored papers for the country that the university is in	10%
Number of highly cited papers that are among the top 10 percent most cited in their respective field	This highly cited papers indicator shows the volume of papers that are classified as highly cited in The Clarivate Analytics' service known as Essential Science Indicators.	5%
Percentage of total publications that are among the top 1 percent most highly cited papers	This percent of highly cited papers shows the number of highly cited papers for a university divided by the total number of documents it produces, represented as a percentage	5%

https://www.usnews.com/education/best-global-universities/articles/methodology

Clarivate Analytics Incites provided the data and metrics used in the ranking. The bibliometric data was based on the Web of Sciences.

Although the citations to those papers come from all publications up to the most recent data available, publications are limited to those published between 2010 to 2014. For the 2017 edition of the U.S. News Best Global Universities, published in 2016, this cutoff was around April 2016. To allow for citations to accumulate and provide statistically relevant results, it is vital to use a slightly older window of publication.

The subject fields used in the analysis came from the Clarivate Analytics Incites schema and did not include arts and humanities journals; therefore, those are excluded for the citation-based indicators. Nevertheless, articles from arts and humanities journals were included in the papers count used in the publications indicator. Arts and humanities journals accumulate few citations and citation analysis is less robust; as such, the robustness of the results is improved by the deliberate exclusion of arts and humanities. There were no missing data in the bibliometric or reputation indicators.

Best Global Universities Rankings from the U.S. and around sixty other countries have been ranked based on twelve indicators that measure their academic research performance and their global and regional reputations. Students use these rankings to explore their higher education options existing beyond their own countries' borders and to compare key aspects of schools' research missions. These are the world's top 1,000 universities. In Table 13, the list of top 10 universities in this ranking has been stated.

Table 13. Top 10 University Rankings in U.S. N.

Rank	University	Global score
1	Harvard University	100
2	Massachusetts Institute of Technology	97.9
3	Stanford University	92.9
4	University of California, Berkeley	92.8
5	California Institute of Technology	89.3
6	University of Oxford	88.1
7	University of Cambridge	86.3
8	Princeton University	86.2
9	Columbia University	85.9
10	University of California, Los Angeles	85.8

https://www.usnews.com/education/best-global-universities/rankings

Table 14. List of Top 10 Iranian Universities in the USN Rankings.

Rank	University	Global Score
405	Sharif University of Technology	53.4
448	University of Tehran	51.8
523	Isfahan University of Technology	49.6
601	Amirkabir University of Technology (AUT)	47.1
629	Islamic Azad University Karaj	46.3
724	Iran University Science & Technology	43.2
745	Tehran University of Medical Sciences	42.5
757	Tarbiat Modares University	42.1
777	University of Tabriz	41.1
820	Ferdowsi University Mashhad	39.9

https://www.usnews.com/education/best-global-universities/search?region=asia&country=iran&name=

The results of this ranking are visible at https://www.usnews.com.

5. Center for World University Rankings (CWUR)

The only global university ranking that measures the quality of education and training of students as well as the prestige of the faculty members and the quality of their research without relying on surveys and university data submissions is published by the Center for World University Rankings (CWUR).

The CWUR provides consulting services to governments and educational institutions that aspire to achieve world-class standards in addition to providing authoritative global university rankings.

With the aim of rating the top 100 global universities, the ranking started out as a project in Jeddah, Saudi Arabia in 2012. It was quickly reported worldwide by universities and the media and many requests were received for its expansion. In 2014, the ranking expanded to list the top 1000 out of 26,000+ degree-granting institutions of higher education worldwide, making it the largest academic ranking of global universities.

The Center for World University Rankings is headquartered in the United Arab Emirates since 2016.[13] The CWUR uses eight objective and robust indicators to rank the world's top 1000 universities:

13 http://cwur.org/about.php

Table 15. List of Top 10 Universities in the CWUR Ranking System.

Indicators	Definition	Percentage voted
Quality of Education	the number of a university's alumni who have won major international awards, prizes, and medals relative to the university's size	25%
Alumni Employment	the number of a university's alumni who have held CEO positions at the world's top companies relative to the university's size	25%
Quality of Faculty	the number of academics who have won major international awards, prizes, and medals	25%
Publications	the number of research papers appearing in reputable journals	5%
Influence	the number of research papers appearing in highly-influential journals	5%
Citations	the number of highly-cited research papers	5%
Broad Impact	the university's h-index	5%
Patents	the number of international patent filings	5%

http://cwur.org/methodology/world-university-rankings.php

Based on the number of research articles in top-tier journals, the CWUR Rankings by Subject 2017 rank the world's leading universities in 227 subject categories. Data is obtained from Clarivate Analytics (previously the Intellectual Property and Science business of Thomson Reuters).

The list of top universities in this site has been classified according to 227 topics. Thus, reporting of all topics is beyond the scope of this article, and only the list of top universities in the field of education is reported in Table 17.

Table 16. The List of Top Universities in the Subject of Education.

World Rank	Institution	Country	Score
1	University of Michigan	USA	100.00
2	Michigan State University	USA	97.83
3	Harvard University	USA	97.02
4	Columbia University	USA	96.72
5	Maastricht University	Netherlands	95.73
6	Stanford University	USA	94.26
7	Florida State University	USA	93.48
7	University of North Carolina at Chapel Hill	USA	93.48
9	University of Wisconsin, Madison	USA	93.26
10	University of Toronto	Canada	93.18

Considering the fact that the results of this ranking are presented in a thematic way, the ranking of a number of Iranian universities in this ranking is described in Table 17 with the full review of these results.

Table 17. Results of the Rank of a Number of Iranian Universities in the CWUR Ranking System.

World rank	Institution-	Subject	Score
10	University of Tehran	Engineering, Manufacturing	86.01
4	University of Tehran	Engineering, Petroleum	89.07
7	Petroleum University of Technology	Engineering, Petroleum	80.99
5	Amirkabir University of Technology	Materials Science, Composites	94.42

http://cwur.org/2017/subjects.php

ISC Ranking of Universities of Iran

Ranking universities and research centers in Iran is one of the most important responsibilities of ISC. Since 2010, universities and research institutes of Iran has been ranked annually by ISC.

Five official reports on ranking Iranian universities and research centers conducted in 2010–2014, 2014–2013, 2013–2012, 2012–2011, 2011–2015 have been published and now 2015–2016 ranking project is in progress**.**

The indices and criteria, applied in ISC ranking system, were prepared and compiled by a group of scientometric experts in cooperation with the Organization of the Islamic Conference (OIC) in 2006–2007, in Tehran, and they were approved in the 6th Extraordinary Meeting of the Ministers of Higher Education in Saudi Arabia. The foundation of university ranking in ISC is formed by twenty-three indicators, which are categorized based on five general criteria, namely research, education, international reputation, socioeconomic activities and facilities. These indices and criteria have been compiled to satisfy the need of higher education institutions to identify their strengths and weaknesses and to create a roadmap consistent with their current capacity and potentials.

In Iran, Ranking universities and public research centers has been done according to their nature and type of their activities in five subgroups of comprehensive universities, technical universities, research institutes and centers, medical universities and art universities.

Table 18. Table of Indicators of the ISC Ranking System.

Category	Indicator		Weight
Research	Quality of research	The amount of citations to articles	10
		The portion of most cited articles	4
		Research efficiency	8
	Volume of research	Scientific products indexed in WOS	15
		Scientific products indexed at ISC	7
	Number of scientific journals	The number of journals indexed in the JCR database	3
		The number of magazines indexed on the ISC JCR database	2
		The number of books published by faculty members	2
		Registrations	3
		The number of research projects and contracts	4
Education		Faculty Members being Awarded	3
	The researchers of most cited and hot articles	WOS standards	3
		OIC standards	8
	The proportion of Ph.D. holder faculty members to the entire faculty		1
		Graduates who have been awarded	2
	The proportion of faculty members in terms of scientific degrees to the entire faculty	The proportion of professors to the total	1.5
		The proportion of Associate Professors to the total	1
		The proportion of Assistant Professors to the total	0.5
	The proportion of faculty members to the student		3
	The proportion of postgraduate students to the total students		2
	Students with international Olympiads prizes		3
International reputation	The ratio of the international faculty members to the whole faculty		1
	The ratio of international students to all students		1
	The proportion of foreign faculty members holding Ph.D. to the entire faculty .with Ph.D		1
	International conferences and meetings		2
	International cooperation		1
	The degree of international participation of university in producing articles		4
Facilities and provisions	Per capita number of books titles per student		1
	Number of sites, research centers and scientific poles		1
Socio-economic industrial activity	Number of institutions and spin-off companies		0.5
	Number of growth centers		1
	Number of knowledge base centers		0.5

The top ten universities of the Iranian Ministry of Science, Research and Technology in 2016 have been listed in Table 19.

Table 19. Top 10 University Rankings in the ISC.

Rank	Industrial	General	Institute	Institute	Art
1	Sharif University of Technology	University of Tehran	Research Institute for Basic Sciences	Research Institute for Basic Sciences	Islamic Art University of Tabriz
2	Amirkabir University of Technology	Tarbiat Modares University	Iran Polymer and Petrochemical Research Institute	Iran Polymer and Petrochemical Research Institute	Isfahan university of art
3	Iran University of Science and Technology	Shiraz university	Royan Research Institute	Royan Research Institute	Tehran Art University
4	Isfahan University of Technology	Mashhad Ferdowsi University	Research Institute of Science and Technology of Color and Cover	Research Institute of Science and Technology of Color and Cover	Art University of Shiraz
5	Khaje Nasir al-Din Tusi University of Technology	Tabriz University	Material and Energy Research Center	Material and Energy Research Center	
6	Noushirvani Industrial University of Babol	Shahid Beheshti University	National Institute of Genetics and Biotechnology	National Institute of Genetics and Biotechnology	
7	Shiraz University of Technology	University of Esfahan	National Research Institute of Fisheries	National Research Institute of Fisheries	
8	Malek Ashtar University of Technology	Zanjan Graduate University of Basic Sciences	Iranian Scientific and Industrial Research Organization	Iranian Scientific and Industrial Research Organization	
9	Kerman University of Graduate Studies	Bu Ali Sina University	Institute of Chemical and Chemical Engineering of Iran	Institute of Chemical and Chemical Engineering of Iran	
10	Sahand Industrial University	University of Kashan	International Institute of Earthquake Engineering and Seismology	International Institute of Earthquake Engineering and Seismology	

Table 20. Top 10 Universities and Research Institutes of the Ministry of Health and Medical Education.

Rank	University	Rank	University
1	Tehran University of Medical Sciences and Health Services	6	Tabriz University of Medical Sciences and Health Services
2	Shahid Beheshti University of Medical Sciences & Health Services	7	University of Rehabilitation Sciences and Social Welfare
3	Isfahan University of Medical Sciences & Health Services	8	Mazandaran University of Medical Sciences and Health Services
4	Shiraz University of Medical Sciences and Health Services	9	Kerman University of Medical Sciences and Health Services
5	Iran University of Medical Sciences and Health Services	10	Mashhad University of Medical Sciences

Table 21. Top 10 Universities of Iran Islamic Azad University.

Rank	University	Rank	University
1	Islamic Azad University, Science and Research Branch of Tehran	6	Azad University of Arak Branch
2	Islamic Azad University of Karaj Branch	7	Islamic Azad University of Khorasgan Branch of Isfahan
3	Islamic Azad University of Mashhad Branch	8	Islamic Azad University of Central Tehran Branch
4	Islamic Azad University of Tabriz Branch	9	Islamic Azad University of Shahreza Branch
5	Islamic Azad University of Ardabil Branch	10	Islamic Azad University of Tehran South Branch

ISC Ranking of Universities in Islamic Countries

ISC Ranking of Islamic Countries Universities & Research Institutes 2013–2014 is a project, which has ranked about 600 of top Islamic countries' universities and research institutions with highest number of publications in the most prestigious international scientific journals (core journals) during 2008–2012.

Through investigating the institutional affiliations mentioned by the authors of the publications, each publication was assigned to one or several institutions. It is important, though difficult, to determine the authors of a paper's institutions correctly because of variations in the name of institutions and the fact that

organization names can change over time and they can also be born, die, split or merge. Spelling variances for each institution were recognized and retrieved. Only documents of article, proceedings paper and review type published in the core journals, which are referred to as paper in this methodology were processed.

Table 22. Definition of ISC Rating System Indicators.

Category	Indicator	Definition	Weight
Scientific impact	Total citations	The total number of citations received by the publications of a university or a research institution that are normalized for field differences and publication year.	40%
	Highly cited papers	The total number of highly cited papers affiliated to a university or research institution. Citation rate vary by field and time, while the older papers are cited more than the recent ones.	5%
Scientific diplomacy	Collaboration with Islamic countries	Total number of papers of an institution written jointly with the collaboration of another Islamic country other than the institution's country of origin.	2%
	International collaboration	Total number of papers of an institution written with the collaboration of at least one non- Islamic country.	3%
	Collaboration with the world's high impact institutions	Total number of papers of an institution written with the collaboration of at least one of the top 500 institutions of the world ranked by Leiden Ranking 2013.	8%
	Inter-organizational collaboration	Total number of papers of an institution affiliated to more than one institution.	2%
Scientific production	Total papers	The total number of papers of the institution.	15%
	Corresponding papers	The number of institution's papers in which the institution's authors are corresponding authors	5%
	Papers in high tech research areas	The number of papers of the institution in the following subject areas: computer science, space science, stem cell, nanotechnology, biotechnology, water and microelectronic.	10%
	Papers in Islamic and humanities research areas	The number of institution's papers in social sciences, humanities and religion subject areas.	5%
Economic impact	Funded research	The number of papers resulted from the funded research.	3%
	Collaboration with private and public sectors	The number of papers written jointly with at least one institution other than the universities and research institutions in the private or public sectors.	1%
	International funded research	The number of papers resulted from the funded researches and affiliated to more than one country.	1%

http://iur.isc.gov.ir/Methodology.aspx

ISC ranked universities and research institutions at the level of science as a whole and also at the level of five broad fields including natural sciences, engineering and technology, medical and health sciences, agricultural sciences, social sciences, where each field consists of the most related journals in that area. These broad fields of science have been defined at the journal level and each of

these broad fields involves several subfields, so research performance in subordinate fields forms the performance in a superordinate field. The Revised Field of Science and Technology (FOS) Classification introduced by the organization for economic co-operation and development (OECD) was applied in the ISC ranking.

Table 23. The List of Top 10 Islamic Universities.

Rank	Institution	Country	Scientific impact	Scientific Diplomacy	Scientific Production	Economic Impact	Total
1	University of Tehran	Iran	42.50	8.93	31.52	1.23	84.19
2	King Saud University	Saudi Arabia	37.52	5.42	18.77	2.17	63.89
3	University of Malaya	Malaysia	33.52	4.28	23.83	1.57	63.21
4	University Sains Malaysia	Malaysia	29.47	2.71	25.82	1.42	59.42
5	Middle East Technical University	Turkey	22.67	8.08	20.89	4.11	55.75
6	Tehran University of Medical Sciences	Iran	30.17	7.13	16.51	1.44	55.25
7	Sharif University of Technology	Iran	24.49	5.11	22.29	1.92	53.81
8	Hacettepe University	Turkey	24.64	5.05	21.44	1.00	52.13
9	Ege University	Turkey	24.96	5.52	19.12	2.40	52.00
10	Istanbul University	Turkey	28.04	3.02	19.38	1.41	51.84

http://iur.isc.gov.ir/ranking.aspx

Comparison of Indices of ISC System of Islamic Countries with Indicators of World Ranking Systems Comparing the ARWU system with ISC ranking of Islamic countries, the Highly Cited Papers and Total papers index cover approximately HICI and PCP indices respectively, and overlap to some extent. Where there is an economic impact in the ISC system, a significant difference arises in this comparison; in other words, in the ISC ranking, the amount of funding received for conducting applied research is of value. It can be seen from this difference that in this ranking, the amount of funding received is of a special value while this indicator is not important in the ARWU system, which is ranking world-class universities and receiving funds from sources other than the universities has no particular value. These universities do not face the problem of obtaining financial resources, which means that there is sufficient funding and research resources in the world class universities. In the universities of the less developed countries, these resources are not fully available. Therefore, in order to carry out applied research, the university must seek the financial resources from other sources and provide research projects that can be used to finance the competitive advantages of these universities. The Papers in high tech research areas are consistent with the PUB with N & S and Papers in Islamic and Humanities research areas.

Comparing the system THE with the ISC ranking system, the citations index corresponds to 30 percent with Highly citated papers and Total citations in the ISC system. International collaboration with the international collaboration subindex is the main index of international outlook, which is 2.5% of the ranking in the system THE, and in general, the international outlook is matched by the ISC ranking system with the main category of scientific diplomacy. Industry income is similar in the system THE with the main category of economic impact in the ISC system, in the sense that in the system OF the transfer of knowledge to an industry with an economie impact class consisting of two sub-indicators, collaboration with private and public sectors and international funded research, and the percentage of the ISC ranking is similar. Corresponding papers, Papers in Islamic and Humanities research areas from the main category of Scientific Production and Funded Research from the Economic Impact Index in the ISC system are also aligned with research. Comparing the QS ranking system with the ISC ranking system shows that there is no similarity between the two systems.

The international collaboration index in the USN ranking system has a significant similarity with international collaboration of the scientific diplomacy index in the ISC system. The number of essays focused on humanities, social and art under the title of 'Book' in the USN system is also overlapping with the main category of scientific production and the subindex of 'Papers in Islamic and humanities research areas' in the ISC system. Total citations has the same name and meaning as those of the Total citations index in the USN ranking system. Highly cited papers are aligned with the Publications in the USN ranking system. Also, Collaboration with the world's high impact institutions is consistent with the Percentage of total publications that are among the top 1 percent most highly cited papers, and the index of Total papers is aligned with the Normalized citation impact of the USN ranking system. The sub index of Papers in high tech research areas is also aligned with the number of publications that are among the 10 percent most cited.

Normalized citation impact is similar to the sub index of Total papers, with a 15% effect on the Scientific production index. In the USN ranking system, research has not been talked about in Economic impact. In other words, in this ranking system, the acquisition of financial resources is not considered as the main concern of universities and it is not a competitive advantage.

Comparing the CWUR ranking system with ISC, the indexes of Broad Impact and Citation are respectively consistent with Total citations and Highly cited papers, with an impact of 45%. Influence in the CWUR ranking system is consistent with the Papers in high tech research areas, but there is no consistentancy between the two systems in the other indices.

Table 24. Comparison of the ISC System with the World Renowned Ranking Systems.

Category	ISC Indicators of the Islamic World	ARWU	THE	QS	USN	CWUR
Scientific impact	Total citations		Citations		Total citations	Broad Impact
	Highly cited papers	HICI			Publications	Citations
Scientific diplomacy	Collaboration with Islamic countries	-	International outlook			
	International collaboration	-			International collaboration	
	Collaboration with the world's high impact institutions	-			Percentage of total publications that are among the top 1 percent most highly cited papers	
	Inter-organizational collaboration	-				
Scientific production	Total papers	PCP	Research		Normalized citation impact	
	Corresponding papers					
	Papers in high tech research areas	N&S			Number of publications That are among the 10 percent most cited	Influence
	Papers in Islamic and humanities research areas	PUB			Book	
Economic impact	Funded research					
	Collaboration with private and public sectors					
	International funded research		Industry income			

According to Table 24, it can be concluded that the ISC system has the highest degree of coordination and consistency with the THE and USN ranking systems; and it has no coordination and consistency with the QS ranking system in relation to any of the indicators.

Comparing Iran's National Ranking System with the Famous World Ranking Systems

In the ARWU system, the two PUB and HICI indexes, which show the number of articles published and the number of articles in Highly Cited Researchers, together cover a part of the research index in Iran that covers the quality and volume of the research. Also, the PUB index is consistent with the number of scientific journals. Other sub-indicators including research efficiency, number of published papers by faculty members, registrations and number of research projects and designs are not included in the ARWU system. In other words, in ARWU ranking system, the quality, volume of researches and number of scientific journals are mostly considered. Academic members with the awards in the Iranian national ranking system are aligned with AWARD in the ARWU system, and

researchers with well-documented articles are also consistent with PCP in the ARWU system. The graduates who have received the award in the national ranking system of Iran are compatible with ALUMNI in the ARWU system. In the ARWU system, the international image, facilities, and social, economic and industrial activities are not considered as the privilege. From this comparison, it can be seen that these cases are a fixed and integral part in the world-class universities and are considered as the fixed principles of these universities. It can be concluded that world class universities, while possessing these features, are compared only in the research index which accounts for approximately 68% of the national ranking score of Iran, and ARWU indexes constitute the competitive titles of these universities.

Comparing the THE ranking system with the national ranking system of Iran, the overall indices of education, research and international image are similar to the national ranking system of Iran. Education in the ranking system THE has the rate of 30% of the total score, while education has 28% of the total score in Iran. Quality of research and research efficiency are also consistent with Citations. The number of research projects and research contracts is compatible with 'Research' in the ranking system of THE with the effect of 30%. From the education index in Iran's national ranking system, only the proportion of faculty members to the student and the ratio of postgraduate students to all students is consistent with 'Teaching'. The international indicators of international reputation, international cooperation, the international participation of the university in the production of articles, the ratio of international faculty members to the total faculty members, and the ratio of international students to all students with the index of international outlook are in harmony with the THE ranking system. The indexes of facilities and provisions, social, economic and industrial activities, and the index of the number of enterprises / research centers and scientific poles from the category of facilities and provisions are consistent with the industry income. There is no survey in Iran's education index, but THE has the highest score in the THE ranking system. In the education section of Iran's national ranking system, scholars and researchers who have cited articles with OIC standards have the highest score.

In comparison of the research index in these two systems, it can be said that the Citations index, which accounts for 30% of the total score, has 10% importance in the national ranking system of Iran. In addition, research income, research efficiency and the survey report in research, which contains a total of 30% of the ranking score in the THE system, have not been included in the national system of Iran. In the ranking system of THE, 5% of the total score is awarded to the international reputation while in the national ranking system of Iran, it has 10% of the total score. Comparing the index of international image in the two systems, it can be seen that having an international faculty is of the competitive advantage of the top universities and attracting international students is a competitive advantage. Industrial income and knowledge transfer in the ranking system of

THE have no equivalent in the national ranking system of Iran, but the number of knowledge-based centers and spin-off companies gets about 2% of the score. Thus, the number of centers and socio-economic activities in the national ranking system of Iran are considered as a competitive advantage; while the index of industrial income in the ranking system of THE is not considered as a competitive factor.

Comparing the QS ranking system with the national ranking system of Iran, the ratio of the number of international faculty members to the number of international students, which accounts for 10% of the overall ranking in the QS system, accounted for 2% of the total national ranking system of Iran; and it has been summarized in the two sub-indexes of the ratio of the international faculty members to the total faculty members and the ratio of international students to the total students. The index of researchers with the most documented articles is compatible with citations per faculty of the QS ranking system. The ratio of the faculty members to the students corresponds to the Faculty / Student Ratio; and the other QS indicators do not match the national ranking system of Iran.

The USN Ranking System has the most similarity in the research index with Iran's National Ranking System. In the USN system, there are no indicators of education, international image, facilities and provisions, and social, economic and industrial activities. In other words, in the USN system, the total score is dedicated only to research. Research quality is equivalent to total citations in 10 percent. The number of scientific journals, the number of books published by faculty members, and the number of research projects and contracts in total are equivalent to Publications in the USN ranking system. Also, the international conferences and meetings of the Iranian National Ranking System are aligned with the conferences in the USN ranking system. International cooperation also complies with international collaboration. In other indicators, the USN system has no particular coordination with the indexes of Iran's national ranking system.

Comparison of the CWUR system with Iran's national ranking system shows that the quality of education in the CWUR ranking system is similar to that of the graduates who have received the award in Iran's national ranking system. This indicator in the Iranian system is 2% of the total score. The quality of faculty members is in line with the sub index of faculty members with awards is the main indicator of education in the Iranian system, which accounts for 3% of the total national ranking of Iran. The quality of research in the Iranian national ranking system is equal to the citation index of the CWUR system.

The research efficiency index corresponds with the index of influence in the CWUR system. The volume of research is overlapping with Board Impact as well, but there are no counterparts for the other indices in Iran's national ranking system.

Table 25. Comparing the Indicators of Iran's National Ranking System with the Indicators of the World Famous Ranking System.

Category	Indicators of Iran's National Ranking System	ARWU	THE	QS	USN	CWUR
Research	Quality of research	PUB	Citation		Total citations	Citation
	Research efficiency		Citation			
	Volume of research	HICI				
	Number of scientific journals	PUB			Publication	
	The number of books published by faculty members				Publication	
	Registrations					
	The number of research projects and contracts		Research		Publication	
Educatio	Faculty members being awarded	AWARD				Quality of Faculty
	Researchers with most documented articles	PCP		Citations per faculty		
	The proportion of faculty members with Ph.D. to the entire faculty					
	Graduates who have been awarded	ALUMNI				Quality of Education
	The proportion of faculty members in terms of scientific degrees to the entire faculty					
	The proportion of faculty members to the students		Teaching	Faculty/Student Ratio		
	The proportion of postgraduate students to the total students		Teaching			
	Students with prizes in international Olympiads					
International image	The ratio of the international faculty members to the whole faculty		International outlook	International Faculty Ratio/ International Student Ratio		
	The ratio of international students to all students		International outlook	International Faculty Ratio/ International Student Ratio		
	The proportion of faculty members holding Foreign Ph.D. to the entire faculty with Ph.D					
	International conferences and meetings				Conference	

	International cooperation	International outlook	International collaboration
	The degree of international participation of university in producing articles	International outlook	
Facilities & provisions	Per capita number of books titles per student		
	Number of sites / research centers and scientific hubs	Industry income	
Social,economic, & industrial activity	Number of institutes and spin-off companies		
	Number of growth centers		
	Number of knowledge based centers		

According to table 25, the national ranking system of Iran has the highest compatibility with the ranking system of THE; and the alignment of these two systems is more than the four other systems. The least consistency is with the CWUR system.

Discussion and conclusion

From among the world-famous systems, the ranking system of ISC is more consistent with the ranking system of THE. In comparing these two systems, significant points can be seen. In the ranking system of THE, the Citation Index, with the definition of Research Influence, only considers the influential research studies and accounts for about 30% of the score; while in the ISC ranking system, this index, under the title of scientific impacts, is divided into two sections of Total Citation and Highly Cited Papers. In other words, the impact of research is divided into two categories of the number of studies and highly influential articles. However, the main name of this indicator is the scientific effect, and it is clear to everyone that the number and quantity of the studies not only does not affect the development of science, but also in some cases can be destructive and have negative effects.

What is considered in the scientific world is the quality and impact of research on the range of science, and the strengthening and development of the scientific foundation of universities. Thus, the impact of research is what that should be considered in comparison of these two indicators. This issue highlights the superiority of this index in the ranking system of THE on the index of Scientific impact in the ISC ranking system.

The second indicator of THE system, namely the International Outlook Index, which suggests almost international academic exchanges, has about 5% of the score ranked by students and foreign faculty members, and 2.5% of the score is achieved by international contributions. This is while scientific diplomacy is included in ISC ranking indices.

In other words, scholarly exchanges with Islamic countries and international exchange will be scored in two separate sections. And this is while the scientific world and the spread of science and knowledge among the scientific communities of the world are inseparable; and separation of the dissemination of science and production of science is contrary to the principles of science and International communication; and in the world, it is considered as a negative function for this indicator. Also, in ISC's diplomacy system, there is the involvement of internal organizations. Therefore, it is better that the scientific diplomacy in the ISC system is changed to the index system of THE that has better integrity in order to solve this problem. The research section in the system of THE with the sub-indexes of Research Productivity, Research income, and Reputation survey allocates about 30% of the score to itself. While the sector of the Scientific Production in the ISC system, which appears to be examining research products, is not compatible with the index of Total paper, which refers to the quantity of research. The title of the research in the THE system is more consistent with the ISC system. The index of Corresponding papers do not include the meaning of research products in this section. Because the research similarities mostly have confirmatory and meta-logical, aspects and they are less attended in the production of new scientific concepts. On the other hand, if indicators such as research production are added to this section, the responsibility of the academic community for expanding and improving science and science production will increase. Paying more attention to this index and considering it in Islamic countries, including Iran, may lead the research and generally scientific activities to the right path and ultimately to more productivity and development.

The fourth indicator of the THE system that is industry income has Knowledge Transfer in its definition. However, in the ISC, Economic Impact System includes Funded Research, International Funded, and Collaboration with Private and Public Sector Research. This means that the ISC system has paid attention to special points in the economic impact of research. It has considered not only the transfer of knowledge to the industry, but also the participation of the university with the private and public sector and receiving research funds from various organizations and even receiving funds for international research from international assemblies have been considered. Moreover, these factors have been contributed to the economic development and the financial impact of research, which is why this indicator in the ISC system is more comprehensive than the THE ranking system.

Iran's ranking system is mostly aligned with the world's ranking system of THE. In other words, three indicators of teaching, research, and international outlook exist in Iran's ranking system exactly with the same titles. The difference between these two systems is evident in this fact that the THE system has paid special attention to Citation and Research influence which have 30% of rating score. While in the national ranking system of Iran, this index has been integrated

into two areas of research and education, and two indicators of facilities and provisions, and Social, economic and industrial activities have been given greater attention. It seems that integrating these two ranking systems can provide a better overall system that covers all aspects of the ranking and the position of universities in the world. Among the well-known ranking systems in the world, the ARWU and THE ranking system can be considered as the most complete systems that can be used as an alternative to the ranking system in Iran. Since there is a diverse variety of universities in Iran, this combined system can be used in any kind of Iranian universities including technology, general, art, and Azad universities. On the other hand, due to this university diversity in Iran, the proposed ranking system in this study can be used both in Iran and in other Islamic countries. In addition, because of the consistency of indices with world-renowned systems, this ranking is applicable to all international communities. And it is possible to use these two ranking systems to provide services and deliver results that are acceptable to the world's academic communities.