

*Original Research*

## **A Cross Analysis of University Impact Ranking System**

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### **Abstract**

First edition of University Impact Ranking (UIR) has been published, and although it's still in a process of rapid evolution, the result is likely to substantially influence the long-term development of higher education systems across the world based on the United Nations' Sustainable Development Goals (SDGs). This study aims to analyze and critique the principal ranking system prepared by Times Higher Education which assess universities against the SDGs. This study investigated the reliability of Times Higher Education University Impact Ranking (UIR) and attempted to identify its contribution and impact of participating universities on their societies. Taking an explanatory case study approach, this study used observation, document study, and experts' reflection as data collection methods. The findings suggest that UIR does not contribute sufficiently to identification of universities that have a good impact on their societies to achieve SDGs.

**Keywords:** Times Higher Education, University Impact Ranking, United Nations, Sustainable Development, Cross-Sectional Analysis, Iranian Universities.

### **Introduction**

In most developed countries, there is an increasing emphasis on the effectiveness and efficiency of universities. The new generation of universities have become more diverse in structure and are more oriented towards economic and industrial needs. In other words, competitive and effective survival of universities depend on their approach toward their social commitments. This new mission for 4<sup>th</sup> generation universities expand horizons for evaluation,

rating and rankings. Focusing on improving quality of universities suggests new directions for quality measurement in higher education which contributes to enhancing institutional performance in addition to providing information for the target audience. Since 1990s, universities have moved from focusing exclusively on two core missions of quality teaching and research to gaining a leading role in economic growth and innovation (Secundo, Perez, Martinaitis & Leitner, 2017). This movement has been frequently described as “third mission” which mainly focuses on knowledge transfer and innovation as third pillar of a university (Zomer & Benneworth, 2011). Although there is no general definition for the term, third mission activities comprise three dimensions performed by universities in relation to innovation, education and social engagement.

A global university ranking system summarizes the “quality” of the institution with one metric easy to understand by various stakeholders at any level resulting in the popularization of rankings internationally over the last few decades (Olcay & Bulu, 2017). Along with the necessity of systematic quality evaluations based on research productivity, developing new criteria in terms of the impact agenda is required.

Rankings have become an all-pervasive feature of higher education landscapes (Hazelkorn, 2011). From global lists of the ‘top universities’, to subject guides, accreditation schemes, journal metrics and h-indexes, ranking systems compare and order the spaces of higher education in increasing intricacy. In view of this, they have stimulated or imposed ranking activities of their academic institutions (Aguillo, Bar-Ilan, Levene & Ortega, 2010). When the University Impact Ranking (UIR) was introduced, new practices attracted universities’ attention; which may result into finding new assessment tools for universities. Despite recent questioning of the efficacy of the university Ranking systems in methodological coherent, faith in the efficacy of current university rankings to secure “clean” rankings for universities remains shaken (Marginson & Van der Wende, 2007; Kehm, 2019). However, global university rankings are a potent device for framing higher education (Douglass, 2016; Waltman, Wouters & Van Eck, 2017). The purpose of the present study is to investigate the Times Higher Education University Impact Ranking which assessed universities against 11 Sustainable Development Goals (SDGs) of the United Nations’ in order to understand whether it has placed universities in the right position or not.

### **Literature Review**

Higher education is no longer an instrument of social policy but increasingly an integral part of what we later called the ‘knowledge economy’ (Barrick, Mecham, Summers & Wood, 2019). For a long time, the competition has been measured by implicit reputation without any data existing to back up perceptions. However, with the heightened competition between universities since 1990s and the dramatic growth of international higher education market, surveys have emerged in many countries as a means of evaluating and ranking universities. The concept of “quality” and methods to properly measure the quality in higher education have been addressed as a theoretical issue (Doğan & Al, 2019; Kiraka, Maringe, Kanyutu & Mogaji, 2020). There are rarely good measures of the true outputs such as the quality of learning and research (Corrente, Greco & Słowiński, 2019). However, it is very difficult to find proxy measures for this concept (Peters, 2019). Consequently, it is a critical issue for those involved in university ranking systems to use qualitative indicators to efficiently represent the quality of universities.

Whether the measures really identify the quality of teaching and research of universities is still an unanswered question. Although the measures might represent the quality to some extent, they represent only limited dimensions of quality of teaching and research (Welsh, 2019). For example, a scholar who publishes many articles might be considered to be very productive; while, may in fact contribute less to knowledge compared to scholars who published fewer publications. Although most of the popular university ranking systems especially global rankings rely heavily on the quality of institutions, it is not clear whether they are reliable to pull together the various aspects of productivity and quality as claimed by some university ranking systems or not. The authors of the current paper believe that there is a need to understand how actually University Impact Ranking (UIR) as a university ranking system contributes to the development of universities' quality measurement.

### **University Impact Ranking**

University rankings are a global phenomenon, related to the demand for transparent information on the quality of teaching provision of Higher Education Institutions (HEI) offering it. They are related to and further stimulate competition among institutions across national borders (Kapur, Lytkin, Chen, Agarwal & Perisic, 2016; Ioannidis, et al., 2007). The Times Higher Education University Impact Ranking is the only global performance table that assesses universities against the United Nations' SDGs. It uses carefully "calibrated indicators to provide comprehensive and balanced comparisons across three broad areas: research, outreach, and stewardship" (Times Higher Education: University Impact Ranking 2019). The UIR system provides data of considerable private and public importance, with positive effects. This ranking system tends to emphasize on the differences between institutions and not between nations, differences between policies and performances. At the same time, it obscures horizontal differences, differences between purposes and types.

Despite of the horizontal diversity in UIR, the league table has emerged a question of validity in the effects of universities in achieving UN's sustainable development goals. However, there is no evidence that indicates the reliability of the UIR system as it probably has not proved that the first release was successful enough. As recently highlighted, research and teaching are not universities' only missions, a "third mission" revolves around knowledge transfer and innovation (ibid). This is increasingly becoming a hot topic and moving up higher education policymakers' agendas. The UIR carefully uses calibrated indicators to provide comprehensive and balanced comparisons across three broad areas: research, outreach, and stewardship. It simply asks each university to provide evidences for each practice and requires universities to attach a document as an evidence. Evidences should be visible to outsiders, but it is unlikely that any expert possesses a global view of the inner workings of ranking systems. The ranking exercise resonates with future students and UIR specifically helps establish a virtuous cycle around SDGs.

### **Problem Statement**

One of the major concerns of university ranking systems is to capture universities' effect on their societies (Anttila & Jussila, 2018). University Ranking Systems have taken a wide variety of methods to help universities develop their performance. As a result, they tend to be defined as a profession whose main concern is to deal with determining universities' excellence through a set of indicators for measuring excellence (Moed, 2017; Collins & Park, 2016). While

there is much work on various university ranking systems, little research has been done on UIR. The actual contributions of UIR in assessing universities against SDGs have not been featured in papers yet. Consequently, our knowledge and understanding of the contribution of UIR to identify universities that effect the societies' development based on the United Nations' SDGs have not been shaped by first-hand accounts. A glance through UIR does not reveal much evidence on whether UIR system contributes to the recognition of the vital roles that universities are playing in helping the world achieve SDGs. Thus, to identify the performance of the UIR, there is a need to study the position of universities in this ranking system. Understanding how UIR performs in assessing universities will result into the new knowledge on ranking system of universities which provides insights that might improve practitioners' performance in developing university ranking systems.

### **Research Questions**

The purpose of this work is to investigate the contributions of UIR in addressing the vital roles that universities are playing in helping the world achieve the SDGs. The research questions in this study are as follows:

1. To what extent the results of the UIR is reliable?
  - a. To what extent do the results of the UIR overlap with other institutions?
  - b. To what extent the results of the UIR are based on the universities policy evidences?
  - c. To what extent do the experts agree with the results of the UIR?

### **Research Methodology**

Taking an explanatory case study approach, this study explored the contributions of UIR to the recognition of universities that help the world achieve SDGs. A case study is an empirical study that investigates a contemporary phenomenon within its real-life context (Yin, 2009), and the investigator aims to provide a description and analysis of the case (Creswell, 2013). Case study was identified appropriate to conduct this research as it aimed to explore the roles and the contribution of UIR to addressing universities in achieving the SDGs. The target population of the study comprised 46 universities placed in UIR result table 2019. Applying a purposeful sampling method, a sample was drawn from the population. Of the 460 universities which were ranked by UIR 2019, 46 universities were selected. The main criteria to select cases was the multiples of 10 to include the cases from the different position of the table in the UIR system and compared their position in other university ranking systems, such as Times Higher Education and the QS World University Rankings. However, these two ranking systems claim to identify the 'best' universities in the world and then list them in rank order, and they are enormously influential, as universities alter their policies to improve their position (Moed, 2017). The diversity in the position of the institutions resulted in rich data.

This study analyses the position of universities in three university ranking systems as a fact-based analysis of university rankings. Facts are necessary to understand which university ranking systems work better. However, the place of universities in different systems can be source of reliability for fact-based analysis (Lindgren, 2020). The documents and evidences were used to gather the needed data for this study to gain an understanding of the purpose of the universities. For this element of the research, the mission and vision of the universities were used. They enabled the researcher to learn about the overall aims and objectives of the universities and whether any element of United Nations' SDGs have been addressed in the fact

books belonging to the universities. However, the researcher was provided with a rich dataset through a wide range of cases. Experts who were involved in university ranking systems' reflections on the UIR's results were also used to gather data. 27 experts who were available to participate in the study were selected to complete the questionnaire. They should have three main characteristics as follows:

- Familiar with the UN's Sustainable Development Goals;
- UIR as a reliable system to assess universities against the UN's Sustainable Development Goals;
- Agree with the first UIR result published 2019.

Open-ended questionnaire was identified as an appropriate method of data collection to bring the experts' perspectives into the study.

The questionnaire asked them to express their opinion toward the UIR's results in an open-ended format. Because of the qualitative nature of this part of data, a grounded approach was taken to analyze the data as recommended by Glaser & Strauss (1967):

1. the data was codified in the form of themes
2. a memo as the researcher's interpretation to each code was added; and
3. using evidence for each evidence, a narration was written for each.

## Results

The findings reported in this article particularly focuses on the results of UIR in addressing the effectiveness and efficiency of universities in helping the world achieve the Sustainable Development Goals. To address the first question, data on the names of universities and their rank positions for all universities were extracted from the website of the UIR, QS, and Times Higher Education ranking university systems. There are 46 universities in Table 1, showing the diversity of the scores in these three systems. Although the contributions to the societies have not been explicitly addressed in the results of UIR, there is an overall score which indicate the performance of the universities. The list is sorted based on their appearance in UIR system (Table 1).

Table 1

*Institutional Rank between the three ranking systems*

Universities Name	Impact World Rank	Times World Rank	QS World Rank
University of Auckland	1	201-250	83
University of Hong Kong	10	36	25
University of Dundee	20	201-250	302
Sungkyunkwan University (SKKU)	30	158	95
Brunel University London	40	401-500	359
De Montfort University	50	601-800	801-1000
University of Hamburg	60	135	227
National Taiwan University	70	170	69
National Cheng Kung University (NCKU)	80	501-600	225
Monterrey University of Technology	91	601-800	158

Universities Name	Impact World Rank	Times World Rank	QS World Rank
University of Surrey	100	251-300	274
Chiba University	101-200	1001+	442
University of Florence	101-200	401-500	448
Kanazawa University	101-200	801-1000	581-590
McGill University	101-200	44	35
New York University	101-200	27	39
Polytechnic University of Catalonia	101-200	501-600	0
University of Szeged	101-200	601-800	501-510
Utsunomiya University	101-200	1001+	0
Alzahra University	201-300	1001+	0
Babeş-Bolyai University	201-300	801-1000	801-1000
Clark University	201-300	601-800	531-540
University of Haifa	201-300	601-800	651-700
Kangwon National University	201-300	0	0
Mie University	201-300	801-1000	0
University of Navarra	201-300	251-300	245
University of Pavia	201-300	401-500	0
Saint Petersburg State University	201-300	501-600	243
Technical University of Madrid	201-300	601-800	192
Yeditepe University	201-300	1001+	0
Arts University Bournemouth	301+	0	0
Beykent University	301+	0	0
Scientific University of the South	301+	301+	0
Eastern Mediterranean University	301+	601-800	0
Government College University Lahore	301+	1001+	0
İstinye University	301+	0	0
KIIT University	301+	1001+	0
Lincoln University College	301+	0	356
Metropolitan Institute of Technology	301+	0	0
National Research Nuclear University MEPHI	301+	351-400	329
University of Oviedo	301+	601-800	801-1000
University of Professional Studies, Accra	301+	0	0
University of the Sinos Valley	301+	1001+	0
Technical University of Košice	301+	1001+	801-1000
Ukhta State Technical University	301+	0	0
University of Zanjan	301+	1001+	0

Table1 illustrates that institutions' overall score in UIR system have a large discrepancy

(47.9%) with THE, and QS score. For instance, University of Auckland ranked 1st in UIR system and 201-250th at THE; De Montfort University ranked at position 50th at UIR and appear at position 601-800th in THE and 801-1000th in QS; Babeş-Bolyai University ranked 201-300th at UIR and 801-1000th at both THE and QS. However, the similarities between the UIR system and two other ranking systems are considered to be very low. The low similarities may have been caused to some extent by the different aspects of the profile of the institutions. However, it is difficult to see how to create a reliable metric on a different characteristic of institutions (van Vught, et al., 2005). Several cases of institutions (15.3%) were detected that did not get any positions in the QS and Times Higher Education and included only in UIR system. For instance, Kangwon National University, occupying the 201-300th position in the overall UIR ranking, is missing in the THE, and QS ranking as well. Metropolitan Institute of Technology and University of Professional Studies, Accra both in the top 301+ of the overall UIR system did not place in the THE and QS system (Table 2).

Table 2

*Institutional overlap between the three ranking systems*

Universities Name	Impact World Rank	Times World Rank	QS World Rank
Kangwon National University	201-300	---	---
Arts University Bournemouth	301+	---	---
Beykent University	301+	---	---
İstinye University	301+	---	---
Metropolitan Institute of Technology	301+	---	---
University of Professional Studies, Accra	301+	---	---
Ukhta State Technical University	301+	---	---

The above table shows that these universities probably have not met the criteria to be included in these two ranking university systems while they have good impact on their society. To address the second question, document study was used as appropriate method to gain an understanding of the goals, vision and mission of the universities and source of evidence for the purpose of this question. For this element of the research, the Fact Books of three universities were used. Fact Books are the Annual Profile of Universities which are intended as a source to provide a wealth of information about University. To select the case for the purpose of this study, three medical universities were selected. Three main criteria were used to select key universities: a) accessibility to the universities; b) researchers' knowledge of the universities and c) the position universities in the UIR system. It is recommended to select cases that provide extreme situations and polar types in which the cases are transparently observable (Yin, 2009). They enabled the researcher to learn about the overall aims and objectives of the universities to gain an insight into ways of viewing SDGs in the context of different universities. (Table 3).

Table 3

*The overall Institutional Rank of Three Universities*

Name	Score
Iran University of Medical Sciences	41
Tehran University of Medical Sciences	201-300
Shahid Beheshti University of Medical Science	301+

The analysis of the Fact Books revealed that UN's Sustainable Development Goals has not been addressed in the Fact Books of universities directly, but there are several items which contribute to the development of UN's Goals in some areas:

### **Quality Education**

Although all three universities do not contribute to develop this goal explicitly, developing international students and faculty in order to enable them to achieve their academic and professional goals was highlighted. Through this, the quality of education in university will improve.

### **Good Health and Well-being**

It is clear from the documents of Tehran University of Medical Sciences that it mainly contributes to extend health promotion, health maintenance, and the advancement of the health sciences proportion. For example, it serves community by the solving health care problems at the regional and national levels; designing and promoting new health soft-wares appropriate for the needs of the society. Indeed, Tehran University of Medical Sciences provides for joint efforts with other organizations to identify and meet mutual needs, and render scientific specialized health services. However, this goal focuses on the university support for healthcare professions and the health of students and staff. Shahid Beheshti University of Medical Sciences contribute in this area through some strategic plans. For example, it provides students financial aid, health, and treatment. It focuses on necessary plans related to urban health and also develops suitable quantitative treatment facilities for clients. Indeed, it develops coordination in fields which affect health in order to prepare grounds for a healthy environment based on international standards. It is clear that it pays attention to epidemic and non-epidemic disease agents and lists priorities and supports health plans based on the disease loads. Thus, this university contributes to raise the level of services in good health and well-being.

### **Gender Equality**

Lack of policies on gender equality and its commitment to recruiting and promoting women is observed in the Fact Books of the universities. In fact, policies to bring equal rights to men and women is a crucial issue now.

### **Decent Work and Economic Growth**

The results which are presented in the Fact Books indicate that the universities have not only mentioned mainly any types of policies related to Decent Work and Economic Growth goal, and also did not observed any policies related to some other UN's goals such as: Industry, Innovation and Infrastructure; Reduced Inequalities; Sustainable Cities and Communities; Responsible Production and Consumption and Peace, Justice and Strong Institutions.

### **Climate Action**

The results based on the Fact Books revealed "Climate Action" goal has been explicitly addressed in the Tehran University of Medical Sciences' Policies; for example, "playing effective roles in introducing new methods and comprehensive plans for environmental preservation" is a policy that indicated in the Book which belongs to Tehran University of

Medical Sciences. It shows that one of concerns of this university is to use of energy and preparations for deal with the consequence of climate change.

### **Partnerships for the Goals**

The documents show that Universities support the SDGs through collaboration with other countries and publication of data. This goal is viewed as way to increase the universities' role in production of science, research work, and publication of scientific articles in the international journals and meet health needs of the society.

To address the third question, the experts' reflections on the results of UIR was collected from questionnaires completed by 27 experts. However, questionnaire was also used to gather data from experts who were available to participate in the study. Experts' reflections on the UIR's result from 27 experts, has three main characteristics as follows:

- Familiar with the UN's Sustainable Development Goals;
- UIR as a reliable system to assess universities against the UN's Sustainable Development Goals;
- Agree with the first UIR result published 2019.

These characteristics are described below.

#### a) Familiar with the UN's Sustainable Development Goals

The results found that most of experts are familiar with UN's Sustainable Development Goals. The findings show low level of SDG awareness in developing countries. However, such findings offer a useful insight into how the UN should double its efforts to raise awareness to achieve the goals. Most of the respondents were familiar with University Impact Ranking, the only global performance tables that assess universities against the United Nations' Sustainable Development Goals, and published 2019. While there is no doubt that university rankings has gained a central place in measuring higher education quality (Olcay & Bulu, 2017; Dill & Soo, 2005).

#### b) UIR as a reliable system to assess universities against the UN's Sustainable Development Goals;

Few experts agree that UIR is a reliable system to assess the universities against the United Nation's Sustainable Development Goals and believe that it provides an excellent opportunity for organizations to demonstrate exactly how they're contributing to each goal:

"... The point is that UIR is driven by different purposes and is associated with different notions of what constitutes university quality and does not look a reliable ranking system."

However, some suggested that some colleagues and universities manipulated data to the league table ranking, for example attempting to increase their number of first generation women starting a first degree or number of graduates with primary school teaching qualifications seems to have led to functional data manipulation and gaming the system. It also appears that the data did not derive from the Information Technology and Statistics Center of the universities.

#### c) Agree with the UIR result published 2019

Overall, majority of experts highlighted that not agree with the result. According to the participants the results of UIR are ambiguous:

"Many universities can take no great comfort from this result. However, the results are

ambiguous.”

The data concerning the UIR indicators suggests the authors of the UIR deviated from the methodology when computing the evidences related to each university:

“... The fact that there may be other legitimate indicators or combinations of indicators which is usually passed over in silence; otherwise they might be deviated.”

It is understandable that the values of some of the evidences is hard to compute, as in the case of number of evidences, where data about the universities' performance in line with UN's Sustainable Development Goals is hard to obtain and inconsistent, and sometimes requires using guesses or may require an error-prone counting method. The experts stated that the findings undermine the reliability of UIR, and adds to other critiques of its methodology and results.

### Discussion

Rankings of universities are a global phenomenon, related to the demand for transparent information on the quality of teaching, research provision and the standing of institutions offering it. They are also related to and further stimulate competition among institutions across national borders. The university rankings systems provide data of considerable private and databases, with both positive and negative effects (Olcay, & Bulu, 2017). Some university ranking systems tend to emphasize vertical differences between institutions (Moed, 2017). Despite the attractions of some university ranking systems such as UIR, league tables have a question of validity, of the uses to which the data are put (Welsh, 2019; Anttila & Jussila, 2018).

From the methodologically viewpoint, it is important to secure “clean” rankings transparent, free of self-interest, and coherent (Dill & Soo, 2005). Many methodological challenges still need to be addressed and overcome (Doğan, & Al, 2019; Kehm, 2019). The strategic and policy implications need to be better understood, in particular that the UIR table, institutional status is predominantly defined based on the evidences without any clear explanation on the methods of measurement. To some extent, UIR likely to have a powerful effect in shaping missions of SDGs. Only some rankings systems are designed so as to contribute to broad-based improvement in SDGs in the core activities. To enhance the level of understanding and adequacy of interpretation of a system's outcomes, more insight is to be provided to users into the differences between the various systems, especially on how their orientations influence the ranking positions of given institutions. The current paper has made a contribution to such insight.

### Conclusion

Overall, the study managed to investigate the position of universities in the UIR system. The results show that, although UIR's contribution in demonstrating the impact a university is making to the world we live in, is recognized, it needs to be rigorously tested. The UIR compare to QS and Times Higher Education ranking varied in their validity as discussed in global university ranking systems (Moed, 2017). However, the concept of validity, featured strongly in understanding advanced services of study, research, development and innovation to public sector and private sector users (Tofallis, 2012; Anttila & Jussila, 2018). A number of universities' positions in the three ranking university systems observed on a continuum which reflects the range of assessments that are used by Times University Impact Ranking. The findings reveal how the place of universities in UIR is different from two other ranking

university systems which is QS and Times Higher Education, meaning that top universities in QS and Times Higher Education cannot be ‘high impact universities’ and this is challenging. However, it is contended that, from a methodological perspective, UIR needs appropriate methods to recognize “knowledge transferred and innovative” universities. According to the results of this study, there are challenges and implications in determining universities which effect on their societies. However, based on the documents universities do not have clear policies in line with UN’s Sustainable Development Goals and, consequently, they are not connected with these goals. Therefore, illustrating the goals might be part of solution for overcoming this challenge. Although developing impact university ranking which able university ranking systems to recognize effective institutions was identified as a core aim of UIR, achieving this goal appeared to be very challenging. However, the participants believe that the results of UIR are ambiguous. However, it is vital that UIR as a university ranking system is crafted so as to serve the purposes of SDGs, rather than purposes being shaped for higher education.

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