Indicators Affecting the International Outlook of Universities

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Abstract
In this study, the variables that affect the International Outlook of Universities are examined. The international outlook was treated as a dependent variable. Teaching, research, citation and industry income, GCI, critical thinking in teaching, freedom of the press, judicial independence, HDI, GNI, Gini coefficient, gender inequality index, unemployment youth, and share of seats in parliament (% held by women) were treated as independent variables. Fourteen indicators measured by three different organizations which are UNDP, WEF, and THE were selected. The data used in the research were from 57 countries and 1,133 universities. Therefore, for data analysis, a two-level hierarchical linear model was conducted. The differentiation in the international outlook scores of universities by country was found to be significant. The empirical outcomes of this study will make important contributions to both top-level decision-makers and students who will select a university to study.

Keywords
international outlook, university rankings, global rankings, higher education, socio-economic indicators, nested structured data

Introduction
Knowledge is power says F. Bacon, who contributed to the conception of the age with his ideas on methodology and knowledge. Knowledge here is scientific knowledge. Scientific knowledge is mostly produced in universities— institutions of higher education. In the strictest sense of the word, higher education stands for higher teaching and learning activities in terms of the level and quality of such activities. In this sense, institutions of higher education are the leading organizations of producing, communicating (teaching), and sharing (spreading) high-quality and high-level scientific knowledge. The institutions of higher education which produce technology with systematic knowledge, in particular, have built an outlook with their reputation in the international domain. This international outlook gave rise to the concept of internationalized university, creating both competition and cooperation among universities. International outlook, combined with the concept of globalization, has provided universities with prestige, economic and political power. When the global circulation of information and technologies produced by the institutes of higher education is considered particularly in terms of their relation to political power, one can see that Foucault’s idea that knowledge rests on solid ground. Therefore, even if the concept of international outlook has a positive meaning in the context of the institutions of higher education, it also has negative connotations. The most striking one among those negative connotations is that internationalized universities where high-level and high-quality knowledge is produced degrade multiculturalism, contrary to popular belief. Another negative connotation is that internationalized universities serve the rulers who aim to shape society. It is largely inevitable for many young people to aspire to an education in a high-quality higher education institution for a lot of reasons. For example, the global circulation of knowledge has increased the options of higher education bodies that individuals can choose. It has become a subject of study and discussion to define the criteria for a high-quality higher education institution. At this point, it has become reasonable to sort universities by objective criteria without any subjectivity. Education systems have been created to rank universities worldwide by different criteria (The Times Higher Education University Rankings-THE, CHE Ranking, Academic Ranking of World Universities-ARWU). The ranking systems are “used in many national systems to provide data supporting student choice making and in some nations guide allocations of public funds and also simply to feed public appetites for data on institutional status” (Marginson & van der Wende, 2007, p. 319). However,
Taylor and Braddock (2007, p. 245) offer “how an ideal international university ranking system might look, concluding with some comments on the uses of ranking systems.” Amsler and Bolsmann (2012, p. 283) in their article “conclude by arguing that, rather than regarding world university rankings as a means to establish criteria of educational value, the practice may be understood as an exclusionary one that furthers the alignment of higher education with neoliberal rationalities at both national and global levels.”

Innovative knowledge produced at a macro level in universities, and social, cultural, and economic outputs based on such knowledge drag countries to an inevitable competition of welfare. This global competition changes and increases the demands of individuals before society. In this sense, higher education institutions represent the momentum of both social matters such as gender inequality, freedom of the press, judicial independence and human development and economic mobility such as inequality of income distribution, unemployment, and gross national income per capita. Governments also try to maintain their reputation in the international domain by funding (subsidizing) higher education bodies. The desire of individuals to receive higher education at micro-level determines the development policies of countries at a macro level.

The attractiveness of the production of knowledge started locally by universities has made the international outlook of universities significant at a global level. For this reason, how the international outlook performance indicator for higher education bodies is defined and how the performance indicators of countries in the fields of economy, human development, and education affect the international outlook scores of universities are important parameters.

**International Outlook of Universities**

A 21st-century individual is a part of a multicultural world. In this respect, carrying out internationally inclusive higher education activities with students and scholars from different cultures gave rise to the concept of international outlook of universities.

Rating more than 1,300 universities to provide organizations with data on the world’s most effective universities, the London-based higher education rating organization Times Higher Education (THE) defines the international outlook performance as follows: First of all, “the performance indicators are grouped into five areas: teaching (30%); research (30%); citations (30%); international outlook (7.5%); industry income (2.5%).” International outlook means “the ability of a university to attract undergraduates, postgraduates and faculty from all over the planet is key to its success on the world stage. The international outlook indicator has been composed of three subcomponents: staff, students and research. Proportion of international students is 2.5%, international staff 2.5% and international collaboration 2.5%” (THE, 2019).

**International Views of Countries**

Sociocultural and socioeconomic indicators of the country of a university are among the factors that affect the international outlook of universities. For this reason, outlooks of countries, as well as universities in areas such as education, health, law, economy, and human development, are considered important. The OECD’s Programme for International Student Assessment (PISA), which measures 15-year-olds’ academic performance across dozens of countries is an example of an influential global performance indicator (Aytn et al., 2018). Organizations such as the World Economic Forum (WEF), World Justice Project (WJP), United Nations Development Program (UNDP), Organization for Economic Cooperation and Development (OECD), World Health Organization (WHO), and International Monetary Fund (IMF) provide countries with strategically significant data, allow decision-makers to make comparisons and help them set new objectives at the micro and macro level. Therefore, relevant organizations keep sociocultural and socioeconomic indicators for countries up to date. Also, measurement methods for indicators are being discussed in the literature.

**A Brief Theoretical Background of Global Rankings**

The university rankings first appeared in the 1870s to notify academics, practitioners, professionals, and government officials of higher education (Dearden et al., 2019). ARWU (2019) is the first world-known university ranking and starting from 2003 and funded by the Chinese government (Hazelkorn & Gibson, 2017). Another well-known world ranking is THE. It was published between 2004 and 2009 in association with Quacquarelli Symonds—QS (Pavel, 2015). ARWU, THE, QS, HEEACT (Higher Education Evaluation & Accreditation Council of Taiwan), CWTS (Centre for Science and Technology Studies), webometrics ranking by Spanish National Research Council have developed many benchmarks and rankings which are based on these benchmarks. Although these rankings are not the sole criteria for the quality and reputation of a university, they may offer valuable quantitative data in regional and global rankings. Furthermore, the internationalization of higher education is vigorously encouraged by most governments around the World (Han & Zhong, 2015). As Marginson and van der Wende (2007, p. 309) emphasized that the global ranking indicators immediately secured great prominence in higher education, policy, and public arenas and have already had discernable effects in institutional and policy behaviors.

It seems that such new styles of objectifying academic excellence change local academic hierarchies and internal dynamics in universities (Ishikawa, 2009). However, the main purpose of the ranking of a university is not to be recognized as an international institution. It can be used as “the integration of
international, intercultural or global dimensions into the aims, functions, and presentation of education” as a development tool (Knight, 2015, p. 108). Because the claim that international ranks accurately captures higher educational excellence is often seen as overstated, as the commensurate measurement in ranking tables is often narrow or even misleading (Allen, 2017). There is considerable criticism of university rankings. Simon Marginson’s analysis showed that there is no perfect ranking, and each of the best-known global rankings has its advantages and shortcomings (Boyadjieva, 2017).

Aim of the Study

The focus of this study is not to discuss the indicators that the said organizations share with the public. In this study, the variables that affect the International Outlook of Universities are examined. However, this study treats a part of the data shared publicly by such organizations as independent variables and analyzes the international outlook scores of universities at a two-stage level. Therefore, the fundamental question of the present study was as follows:

Is the international outlook variable (as an outcome variable) predicted by teaching, research, citations, and industry income as first-degree predictor variables and the global competitiveness index, human development index, critical thinking in teaching, freedom of the press, judicial independence, gross national income per capita, Gini coefficient, gender inequality index, unemployment youth and share of seats in parliament (% held by women) as second-degree predictor variables?

One should keep in mind that predictor variables across a university or a country, which affect the international outlook of a university, are likely to be subject to different outcomes and interpretations in the long run. The empirical outcomes of this study will make important contributions to both top-level decision-makers and students who will select a university to study.

Method

A different and separate methodology regarding the indicators handled in the study has not been considered. Most ranking agencies’ websites have presented information on their methodology. Researchers can access to these methods on the agencies’ websites. All sequencing methodologies and indicators in this study are based on the data input from a number of external sources.

Sampling and Instruments

No measurement tool was used in the study. The data used in the study were obtained from the databases on the official websites of the relevant organizations (THE, 2019; WEF, 2018; UNDP, 2017). Descriptive information about the examples and data are available in Table 1.

Fourteen indicators measured by three different organizations were selected. The first four of these indicators are measurements of the qualities of the universities. The remaining 10 indicators are related to the socio-cultural and economic qualities of countries. The data used in the research were collected from 57 countries and 1,133 universities. The number of universities by country is given in Table 2. The countries that were included in the sample set were represented by a minimum two and maximum 172 universities.

Data Analysis

Since many indicators display a strong correlation with economic development, the aim is to evaluate the most important indicators to represent the global ranking. The international
outlook was discussed as a dependent variable. Teaching, research, citation and industry income, GCI, critical thinking in teaching, freedom of the press, judicial independence, HDI, GNI, Gini coefficient, gender inequality index, unemployment youth, and share of seats in parliament (% held by women) were treated as independent variables. A multi-level structure employed in the study with measurements of 14 indicators was found with no missing at the first level and 57 universities at the second level. Therefore, for data analysis two-level hierarchical linear model was conducted.

Hierarchical Linear Modeling (HLM)

HLM is applied to nested structured data. When data are nested, observations or units or cases cannot be sampled independently of the others. In the event that this situation is overlooked, statistical analysis can bring about the detection of differences that do not really exist, resulting in inflation of the type 1 error rate (Williams, 2003). The utilization of classical methodologies with most monitoring data yields biased predictions of the relations among factors or variables (Willms, 1999). HLM is utilized to examine the impacts of predictor factors on various levels on one dependent variable on level 1. As shown in Figure 1, universities are nested within countries.

As found in Figure 1, A two-level model in Hierarchical Linear Modeling comprises two sub-models at university level and country level. In level-1, international outlook scores are predicted as a function of the university's teaching, research, citation, and industry income. In level-2, international outlook scores are predicted as a function of the country's socio-economic and socio-cultural indicators (e.g., the global competitiveness index, Gini coefficient, human development index). Hence, data were tested with a completely conditional model (intersection and slopes as result model) used by HLM.

On the level-1 (university level) analysis is like that of Ordinary Least Squares regression-OLS (Raudenbush & Bryk, 2002). Dependent or outcome variable is international outlook scores measured at the university level, in this research. In level-1, independent variables or predictors are teaching, research, citation, and industry income scores. The university level could be defined as:

### Table 2. Number of Universities by Countries.

| No | Countries | Number of universities (%) | No | Countries | Number of universities (%) |
|----|-----------|---------------------------|----|-----------|---------------------------|
| 1  | Algeria   | 6 0.5                      | 30 | Latvia    | 2 0.2                     |
| 2  | Argentina | 5 0.4                      | 31 | Lebanon   | 2 0.2                     |
| 3  | Australia | 35 3.1                     | 32 | Lithuania | 2 0.2                     |
| 4  | Austria   | 9 0.8                      | 33 | Malaysia  | 11 1.0                    |
| 5  | Belgium   | 8 0.7                      | 34 | Mexico    | 17 1.5                    |
| 6  | Brazil    | 36 3.2                     | 35 | Morocco   | 4 0.4                     |
| 7  | Canada    | 27 2.4                     | 36 | Netherlands | 13 1.1                   |
| 8  | Chile     | 16 1.4                     | 37 | Norway    | 5 0.4                     |
| 9  | China     | 72 6.4                     | 38 | Pakistan  | 9 0.8                     |
| 10 | Colombia  | 7 0.6                      | 39 | Peru      | 2 0.2                     |
| 11 | Croatia   | 2 0.2                      | 40 | Philippines | 2 0.2                   |
| 12 | Denmark   | 7 0.6                      | 41 | Poland    | 12 1.1                    |
| 13 | Egypt     | 19 1.7                     | 42 | Portugal  | 13 1.1                    |
| 14 | Estonia   | 2 0.2                      | 43 | Romania   | 7 0.6                     |
| 15 | Finland   | 9 0.8                      | 44 | Russian Federation | 35 3.1              |
| 16 | France    | 34 3.0                     | 45 | Slovakia  | 3 0.3                     |
| 17 | Germany   | 47 4.1                     | 46 | Slovenia  | 2 0.2                     |
| 18 | Greece    | 8 0.7                      | 47 | South Africa | 9 0.8                   |
| 19 | Hungary   | 7 0.6                      | 48 | Spain     | 38 3.4                    |
| 20 | Iceland   | 2 0.2                      | 49 | Sweden    | 11 1.0                    |
| 21 | India     | 49 4.3                     | 50 | Switzerland | 10 0.9               |
| 22 | Indonesia | 5 0.4                      | 51 | Thailand  | 14 1.2                    |
| 23 | Iran      | 29 2.6                     | 52 | Tunisia   | 3 0.3                     |
| 24 | Ireland   | 9 0.8                      | 53 | Turkey    | 23 2.0                    |
| 25 | Israel    | 6 0.5                      | 54 | Ukraine   | 4 0.4                     |
| 26 | Italy     | 43 3.8                     | 55 | United Kingdom | 98 8.6           |
| 27 | Japan     | 103 9.1                    | 56 | United States | 172 15.2         |
| 28 | Jordan    | 4 0.4                      | 57 | Venezuela | 2 0.2                     |
| 29 | Kazakhstan| 2 0.2                      |
\[ Y_{ij} = B_{0j} + B_{1j} \cdot (\text{TEACHING}) + B_{2j} \cdot (\text{RESEARCH}) + B_{3j} \cdot (\text{CITATION}) + B_{4j} \cdot (\text{INDUSTRY}) + r_{ij} \]

where \( Y_{ij} \) represents the international Outlook score of university in jth country, \( B_{0j} \) is the intercept in the jth country, \( B_{1j}, B_{2j}, B_{3j}, \) and \( B_{4j} \) represent the beta coefficients for teaching, research, citation and industry income scores in the jth country. \( r_{ij} \) is error term. The country model equations can be displayed as:

\[ B_{0j} = G_{00} + G_{01} \cdot (\text{WEF1}) + G_{02} \cdot (\text{WEF3}) + G_{03} \cdot (\text{WEF5}) + G_{04} \cdot (\text{UNEPI1}) + G_{05} \cdot (\text{UNEPI3}) + G_{06} \cdot (\text{UNEPI4}) + G_{07} \cdot (\text{UNEPI7}) + G_{08} \cdot (\text{UNEPI11}) + G_{09} \cdot (\text{UNEPI15}) + U_{0j} \]

\[ B_{1j} = G_{10} + G_{11} \cdot (\text{WEF1}) + G_{12} \cdot (\text{WEF3}) + G_{13} \cdot (\text{WEF4}) + G_{14} \cdot (\text{WEF5}) + G_{15} \cdot (\text{UNEPI1}) + G_{16} \cdot (\text{UNEPI3}) + G_{17} \cdot (\text{UNEPI4}) + G_{18} \cdot (\text{UNEPI7}) + G_{19} \cdot (\text{UNEPI11}) + G_{20} \cdot (\text{UNEPI15}) + U_{1j} \]

\[ B_{2j} = G_{20} + G_{21} \cdot (\text{WEF1}) + G_{22} \cdot (\text{WEF3}) + G_{23} \cdot (\text{WEF4}) + G_{24} \cdot (\text{WEF5}) + G_{25} \cdot (\text{UNEPI1}) + G_{26} \cdot (\text{UNEPI3}) + G_{27} \cdot (\text{UNEPI4}) + G_{28} \cdot (\text{UNEPI7}) + G_{29} \cdot (\text{UNEPI11}) + G_{30} \cdot (\text{UNEPI15}) + U_{2j} \]

\[ B_{3j} = G_{30} + G_{31} \cdot (\text{WEF1}) + G_{32} \cdot (\text{WEF3}) + G_{33} \cdot (\text{WEF5}) + G_{34} \cdot (\text{UNEPI1}) + G_{35} \cdot (\text{UNEPI3}) + G_{36} \cdot (\text{UNEPI4}) + G_{37} \cdot (\text{UNEPI7}) + G_{38} \cdot (\text{UNEPI11}) + G_{39} \cdot (\text{UNEPI15}) + U_{3j} \]

\[ B_{4j} = G_{40} + G_{41} \cdot (\text{WEF1}) + G_{42} \cdot (\text{WEF3}) + G_{43} \cdot (\text{WEF5}) + G_{44} \cdot (\text{UNEPI1}) + G_{45} \cdot (\text{UNEPI3}) + G_{46} \cdot (\text{UNEPI4}) + G_{47} \cdot (\text{UNEPI7}) + G_{48} \cdot (\text{UNEPI11}) + G_{49} \cdot (\text{UNEPI15}) + U_{4j} \]

The intercepts predicted at level-1 are utilized as a result variable (international outlook scores) in the level-2 equation. \( B_{0j} \) represents the intercept in the jth country. \( B_{1j}, B_{2j}, B_{3j}, \) and \( B_{4j} \) represent the beta coefficients for teaching, research, citation, and industry income variables in the jth country. \( G_{00} \) is the average intercept across the level-2 countries. \( G_{10}, G_{20}, G_{30}, \) and \( G_{40} \) are the mean regression slopes across the countries. \( U_{0j} \) is level 2 random effect. \( G_{01}, G_{02}, \ldots, G_{410} \) are level-2 independent variables.

### Findings

According to the random influence one-way ANOVA modeling, intraclass correlation coefficient is 0.73 \([U_{0j}/(U_{0j} + R) = 344.86/(344.86 + 124.48)]\). A 0.73% of the variance in the international outlook scores are at the country level due to the difference between countries. On the other hand, 27% of the variance in international outlook scores is at the university level due to the difference between universities. It is thought that variance could be clarified utilizing university and country-level predictor variables. For this reason, predictor variables at the university and country-level were added. Table 3 shows the result of HLM analyses.

Overall, the mean international outlook scores for universities across counties were significantly different from zero \( (G_{00} = 52.017, p < .05) \). A remarkable impact of the GCI scores on average international outlook scores for universities was observed \( (G_{01} = -1.592, p < .05) \). It was observed that teaching and citation scores measured for the universities had a positive and significant effect on the differentiation of the international outlook scores by country \( (G_{10} = 0.351 \) and \( G_{30} = 0.176, p < .05) \). However, research and industry income scores measured for the universities were not found...
### Table 3. Outcome of level-1 and 2 models in HLM.

| Fixed Effect | Coefficient | Standard Error | T    | Approx.d.f. | p     |
|--------------|-------------|----------------|------|-------------|-------|
| For INTRCPT1, B0 |             |                |      |             |       |
| INTRCPT2     | G00         | 52.017         | 1.730| 30.070      | 46    | .000*|
| WEF1         | G01         | -1.592         | 0.560| -2.843       | 46    | .007*|
| WEF3         | G02         | 5.557          | 2.894| 1.920        | 46    | .061 |
| WEF4         | G03         | -0.269         | 0.169| -1.594       | 46    | .117 |
| WEF5         | G04         | 3.717          | 2.675| 1.390        | 46    | .171 |
| UNEP1        | G05         | 111.977        | 63.482| 1.764       | 46    | .084 |
| UNEP3        | G06         | 0.000          | 0.000| 0.220        | 46    | .827 |
| UNEP4        | G07         | 0.191          | 0.306| 0.624        | 46    | .536 |
| UNEP7        | G08         | -7.492         | 32.548| -0.230      | 46    | .819 |
| UNEP11       | G09         | -0.263         | 0.210| -1.249       | 46    | .218 |
| UNEP15       | G10         | 0.114          | 0.228| 0.502        | 46    | .618 |
| For TEACHING slope, B1 |             |                |      |             |       |
| INTRCPT2, G10 |             |                |      |             |       |
| WEF1         | G11         | -0.037         | 0.027| -1.337       | 1078  | .182 |
| WEF3         | G12         | 0.313          | 0.105| 2.994        | 1078  | .003*|
| WEF4         | G13         | -0.003         | 0.006| -0.567       | 1078  | .571 |
| WEF5         | G14         | -0.314         | 0.115| -2.737       | 1078  | .007*|
| UNEP1        | G15         | 1.451          | 2.671| 0.543        | 1078  | .587 |
| UNEP3        | G16         | 0.000          | 0.000| -0.533       | 1078  | .594 |
| UNEP4        | G17         | -0.024         | 0.015| -1.558       | 1078  | .119 |
| UNEP7        | G18         | -1.897         | 1.385| -1.370       | 1078  | .171 |
| UNEP11       | G19         | -0.010         | 0.009| -1.140       | 1078  | .255 |
| UNEP15       | G20         | -0.006         | 0.011| -0.526       | 1078  | .599 |
| For RESEARCH slope, B2 |             |                |      |             |       |
| INTRCPT2     | G20         | -0.020         | 0.094| -0.217       | 1078  | .829 |
| WEF1         | G21         | 0.022          | 0.026| 0.846        | 1078  | .398 |
| WEF3         | G22         | -0.234         | 0.107| -2.181       | 1078  | .029*|
| WEF4         | G23         | 0.007          | 0.007| 1.066        | 1078  | .287 |
| WEF5         | G24         | 0.223          | 0.115| 1.944        | 1078  | .052 |
| UNEP1        | G25         | 1.306          | 2.825| 0.462        | 1078  | .644 |
| UNEP3        | G26         | 0.000          | 0.000| 0.403        | 1078  | .686 |
| UNEP4        | G27         | 0.030          | 0.015| 1.947        | 1078  | .051 |
| UNEP7        | G28         | 1.670          | 1.489| 1.122        | 1078  | .263 |
| UNEP11       | G29         | 0.009          | 0.010| 0.957        | 1078  | .339 |
| UNEP15       | G30         | 0.005          | 0.012| 0.451        | 1078  | .651 |
| For CITATION slope, B3 |             |                |      |             |       |
| INTRCPT2     | G30         | 0.176          | 0.027| 6.477        | 1078  | .000*|
| WEF1         | G31         | -0.002         | 0.008| -0.238       | 1078  | .812 |
| WEF3         | G32         | 0.035          | 0.033| 1.074        | 1078  | .284 |
| WEF4         | G33         | 0.000          | 0.002| 0.046        | 1078  | .964 |
| WEF5         | G34         | -0.081         | 0.034| -2.366       | 1078  | .018*|
| UNEP1        | G35         | 0.777          | 0.723| 1.075        | 1078  | .283 |
| UNEP3        | G36         | 0.000          | 0.000| -0.494       | 1078  | .621 |
| UNEP4        | G37         | -0.001         | 0.004| -0.346       | 1078  | .729 |
| UNEP7        | G38         | -0.146         | 0.447| -0.328       | 1078  | .743 |
| UNEP11       | G39         | -0.002         | 0.003| -0.690       | 1078  | .490 |
| UNEP15       | G40         | -0.001         | 0.004| -0.272       | 1078  | .786 |
| For INDUSTRY slope, B4 |             |                |      |             |       |
| INTRCPT2     | G40         | 0.061          | 0.041| 1.500        | 1078  | .134 |
| WEF1         | G41         | 0.023          | 0.013| 1.784        | 1078  | .074 |
| WEF3         | G42         | -0.016         | 0.050| -0.327       | 1078  | .743 |
| WEF4         | G43         | -0.003         | 0.003| -1.009       | 1078  | .314 |

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to have a significant effect on the differentiation of international outlook scores \( (p > .05) \). The variables “critical thinking in teaching” and “judicial independence” had a significant effect on the teaching scores of the universities \( (p < .05) \).

Only the variable “critical thinking in teaching” had a significant effect on the research scores of the universities \( (p < .05) \).

Only the variable “judicial independence” had a significant effect on the citation scores of the universities \( (p < .05) \).

None of the second-degree predictor variables had a significant effect on the industry income scores of the universities \( (p > .05) \). The Variance components for the variance in the international outlook scores of the universities are indicated in Table 4.

The universities showed a significant variance in their international outlook scores based on their countries \( (\chi^2 = 2603.78, p < .05) \). When first-degree and second-degree predictor variables were added to the model, the amount of variance for the international outlook scores of universities declined. Thus, 38% \([(124.488−76.961)/124.488]\) of the variance in the international outlook scores of the universities were explained by country-related predictors and 62% by university-related predictors. In addition, the reliability estimate for the average international outlook score was found to be as high as 0.91.

### Discussion and Conclusion

Economists and politicians have long been involved in the evaluation of the global ranking of countries as global rankings indicators are popular in many markets, such as places to live (e.g., Money), restaurants (e.g., numerous city magazines), hotels (e.g., travel + leisure), and cooking products (Dearden et al., 2019). The following discussion can be considered to be complementary. The differentiation in the international outlook scores of universities by country was found to be significant. Therefore, the possibilities of the countries regarding international students, international staff, and international collaboration are decisive in their international outlook. The global competitiveness indicator was found to have a negative yet remarkable effect on the international outlook scores of universities by country. This is an interesting outcome. While global competitiveness increases, the international outlook of the universities declines. Jabnoun (2009) found that “the number of top-ranked universities per country increased with gross domestic product (GDP) and lack of corruption, but decreased with decreased press freedom.”

It was observed that international outlook scores of the universities by country were affected significantly by the learning environment quality of the universities. Also, a national education system that promotes creative and critical thinking and that is independent of the effects of the judicial system, government, individuals, and companies significantly affected the teaching quality of the universities.

Citations made through universities were found to be a predictor of the international outlook of the universities. It was also observed that independence of the national judicial system from the effects of the government, individuals, or companies was a significant predictor. A similar conclusion

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### Table 3. (continued)

| Fixed Effect | Coefficient | Standard Error | T | Approx.d.f. | p |
|--------------|-------------|----------------|---|-------------|---|
| WEF5         | G44         | −0.063          | 0.056 | −1.116     | 1078 | .265 |
| UNEP1        | G45         | 1.069           | 1.430 | 0.748      | 1078 | .455 |
| UNEP3        | G46         | 0.000           | 0.000 | −1.711     | 1078 | .087 |
| UNEP4        | G47         | −0.001          | 0.007 | −0.137     | 1078 | .892 |
| UNEP7        | G48         | 0.691           | 0.714 | 0.968      | 1078 | .334 |
| UNEP11       | G49         | 0.006           | 0.005 | 1.263      | 1078 | .207 |
| UNEP15       | G410        | 0.004           | 0.006 | 0.744      | 1078 | .457 |

*Note: p < .05.

### Table 4. The Variance Components for in the International Outlook Scores of the Universities.

| Random Effect | SD  | Variance Component | Chi-square | D.f. | p   |
|---------------|-----|--------------------|------------|------|-----|
| \( \tau_{00} = \mu \) | 11.302 | 127.726          | 2603.780    | 46   | .000 |
| \( \sigma^2 = \tau_3 \) | 8.773  | 76.962            |            |      |     |
was made by Baykal (2017), who found a positive, medium-level, and significant relation among the international outlook, citations, and research of a country. Citations are a measure of the references made to a study and its authors. An independent judicial system is decisive for securing and supervision the ideas in potential violations of the rights (e.g., plagiarism) of the authors of a study. In this sense, an independent judicial system is required to ensure that citations are made without plagiarism and that seeking justice in case of plagiarism is based on impartial and independent legal grounds. Therefore, this correlation between the citations and the independence of the judicial system is a significant one.

The research consists of volume, income, and reputation was not found to have a significant effect on the international outlook scores of the universities. Also, industry income (knowledge transfer) was no significant effect on the international outlook scores of the universities. Pietrucha (2018, p. 1138) has shown in his/her study that

“the position of universities from a country in the ranking is determined by the following variables: economic potential of the country, research and development expenditure, long-term political stability (freedom from war, occupation, coups and major changes in the political system) and some institutional variables, including government effectiveness and regulatory quality.”

In the present study, the indicators of freedom of the press, HDI, GNI, Gini coefficient, gender inequality index, unemployment youth, and share of seats in parliament (% held by women) observed for countries were not found to have a huge effect on the international outlook scores of the universities. In other words, it is fair to say that the content of the international outlook scores, one of the criteria for ranking universities, is independent of these indicators. One can say that the indicators of freedom of the press, HDI, GNI, Gini coefficient, gender inequality index, unemployment youth, and share of seats in parliament (% held by women) were predominantly considered socioeconomic problems of the countries rather than factors that affect the international outlook rankings of the universities worldwide.

It is necessary to systematically study and understand the international strategies used by other universities worldwide for the sustainable international growth of any university (Han & Zhong, 2015). As Tilak (2016, p. 137) emphasized “world-class universities cannot be built overnight and the concept of the world-class university cannot be unique; each country has to define the nature and scope of a world-class university that it develops that helps national development and simultaneously addresses global issues, and at the same time, it may have to be comparable with others.”

Eventually, as this study points out the multitude of increasingly prominent indices and national rankings, the sophistication of their measurement, and the overlap between the data they contain, indicated that it was useful to see if the critical details contained in these various metrics can be extracted.

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