

University rankings and influence on performance: comparing perspectives in Chile and Venezuela

Methodology

The research is quantitative, non-experimental with a cross-sectional design. It is a statistical analysis of a survey applied to a sample of 189 officials of different positions in higher education institutions; 41.2 % correspond to Venezuela and 58.8 % to Chile, for a total of 33 institutions between both countries

Objective

Analyze the perception of experts from universities in Chile and Venezuela, considering nine dimensions and four context variables that use university rankings, and how they perceive their influence on the performance of their universities influence on institutional performance.

Introduction

University rankings is important for different interest groups, so that those in charge of their administration are increasingly aware that these rankings have a growing influence on the image and reputation of the entities they manage. This is observed in aspects such as: strategies, missions, structures, and functions assumed by the universities.

Result or conclusion 1

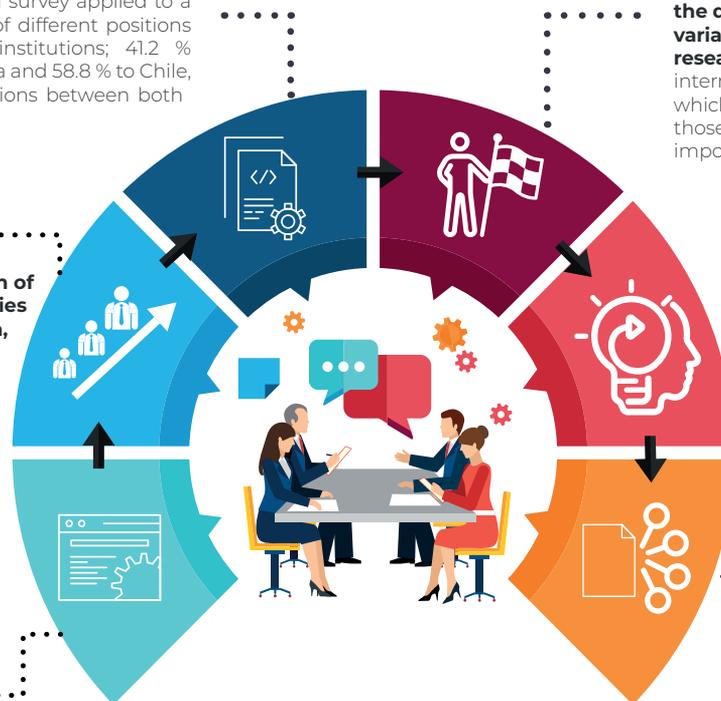
It was found that there are no significant differences in the dimensions and context variables identified in the research, except for the internationalization dimension, to which the respondents, especially those from Chile, give great importance.

Result or conclusion 2

The infrastructure dimension was highly valued, by the respondents, especially by those belonging to public entities.

Result or conclusion 3

There were no significant differences between the opinions of Chilean and Venezuelan respondents, except for three aspects that were identified as significant in the statistical interpretation: internationalization, infrastructure and territoriality.



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Rankings universitarios e influencia en el desempeño: comparando perspectivas en Chile y Venezuela

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Abstract: university rankings are currently considered a measure of comparing and positioning of institutions, therefore, their study is important. The main objective of this research is to comparatively analyze the perception that experts from universities in Chile and Venezuela have regarding nine dimensions and four context variables that university rankings use, and how they perceive their influence on institutional performance. The methodology consists of the statistical analysis of a survey applied to 189 officials of various positions from higher education institutions, of which 41.2 % correspond to Venezuela and 58.8 % to Chile, who make up a total of 33 institutions between both countries. The results reveal that there are no significant differences in the identified context dimensions and variables, except in the internationalization dimension from the perspective of comparison between countries; secondly, in infrastructure from the perspective of the public and private spheres. Regarding the context variables, territoriality turned out to be the most significant in relation to the condition of seniority in the institution. It is concluded that these three identified aspects constitute critical success factors to be promoted in the strategic plans of the institutions, in accordance with the particular conditions of each institution.

Keywords: management, university governance, competence, evaluation, organization, research, university, academia.

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Resumen: los rankings de universidades son considerados en la actualidad una medida de comparación y posicionamiento entre instituciones, por lo que su estudio suscita un gran interés. El objetivo principal de esta investigación es analizar comparativamente la percepción que tienen las personas expertas de las universidades de Chile y Venezuela, con respecto a nueve dimensiones y cuatro variables de contexto que utilizan los rankings de universidades, y cómo perciben su influencia en el desempeño institucional. La metodología consiste en el análisis estadístico de una encuesta aplicada a 189 funcionarios de diversos cargos provenientes de instituciones de educación superior, de los cuales el 41,2 % corresponden a Venezuela y el 58,8 % a Chile, quienes integran un total de 33 instituciones entre ambos países. Los resultados revelan que en líneas generales no existen diferencias significativas en las dimensiones y variables de contexto identificadas, a excepción de la dimensión de internacionalización desde la perspectiva de comparación entre países; en segundo lugar, la infraestructura desde la mirada de la esfera de lo público y lo privado. En cuanto a las variables de contexto, la territorialidad resultó ser la más significativa en relación con la condición de antigüedad en la institución. Se concluye que estos tres aspectos identificados constituyen factores críticos de éxito a promover en los planes estratégicos de las instituciones, de acuerdo con las condiciones particulares de cada institución.

Palabras clave: gerencia, gobernanza universitaria, competencia, evaluación, organización, investigación, universidad, academia.

Introduction

Studying university rankings is important to the area of management, as the influence it has on aspects such as strategies, missions, structures and functions of universities is increasingly evident (Veliz and Marshal, 2022; Katsumoto *et al.*, 2022). Several studies show how rankings represent input information for quality in the process of evaluation and positioning of universities in the context of an academic evaluation market that establishes differences in status, reputation of universities and their members, while promoting internationalization (McAleer *et al.*, 2019; Xi and Rowlands, 2021; Artyukhov *et al.*, 2021; Lee *et al.*, 2021; Fernandes *et al.*, 2022a).

In this sense, institutions with excellent ratings in these evaluations are preferred by national and international students, favoring collaboration (Jeyaraj *et al.*, 2021, and Soysal *et al.*, 2022). In this way, it qualifies the information provided by the rankings as essential, useful and independent (Ramírez *et al.*, 2019), which allows decision makers to compare their institutions with respect to others, identifying strengths and weaknesses. It is important to consider that the use of rankings has been questioned as a criterion for quality assessment, because they present methodological deficiencies (Serra *et al.*, 2021; Moskovkin *et al.*, 2022), such as the use of soft data such as reputation surveys and the presence of structural biases that affect results of universities from diversified territorial and educational contexts in a non-ho-

mogeneous way (Marginson and Van-der-Wende, 2007; Williams and Van-Dyke, 2008; Calderón and Franca, 2018; Krauskopf, 2021; Bellantuono *et al.*, 2022; Wut *et al.*, 2022).

When analyzing the results of the rankings, it is necessary to keep in mind the methodology, indicators and their weightings (García and Pita, 2018). Despite some theoretical and technical criticisms, academics largely recognize the influence of university ranking positions on the preferences of funders, academics and students, nationally and internationally (Uslu, 2020).

Regarding the dimensions and indicators of university rankings, there are various researches indicating the importance of certain categories within the overall measurement system (Çakır *et al.*, 2015; Olcay and Bulu, 2017; Vernon *et al.*, 2018; Lukić and Tumbas, 2019; Iordache-Platis and Papuc, 2019; Kosztyán *et al.*, 2019; Uslu, 2020). These researches agree in confirming that the rankings offer greater weight to certain indicators. The most significant number of global ranking systems predominantly focus in the context of measuring research performance as the crucial indicator of university quality and competitiveness, followed by reputation category indicators, teaching quality and web performance, in some cases. This is evidenced by looking at the indicators of some of the most recognized global rankings such as: Shanghai Academic Ranking of World Universities (ARWU), World University Rank (THE), Quacquarelli Symonds (QS) University Ranking, and Scimago Country Rank (Table 1).

Table 1
Main evaluation criteria of Global university rankings

Shanghai Academic Ranking of World Universities (ARWU)		Thimes Higher Education World University Rank (THE)		Quacquarelli Symonds (QS) World University Rank		Scimago Country Rank	
Criteria	Weight	Criteria	Weight	Criteria	Weight	Criteria	Weight
Quality of teaching	10 %	Teaching	30 %	Industry revenues	50 %	Research	50 %
Quality of teaching staff	20 %	Citations	30 %	Teaching quality	20 %	Innovation	30 %
Research production	40 %	Industry revenues	2,5 %	Employability	20 %	Social impact	20 %
Per capita yield	10 %	International perspectives	7,5 %	Internationalization	10 %		

Note. Prepared by the authors based on the methodology of each ranking.

Dogan and Al (2019) point out that despite the diversity of criteria in the rankings, comparison across rankings can be useful primarily for ranking bodies, politicians, and decision makers to review which indicators to use in their rankings and to question whether it is necessary to continue with general rankings. This is a challenging process given the complexities and specificities of institutions, which require, as Dixon and Hood (2016) point out, an evaluation system capable of distinguishing the performance of institutions, that is also stable enough to identify changes in performance over time, and that avoids perversities derived by the strategic responses of institutions. This effort could be complemented with those raised by the UNE-ISO 21. 001:2018, which establishes the basis of a management system for educational organizations, with emphasis on the students and all the actors of the educational system.

On the other hand, the global prestige of rankings and the aspiration for continuous improvement in rankings has helped to foster a research culture and provide more investment to develop this activity (Jeyaraj *et al.*, 2021; Wandercil *et al.*, 2021). From a stakeholder perspective, the ranking shows the position or academic perception of quality of a focal university in relation to competing universities (Sukoco *et al.*, 2021; Fernandes *et al.*, 2022b). Thus, the growing influence of global rankings increases competitiveness among universities worldwide with substantial

government support, as the world-class status of institutions also represents the prestige of the country (Hazelkorn 2011; Sanz-Casado *et al.*, 2013; Bak and Kim, 2015; Hubbard *et al.*, 2021; Singh and Singh, 2021).

Studies conducted in various realities in the context of university education show the impact of these classifiers. Dowsett (2020) in a study conducted in Australian universities reveals that specific changes in strategic direction not only improve the market position of a university, but can also contribute to a significant increase in its ranking. This impact goes beyond universities to be part of countries' development strategies. Another example are the studies by Lee *et al.* (2020) and Shreeve (2020) on financing initiatives on the Asian continent to make institutions globally recognized. In Latin America, the work developed by King-Domínguez *et al.* (2018), Ganga-Contreras *et al.* (2020; 2021), Ortiz *et al.* (2021) and from the perspective of academics, the work of Suárez-Amaya *et al.* (2021) also stand out, providing background in the region.

Hence, the aim of this paper is to comparatively analyze the perception that experts from universities in Chile and Venezuela have in relation to dimensions and variables that are part of the indicators used by university rankings.

In order to achieve the objectives, a quantitative, non-experimental research with a transversal

design is carried out. The data are obtained applying a questionnaire to an intentional non-probabilistic sample, which is composed of 189 officials of different positions from different higher education institutions (in total 33), of which 41.2 % correspond to Venezuela and 58.8 % to Chile.

Among the most significant results, the enormous importance given to the internationalization dimension stands out, especially from the point of view of the Chilean respondents; something similar occurs with the infrastructure dimension, which is highly weighted by public universities, which usually present weaknesses in this aspect, particularly those located in regions.

Materials and Method

This is a quantitative, non-experimental research with a cross-sectional design. In the context of the study, the sample is constituted by 189 officials of different positions from institutions of higher education, of which 41.2 % correspond to Venezuela and 58.8 % to Chile. The sample is a non-probabilistic purposive sample. The number of institutions involved in the study was 33, between the two countries.

In relation to the information collection instrument, it first included seven questions to characterize the respondents, which included: university / institution to which the respondent belongs (1) country; (2) position in the university / institution; (3) years working in the university / institution; (4) age range; (5) sex; (6) and studies (7). For questions (3) and (4), the variables for data analysis were organized into the following categories:

- Regarding years of university work, the data were grouped into: months working, between 1 to 5 years, between 6 to 15 years, between 16 to 25 years and more than 26 years in the institution.
- For the variable positions, the data were distributed in: senior manager, director, head of unit, researcher, academic, administrative professional and other.

Secondly, 13 questions were incorporated with Likert measurement response alternatives, all of which addressed the perception of the performance indexes in the constitution of the rankings to classify higher education institutions.

The first section is composed of nine dimensions: infrastructure (1), research (2), community outreach (3), internationalization (4), perception of quality (5), academic body characteristics (6), student characteristics (7), university / institutional management (8) and university governance (9), where each subject responded with a value from 1 to 5, considering 1 as not very important and 5 as very important for each dimension.

In the third part, the subjects responded with the same evaluation from 1 to 5, but in reference to four context variables: territoriality (1), size of the university (2), budget (3) and concentration of other university centers (4), in terms of level of importance. In addition, in the second part, a question was asked in which the respondents had to distribute in percentage the values they would assign in a ranking of university performance to the nine dimensions previously mentioned.

The Statistical Package for the Social Sciences (SPSS) 25.0 for Windows was used for analyzing the data. In order to verify whether or not the sample scores follow a normal distribution, the nonparametric Kolmogorov-Smirnov test for normality was performed, where p-values <.05 were obtained in all dimensions, so nonparametric inferential statistics were used. Descriptive statistics such as frequency tables, means and standard deviations were also used.

In relation to inferential statistics, the Mann-Whitney U test was used to compare the means of the dimensions by country and by type of institution. In addition, the means of the scores were compared by position and by range of years working in the institution with the Kruskal-Wallis test. Values p<.05 were considered significant.

Results

Characteristics of respondents

In relation to the respondents, the age section was categorized into four groups. The first considers those under 35 years of age with 9.1 % of the subjects; then, between 36 to 45 years of age with 31.6 %; between 46 to 60 years of age with 48.1 % and over 60 years of age with 11.2 %. In this regard, a mean of 2.61 was identified, with a standard deviation of ± 0.804 . In relation to gender, the results showed 52.4 % of women and the remaining percentage of men.

Another variable analyzed was the type of institution according to the origin of ownership to which the respondents belong. In this regard, it was evident that most are from public entities (85%) and the remaining percentage from private universities. In this sense, it is worth noting that the people who answered the survey have been working in their respective universities for some time. In this way, only 11 % of the subjects had been working for months, while 20.3 % of them indicated that they had been working between 1 to 5 years, 25.1 % between 6 to 15 years, 32.6 % between 16 to 25 years and only 11.2 % had been working for more than 26 years in the institution. The relative frequency in relation to the amount of time the subjects have been working in each institution is distributed in the categories of only months, 1 to 5 years, 6 to 15 years, 16 to 25 years and 36 years or more; 57.8% of the cases were in

the categories of 6 to 15 years and 16 to 25 years.

As for the types of positions, they are divided into seven categories (senior management, director, head of unit, researcher, academic, administrative professional and other) and only academics represent 52.4 % of the data. On the other hand, the ages were organized into four categories, which are: under 35 years old, between 36 to 45 years old, between 46 to 60 years old and over 60 years old. The options between 36 to 45 years old and between 46 to 60 years old account for 79.7 % of the cases.

Dimensions of the rankings

In relation to the Mann Whitney U test in the comparison of means among the nine dimensions in the case of sex, values were obtained in: infrastructure ($p=.815$), research ($p=.674$), community outreach ($p=.715$), internationalization ($p=.917$), perception of quality ($p=.172$), academic body characteristics ($p=7.03$), student characteristics ($p=.393$), university / institutional management ($p=.660$) and form of university governance ($p=.166$). Therefore, no statistically significant differences were found.

It can be seen in Table 2 that the situation is similar in the comparison by country, except in the internationalization dimension ($p=.049$) with significant differences, i.e., for respondents from Chilean universities the internationalization criterion has more weight than the rest of the dimensions presented.

Table 2
Comparison of dimensions by country

Dimensions	Chile	Venezuela	p Value
Infrastructure: square meters constructed, existence of laboratories, libraries, student facilities, etc.	4.39 \pm 0.779	4.55 \pm 0.777	0.085
Research: production of indexed papers by areas of knowledge, competitive funds obtained, etc.	4.57 \pm 0.656	4.56 \pm 0.819	0.513
Community outreach: relationship, programs or initiatives generated by the university in its relationship with the surrounding communities, such as: community service and impact evaluations.	4.39 \pm 0.847	4.35 \pm 0.839	0.627
Internationalization agreements with other institutions outside the country, exchange of students and professors and scholarships.	4.39 \pm 0.830	4.21 \pm 0.767	0.049

Perception of quality: consultations with the relevant actors in the university's environment (collaborators, partnership, companies, etc.) regarding their perception of the university's value at the local level.	3.90±1.058	4.01±1.118	0.301
Characteristics of the academic body: distribution of doctors and masters of the university. As well as the effective hours they participate in the university.	4.64±0.660	4.64±0.626	0.927
Student characteristics: entrance scores or other qualifying variables of students entering the university.	3.57±1.088	3.70±1.089	0.406
Institutional management: regimes of university governance, forms of election of the rector and the highest collegiate bodies, etc.	4.19±0.943	4.16±1.001	0.942
Form of institutional governance: empowerment of stakeholders, forms of election of authorities, organizational structure, etc.	4.15±1.006	4.03±1.076	0.447

Note. Prepared by the authors based on the results of the survey.

In the case of the comparison by type of institution, Table 3 shows significant differences in the infrastructure dimension between public and private institutions ($p=.001$), in which it can be

interpreted that the physical spaces and level of equipment in universities is another indicator that is considered important to improve institutional performance, mainly for public institutions.

Table 3

Comparison of dimensions by type of institution

Dimensions	Public	Private	p Value
Infrastructure	4.54±0.691	3.96±1.036	0.001
Research	4.54±0.761	4.71±0.460	0.487
Community outreach	4.33±0.869	4.61±0.629	0.137
Internationalization	4.30±0.816	4.21±0.686	0.375
Quality perception	3.98±1.052	3.75±1.236	0.406
Characteristics of the academic staff	4.62±0.663	4.71±0.535	0.606
Student characteristics	3.64±1.121	3.54±0.881	0.408
Institution management	4.16±0.967	4.25±0.967	0.580
Institutional form of government	4.08±1.049	4.21±0.957	0.557

Note. Prepared by the authors based on the results of the survey.

On the other hand, the Kruskal Wallis test for comparing the ninth dimensions by years of seniority working in the institution showed no significant differences in infrastructure ($p=.202$), research ($p=.638$), community outreach ($p=.496$), internationalization ($p=.880$), perception of quality ($p=.999$), academic staff ($p=.775$), student characteristics ($p=.819$), management of the institution ($p=.947$) and institutional go-

vernance ($p=.516$). Regarding the differences by positions according to dimension ($p=.357$; $p=.527$; $p=.676$; $p=.271$; $p=.241$; $p=.568$; $p=.987$; $p=.852$ and $p=.789$), no statistically significant differences were found, showing that regardless of the time working in the institution and the position held by the subjects, the perception of the weight assigned to these dimensions are statistically equal.

About context variables

For the comparison of means, the Mann Whitney U test was used for the four context variables by sex and the following results were found: territoriality ($p = .067$), size of the university ($p = .183$), budget ($p = .931$) and concentration of other university centers ($p = .685$). The same situation by country ($p = .692$; $p = .638$; $p = .050$ and $p = .182$) and by type of institution ($p = .332$; $p = .736$; $p = .426$ and $p = .759$) in terms of the level of importance of these variables. Consequently, no statistically significant differences were found by sex, country and type of institution in the level of importance of the context variables that influence the performance indexes of the universities.

The Kruskal-Wallis test was performed to compare the context variables with the years of

seniority working in the institution, which yielded significant differences in the context variable "territoriality" ($p = .041$), while no significant differences were found in the other three variables. For the context variable territoriality, Mann Whitney U test was performed for the number of peers with Bonferroni correction, where significant differences were obtained ($p = .003$) between the subjects who have months working in the institution and those who have been working between 6 to 15 years. Therefore, it is interesting to understand that the level of importance on the geographical location and demographic characteristics of the area where the university is located according to the perception of the peers mentioned above are high, mainly for those who are starting in the academic world. For the rest of the experts, the analysis does not show significant differences.

Table 4

Comparison of the four context variables with the years working in the institution

Context variable	Only months	From 1 to 5 years	From 6 to 15 years	From 16 to 25 years	26 or older	P Value
Territoriality	4.60±0.940	4.21±0.905	3.94±1.030	4.21±1.035	4.05±1.24	0.041
Size	3.90±1.071	3.84±1.079	3.89±1.184	3.69±1.272	3.57±1.568	0.937
Budget	4.60±0.681	4.58±0.642	4.62±0.677	4.49±0.960	4.71±0.561	0.928
Concentration	3.45±1.234	3.58±1.056	3.57±1.281	3.85±0.980	4.05±1.203	0.223

Note. Prepared by the authors based on the results of the survey.

Regarding the comparison of the four context variables with the positions, values were found ($p = .268$; $p = .363$; $p = .271$ and $p = .120$); therefore, there are no significant differences in relation to the level of importance in the variables that affect the components and dimensions with which the performance indexes of the universities are constructed according to the positions of the subjects, i.e., they are statistically equal.

Discussion and conclusions

This research shows in the literature review that universities in the current era are highly influenced by the measurement criteria established by the global rankings, and this is not alien to the

daily life of the people who work and study at universities. In practice, this research proposed to compare experts located in universities in Chile and Venezuela with respect to the dimensions and variables presented by the rankings and how these have influenced institutional performance. In a preliminary diagnosis, the hypothesis was that the results would be dissimilar given the contrast of economic and social contexts surrounding the higher education system in Chile and Venezuela; however, this is not the case, given that in general terms no significant differences were observed, i.e. the weight given by people to the dimensions and variables analyzed in this study is similar, except in three aspects that were identified as significant in the statistical interpre-

tation: internationalization, infrastructure and territoriality.

In the case of internationalization, this appears as a dimension with an important weight, mainly for Chile. These results are consistent with those obtained by McAleer *et al.* (2019) who say internationalization is statistically significant in explaining the rankings of all universities, even when private and non-private universities are analyzed.

Another noteworthy fact in this study is the weight given to the infrastructure dimension, which seems to be related with more weight in public universities, which is consistent with the limitations traditionally presented by this type of institutions.

It is worth highlighting the message -which impacts both topics- from the research carried out by Xi and Rowlands (2021) on the reality of the process in regional universities, mainly regarding the attraction of foreign students, given that an adequate infrastructure is crucial when it comes to developing a strategy oriented to internationalization.

The above is related to a context variable that is territoriality. Universities seem to be immersed in a dilemma between giving importance to local needs, but without being left out of the international market, and the research conducted by Suárez-Amaya *et al.* (2021) reflects this reality. In the results obtained in this research, the inclination towards the issue of territoriality is from people with less seniority in the position; it would be interesting to deepen on the analysis to identify in depth the reasons that explain these derivations.

Finally, the results of this research will serve as a reference for decision-makers, since these allow to identify, from the perspective of university stakeholders, critical success factors to be promoted in the strategic plans of the institutions, in accordance with their conditions.

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