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Internationalization in university processes: structural analysis for Latin American universities

La internacionalización en los procesos universitarios: un análisis estructural para universidades de Latinoamérica

A internacionalização nos processos universitários: uma análise estrutural para as universidades latino- americanas

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ABSTRACT

Internationalization is a key process in contemporary higher education, with recognized positive effects on university processes, especially scientific research and professional training. The internationalization models have evolved to the point that at present it becomes an indispensable requirement in university management systems, especially in Latin America as a region with the aim of achieving greater global integration. The objective of the research was to identify some key aspects that determine the influence of internationalization in Latin America university processes. The prospective method of structural analysis was applied, using the MICMAC software, which processes the criteria of 12 experts on the relationships between six identified variables of the theoretical analysis performed. It was determined, based on the criteria of the specialists, that the key variables to consider in the subject are globalization of higher education as an external variable; structural changes in the university and internationalization as an institutional strategic process as internal variables, among which the most important influence relationships also occur. To identify aspects, on which universities should focus attention, will allow establishing courses of action and / or strategies that contribute to boost the influence of internationalization on university processes.

Key words: University; higher education; internationalization; processes; key variables; Latin America.

RESUMEN

La internacionalización es un proceso clave en la educación superior contemporánea, con efectos positivos reconocidos sobre los procesos

universitarios, especialmente la investigación científica y la formación de profesionales. Los modelos de internacionalización han evolucionado al punto de que en la actualidad se convierte en un requisito indispensable en los sistemas de gestión universitario, esencialmente en América Latina como región con afán de lograr una mayor integración global. El objetivo de la investigación fue identificar algunos aspectos clave que determinan la influencia de la internacionalización en los procesos universitarios en las universidades latinoamericanas. Se aplicó el método prospectivo de análisis estructural, con uso del software MICMAC, el cual procesa el criterio de 12 expertos sobre las relaciones entre seis variables identificadas del análisis teórico realizado. Se determinó, con base al criterio de los especialistas, que las variables clave a considerar en la temática son: globalización de la educación superior como variable externa y cambios estructurales en la universidad e internacionalización como proceso estratégico institucional como variables internas, entre las que se dan las relaciones de influencias más importantes de la misma forma. Identificar aspectos sobre los cuales las universidades deben focalizar la atención, permitirá establecer cursos de acción y/o estrategias que contribuyan a dinamizar la influencia de la internacionalización sobre los procesos universitarios.

Palabras clave: Universidad; educación superior; internacionalización; procesos; variables clave; América Latina.

RESUMO

A internacionalização é um processo chave no ensino superior contemporâneo, com efeitos positivos reconhecidos nos processos universitários, especialmente na investigação científica e na formação de profissionais. Os modelos de

internacionalização evoluíram ao ponto de ser agora um pré-requisito para os sistemas de gestão universitária, essencialmente na América Latina como uma região que procura uma maior integração global. O objetivo da investigação era identificar alguns aspectos chave que determinam a influência da internacionalização nos processos universitários das universidades latino-americanas. O método prospectivo de análise estrutural foi aplicado, utilizando o software MICMAC, que processa os critérios de 12 peritos sobre as relações entre seis variáveis identificadas a partir da análise teórica realizada. Foi determinado, com base nos critérios dos especialistas, que as variáveis-chave a considerar no assunto são: globalização do ensino superior como variável externa e mudanças estruturais na universidade e internacionalização como processo estratégico institucional como variáveis internas, entre as quais as relações de influência mais importantes se encontram da mesma forma. A identificação de aspectos sobre os quais as universidades devem centrar a sua atenção permitirá o estabelecimento de cursos de ação e/ou estratégias que contribuam para a dinamização da influência da internacionalização nos processos universitários.

Palavras-chave: Universidade; ensino superior; internacionalização; processos; variáveis-chave; América Latina.

INTRODUCTION

Since its inception, the university has required maintaining harmonious relationships with external entities, which is framed in the field of inter-institutional relations, considered as one of the premises for optimizing university management (Abreu, Rubio & Martínez, 2019). For many years,

the approach to internationalization in universities was directed at the mobility of students and teachers; which at present has been modified by a more holistic vision that seeks "greater quality and relevance and stronger international competitiveness" (Haug, 2010, p. 20), based on the inherently international character of the university as institution for the dissemination of universal knowledge. In this sense, globalization has varied over the years, adopting different models that, based on the comments made by Aguilar & Riveros (2017), can be divided into contemporaneity in three stages: 80s of the previous century, 90s of that century and from the years 2000 onwards. In this last stage, it has already become an indispensable requirement for the development of universities.

University processes, especially scientific research, have been recognized from their origins for their international dimension linked to the scientific and technological development of humanity (Ramírez & Hamui, 2016), which over the years has been transferred to other spheres of university life, such as teaching, connection with society and academic management. Likewise, internationalization has a recognized effect of measuring and/or comparing the levels and results of higher education by countries and regions, which allow the visualization of good practices and management standards that can be replicated at an international level, generally based on collaboration between institutions and nations (Sánchez, Aurea, Carriel & Ramos, 2019). In this interaction, the most popular recognized route is the internationalization of networks development, generally, in different areas of university life: teaching, research, community service and management; recognizing the need for their contributions and sustainability to be increasingly visible.

Educational innovation is one of the most common practices today to generate improvements in the teaching-learning process, which is framed in contexts of interculturality, breaking of physical borders and other contemporary complexities. Hence, it is recognized that educational innovation must focus more and more on incorporating these criteria, in order to achieve "meaningful learning in university students in scenarios that increasingly require coexistence between cultures" (Lozada, Carmona, Ramírez, Torres & Fernández, 2018, p. 2370).

Latin America has been marked by years in a considerable gap in education and social sphere, with other regions of the world. For some years, however, there has been an interest in leveraging the development of higher education institutions in the region; process in which internationalization plays and will play a key role in the future; as expressed in their work by Elizalde, Rodríguez & Vásquez (2019, p. 38), stating that "... considering that they allow to promote the development and transformation of education from the generation of knowledge, since their actions are relevant in the global context as part of the social dynamics in which they operate".

Achieving that internationalization occupies that expected and desired role in Latin American universities requires, in the opinion of Navarrete & Navarro (2014), that structural changes be made from a financial, logistical, organizational and academic point of view .

With the above, de Wit, Gacel & Knobel (2017) agree by stating that the internationalization of higher education is "... driven by a dynamic and constantly evolving combination of political, economic, socio-cultural and academic foundations" (pag. 1). In other words, objective and subjective conditions are required for

internationalization to be implemented as a university strategy and practice, capable of positively influencing the development of university processes, making management models evolve and achieving results in verifiable indicators at national and international level according with quality standards.

The literature agrees that the process is complex and multifactorial, both due to internal management aspects of the institutions and external effects, especially taking into consideration that university management is less and less "local", but more "global". This particular in Latin America imposes, in addition, the challenge of advancing in the levels of regional and international integration, enabling real and effective cooperation of institutions of higher education.

Taking into consideration the elements stated, this research aims to identify some key aspects that determine the influence of internationalization in the university processes of Latin American universities.

MATERIALS AND METHODS

The research carried out is exploratory. In order to fulfill the objective of the research, the prospective method of structural analysis was used, which made it possible to determine the focal points of greater attention in a system or subject under study, based on the criteria of experts or specialists. This method was applied through

the LIPSOR- MICM AC software (LIPSOR, 2010); In this case, surveys were applied to 12 higher education professionals with knowledge of university development in Latin America. Experts come from countries like Ecuador, Cuba, Spain and Colombia. The evaluation of the level of experience was determined with the formula proposed by the USSR (1976),

determining an average knowledge level (K) of 0.94, which is acceptable for the present study.

From the theoretical analysis, the study variables were determined that are shown in table 1, which were brought to the attention of experts to establish their relations through a matrix of direct and indirect relationships, using a scale up of 0 to 3.

Table 1- Variables studied

Variab les (V)	Denominat ion	Descripti on
1	Globalization of higher education	International context that marks the importance of the global environment for the development of higher education institutions.
2	Regional integration	Level of regional integration reached by the university.
3	Global integratio n	Level of global integration reached by the university.
4	Structural changes at the university	Changes required for the development of internationalizati on from the financial, organizational, logistical and management point of view in the universities.
5	Internationalizat ion as an institutional strategic process	Strategic level to be considered for internationalizati on in universities.
6	Relationship between university processes (holistic conception)	Comprehensive approach to university processes and the influence of internationalizati on.

Source: Own elaboration based on theoretical analysis carried out

When experts completed their matrices of direct relationship with the support of the Microsoft Excel software, consolidated matrix that was obtained is shown in table 2 and serve as input for the processing in the software LIPSOR-MICMAC.

Table 2- Consolidated matrix of direct relationships between variables.

Variables	V1	V2	V3	V4	V5	V6
V1	0	3	3	3	3	2
V2	1	0	2	2	2	2
V3	0	1	0	3	3	2
V4	0	3	3	0	3	3
V5	0	3	3	3	0	3
V6	0	1	1	2	3	0

Source: Own elaboration from expert surveys

RESULTS

In table 3 the first result with the software LIPSOR-MICMAC is shown regarding indirect relationships between variables calculated, based on the observation made by the experts and expressed in table 2.

Table 3 - Rate of in- direct influences between variables.

Variables	V1	V2	V3	V4	V5	V6	TOTAL
V1	2.3	23.9	25.9	283	307	278	1389
V2	19	15.5	17.6	188	200	192	930
V3	20	14.1	15.9	200	214	182	916
V4	15	21.0	22.2	207	246	2.3.4	1134
V5	15	21.0	22.2	2.3.4	219	2.3.4	1134
V6	16	11.4	12.9	157	185	143	744
TOTAL	108	106.9	116.7	1269	1371	1263	1389

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Source: Own elaboration based on MICMAC software processing.

As can be seen, the most influential variable in the system was one (globalization of higher education) and the most dependent was six (relationship between university processes under a holistic conception). With medium levels of influence and dependence, variables four and five stand out, both internal variables related to university processes for managing internationalization.

Moreover, in figure 1 a map of relations between variables that allow to observe the classification of motor variables appear (one quadrant), link variables (two quadrant) and dependent variables (quadrant three).



Fig. 1 - Plane of indirect influences / dependencies between variables

Source: LIPSOR- MICMAC Software

From the above, it was concluded that the key variables in the subject of study, based on the criteria of experts and the LIPSOR- MICMAC (2010) methodology , were variable one as a driving variable and variables four (structural changes in the university) and five (internationalization as an institutional strategic process); coinciding with the previous results. The rest of the variables (two,

three and six) were not classified as key since they were located in quadrant three of dependent variables, which places the weakest variables in the system, that is, those that most depend on the rest.

Finally, in the figure 2 relations between variables, which is another result of the structural analysis methodology, allowing highlight relations major influences are shown:

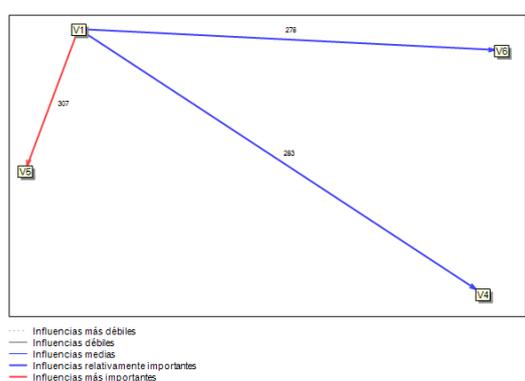


Fig. 2- Graph of indirect influences between variables

Source: MICMAC Software

As was observed, the strongest relationships on the subject of study were between one and five variables, by the influence of the globalization of higher education in the internationalization as an institutional strategic process; which, based on the previous result, were classified as key. Additionally, important influences relatively visualized between a variable and four (structural changes in the university) and six (relationship between university processes under a holistic concept); both internal to university management.

DISCUSSION

In accordance with the previous results, the role that the phenomenon of

globalization has for the process of internationalization of higher education was recognized, which for many years has had an impact on the different areas of human life: economic, political, social, cultural, environmental and educational, among others. This phenomenon has implied that there are some paradigms in higher education, around the processes of teaching, research, and linkage, in terms of quality indicators, good practices and university *rankings*, among others. These paradigms, on the one hand, serve as reflex to countries in a development way, which require copying those good practices aiming to achieve quality levels that allow their institutions position themselves globally. On the other hand, they help to demonstrate that there are still large gaps in social and educational development between regions and countries, making the achievement of sustainable world development goals and other aspirations of international organizations such as the United Nations an expectation (UN), the United Nations organization for Education, Science and Culture (UNESCO), among others.

Increasingly, the importance of recognizing the use of *international rankings* measurement systems, International accredited processes and other academic practices who aspire to academic excellence, to which internationalization should also contribute. The proliferation of these practices, according to Altbach (2016), are common in the acceleration of the knowledge society, due to the effects, among other issues, of globalization itself.

As it is widely recognized in the literature, globalization has positive and negative effects on society and any subject under study, from a cultural, social, political and economic point of view. The challenge for universities is, precisely, to develop the ability to recognize such effects, and thus generate internationalization

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practices to ensure improved university processes, facing the excellence in Latin America.

The fact of having analyzed the globalization variable and its effects on internationalization may be the cause of the low qualification obtained by the experts for the two variables related to integration, considering that they are closely related aspects, as Beneitone states (2014). The fact that integration is traditionally manifested through the formation of networks or other cooperation mechanisms, which not in all cases make their results visible in the same way, may be one of the causes of the result of analysis with these variables. Increasingly, management in universities is focused on performance indicators, which allow them to be comparable and measurable at the international level, to which internationalization should also contribute.

Another of the variables that was identified as important in the present study is related to structural changes required in universities, so that internationalization is implemented effectively as part of the institutional management model. In the current context, mentioning structural changes in internationalization, according to Beneitone (2014), goes beyond the traditional concept of international cooperation of universities, which until a few years ago was the paradigm of this activity. A structural change requires that internationalization be applied in a transversal way in all university processes, becoming a "strategic axis" (p. 29), as stated by Beneitone himself. The fact that internationalization is raised to the strategic level of higher education organizations was seen in research as one of the most important variables, considering that it is the only way to guarantee that the efforts dedicated to this activity are not lost in the future time, by being considered as

part of the identity, mission, vision and values of the institution, in a sustainable way. Institutional strategic management must guarantee that internationalization becomes an aspect of interest in the strategic and operational plans of organizations, and is transversal in objectives, goals and indicators.

In this sense, variable six under study stood out, on the comprehensive approach that is required in university processes to achieve a correct convergence with internationalization. This variable was valued as the most dependent or weak by the experts; considering that it is an internal management issue in the institutions that still needs to be worked on to achieve the structure of an articulated model of university functions (González, 2018), where internationalization becomes a transversal tool from the strategic to the operational level. In general, in Latin American universities, internationalization is initially integrated into the research processes (Ramírez & Hamui, 2016), with the rest of activities such as teaching and linking with society being relegated.

The potential of this tool in universities is exploited when it is coherently aligned with the substantive processes of teaching, research and community service, through timely organizational reforms and innovation, as recognized by Moctezuma & Navarro (2011).

The research carried out made it possible to identify some key variables to be considered by Latin American higher education institutions in order to achieve an effective influence of internationalization in university processes, such as globalization of higher education, structural changes in the university and internationalization as an institutional strategic process.

The exploratory study developed focused towards internal aspects of university

management aimed at internationalization is handled strategically and comprehensively; in a context of a marked globalization worldwide with numerous and important interactions between universities, societies and cultures. This can be identified as a sign of the transition from traditional models of inter-institutional cooperation to others where internationalization is transverse managed.

In general, it is considered that the results of the research are useful for Latin American higher education institutions that aspire to manage their internationalization activity at the level of the best universities in the world, and that in turn guarantee compliance with goals in the academic and social field required in the countries of the region.

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Conflict of interest:

Authors declare not to have any conflicts of interest.

Authors' Contribution:

Gladys Verónica Llano Zhinin: Revisión bibliográfica; redacción; selección de expertos; aplicación del método MICMAC.

Jorge Fernando Carlozama Puruncajas: Análisis de bibliografía; redacción; selección de expertos.

Daniel Fernando Tipán Cañaverl: Redacción; sistematización de contenidos; selección de expertos.

Gustavo Bernardo Tipán Cañaverl: Redacción; sistematización de contenidos; selección de expertos.



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