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Transparency and its determinants at Colombian universities

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ABSTRACT

Over the past decade, one of the demands upon public institutions, among which we find universities, has been for transparency and improvement of accountability. In this context, Colombian universities are introducing different methods of management and governance aimed at addressing the demands of society generally in relation to transparency and quality in the activities that they carry out. The objective of the present study is to analyze and evaluate factors which affect the level of transparency at Colombian universities based on the rectors' perception of these universities. The results obtained indicate that the level of transparency depends on the type of governance which is adopted, the level of prestige and the level of delimitation of its identity. Other questions such as size, budget or the public or private nature of the university have not proved to be significant explanatory factors of the degree of transparency.

KEYWORDS

Accountability; corporate governance; efficiency; management education; transparency; university governance.

Transparency and trust in public institutions are fundamental mechanisms to ensure credibility, to promote trust in public administration (Bertot, Jaeger, & Grimes, 2010) and to achieve good governance and institutional quality (Relly, 2012). This concern with transparency has also affected higher education institutions and, in some cases, has led them to make changes in governance practices (De Boer, Enders, & Leisyte, 2007). Different groups of stakeholders are demanding greater transparency and accountability from universities due to the autonomy that these institutions have and because they are considered to be of public interest (De la Torre & Torres, 2010). The state now supervises what it used to control, and this has granted greater autonomy to universities (Kehm, 2011). University management models have evolved and changed in line with social demands and the legislative framework. Different models of management at universities can be distinguished (Trakman, 2008): the collegiate model, where management is performed by university staff; the managerial model, in which the governance and management bodies of universities are occupied by qualified professionals; the trust model, whereby a council, not necessarily composed of academics and stakeholders,

supervises the governing bodies and the stakeholder model in which different groups of stakeholders participate in different university management bodies. Finally, we find the mixed model which combines more than one of the aforementioned management models and adapts them to the needs of each university.

The two models which have been most widely adopted are the Anglo-American model, which follows the managerial model, based on control mechanisms and professional management and the European model, which is based on the stakeholders model. The latter conducts its management trying to meet the demands of stakeholders (De Boer et al., 2007), and in this model of governance has a collegiate nature and coordinates the different stakeholders' interests.

The managerial model and the stakeholder model differ in the style of management, and in the former the question of control, professional management and accountability (Faccio, Lang, & Young, 2001) are predominant, while in the latter, the main preoccupation is coordination (Hung, 1998) and the participation of different agents from the community or stakeholders in its self-governance (Kehm, 2012).

In Colombia, there is no legislation concerning corporate governance (CG) for universities, and therefore, there is no uniformity in the model adopted. Some studies have analyzed the application of CG at Colombian universities as a formula that can guarantee improvements in management and help to legitimize the actions of governing bodies (Restrepo, Trujillo, & Guzmán, 2012). These measures are also related to the interest shown by Colombian universities in achieving accreditations for their academic programs and their institutions (National Council of Accreditation, 2013). Nevertheless, despite the fact that the legislation does not include the incorporation of specific governance mechanisms, universities have begun to adopt different governance models.

Internationally, models of CG represent an issue of great relevance. Therefore, in certain countries in Europe (De Boer, Huisman, & Meister-Scheytt, 2010), Asia (Chan & Lo, 2007) America (Contreras, Romero, Navarrete, & Valdivieso, 2013) and Oceania (Harmann & Treadgold, 2007) there is a debate currently open on governance models.

In countries where there is no legislation on CG in universities, such as Colombia, but where there is a strong international influence, it would be useful to undertake studies on the models of CG adopted. This could serve as a reference for countries with similar characteristics and also be useful for academics who wish to learn about the effects of different models of CG.

Therefore, the objective of our study is to obtain evidence of the influence exerted by the governance models and other factors such as quality and the public and private nature of the institution on transparency at Colombian universities. In this article, we report an empirical study of an issue that has received very limited research attention on an international level.

Our study has the following structure: in the next section, we describe the importance of transparency at Colombian universities. In the third section, the methodology is explained. The results obtained are analyzed and, finally, the main conclusions are outlined.

1. Transparency at Colombian universities. Determinants

Transparency in the public sector means that governors are obliged to be accountable to society. Accountability reduces the level of inappropriate practices in public management (Lindstedt & Naurin, 2010) and places the information at the disposal of different stakeholders (Kolstad & Wiig, 2009). The information published allows us to assess the degree of fulfillment achieved, makes it possible to delimit responsibilities (Piotrowsky & Van Ryzin, 2007) and provides an effective tool for management.

In Colombia, the demand for greater transparency has been reflected in a series of laws (Alzate, 2011). Colombian universities, especially public ones, are adopting transparency measures and demonstrating a great interest in publishing information about their management.

Transparency at Colombian universities has mainly focused on complying with the legal imperatives of producing accountability reports related to management and results obtained, and greater publication of both financial and non-financial information on their websites (Catolico, 2013). Despite the efforts made in terms of legal reforms, further efforts are necessary in terms of transparency at Colombian universities (Catolico, 2012).

1.1. Factors that influence transparency

Over the last few decades, internationally there has been a notable effort made by universities to improve their organizational systems in order to make themselves more competitive and to achieve greater prestige in different international ranking scales (Leydesdorff & Shin, 2011). This has also been the case for Colombian universities. These rankings are evaluation systems that measure the excellence of universities through a series of indicators that allow us to evaluate above all the quality of teaching and research (Ferrer & Morris, 2013). The highest ranked universities on the main international ranking scales are predominantly and significantly Anglo-American and they follow the managerial model (Flórez-Parra, López-Pérez, & López-Hernández, 2014). The management model adopted by many of the highest ranked universities on the international ranking scales may lead universities from other countries to use them as a reference. Indeed, this may be occurring at Colombian universities.

Rankings can influence the decisions of different stakeholders in the academic community such as students when they choose which university to attend, university management bodies when taking decisions about funding and hiring of staff, and they can even be used as a political instrument to support and accelerate the pace of reforms at different universities (Hazelkorn, 2008). Increased access to higher education worldwide has meant an increase in demands by consumers (both present and potential ones) who now request further information related to academic prestige and quality. This has led to the creation and development of university rankings in different countries and geographical areas (Dill & Soo, 2005). In the case of Colombia, the process of accreditation of academic programs and higher education institutions helps to provide indicators that ensure the quality of Colombian universities (Martínez, Borjas, Herrera, & Valencia, 2015; National Council of Accreditation, 2013). These universities may publish information and indicators that are used in evaluations. Therefore, one would expect that the highest placed universities in the rankings would be the most transparent. In this sense, we can formulate the following hypothesis:

H1: The Colombian universities with the highest places in rankings are those which attach most importance to publishing information.

The level of transparency may be due to the strategic plans of these universities and, therefore, it would be linked to the mission of the institution. From this perspective, the objectives, purpose, reason of being and performance of universities are linked to the requirements of different stakeholders and their actions are aimed at satisfying the demands of these stakeholders.

The mission is the guiding principle that justifies its very existence (Senge, 1998; Vargas, 2010). Universities are entities whose mission is related to teaching and research (Eckel, 2008). This mission represents the identity and the personality of the institution at the present time and also in relation to the future. A university's mission can be considered to be its sense of responsibility towards society and towards sustainable development (Muijen, 2004).

A mission provides the framework for establishing strategies and policies that can be included in strategic plans (Vargas, 2010). From the perspective of the stakeholder model, a mission aims to respond to the need for social commitment (Larrán, López, Herrera, & Andrades, 2012), whereas the managerial approach emphasizes the need for excellence and focuses on results. Therefore, universities must establish their own strategies in such a way that they respond to the requirements of their community (LlinàsAudet, Giroto, & Parellada, 2011) or to the organization to which they are accountable. The strategic plans of universities help to cater for the demands of stakeholders and allow them to set strategies and policies whereby they can fulfill their objectives (Larrán, López, Andrades, & Herrera, 2014). The performance of universities in terms of the development of their strategies must respond to the commitments and demands of stakeholders or their controlling organization.

In this way, relevant and reliable information promotes greater participation in the process of formulating university strategies and policies. Thus, transparency has become a distinguishing factor among universities. In this sense, there is also a greater demand for information which will require higher levels of transparency from universities. Therefore, we can formulate the following hypothesis:

H2: The degree of fulfillment of the mission of universities is positively related to transparency.

The introduction of CG parameters at universities is due to the influence of the private sector (Cadbury, 1992). The Cadbury Report defined CG as the system through which organizations are managed and controlled.

University strategies may differ in terms of the management model that they adopt. These models have been studied and systematized in the literature (Carnegie & Tuck, 2010; Kehm, 2012; Trakman, 2008). As we have noted previously, the two predominant models are the managerial and the stakeholder model. The former is characterized by the application of business criteria in management and in this model priority is given to accountability and the search for efficiency and effectiveness in management (Giroto, Mundet, & Llinás, 2013; Shattock, 2013). The latter, which has been implemented mainly

in Europe, is characterized by the participation of different stakeholders in university management bodies (Castro & Tomás, 2010), and the fact that management focuses on catering for the demands of different stakeholders. Supervisory mechanisms are aimed at facilitating the coordination of different interests (Kehm, 2011).

The university management model in Colombia is rooted in European models. The management bodies are collegiate and include the participation of different stakeholders from the educational community (Ministerio de Educación Nacional, 1992). Nevertheless, due to the country's proximity to the English-speaking world, the fact that many of its leaders were educated at US universities, and the predominance of Anglo-American universities on the international ranking scales, over the last few decades its universities have begun to adopt elements from the Anglo-American management model. Good results in the management of universities as well as different ways of achieving them and responsible behavior on the part of those in charge of these institutions are motivating forces for transparency. Furthermore, the demand for information from stakeholders can lead to an increase in the amount of information published. The fact that both approaches and management models are promoting greater transparency, although through different causes, leads us to pose Hypothesis 3:

H3: The university management model adopted influences the level of transparency.

2. Methodology

2.1. Selection of the sample

The objective of this study, as we have previously stated, is to analyze university management models and the factors that influence the level of transparency at Colombian universities. Our study is focused on Colombian universities (81 universities), of which 40% are public and 60% are private.

In order to obtain the information to test the hypotheses, we carried out a survey of closed questions aimed at university rectors, using a 5-point Likert scale to denote importance (1 not important, 5 very important) and satisfaction (1 totally unsatisfactory, 5 very satisfactory) (Solomon, Lin, Norton, & Solomon, 2003). The objective of the survey was to obtain the perceptions of rectors concerning management models, the contents of good practice guides, the composition of governance structures and the functions of CG, as well as the quality of their universities. The survey was carried out between October 2012 and May 2013. We received 69 responses (85.16% of the population) which was considered to be a significant part of the population. The level of response from public universities was 96.8% (31 universities), whereas in the case of private universities it was 77.5% (38 universities).

The questionnaire was made up of CG questions from the Global Reporting Initiative (GRI 3.1) (2011) and from other studies of the characteristics and contents of CG (Ho, 2005). The survey contained 22 items divided into six blocks (Table 1). The first of them provides a measure of the degree of fulfillment of transparency obtained through the product of importance and satisfaction (Covin & Slevin, 1989) about the contents and the publication of information (Table 1, Block 1).

Table 1. Items in the survey and groupings in terms of descriptive statistics.

N	Variables	Cluster 1		Cluster 2		Cluster 3		Cluster 4	
		N	Mean	N	Mean	N	Mean	N	Mean
	Block 1. Transparency								
1.	Level of fulfillment (content and publication of an annual report or management report)	22	20.09	5	12.80	14	16.14	28	23.21
	Block 2. Aspects of management								
2.	Level of fulfillment in relation to mission	22	19.55	5	13.60	14	23.57	28	23.57
3.	Level of fulfillment in relation to vision	22	18.77	5	13.60	14	22.50	28	24.11
4.	Level of fulfillment of the strategic plan	22	19.00	5	13.20	14	19.57	28	23.04
5.	Level of fulfillment in relation to organizational structure and functions	22	14.00	5	11.80	14	15.71	28	21.39
	Block 2. Contents of good governance codes								
6.	Preeminence of commitment to quality	22	4.18	5	4.20	14	4.79	28	4.29
7.	Preeminence of commitment to accountability	22	3.36	5	3.20	14	3.21	28	3.79
8.	Preeminence of commitment to social responsibility	22	3.41	5	2.40	14	3.50	28	3.18
9.	Preeminence of eradication of corrupt practices	22	1.86	5	2.00	14	2.07	28	1.89
	Block 3. Composition of governance structure and functions								
10.	Composition of university council or management council	22	4.50	5	4.20	14	4.00	28	4.46
11.	Provides relevant information to council members	22	4.86	5	5.00	14	4.93	28	4.89
12.	Provides information about the selection of managers	22	3.68	5	3.60	14	4.21	28	4.25
13.	Size of the university council or management council	22	4.05	5	4.00	14	3.64	28	3.82
14.	The main function of the council is setting strategies	22	1.18	5	1.60	14	1.14	28	1.14
15.	The main function of the council is consultancy	22	3.41	5	2.00	14	2.64	28	2.36
16.	The main function of the council is control	22	2.36	5	2.80	14	3.21	28	3.18
17.	The main function of the council is supervision	22	3.05	5	3.60	14	2.93	28	3.32
	Block 4. Budget priorities								
18.	Priority of research in allocation of funding	22	4.09	5	4.00	14	3.93	28	4.11
19.	Priority of teaching in allocation of funding	22	4.00	5	4.00	14	4.71	28	4.29
20.	Priority of welfare of the main stakeholders in the allocation of funding	22	3.45	5	3.20	14	3.19	28	2.25
	Block 5. Quality								
21.	Importance of achieving accreditation of degrees	22	4.86	5	4.80	14	4.86	28	4.96
22.	Importance of a high position in the rankings	22	3.00	5	2.40	14	2.64	28	3.57

Source: Own elaboration.

The second block includes questions related to management (mission, vision, strategic plan and organizational structure) (Table 1, Block 2). The third block includes the contents of the good governance codes (4 items), specifically establishing priorities among the different commitments of universities – quality, accountability, social responsibility, corruption – which are mentioned in their good governance codes. The fourth block gathers information about the composition of good governance structures – size and composition – the criteria for the selection of members and the tasks that they carry out – setting of strategies, consultancy, control and supervision – (eight items). The fifth block which is composed of three items measures the priorities established in the allocation of economic resources. Finally, the last block, which is made up of two items, evaluates quality through the importance that university managers attach to the position of their universities on rankings and the accreditation of their degree programs.

2.2. Research methodology

2.2.1. Management models at Colombian universities

Firstly, in order to characterize the possible models of university management, a cluster analysis is made on the data obtained in the survey. This technique allowed us to group elements that showed similar or homogeneous characteristics, defining the different models of management in terms of those questions that were considered to be priorities. In order to carry out the cluster analysis, we used, firstly, a hierarchical method, specifically Ward's method (Ketchen & Shook, 1996) which led us to establish four groups that showed homogeneous characteristics.

A non-hierarchical analysis was then carried out, specifically the K-means analysis, in order to obtain the components of the different groups. The first group was composed of 22 universities, the second cluster of five, the third group of 14 and, finally, the fourth group was made up of 28 entities (Table 3).

The values obtained show that Colombian universities have been put into four groups that reflect the existence of different models of university management. The first of the conglomerates is composed of 22 universities, among which there is a small majority of public institutions (54.55%) compared with private ones (45.45%). In the second cluster there were only five universities (three public and two private). This group was not very significant and did not have very well defined characteristics, which led us to analyze the universities it was composed of. They were very small universities from peripheral areas. These factors may explain the low degree of implementation of CG criteria or criteria related to dealing with the demands of stakeholders.

The third cluster, which was made up of 14 universities, included a large number of private institutions (78.57%) compared to public ones (21.43%) and, finally, the fourth cluster contained 28 universities, 53.57% from the private sector and 46.43% from the public sphere. In summary, we can state that in the case of the private sphere there are three management models with a similar level of importance (11, 10 and 15 universities, respectively), whereas in the public sector, we can mainly define two models with 12 and 13 universities, respectively. One can note that there is no clear separation between public and private universities. The values of the items in the fourth cluster are generally higher than the other conglomerates, but in each cluster we can define the priority items, helping to define the management model.

Cluster 1 shows a greater tendency towards the stakeholder model, and the universities in this group identify to a greater extent with the European management model. In this cluster, the main group is made up of public entities (55%). The most important questions in relation to fulfillment are transparency and mission, and little importance is attached to the organizational structure, which would be more typical in the managerial model. These items may explain the identity of the institution. The most important commitments in this group are quality – which leads them to give priority to the allocation of resources to research and teaching – and social responsibility. Regarding the functions of the council, the most important ones are consultancy and supervision which are characteristics of the stakeholder model.

The number of universities in Cluster 2 is not significant, which indicates that it is not a widespread model and, besides, cannot be clearly identified. It is better to look the institutions included in it individually. The universities in this group give significant value to the fulfillment of their mission, their vision and, to a lesser extent, transparency. Their priorities in terms of allocating resources are the same as those of the previous group, that is, research and teaching. This group gives great priority to quality (the accreditation of their degrees). This is the group that gives the greatest value to welfare among the main stakeholders and, at the same time, one of the most important commitments for this group is accountability, which is typical of a managerial model.

The model represented by Cluster 3 shows some tendency to follow the Anglo-American model, focused on accountability, as can be seen in questions such as the importance of control, the commitment to quality and transparency, the allocation of most of the funding

to cover teaching, or the importance of the selection of university managers and the availability of the information necessary to control management. Moreover, it adopts some aspects of the European model – which is more identified with collegiate management and is aimed at stakeholders – in the setting of its mission, vision and in the commitment to social responsibility as well as the consideration of university welfare as a priority in the allocation of funding. Although there is a mix of the two models, this conglomerate shows a strong tendency towards the Anglo-American model, since its scores are higher for items related to that model.

Cluster 4 is the one which is most closely identified with the managerial model. Specifically, it has the highest score in terms of vision, which is very typical of the Anglo-American model. The score for the existence of an organizational structure and the division of functions is relevant, whereas this was scarcely relevant for the other groups. Moreover, they attach considerable importance to the process of selecting university managers, the composition of management structures and the information that these managers should receive in order to carry out their work. Regarding commitments, the most relevant ones are quality – with the most importance attached to the part of the budget allocated to teaching and research – and accountability. In relation to the functions of the council, the most relevant question is control, followed by supervision, which are typical aspects of the managerial model.

Therefore, according to the results obtained from the cluster analysis, we can state that Colombian universities have three types of management divided into clearly identified groups: the first model is what we could call a mixed one, as it uses elements from both the European management model and the Anglo-American model (Clusters 2 and 3); the second management model gives priority to questions included in the stakeholder model (Cluster 1) and, finally, the managerial or Anglo-American model which incorporates the greatest number of characteristics related to control and accountability (Cluster 4).

2.2.2. Determinants of the degree of transparency at Colombian universities

Secondly, in order to address the hypothesis about the variables which influence the level of transparency, the following multiple regression model was proposed:

$$\begin{aligned} \text{Transparency} = & b_1 \text{ QUALITY} + b_2 \text{ MISSION} + b_3 \text{ MODELS} + b_4 \text{ CHARACTER} \\ & + b_5 \text{ GDP} + b_6 \text{ SIZE}, \end{aligned} \quad (1)$$

Where the dependent variable is transparency measured through fulfillment in terms of publishing information (Gallego, García, & Rodríguez, 2009). The independent variables are quality, measured through the position of the university on the ranking web (Martínez et al., 2015); the delimitation of the identity of the institution, which is measured through the fulfillment of the mission of the institution and the management model adopted by the entity, obtained through the cluster analysis on the results of the sample given to rectors. Moreover, as control variables we introduce the public or private nature of the university, the wealth, measured as the GDP of the different regions into which Colombia is divided and, finally, the size of the university measured through its number of students (Catolico, 2012) (Table 2).

3. Analysis of the results obtained

Table 3 shows the descriptive statistics and the correlations that exist between the different variables of the model. In this table, one can note that there is a significant and positive correlation between the quality and the mission. Mission is the *raison d'être* of the universities and provides the principles that justify their existence (Senge, 1998; Vargas, 2010). When they are well defined they are related to excellence and implies a higher position in the rankings (Martínez et al., 2015). Regarding the other variables for which there is a significant association (transparency, management models, GDP and size), the relation is inverse and, in principle, in some aspects this would seem to contradict the experience noted in other parts of the world. The inverse relationship between transparency and quality is then analyzed in the regression model. In relation to the management models, it seems that in the case of Colombia the interest in having a high position in the rankings is linked to the stakeholder model and not the managerial model. Those universities with the highest positions are those which follow a European model or which focus on stakeholders. This may be due to the cultural influence that Europe has traditionally exerted over Latin America.

Table 2. Variables and measurement.

Variable	Definition	Measurement
Transparency	Level of fulfillment in the publishing of information	Item 1 in the survey
Quality	Ranking of Colombian universities on an international level. July 2013. Source: Ranking Web	Position of the university on the ranking
Mission	Level of fulfillment in relation to the mission	Item 2 on the survey
Governance models	Management models	Scores from 1 to 4, according to the management models obtained in the cluster analysis
Character	Public or private university	0 if it is private and 1 if it is public
Wealth (GDP)	Gross Domestic Product allocated to regions of Colombia. 2012. Source: National Administration of Statistics (DANE)	Log (GDP)
Size	Number of university students. 2012 second semester. Source: National Ministry of Education (MEN)	Log (students' number)

Source: Own elaboration.

Table 3. Descriptive statistics and correlations.

N	Mean	Standard deviation	1	2	3	4	5	6	7	
1	Transparency	20.03	4.23	1						
2	Quality	29.13	17.23	-.466**	1					
3	Mission	21.78	3.93	.406**	.234*	1				
4	Governance models	2.93	1.14	.713**	-.268*	.183	1			
5	Character	0.45	0.50	.126	-.121	-.092	.161	1		
6	GDP	4.46	0.56	.062	-.247*	.089	.046	-.399**	1	
7	Size	3.97	0.34	.315**	-.668**	.081	.214	.299	.192*	1

Source: Own elaboration. Note: n = 69. *p < .05. **p < .01.

Finally, the public or private character of the institution is related to GDP and size. The variable GDP and size has been applied in different studies (Caba-Pérez, Rodríguez-Bolívar, & López-Hernández, 2008; Catolico, 2012). We can state that private universities depend to a great extent on their students for their funding, whereas in public universities the revenues depend on the budget. The results obtained show that private universities operate in those regions with the highest GDP, which is a logical occurrence. In terms of size, the results indicate that public universities have a greater size. These results are in line with those found in countries in which the funding of universities is largely dependent on the State.

Table 4. Regression coefficients for transparency.

Independent and control variables	
Quality	-0.49*** (-3.167)
Mission	0.237*** (3.075)
Management model	0.602*** (7.750)
Character	0.22 (0.280)
GDP	-0.51 (-0.664)
Size	0.001 (0.014)
R adjusted square	0.641
F-statistics	38.766
Probability	.000

Source: Own elaboration.

Note: Dependent variable: transparency.

*p < .10.

**p < .05.

***p < .01.

Once the correlations between the variables have been analyzed, in Table 4 we show the results obtained in the regression model. This table reflects the position that the university has in the ranking (quality) and the mission, and also demonstrates how the management model influences the level of transparency. The relation between quality and transparency is negative and, therefore, Hypothesis 1 is rejected. The literature shows that rankings offer prestige to institutions (Leydesdorff & Shin, 2011; Martínez et al., 2015). These rankings are made using a series of indicators and information, which should encourage institutions to publish a greater amount of data. In this case, greater competition among universities would lead to greater interest in transparency, as this would make these institutions more attractive to potential students. Nevertheless, in the context of Colombia, the results are the opposite and show that those universities with a lower position in the rankings are those who are most concerned about improving their image and publishing information. A possible explanation for this could be the fact that it is difficult to obtain a place at the larger universities in Colombia and only 10% of applicants are awarded a place. This could lead smaller universities to compete for those students who cannot enter the larger universities and therefore, they would have to publish a greater amount of information.

In the same way, there is a positive and significant relation between mission and transparency. This means that those universities that achieve a higher level of fulfillment in terms of their mission are also those that achieve a higher level of transparency. Once the principles and values of universities have been defined, among which we may find transparency, these institutions materialize and display the results obtained by publishing information. Universities differ in terms of the objectives that they set for their mission. This may be due to the growing demand from different stakeholders for more transparency or the demands from controlling organizations for greater accountability (Larrán et al., 2012). The results obtained lead us to accept Hypothesis 2.

In terms of the relation between the representative variable of the management models and transparency, the results show that the relation is positive and significant. In this sense, the adoption of a managerial model by Colombian universities is linked to greater transparency. The managerial model is characterized by the transparency and accountability that allow higher education institutions to legitimize their actions (Buckland, 2004). The search for alternative sources of funding rather than public funding, which has been subject to heavy cuts over the last few years, is leading universities to modify their governance mechanisms in order to move towards a more managerial model (Etzkowitz & Leydesdorff, 2000). Furthermore, the fact that Anglo-American universities are well placed in international rankings must also exert some

influence in terms of adopting the practices followed by these universities, among which we can highlight greater transparency. Therefore, these results lead us to accept Hypothesis 3.

In relation to the control variables, it can be noted that none of them are significant, and therefore, we can conclude that transparency is related to aspects linked to the identity of the institution and the management models, as well as its level of fulfillment in terms of their mission. Transparency is not associated with the public or private nature of the institution, a greater demand for information linked to a larger GDP in the geographical region or the size of the university.

4. Concluding comments

The publication of information, transparency and accountability have become key aspects of what is usually considered as good university guidance. University governance models are currently placing greater emphasis on results, and are using both the managerial model and the stakeholder model. The former is based on professional management and accountability, whereas the stakeholder model, which bases its management approach on catering for the demands of different groups, is mainly characterized by the participation of different agents from the community or stakeholders in its process of self-governance. Both models have been implemented at universities on a worldwide level.

Our study has shown that, in the case of Colombia and in the absence of CG regulations at university level, there are currently three management models in coexistence: one which we can call the mixed model, which adopts aspects from both the Anglo-American and the European models; a second management model which we can define as the stakeholder model and, finally, a third one which is the managerial model. This classification shows the heterogeneous nature of management models at Colombian universities and reveals the need to set up a university strategy which can provide a process of transition and harmonization of the management model at Colombian universities which would make it possible to establish comparisons, ensure transparency and facilitate management as well as being appropriate to the culture of Colombia.

Similar to other countries, the evidence obtained in the case of Colombia would recommend for normalization that the governance model adopted was flexible enough to include different visions of the phenomenon.

There is no single idea about governance in universities and normalization would be interesting in respect to the identity of every institution. Normalization could help to define the values and objectives that are crucial in questions such as transparency. This is especially necessary to the extent that there is international debate about what is the best model of university governance. These results could serve as a reference for countries that do not have laws about CG in universities and for researchers as a basis for analyzing any other possible effects of the CG model chosen.

The influence of CG at an international level may explain the reforms that the Colombian government is implementing in administration systems at public universities. Being able to identify a series of patterns related to CG at Colombian universities through the use of a survey of rectors has allowed us to conclude that higher education institutions may be

interested in establishing some common CG regulations which could help them to become more competitive, access other sources of funding and improve in terms of transparency.

Furthermore, when analyzing the factors that influence transparency it can be observed that the variables of mission, the delimitation of the identity of the institution and the management models that are adopted are related to transparency. The preeminence, in some cases, of aspects linked to the managerial model and, in other cases, of the stakeholder model, proves the need to create or provide a specific guide for those countries where we can note the influence of several models, which allows us to identify positive aspects as well as those which adapt best to the culture of a specific country.

If Colombian universities used a CG-based management model, among other things, this would help to improve management and, consequently, these institutions would also improve in terms of efficiency and effectiveness, they would become more accountable and, at the same time, they would legitimize the actions of university managers in the eyes of society as a whole. Moreover, in our study, we have also found evidence that the model of university governance is a determinant in terms of achieving a greater level of transparency and that the managerial model exerts the strongest influence on this question.

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