
MEASURING GOVERNANCE OF NONPROFIT ORGANIZATIONS: GOVERNANCE INDEX PROPOSAL

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ABSTRACT

The objective is to propose a Governance Index for the Third Sector (IGov3S) that expresses the governance profile of Nonprofit Organizations (NPOs). Data was collected through a documentary survey, and the sample consisted of 108 NPOs from the environmental sector operating in Brazil. The data was analyzed by multiple correspondence analysis (IGov3S dimensions and weights), cluster analysis (identification of IGov3S levels), and variance analysis with Hochberg *post-hoc* test (IGov3S validation). Six governance dimensions were identified from these analyses, from which the IGov3S was developed. Then, four distinct governance profiles were calculated, resulting in the quality classification of the IGov3S at four levels. The results of this research can contribute to researchers interested in this theme that can avail themselves of a measure composed of governance in the nonprofit sector either as a dependent, independent, or control variable in their empirical models, bypassing methodological restrictions resulting from the correlation between indicators generally used as a proxy for measuring governance.

Keywords: Governance. Governance index. Third sector. Nonprofit organizations.

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MENSURANDO A GOVERNANÇA DE ORGANIZAÇÕES NÃO GOVERNAMENTAIS: PROPOSTA DE ÍNDICE DE GOVERNANÇA

RESUMO

Objetiva-se propor um Índice de Governança para o Terceiro Setor (IGov3S) que expresse o perfil de governança das Organizações Não Governamentais (ONGs). Para tanto, foram coletados dados de 108 ONGs do segmento meio ambiente com atuação no Brasil por meio de levantamento documental. Os dados foram analisados por meio de análise de correspondência múltipla (dimensões e pesos do IGov3S), análise de *cluster* (identificação dos níveis do IGov3S) e análise de variância com teste *post-hoc* Hochberg (validação do IGov3S). Dessas análises, foram identificadas seis dimensões de governança, a partir das quais foi desenvolvido o IGov3S. Em seguida, foram apurados quatro perfis distintos de governança, resultando na classificação da qualidade do IGov3S em quatro níveis. Os resultados desta pesquisa podem contribuir com pesquisadores interessados nesta temática que podem se valer do IGov3S, como medida composta de governança no setor sem fins lucrativos, seja como variável dependente, independente ou de controle em seus estudos empíricos, contornando restrições metodológicas decorrentes da correlação entre os indicadores geralmente utilizados como *proxy* para mensuração da governança.

Palavras-chave: Governança. Índice de governança. Terceiro setor. Organizações não governamentais.

1 INTRODUCTION

Non-Governmental Organizations (NGOs) have faced intense competition in the donation market (Saxton et al., 2014), which has led them to adopt practices prevalent of private for-profit organizations (Salamon, 1997), among them those of governance (Lacruz et al., 2019).

In this sense, governance has been widely explored in studies applied to the third sector, involving various themes. For example, research has suggested that governance quality is associated with the receipt of more significant volumes of donations (Saxton et al., 2014), reduced likelihood of fraud (Harris et al., 2017), greater accuracy in financial reporting (Yetman & Yetman, 2012), among others.

In general terms, governance in the third sector refers to a set of internal and external mechanisms instituted to inhibit the inappropriate use of resources and better align the objectives of NGO executives with the public to which it is directed and its donors. In this linkage, governance has been taken as a construct of multidimensional nature, composed of several conceptual levels, to represent better the theoretical definitions underlying its conceptualization (Harris et al., 2015).

In general, the discussion starts from the hypothesis that a higher quality of governance increases the protection of donors' interests against the risk of spoliation by opportunistic leaders. This aspect is even more pronounced for environments with low regulation and little access to information about NGO governance, such as the Brazilian one (Silveira, 2010) since the state's regulatory role creates an external control environment (Desai & Yetman, 2015).

In this context, this study aims to develop a governance index for the third sector (IGov3S) of multidimensional nature that simplifies the multifaceted concept of governance (Boland et al., 2020) that can be used in a variety of settings (i.e. dependent, independent or control variable) and topics, for example, the investigation of the influence of governance on donations received by NGOs, the analysis of the efficiency of projects developed by NGOs, the examination of the remuneration of NGO executives, among others in the area of the third sector. Furthermore, a similar effort has been undertaken in developing governance indices for Brazilian for-profit companies (e.g., Correia et al., 2011) and governance indices for the public sector (e.g., Oliveira & Pisa, 2015).

Evidence shows that indicators used as *proxies* for measuring governance in the third sector are correlated (Boland et al., 2020), which imposes methodological constraints on research design. For example, suppose governance measures are relevant to the dependent variable and correlated with independent variables in ordinary least squares or maximum likelihood regression models to avoid collinearity problems among predictors. In that case, the researcher may promote the exclusion of some governance measures. However, this would cause biased inferences because the existence of correlated and omitted variables violates the assumption that regressors are not correlated with the error term (Antonakis et al., 2010). One can cite as examples multiple regression models (Gujarati, 2000), logistic regression (Hosmer & Lemeshow, 2000), and partial least squares structural equation modelling (Hair et al., 2020). Thus, a comprehensive and parsimonious measurement that represents the main aspects of governance in the third sector and can be replicable in a non-costly manner is a methodological contribution to the field.

The units of analysis chosen were NGOs in the environment segment operating in Brazil, legally constituted in the form of a private nonprofit association or foundation, which contributes to the homogeneity of the units of analysis among the NGOs themselves, in the face of the highly heterogeneous profile of the entities that make up the third sector, especially in Brazil, such as political parties, the S system, condominiums (Instituto de Pesquisa Econômica Aplicada [IPEA], 2018).

As a result of the study, six governance dimensions were identified, based on twenty-two indicators in the Multiple Correspondence Analysis (MCA) processing. Then, based on the inertia values and discrimination measures from the MCA, the IGov3S was developed. Next, four distinct governance profiles among NGOs were identified using cluster analysis, validated using ANOVA hypothesis test with Hochberg post hoc test, resulting in the governance quality ranking.

2 LITERATURE REVIEW

Studies have shown that good governance allows NGOs easier access to the donor market (e.g., Hedge et al., 2009) for governance minimizes agency problems that result from the contractual relationship established between donors (principal) and NGOs (agent) in the donation process (Jensen & Meckling, 1976, 1995; Jensen, 1993). Thus, there is an understanding that donors consider information about the governance structure of NGOs when making donation decisions (Lacruz, 2020).

Agency theory has been the most recurrent lens in studies on governance in the third sector (Renz & Andersson, 2014; Marques et al., 2015). Overall, agency theory in the third sector has been adopted from Jensen and Meckling (1976) and Fama and Jensen (1983) to discuss the existing conflicts between principal and agent.

Previous studies have operationalized governance in the third sector in various forms, seeking a theoretically specified measurement for its research question.

For example, Kitching (2009) used a specific governance indicator, audit quality (Big5 firms), from data from the National Center for Charitable Statistics (IRS Statistics of Income and IRS Form 990) in the United States.

Yetman and Yetman (2012) measured governance using multiple indicators simultaneously (e.g., audit committee) from data from the National Center for Charitable Statistics (IRS Statistics of Income and IRS Form 990) and the Federal Audit Clearinghouse.

Fredette and Bradshaw (2012) measured governance effectiveness by assessing the degree to which NGO boards of directors fulfil core governance functions (overall board performance, fiduciary and financial oversight, safeguarding and fulfilling the organization's mission, and providing regular feedback on executive director performance). They operationalized governance as a latent variable, composed of four indicators (core governance functions) measured on a ten-point Likert-type scale.

On the other hand, Harris et al. (2015) used multiple governance dimensions, composed of a set of indicators, estimated dichotomously, extracted from the IRS Form 990, which emerged from exploratory factor analysis.

Blouin et al. (2018), in turn, used a measure formed by the sum of a set of dummy variables, with positive (e.g., conflict of interest policy) and negative (e.g., paid board) weights, extracted from IRS Form 990. Similarly, Balsam et al. (2020) used the sum of governance policies reported on Form 990 (e.g., audit committee) to compose a governance index.

There are also propositions of governance indexes for the third sector, operationalized in various ways, each aligned to its research design.

Some studies have developed indices for specific governance dimensions. For example, Dumont (2013) proposed a virtual accountability index for nonprofit organizations through exploratory factor analysis, from which five factors emerged (accessibility, engagement, performance, governance and mission) that together explain the variation in virtual accountability. The indicators for each factor were weighted to 20 points, giving the index a total of 100 possible points and the same proportion for each factor, under the argument of not distorting the index favouring a specific factor or item so that the author could elaborate the index. The data were collected directly by evaluating the websites of nonprofit organizations in the United States, for which they adopted a scale of 0 to 3 to measure the indicators.

In turn, Cabedo et al. (2018) propose an index to measure the transparency of projects of Spanish nonprofit organizations, arising from three dimensions (technical, financial and scope) composed of a set of 11 indicators. The index is

determined by the quotient of the sum of the dimensions by the sum of the number of indicators in each dimension; each dimension is calculated by the quotient of the number of projects in which the NGO publishes information on a specific item by the total number of the NGO's projects. The data were collected by analyzing reports from 49 NGOs.

Indices for governance, taken as a whole, have also been developed. For example, Willems et al. (2012) develop a governance quality index through a second-order construct consisting of 5 first-order constructs (External stakeholder involvement, Consistent planning, Structures and procedures, Continuous Improvement, and Leadership team dynamics), in turn consisting of 38 indicators. Through structural equation modelling based on covariance, three (Consistent planning, Structures and procedures, and Leadership team dynamics) of the five governance dimensions (first-order constructs) proved statistically significant (p -value < 0.05) to explain the governance quality index (second-order construct). The data were collected via questionnaire from respondents who held leadership positions (directors on the board, committee members) in nonprofit organizations.

Ávila and Bertero (2016) propose a governance index developed from the adaptation of recommendations of the "Code of best governance practices for business foundations and institutes", prepared by the *Instituto Brasileiro de Governança Corporativa* [IBGC] (2009) when evaluating the relationship between governance and economic-financial performance and volume of operations of the Educational Radio and Television Foundation of Uberlândia. The index was composed of 15 variables related to independence, accountability, and transparency, validated through confirmatory factor analysis. The data were collected through a questionnaire applied to employees of the Federal University of Uberlândia and employees of the foundation. The index was determined by the average of the responses obtained from the application of the questionnaire (i.e., as a composite measure). Unfortunately, it was impossible to know what adaptations had been made to the code that inspired the construction of the index (developed for business foundations and institutes), nor which variables were used as indicators.

Many governance best practice codes have also been structured in various countries, such as the UK corporate governance code (Financial Reporting Council [FRC], 2016) and Corporate governance best practice code (IBGC, 2015) for the private for-profit sector; governance principles and guidance for not-for-profit organizations (Australian Institute of Company Directors [AICD], 2013) and *Guia das melhores práticas para organizações do terceiro setor: associações e fundações* (Instituto Brasileiro de Governança Corporativa [IBGC], 2016) for the third sector. As of October 6, 2020, there were 583 codes of best governance practices on the European Corporate Governance Network website (cf. <http://ecgi.global/content/codes-0>). Table 1 shows the dimensions considered in some best practice codes for third sector entities identified in this study.

Table 1

Codes of governance best practices for third sector organizations

Code of conduct for non-government development organizations (Australian Council for Overseas Aid [ACFOA], 2002)	
-Organizational integrity -Governance ^a -Communication with the public	-Finances -Personnel and management practice
Standards for excellence: an ethics and accountability code for the nonprofit sector (Maryland Association of Nonprofit Organizations [MANO], 2004)	
-Mission and program -Governing body ^a Conflict of interest -Human resources	-Financial and legal -Openness -Fundraising -Public affairs and public policy
Code of ethics and conduct for NGOs (World Association of Non-Governmental Organizations [WANGO], 2004)	
-Guiding principles -NGO Integrity -Mission and activities -Governance ^a -Human resources	-Public trust -Financial and legal -Fundraising -Partnerships, collaboration and networking
Governance principles and guidance for not-for-profit organizations (IACD, 2013)	
- Board and responsibilities - Board effectiveness -Organization performance -Organization building -Purpose and strategy	-Roles and responsibilities -Integrity and accountability -Culture and Ethics -Engagement -Risk
Principles and practices for nonprofit excellence (Minnesota Council of Nonprofits [MCN], 2014)	
-Governance ^a -Transparency and accountability -Financial management -Fundraising -Evaluation -Planning	-Civic engagement and public policy -Strategic alliances -Human resources -Volunteer management -Leadership and organizational culture
Guia de melhores práticas para organizações do terceiro setor: associações e fundações (IBGC, 2016)	
-Mission, brand, and respect for the rule of law - Governing body - Board of Trustees	-Management -Independent audit -Fiscal Council -Conduct of code, conflict of interest practices and disclosure of information

^aIt addresses aspects related to the *Board* dimension.

Source: Elaborated by the authors.

This literature review considers governance composed of several conceptual levels, whose dimensions (e.g., Board) define its overall concept. However, these dimensions and governance itself can hardly be measured by a single indicator. Therefore, not only governance was taken as a construct (latent variable), but also its dimensions, which in turn are defined by a set of indicators (observable variables), identified in other studies (e.g., Blouin et al., 2018) and in best practice guides (e.g., IBGC, 2016).

Despite the undeniable contribution of these studies, the field still lacks empirical research in environments with limited access to information about NGO governance and low regulation (as exceptions, one can refer to Hasnan et al.,

2016 and Lin & Li, 2020), such as Brazil (Silveira, 2010), because the ambience can change the behaviour of NGOs concerning their governance and also of donors in relation to their donation decisions to NGOs (Desai & Yetman, 2015; Yetman & Yetman, 2012).

Thus, this study contributes to a better understanding of how governance is configured in environments with low regulation and little access to information about NGOs and may aid future research on governance in the third sector, similar to the efforts of Willems et al. (2012) for environments with high regulation and transparency.

3 METHODOLOGY

To propose a governance index that expresses the characteristic profile of governance among private nonprofit associations and foundations in the environmental segment in Brazil, we used a sample composed of 108 NGOs, whose data were collected through a documentary survey in financial statements, annual reports of activities and by-laws available on the NGOs' websites or taken by direct contact (telephone and e-mail), in the Map of Civil Society Organizations (CSO Map) repository (cf. <http://mapaosoc.ipea.gov.br>) and records of the *Conselho Nacional de Entidades Ambientalistas* (CNEA).

It is important to note that nonprofit associations and foundations in the environmental segment were considered to be those with a purpose classified as environment and animal protection in the survey "Private foundations and nonprofit associations in Brazil" (Instituto Brasileiro de Geografia e Estatística [IBGE], 2012).

It is explained that because all the documents analyzed are prepared and disclosed in the year following their fiscal year, data collection, carried out in the first bimester of 2017, is limited to the fiscal year 2015 because complete financial data was available at the time of data collection.

As a measure of the governance dimensions (explanatory factor), the presence of a set of governance mechanisms (proxies) identified in the literature review, both in previous studies (e.g., Harris et al., 2015) and in governance best practice guides for the third sector (e.g., IBGC, 2016), was used. Table 2 shows the operational definitions of the study variables.

Table 2
Variables

Variable	Scale	Description	Sources
Board	Nominal (dichotomous)	Existence of Board	Balsam et al. (2020); Blouin et al. (2018); IBGC (2016); Harris et al. (2015); MCN (2014); AICD (2013); Yetman e Yetman (2012); Fredette e Bradshaw (2012); MANO (2004); WANGO (2004); ACFO (2002)
Election-Board		Formal rules for the election of the members of the Board	IBGC (2016); MCN (2014); AICD (2013); MANO (2004); WANGO (2004); ACFO (2002)
Mandate- Board		Members of the Board with Formal Mandate	IBGC (2016); MCN (2014); AICD (2013); MANO (2004); WANGO (2004); ACFO (2002)
CEO-Remuneration		Remuneration of the CEO approved by the Board	Balsam et al. (2020); Blouin et al. (2018); IBGC (2016); Harris et al. (2015); MCN (2014); AICD (2013); MANO (2004); WANGO (2004)
Independence-Board		CEO does not participate, with voting rights, in the meetings of the Board	Balsam et al. (2020); Blouin et al. (2018); IBGC (2016); Harris et al. (2015); MCN (2014); AICD (2013); Yetman e Yetman (2012); MANO (2004); WANGO (2004); ACFO (2002)
Fiscal_Council		Existence of Fiscal Council	IBGC (2016)
Election-Fiscal_Council		Formal rules for the election of the members of the Fiscal Council	IBGC (2016)
Mandate-Fiscal_Council		Members of the Fiscal Council with Formal Mandate	IBGC (2016)
Advisory_Committee		Existence of at least one advisory committee	Balsam et al. (2020); Blouin et al. (2018); IBGC (2016); Harris et al. (2015); MCN (2014); AICD (2013); Yetman e Yetman (2012); MANO (2004); WANGO (2004)
Corporate_Identity		Formally established institutional mission, vision and values	IBGC (2016); MCN (2014); Dumont (2013); AICD (2013); Fredette e Bradshaw (2012); Willems et al. (2012); MANO (2004); WANGO (2004); ACFO (2002)

Variable	Description	Sources
Annual_planning	Annual Plan of Activities approved by the Board	IBGC (2016); MCN (2014); Dumont (2013); AICD (2013); Willems et al. (2012); MANO (2004); WANGO (2004); ACFO (2002)
Policies_codes	Policies and codes approved by the Board	Blouin et al. (2018); IBGC (2016); Harris et al. (2015); MCN (2014); AICD (2013); Yetman e Yetman (2012); MANO (2004); WANGO (2004); ACFO (2002)
Independent_audit	Existence of independent audit	IBGC (2016); Harris et al. (2015); MCN (2014); Dumont (2013); AICD (2013); Yetman e Yetman (2012); Kitching (2009); MANO (2004); WANGO (2004); ACFO (2002)
Big Six	Independent auditing is a Big Six (Deloitte, PwC, KPMG, EY, BDO or Grant Thornton) ^b	Yetman e Yetman (2012); Kitching (2009)
Annual_Report-General_Assembly	Annual Report approved by the General Assembly	IBGC (2016); MCN (2014); ACFO (2002)
Financial_Statements-Internet	Financial Statements on public websites	Cabedo et al. (2018); IBGC (2016); MCN (2014); Dumont (2013); AICD (2013); MANO (2004); WANGO (2004); ACFO (2002)
Financial_Statements-Fiscal_Council	Financial Statements appreciated by the Fiscal Council	IBGC (2016)
Annual_Report-Internet	Annual Report on public websites	Cabedo et al. (2018); IBGC (2016); MCN (2014); Dumont (2013); AICD (2013); MANO (2004); WANGO (2004); ACFO (2002)
Annual_Report-Donors	Annual Report sent to donors	IBGC (2016); MCN (2014); ACFO (2002)
Annual_Report-Board	Annual Report assessed by the Board	IBGC (2016); MCN (2014); AICD (2013); MANO (2004); WANGO (2004); ACFO (2002)
Team_Qualification	Qualification of council members and CEO on public websites	Cabedo et al. (2018); IBGC (2016); Harris et al. (2015); Dumont (2013); WANGO (2004)
CEO_Evaluation	Formal evaluation of the CEO by the Board	IBGC (2016); MCN (2014); AICD (2013); Fredette e Bradshaw (2012); MANO (2004); WANGO (2004)

^a CEO: Chief Executive Officer. ^b Considering the total annual revenue in 2015.

Because the variables related to governance mechanisms were operationalized in a dichotomous manner (i.e., presence or absence of the variable), we chose to process the data through MCA to identify the underlying governance structure in NGOs (i.e., the governance dimensions), as it is a dimensional reduction technique suitable for processing data of this nature (Hair et al., 2009).

From this underlying structure, the IGov3S was developed, in which the value of the inertia is the weight for the dimensions, and the value of the discrimination measure, the weight for the indicators.

Next, NGOs with different governance profiles were identified through cluster analysis, which allowed developing a governance quality classification model (i.e., IGov3S levels).

Finally, we took as a measure of NGO performance the linked operating revenues (i.e., donations with restrictions on use by NGOs and associated with specific deliveries) for 2015 and assessed through an ANOVA hypothesis test with a Hochberg post hoc test whether the groupings differ to this parameter, adopting a statistical significance level of 0.05. In addition, it should be clarified that the assumptions of the ANOVA test were ensured concerning the normality of the residuals, homogeneity of variances and absence of outliers.

Figure 1 presents a schematic summary of the procedures adopted in the development of IGov3S.

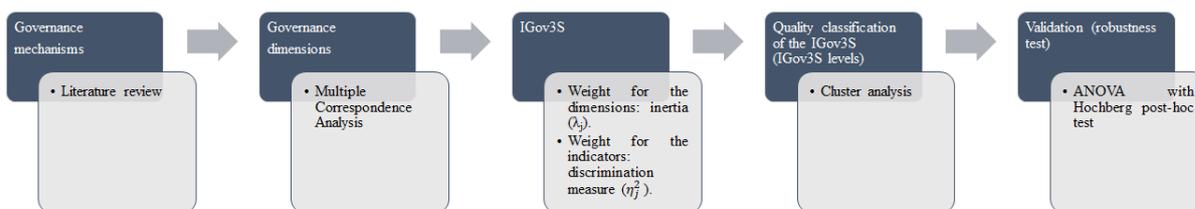


Figure 1 - Stages of IGov3S building
Source: Elaborated by the authors.

In addition, R software version 3.5.3 (R Core Team, 2019) was used for data processing, using native functions (e.g., aov) and the packages FactoMineR and nFactors for MCA processing; ClusterR for cluster analysis; DescTools for the Hochberg post hoc test and the Kolmogorov-Smirnov test with Lilliefors correction; car for the Levene test; and stats for Cook's distance.

4 BUILDING A GOVERNANCE INDEX FOR THE THIRD SECTOR (IGOV3S) AND FINDINGS

Before beginning the extraction procedures of the underlying governance structure, the characterization of the NGOs in the sample is made with the volume of bound revenues with donor restrictions and age (Table 3). A large discrepancy is observed in the amounts received in linked operating revenues and age among the NGOs that comprised the sample of this study, which was expected given the heterogeneous profile of third sector entities in Brazil (IPEA, 2018).

Table 3

Descriptive statistics - Revenue and Age

Statistics	Revenue with donor restrictions (in thousands of dollars)^a	Age^b
Mean	1,317	16.7
Standard deviation	2,585	7.7
Minimum	26	5
Maximum	16,667	29
1 st quartile	110	10
2 nd quartile	308	16
3 rd quartile	1,282	24

Note. n = 108.

^a US Dollar 1.00 = Brazilian Real 3.90 (date: 12/31/2015).^b Years since NGO was founded (date: 12/31/2015).

Source: Elaborated by the authors.

The variables listed in Table 4 correspond to the governance indicators taken in this study, and their dichotomous nature is used to verify the frequency with which they occur within the 108 NGOs in the environmental segment analyzed.

Table 4

Frequency distribution

Variables	Frequency
Fiscal_Council	92%
Financial_Statements-Fiscal_Council	92%
Election-Fiscal_Council	90%
Mandate-Fiscal_Council	89%
Annual_Report-Donors	86%
Board	82%
Annual_planning	82%
Election-Board	81%
Mandate- Board	81%
Annual_Report-Board	80%
Annual_Report-General_Assembly	77%
Corporate_Identity	72%
Independence-Board	64%
CEO-Remuneration	59%
CEO_Evaluation	53%
Policies_codes	50%
Advisory_Committee	44%
Team_Qualification	43%
Annual_Report-Internet	42%
Independent_audit	38%
Financial_Statements-Internet	31%
Big Six	12%

Note. n = 108.

Source: Elaborated by the authors.

The most frequent variables relate to the existence of the Fiscal Council in the entity's organizational structure and the analysis of the Financial Statements by the Fiscal Council (92% of the sample). Conversely, the least frequent variables are related to the availability of the Financial Statements on the Internet (31%), the performance of independent auditing of the Financial Statements (38%) and, consequently, the independent audit being one of the big six (12%).

The Fiscal Council is a non-deliberative, non-mandatory, and non-remunerated body that oversees the NGO's financial accounting management and issues an opinion on the *ex-post* financial statements (Bortolon et al., 2019). The low frequency of independent auditing may contribute to the high frequency observed of the Fiscal Council, since the independent auditing firm also issues an opinion about the NGO's financial statements, taking a position on whether they are free of relevant distortions and under the norms in force, and in the absence of auditing there may be an understanding of the importance of the existence of the Fiscal Council.

The costs demanded by hiring an independent, *significant six* audit are possibly not supported by the financial capacity or even the need of some NGOs given their structure, which brings reasonable justification for this being the mechanism with the lowest frequency found in the observations.

Next, the dimensions of governance in NGOs were identified utilizing the MCA. Guided by the criteria of scree plot (Cattell, 1966) and parallel analysis (Horn, 1965), six dimensions were retained, which together explain 74% of the variance (Table 5).

Table 5
Governance Dimensions

Board	Inertia = 0.27	Fiscal Council	Inertia = 0.17
Board	$\eta^2 = 0.59$	Fiscal_Council	$\eta^2 = 0.70$
Election-Board	$\eta^2 = 0.62$	Election-Fiscal_Council	$\eta^2 = 0.54$
Mandate- Board	$\eta^2 = 0.61$	Mandate-Fiscal_Council	$\eta^2 = 0.59$
CEO-Remuneration	$\eta^2 = 0.43$	Financial_Statements- Fiscal_Council	$\eta^2 = 0.70$
Annual_Report-Board	$\eta^2 = 0.67$		
CEO_Evaluation	$\eta^2 = 0.35$		
Independence-Board	$\eta^2 = 0.45$		
Advisory_Committee	$\eta^2 = 0.25$		
Transparency	Inertia = 0.11	Management	Inertia = 0.07
Financial_Statements- Internet	$\eta^2 = 0.19$	Annual_planning	$\eta^2 = 0.37$
Annual_Report-Internet	$\eta^2 = 0.43$	Corporate_Identity	$\eta^2 = 0.34$
Team_Qualification	$\eta^2 = 0.20$	Policies_codes	$\eta^2 = 0.35$
Audit	Inertia = 0.07	Accountability	Inertia = 0.05
Independent_audit	$\eta^2 = 0.42$	Annual_Report- General_Assembly	$\eta^2 = 0.13$
<i>Big Six</i>	$\eta^2 = 0.49$	Annual_Report-Donors	$\eta^2 = 0.48$

Note. n = 108.

Source: Elaborated by the authors.

Then, operationally, the dimensions that emerged from the MCA (Board, Management, Fiscal Council, Transparency, Accountability and Audit) were taken as governance dimensions and the variables as indicators (proxies of governance mechanisms) that reflect the underlying theoretical constructs (governance dimensions). The results show that 74% of NGO governance is explained by six governance dimensions (Board, Fiscal Council, Transparency, Management, Audit and Accountability) that have their impact expressed by the inertia values found (Table 5).

Governance in the third sector, as a set of incentive and control mechanisms, internal and external, is reflected in the NGO's ability to perform actions that limit the inappropriate use of resources and ensure that the NGO fulfils its fiduciary responsibility; in addition to safeguarding the institutional mission, by aligning the goals of its executives with those of the organization; as well as providing regular feedback to members, donors, and the public for which it is intended (Fredette & Bradshaw, 2012; Harris et al., 2015).

From this theoretical domain of governance, one can take it as a construct. However, more, as a higher-order construct operationalized through other constructs (the governance dimensions), measured, in turn, by governance mechanisms present in the NGO's organizational structure.

Thus, in this study, the Board represents the collegiate deliberative body in charge of maintaining the NGO's strategic direction, constituting a link between cause and management - in line with that proposed by Fama and Jensen (1983), Jensen (1993) and Jensen and Meckling (1995). Operationally, the construct board involved its constitutive aspects (election, mandate, independence and advisory committees) and attributions (CEO remuneration, CEO evaluation and approval of the annual report).

The Management dimension, in turn, deals with the deliverables arising from monitoring actions of the principal concerning the agent or the agent to show that its behaviour is not harmful to the principal (Jensen & Meckling, 1976), similar to the study of Harris et al. (2015). This dimension encompasses elements that guide the activities of the executive team, the Board and Fiscal Council, and the General Assembly or Board of Trustees (Corporate identity, Annual planning, and Policies and codes).

The Fiscal Council represents the NGO's accounting and financial management oversight body, and its construct involves items related to its constitutive aspects (election and mandate) and attributions (appreciation of the financial statements). Thus, its domain is directed towards the oversight of the acts practised by the administration, giving its opinion on the NGO's financial statements.

The Transparency dimension refers to the disclosure (making public) of relevant information; it was operationalized by the disclosure on the Internet (website, fan page) of the financial statements (audited or not), the annual report and the team qualification (executive and board members).

The Accountability construct, in turn, deals with the rendering of accounts by the administrative body to the higher instance and its donors. It was operationalized through indicators relative to the appreciation by the General

Assembly or the Board of Trustees of the Annual Report presented by the NGO's CEO and the sending of the Annual Report to the donors.

Finally, the independent audit was operationalized by auditing the financial statements and the audit firm being a big six. The audit firm issues an opinion on the NGO's financial statements, stating whether they are free of material distortions and following the standards in force.

Then, in formulating the IGov3S, for each of the indicators used and the dimensions that emerged from the MCA, contribution weights were determined for the composition of the governance index, with the value of inertia (λ) being the weight for the dimensions and the value of the discrimination measure (η^2) being the weight for the indicators. In this way, the index is double-weighted (dimensions and indicators), under the understanding that indicators may reflect differently the underlying dimensions of governance to which they are related, as well as the layers of governance dimensions may not be symmetrically distributed - in contrast to Dumont's (2013) option of adopting equal weights for the dimensions, under the argument of not distorting the index in favour of a specific factor or item. Thus, the equation that defines the proposed Governance Index for the Third Sector (IGov3s) is:

$$IGov3S = \frac{\sum_{j=1}^k \lambda_j \times \sum_{i=1}^n (X_{ij} \times \eta_j^2)}{\sum_{j=1}^k (\eta_j^2 \times \lambda_j)} \quad (1)$$

In which:

X_{ij} = observation of variable i related to dimension j

η_j^2 = discrimination measure of dimension j

λ_j = inertia of dimension j

It is explained that the IGov3S equation standardizes the index on a scale from 0 to 1, where 1 is the highest level of governance, and zero is the lowest. Table 6 shows a description of the results of applying the IGov3S to the sample of this study.

Table 6

IGov3S

Statistics	IGov3S
Mean	0.68
Standard deviation	0.24
Minimum	0.04
Maximum	0.98
1 st quartile	0.57
2 nd quartile	0.77
3 rd quartile	0.85

Note. n = 108.

Source: Elaborated by the authors.

The description of the IGov3S shows that data dispersion around the mean can be considered moderate to low (coefficient of variation = 35%), according to Miles and Shevlin (2001). The value of the 1st quartile above the average value of the IGov3S scale ($0.57 > 0.5$) also calls attention, as well as the median value (2nd quartile) of 0.77, indicating that half of the observations have values between 0.77 and 0.98 (maximum).

Next, a hierarchical cluster analysis was performed to identify groups of NGOs that are homogeneous among themselves and, at the same time, different from those in other clusters; that is, groups with distinct governance profiles.

From the cluster analysis, processed by the within-groups linkage method and having Minkowski's generic distance with power equal to 1 (i.e. the city block distance) as a measure of similarity, by joint analysis of the acceleration factor of the clustering coefficient and the dendrogram, four clusters were identified (Table 7).

Table 7

Clusters

Cluster	Number of cases	Frequency
A	21	19%
B	38	35%
C	19	18%
D	30	28%
Total	108	100%

Source: Elaborated by the authors.

Amplifying this understanding, we show a graph of IGov3S x Clusters (average link categories within the group) that allows us to observe the behaviour of the observations grouped in each cluster (Figure 2). It is explained that the clusters were named as follows: A - Level 3, B - Level 1, C - Level 4 and D - Level 2.

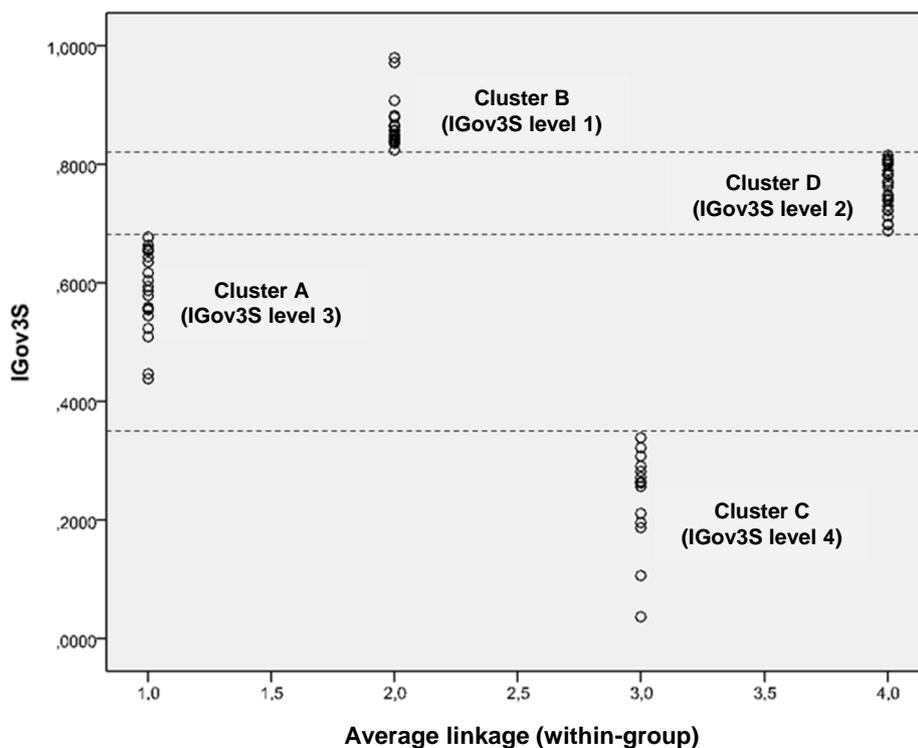


Figure 2 - IGov3S x Average linkage (within-group)

Nota. n = 108.

Source: Elaborated by the authors.

By plotting the dashed lines in Figure 2, it is possible to see the transition zones and, thus, that cluster D (IGov3S level 2) has an observation that converges with those of cluster A (IGov3S level 3), which does not occur among the others, suggesting a good model fit.

The cluster analysis reveals four clusters that group the 108 observed NGOs according to the IGov3S found for each of them. Visually expressed in Figure 2, Cluster B is the one that groups the highest indices and is classified here as IGov3S level 1 (indices closest to 1). This interpretation elucidates the idea that the 38 observations contained within it represent those with better governance.

It is important to note that the index is influenced not only by the presence of governance mechanisms (indicators) but also by the weights associated with each indicator (discrimination measure) and each dimension (inertia). Thus, having better IGov3S is not associated with using more mechanisms; but with more mechanisms with higher weights, associated with dimensions that impact governance the most (cf. Equation 1).

In sequence, cluster D with IGov3S level 2 presents another 30 observations grouped at a lower level than cluster B, even though they express values indicative of good governance. This cluster presents the highest average link between the observed values, allowing one to perceive that this group's governance profile is more homogeneous internally by having a smaller amplitude between the largest and smallest observation.

Moving forward in the validation analysis of IGov3S, it was taken as a measure of NGO performance the linked operating revenues for the year 2015, and it was assessed through ANOVA test whether the groupings differ to this parameter. Considering the body of study that evaluates the impact of governance on donations received by NGOs (e.g. Petrovits et al., 2011, Harris et al., 2015, Lee & Choi, 2019), this reference is admitted as a proxy of donation market trust under the argument that higher quality of governance increases the protection of donors' interests against the risk of misuse of donations received.

Then, assuming a statistical significance level of 0.05, an ANOVA test was run, which allowed us to reject the hypothesis of equality of variances (p-value = 0.000); there is evidence that at least one cluster is different from the others about tied operating revenues.

Further, Hochberg post hoc test was performed (because the samples of the groups have different sizes) on the factor to examine the differences between the levels making the pairwise comparison, and one can reject the equality of variances between all pairwise combinations (p-value = 0.000). Thus, by this criterion, the results allow validating the proposed governance index for third sector entities.

The assumptions of the ANOVA test were ensured, since it was not possible to reject the hypotheses of normality of the residuals, by the Kolmogorov-Smirnov test with Lilliefors correction (p-value = 0.35); nor the homogeneity of variances between groups, by the Levene test (p-value = 0.051); and also no outliers were identified in the data set, using Cook's distance measure ($D_i < 1$) as a criterion.

As a methodological contribution, this study develops and validates the IGov3S. This composite measure simplifies the complex empirical construct of governance in the third sector as a set of governance dimensions operationalized through indicators taken as *proxies*, in step with Boland et al. (2020).

Thus, IGov3S can be useful as a dependent variable (e.g., in influencing donor management practices in shaping NGO governance), an independent variable (e.g., in analyzing the influence of governance on donations received by NGOs), or a control variable (e.g., in examining NGO executive compensation).

In studies that make use of ordinary least squares or maximum likelihood regression techniques, there are methodological restrictions to the research design arising from the assumptions of the absence of multicollinearity among predictors and omission of variables (i.e., that the regressors are not correlated with the error term), as Antonakis et al. (2010) warn since the indicators used as a proxy for measuring governance are usually correlated with each other (Boland et al., 2020).

To circumvent this limitation, IGov3S, as a composite measure of governance, can be used both as an independent variable and as a control variable. However, it is cautioned that IGov3S is a dependent variable for its domain is restricted; an ordinary least squares regression model could generate biased and inconsistent parameters (Gujarati, 2000). On the other hand, Tobit regression deals with censored dependent variables, which are not freely

distributed between $-\infty$ and $+\infty$, such as the proposed index ($0 \leq \text{IGov3S} \leq 1$), presenting itself as a viable alternative. Besides the methodological aspect, as a dependent variable, it is suggested in the same diapason as Boland et al. (2020) that the governance measure be developed based on the alignment between the research question, the theory and the logic.

5 DISCUSSION

The main objective of the research was to propose a governance index for the third sector (the IGov3S) and, based on this, to trace the governance profile of NGOs in Brazil.

Aiming at a more homogeneous research clipping, given the heterogeneity of the types of organizations belonging to the third sector in Brazil (IPEA, 2018), the chosen units of analysis were the private nonprofit associations and foundations of the environment segment with operations in Brazil.

The data were collected through a documentary survey. Since no public repository with data on NGO governance was identified, the data was taken from multiple sources (NGO website, CSO Map, CNEA).

Unfortunately, this unavailability of data constrains empirical studies with large-scale data, unlike in other environments, such as the United States, where the IRS Form 990 list of governance questions allows for studies from large masses of data. For example, Boland et al. (2020) used a sample consisting of 16,824 nonprofit organizations that reported governance information from 2008 to 2012.

A promising initiative in Brazil is the CSO Map, whose data (available for download), for now, is limited to the relations of third sector entities with the federal government and involves few governance-related issues. In the same vein, the FUNDATA project (<http://www.fundata.org.br>) maintains a database on NGOs of a foundational legal nature in 20 of the 26 Brazilian states monitored by the Public Prosecutor's Office - the database, however, is not available for download.

This type of initiative is vital in strengthening the sector, as it sheds light on the segment and serves as an orientation for society. In this context, Boland et al. (2020) suggest that the academic literature on NGO governance has grown in recent years, in part due to the availability of *IRS Form 990* governance data.

The IGov3S calculation method weights both the indicators (variables measured) and the dimensions (governance dimensions that emerged from the MCA) using objective dimensions (discrimination and inertia measures, respectively). Hence, it allows for a measurement that considers different gradations of layers (dimensions) and sub-layers (indicators) of governance as a multifaceted construct.

Thus, a measurement was sought for the IGov3S that represented the main aspects of governance in the third sector and could be replicated inexpensively. From the literature review undertaken, we believe in the comprehensiveness (in other words, the substantive validity) of IGov3S; that is, the theoretical relationship between the construct is not directly observed and intends to represent, such as the main aspects of NGO governance. Likewise, it can be (re)created in different NGOs and periods without the process being costly in its replicability.

However, as Boland et al. (2020) caution, this is not intended to advocate for a universal proxy for governance in the third sector because the ideal measure of governance is specified in a theoretically sound way for the specified research question.

As a result of the results of this research, its authors intend to develop an online platform of unrestricted access - analogous to the Corporate Governance Metrics (cf. <http://www.ibgc.org.br/metrica>) developed by the IBGC - through which NGOs may rely on a self-assessment instrument of the level of governance quality, as well as compare it to the other NGOs in the base, favouring their reflection on the degree of maturity of their governance. Furthermore, it is hoped that this platform will also contribute to donors, who will be able to take into consideration an objective and comprehensive measure of NGO governance in their donation decisions; and to researchers, who will be able to access an accessible repository of data and information, furthering connections between researchers interested in this theme.

It is crucial to highlight significant limitations regarding these results. First, it was assumed as a proxy of governance the presence of governance indicators, whose data were produced in a dichotomous way, as in other studies of governance in the third sector (e.g. Harris et al., 2015) and also in the environment of business organizations (e.g. Silveira et al., 2008). Second, it is recognized that there may be differences, not captured, between the exact governance mechanisms present in different NGOs and what is enacted in NGO documents and their practices.

Furthermore, the sample composed of NGOs from the environmental segment operating in Brazil may bring limitations to the application of IGov3S in other environments because, as Yetman and Yetman (2012) have shown, different regulatory frameworks and law enforcement environments may influence NGO governance. Hence, a suggestion for research is evaluating IGov3S adherence in contexts with different levels of external control exercised by the state.

Finally, a suggestion for research that derives from having revealed in this study how the governance dimensions manifest themselves in the organizational structure of NGOs is to investigate which of these dimensions (i.e., Transparency, Auditing) are most influential in NGO donation decisions. This aspect is vital for the third sector public policy debate, as it would signal the information about NGO governance that donors use in their donation decisions.

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AUTHORS' CONTRIBUTIONS

Contributions	Adonai José Lacruz	Valcemiro Nossa	Katarina Rosa Lemos	Thiago de Andrade Guedes
1. Idealization and conception of the research subject and theme	✓	✓		
2. Definition of the research problem	✓	✓		
3. Development of Theoretical Platform	✓	✓	✓	✓
4. Design of the research methodological approach	✓	✓	✓	✓
5. Data collection	✓			
6. Analyses and interpretations of collected data	✓	✓	✓	✓
7. Research conclusions	✓	✓	✓	✓
8. Critical review of the manuscript	✓	✓	✓	✓
9. Final writing of the manuscript, according to the rules established by the Journal.	✓	✓	✓	✓
10. Research supervision	✓	✓		