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DESIGN AND APPLICATION OF A PROCEDURE FOR THE SELECTION OF A POOL OF JUDGES

DISEÑO Y APLICACIÓN DE UN PROCEDIMIENTO PARA LA SELECCIÓN DE UN POOL DE JUECES

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ABSTRACT

Complaints of violations of legal democracy worldwide are very common today. Jury trials as a long-standing practice have provided the solution through citizen participation in cases where there may be manipulation by legal bodies. The low knowledge of the members of the jurors and their easy influence by these parties are some of the reasons why this resource is declining. To date, in Ecuador, this type of trial is not enabled, but an evaluation of the capacities of the judges is needed to give greater reliability to the process and seek the support of legislators. For this reason, the main objective of this research is to design and apply a procedure for the selection of a pool of judges. To comply with it, an exercise was carried out in the municipality of the Metropolitan District of Quito with the support of the Judiciary Council of such locality. For the development of the research, techniques such as Delphi were used to determine the level of competence of the candidates and the use of Entropy to calculate the weight of the criteria to be evaluated in them.

Keywords: jury pool, jury trials, Delphi, Entropy.

RESUMEN

Las denuncias de violaciones de la democracia legal en todo el mundo son muy comunes hoy en día. Los juicios por jurado, como práctica habitual, han aportado la solución a través de la participación ciudadana en los casos en los que puede haber manipulación por parte de los órganos judiciales. El bajo conocimiento de los miembros de los jurados y su fácil influencia por parte de estos son algunas de las razones por las que este recurso está disminuyendo. A la fecha, en Ecuador, este tipo de juicios no está habilitado, pero es necesaria una evaluación de las capacidades de los jueces para dar mayor confiabilidad al proceso y buscar el apoyo de los legisladores. Por esta razón, el objetivo principal de esta investigación es diseñar y aplicar un procedimiento para la selección de un grupo de jueces. Para cumplirlo, se realizó un ejercicio en el municipio del Distrito Metropolitano de Quito con el apoyo del Consejo de la Judicatura de dicha localidad. Para el desarrollo de la investigación se utilizaron técnicas como el Delphi para determinar el nivel de competencia de los candidatos y el uso de la Entropía para calcular el peso de los criterios a evaluar en ellos.

Palabras clave: grupo de jurados, juicios con jurado, Delphi, Entropía.

INTRODUCTION

The modern era sees a radical drop in the rate of jury trials and changes in the nature of cases decided by contemporary juries. These trials have become exceptional rather than ordinary outcomes as a percentage of civil disputes and criminal charges entering the legal system. (Seidma & Rose, 2018) Several factors contribute to the decline, including the rise of judicial and legislative alternative dispute resolution with lower litigation costs and incentives to plead guilty (Offit, 2018).

the jury is considered the highest democratic expression of progressing and developing countries, where it is the People who strengthen a true Judiciary in an environment of Direct Participatory Democracy. It is also the decision of the jury that represents the people, with its own criteria, beliefs, and customs, it is a democratic virtue, where citizenship functions as a kind of counterweight to the power exercised by the authorities.

For (Salcedo & Macio, 2019), among the most outstanding advantages provided by the jury system are the rapprochement of jurisdictional activity with social reality, without prejudice to the fact that it ceases to become an exclusive service of lawyers, which allows citizen participation. The participation of citizens in rulings on criminal cases is vital, because it excludes only technical judicial evaluations, giving way to social and human considerations, which are essential in resolving criminal conflicts.

(Salcedo & Macio, 2019) states that when private persons intervene in the knowledge and resolution of cases, the judicial body is democratized even more, establishing the duty of society to contribute to the basic service of administration of justice. The foregoing allows the people to carry out a task of control over the possible abuses of power derived from a Judicial Function strictly managed by the State. In this sense, the population gets involved and feels part of the decisions adopted by the justice system, contributing to generating citizen confidence in the work of the Judicial Function, and to the necessary perception of legal certainty. Thus, the decisions adopted by the jurisdictional bodies do not only affect the litigants but also involve society, being part of the institutionalism of the justice administration system.

According to (Lama, 2018) juries are classified in the following models, according to their members:

- The Anglo-Saxon model: "Also called the ***pure*** or ***traditional*** model in which 12 ***good and free*** men were summoned to help the king administer justice. This model does not demand more requirements to be juries than those of being citizens and of legal age, and they do not have the obligation to be linked to the administration of justice in any way, this body of juries must reach a unanimous decision. This model was later adopted by the United States of America,
- The ***escabinado*** model: This model is in force in some countries of continental Europe. The essential difference with the Anglo-Saxon model is that a jury made up of a part of laymen (people outside the law) and legal professionals are convened at random. This joint body directs the entire oral process, but unlike the previous model, decisions are made by majority,
- The mixed model: This model combines the elements of both systems explained above, so there can be an infinite variety of possibilities when developing a model according to the needs of each particular judiciary. The most common way in which the mixed model can be found is that it has the characteristics of the Anglo-Saxon during the entire process except for the sentence, for which it adheres to the ***escabinado*** system.

At present, there is a widespread feeling of frustration at the results of this type of trial exposed in dissimilar events worldwide. The lack of knowledge on the part of the jury in the case to be dealt with implies serious problems in the final verdicts. The foregoing is then considered a problem that is generalized and is argued as some of the repercussions that unfair decisions could have, evident flaws caused by the arbitrariness of the judges, incompetence, and a high dose of ideological manipulation. (Conrad & Clements, 2018).

The fact that the persons summoned to be part of the jury in any Court of Justice have a high educational background or constitute part of the social cusp and are legitimate citizens with the right to vote is not a guarantee of suitability to participate in such act. The use of technical language used in the venues, the way they are convened and their social or cultural influence are factors that can determine an unfair sentence (Clermont & Eisenberg, 2001; von Feigenblatt, 2021).

As stated by (Salcedo & Macio, 2019), the jury system is not an unknown institution in the Ecuadorian judicial system. In Ecuador, this system was in force from January 8, 1848, to October 5, 1928, when the then Provisional President of the Republic, Mr. Doctor Don Isidro Ayora, repealed it through Supreme Decree No. 2561, by reforming the Code of Procedure in Criminal Matters. At that time, this system was enacted as a mechanism to fight corruption and an instrument to streamline justice.

Although it is not a practice that is carried out today in Ecuador, there are several proposals presented in draft

projects by students and researchers due to the detriment of the Ecuadorian judicial system in recent years. (Lama, 2018). Its implementation is evidenced closer and closer to the time horizon and one must be prepared for its correct implementation. For this, it is necessary to carry out the correct section of the judges, leaving aside the negative factors previously discussed to obtain an accurate verdict and reduce the distrust on the part of the legislators to put this precedent into practice.

Taking the above as the problem to be solved in this investigation, the following specific objectives are proposed:

1. Design a procedure for the selection of a pool of judges.
2. Apply the procedure, in the form of an exercise, in the municipality of the Metropolitan District of Quito.

From now on, an epigraph is dedicated to the exposition of the materials and methods used in the investigation, and another that is related to the discussion and results derived from the application of the subject. It is also complemented by a body of conclusions and bibliographies to support research

MATERIALS AND METHODS

Assessment of competence levels for experts or decision-makers

In the case of the evaluation of the levels of competence of the experts, formula 1 proposed by (Yoon, 2022) must be used, resulting from the section of experts on the Delphi method:

$$K=0.5*K_a\ K_c \qquad (1)$$

Where: K_c is the coefficient of knowledge or information that the person has about the problem (based on their self-assessment). The values can be on a scale from 0 to 10 that for the calculation is multiplied by 0.1. A zero value indicates that the person has absolutely no knowledge of the problem under study, while 10 expresses full knowledge (Lund, 2020). Thus, the requested person must check the box they deem appropriate on the following scale:

Table 1: Scale to determine the coefficient of knowledge (K_c).

0	1	2	3	4	5	6	7	8	9	10

K_a is the coefficient of argumentation or justification of the person's criteria and is obtained from the result of the sum of the points obtained from the answers given by the person when completing Table 2.

Table 2: Reference values of the degree of influence in each of the sources of argumentation (). Source: Adapted from (Garcia-Ruiz, M., & Lena-Acebo, 2018)

Sources of Argument	Degree of influence of each of the sources in their criteria		
	H (High)	M (Medium)	L (Low)
Investigations carried out on the cause to be judged	0.3	0.2	0.1
Experience on the subject	0.5	0.4	0.2
Previous jurors constituted by the person in similar causes	0.05	0.05	0.05
Collaboration in other similar causes	0.05	0.05	0.05
Intuition on the topic to be addressed	0.05	0.05	0.05
Training linked to the cases to be judged	0.05	0.05	0.05

The expert *i* is asked to mark with a cross (X) which of the sources he considers has influenced his knowledge according to grade H, M, or L (he should be asked to answer all sources). The value of is calculated: if this coefficient is equal to one, the degree of influence of all sources is high; if it is 0.8 this grade is medium and 0.5 is considered low. The value of is then determined using the given formula. The coefficient K, theoretically, is always between 0.25 and 1. The closer the value of K is to one, the greater the degree of competence of the person (Cabero-Almenara et al, 2020).

Entropy method

The Entropy method was proposed by (Zeleny, 1998). It starts from the assumption that the relative importance of a criterion must be proportional to the amount of information intrinsically provided by the set of alternatives with respect to such criterion. The greater the diversity in the evaluations (values) of the alternatives, the greater importance this criterion should have in the final decision since it has greater power of discrimination between the alternatives. The method measures the diversity of a criterion, through entropy. The calculated Entropy is higher the more similar the evaluations of the considered alternatives are. (Fei et al, 2019)

A compromise weight can lead to comprehensive decision-making: it allows the subjective preferences of a decision-maker to be aggregated with the objective weights, calculated from the information intrinsically provided by the data. A criterion loses the power of discrimination when the evaluations of the alternatives with respect to it are very similar.

This method makes it possible to evaluate this loss of discrimination and define the objective weighting of the criteria. The Entropy method does not support evaluations with values less than or equal to zero (Azadfallah, 2020). The steps for its execution are shown below:

Step 1. Creation of the Decision Matrix

In this step, the values of the comparisons by the experts between the criteria are assigned. For its development, a questionnaire must be established with a square matrix where the importance of one criterion with respect to the other will be rated in an ascending interval.

Step 2. Normalize by the sum the values of each of the criteria

The goal of normalization is to obtain dimensionless values of different criteria to make comparisons between them. For the calculation of the normalized decision matrix, equation 2 is used.

$$P_{ij} = \frac{X_{ij}}{\sum_{i=1}^{m} X_{ij}} \quad (2)$$

Step 2. Calculation of the Entropy of each criterion with the use of equations 3 and 4.

$$E_{ij} = -k\left(\sum_{i=1}^{m} p_{ij}\log\left(p_{ij}\right)\right) \quad (3)$$

$$k = \frac{1}{\log(\mathrm{m})} \quad (4)$$

Where is a constant that guarantees and ***m*** is the number of alternatives.

Step 3. Calculation of the diversity of each criterion using equation 5.

$$Dj=1-Ej \quad (5)$$

Where: is the diversity of each factor.

Once the diversity corresponding to each criterion is obtained, it will be possible to order them from lowest to highest by the calculated weight. In case it is necessary to normalize to use the weights in Multicriteria Decision Methods (MDM) or others that require it, step 5 can be carried out.

Step 4. Calculation of the normalized weight of each criterion using equation 6.

$$Wd_j = \frac{D_j}{\sum_{i=1}^{m} D_j} \quad (6)$$

Where: is normalized weight and refers to the diversity of each factor.

Once the weights corresponding to each criterion are obtained, it will be possible to order them from lowest to highest by the value of the calculated weight.

RESULTS AND DISCUSSION

Design of a procedure for the creation of the pool of judges in Ecuador

The elaboration of the procedure proposed below is the result of the need, in Ecuadorian legislation, to select a pool of judges in the event that trials by juries are put into effect. Its objective is to propose and organize a set of steps to make the process more feasible in this sense. Some of the benefits of its possible application are having a group of highly qualified judges in specific issues of Ecuadorian Law and the improvement in the imposition of sentences. The structure resulting from the integration of the steps is shown below:

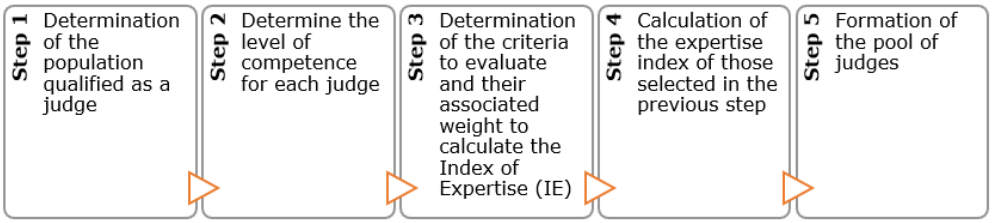

Figure 1: Procedure formation of the pool of judges in Ecuador. Source: own elaboration

Step 1. Determination of the population qualified as a judge

In this step, the trained and authorized persons must be identified in each municipality or province according to the requirements established by law at the time to form the jury. The authors propose the creation of a database containing the personal information of each judge and the area of knowledge in which they work. Having identified the people with the appropriate competence in each case contributes to saving time in the selection and evaluation of these factors, in addition to streamlining the judicial process in general.

Step 2. Determine the level of competence of each judge

To determine the level of competence, the methodology described in subsection 2.1, which is part of the Delphi method, must be used to define the level of knowledge of the experts or decision-makers, in this case, the possible candidates. The objective of this step is to select a group of people, who obtain a classification in the coefficient of less than 0.70, which classifies as “Low”, in order to increase the quality of the group.

Step 3. Determination of the criteria to evaluate and their associated weight to calculate the Index of Expertise (IE)

Initially, it is crucial to know the criteria by which the judges’ expertise index is going to be calculated. It is proposed that they be criteria that refer to their professional and practical training. For the case of the investigation, the following are proposed:

- Competence coefficient (determined in step 2)
- Years of work experience
- Approximate amount of news heard in different communication media per month related to the topic of the cause
- Number of investigations carried out on the topic of a national nature
- Number of investigations carried out on the subject of an international nature
- Courses, seminars, or higher studies related to the cause
- Age
- Causes that are known to be similar to the cause that is summoned

To determine the weights of each criterion, the Entropy method will be used, which is referred to in subsection 2.2. When they are calculated, they must be normalized to use in the calculation of the IE through equation 7.

$$Cn_j = \frac{C_j}{\sum_{i=1}^{m} C_j} \qquad (7)$$

Where:

Cn_j: Normalized criterion

C_j: Criterion to normalize

Step 4. Calculation of the index of expertise of those selected in the previous step

To determine the IE, the resulting people with a high or medium level of knowledge resultant from step 2 will be selected, and the data referring to the evaluation criteria and their respective weight must be previously obtained. Formula 8 shows the structure for its calculation:

$$IE_{j_1} = \sum_{j=1}^{m} w_j * c_j \quad \forall_{j_1} = 1; \dots n \qquad (8)$$

Where:

IE_{j1}: Index of Expertise,

w_j: Importance attributed to criterion j for the calculation of IE.

C_j: Normalized values of the variables.

n: Total of experts proposed that are valued

Step 5. Conformation of the pool of judges

After the IE is calculated, a cut is made to determine the arithmetic mean of the scores reached by the possible judges. People who are below the average will not be able to be part of the jury. This does not mean that they are discarded from the database as judges, but that they require a higher score to be chosen or they can be chosen according to the number of members of the jury as dictated by law. For this, the following formula is used:

$$PC_{IE} = \frac{\sum_1^j IE_{m_j}}{n_I} \qquad (9)$$

Where:

PC_{IE}: Cut-off point for the Index of Expertise

IE_{mj}: Index of Expertise of each judge

n_j: Number of judges

3.2 Application of the procedure for the selection of a pool of judges

Below is an application of the proposed procedure in the municipality of the Metropolitan District of Quito corresponding to a crime of administrative corruption. For this, the support of the Council of the Judiciary of such locality was carried out in the form of an exercise, since a procedure for its practice was not registered in the law.

Step 1. Determination of the population qualified as a judge

In the case of the municipality of the Metropolitan District of Quito, there are 27 qualified and trained people according to the Council of the Judiciary for the formation of juries in accordance with the general requirements worldwide. After determining the population, the possible judges were interviewed to participate in the case. Four of them had personal situations that made it practically impossible for them to participate in the case, so the initial group was made up of 23 people.

Step 2. Determine the level of competence of each judge

To determine the competence levels of the candidates, it was necessary to apply a survey with the fundamentals described in step 2 of the procedure in the previous section. As result, the values corresponding to the degree of influence of the sources of argumentation and the level of knowledge in the case to be judged were obtained (table 3). The legend corresponding to the areas of knowledge is shown below:

- Legislative regarding the case to be judged (A1)
- Of the crime committed (A2)
- From the composition of the jury (A3)
- Of the functions as a jury (A4)
- Of the procedures of the legal parties in the trial (A5)
- From national and international events about the case to be judged (A6)
- Of the rights and duties as a judge (A7)

Table 3: Determination of the degree of influence of the sources of argumentation () the level of knowledge about the cause of the judge candidates. Source: own elaboration

	Sources of argumentation (K_a)						Knowledge level (K_c)						
	FA_1	FA_2	FA_3	FA_4	FA_5	FA_6	A_1	A_2	A_3	A_4	A_5	A_6	A_7
J_1	0.2	0.5	0.05	0.05	0.05	0.05	7	8	7	10	10	7	10
J_2	0.2	0.5	0.05	0.05	0.05	0.05	9	10	8	10	9	8	10
J_3	0.3	0.5	0.05	0.05	0.05	0.05	7	7	8	9	7	9	9
J_4	0.3	0.5	0.05	0.05	0.05	0.05	9	9	10	8	7	7	10
J_5	0.2	0.4	0.05	0.05	0.05	0.05	9	7	9	9	9	10	9
J_6	0.1	0.4	0.05	0.05	0.05	0.05	7	9	10	10	8	7	10
J_7	0.3	0.5	0.05	0.05	0.05	0.05	10	9	7	7	10	9	8
J_8	0.1	0.5	0.05	0.05	0.05	0.05	10	10	7	10	7	9	8
J_9	0.2	0.2	0.05	0.05	0.05	0.05	10	10	9	8	7	10	8
J_{10}	0.3	0.4	0.05	0.05	0.05	0.05	10	10	10	10	10	9	7
J_{11}	0.1	0.4	0.05	0.05	0.05	0.05	7	10	10	9	9	8	7
J_{12}	0.1	0.5	0.05	0.05	0.05	0.05	10	8	8	8	7	7	7
J_{13}	0.2	0.5	0.05	0.05	0.05	0.05	8	7	10	8	9	9	9
J_{14}	0.3	0.5	0.05	0.05	0.05	0.05	9	10	7	10	10	9	9
J_{15}	0.3	0.4	0.05	0.05	0.05	0.05	10	8	9	10	9	10	7
J_{16}	0.3	0.5	0.05	0.05	0.05	0.05	7	10	8	8	7	8	9
J_{17}	0.3	0.5	0.05	0.05	0.05	0.05	10	8	10	9	7	7	9
J_{18}	0.1	0.4	0.05	0.05	0.05	0.05	10	9	10	8	10	8	8
J_{19}	0.2	0.4	0.05	0.05	0.05	0.05	8	10	9	10	7	10	8
J_{20}	0.3	0.4	0.05	0.05	0.05	0.05	9	9	8	8	7	10	7
J_{21}	0.3	0.4	0.05	0.05	0.05	0.05	10	10	7	8	7	9	7
J_{22}	0.2	0.5	0.05	0.05	0.05	0.05	10	9	9	10	8	10	9
J_{23}	0.3	0.2	0.05	0.05	0.05	0.05	9	10	8	10	7	10	10

With the resulting values of K_c and K_a, the level of competence (K) for each candidate was calculated. The results in Table 4 show that all were eligible according to the K coefficient that remained above 0.70.

Table 4: Calculation of the level of knowledge (K) for each judge candidate. Source: own elaboration.

Candidates	K_c	K_a	K	Selection criteria
J1	0.84	0.9	0.87	Eligible
J2	0.91	0.9	0.91	Eligible
J3	0.80	1	0.90	Eligible
J4	0.86	1	0.93	Eligible
J5	0.89	0.8	0.84	Eligible
J6	0.87	0.7	0.79	Eligible
J7	0.86	1	0.93	Eligible
J8	0.87	0.8	0.84	Eligible
J9	0.89	0.6	0.74	Eligible
J10	0.94	0.9	0.92	Eligible

J11	0.86	0.7	0.78	Eligible
J12	0.79	0.8	0.79	Eligible
J13	0.86	0.9	0.88	Eligible
J14	0.91	1	0.96	Eligible
J15	0.90	0.9	0.90	Eligible
J16	0.81	1	0.91	Eligible
J17	0.86	1	0.93	Eligible
J18	0.90	0.7	0.80	Eligible
J19	0.89	0.8	0.84	Eligible
J20	0.83	0.9	0.86	Eligible
J21	0.83	0.9	0.86	Eligible
J22	0.93	0.9	0.91	Eligible
J23	0.91	0.7	0.81	Eligible

Step 3. Determination of the criteria to be evaluated and their associated weight by each judge for the calculation of the Index of Expertise (IE)

As part of determining the Index of Expertise, it was necessary to calculate the weight of each criterion by which the candidates were evaluated. To accomplish this task, 9 experts from the Council of the Judiciary weighed in ascending order the importance of each criterion. The result of the weighting is shown in the modal form of all weightings (Table 5). The analysis was developed using the entropy method and the criteria to be evaluated were determined to be those shown in Table 6.

Table 5: Mode of the weighting of the criteria to be measured by each judge candidate. Source: own elaboration

	C1	C2	C3	C4	C5	C6	C7	C8
C1	68	88	64	41	88	75	82	63
C2	95	55	96	98	97	100	98	97
C3	48	70	43	14	24	26	75	17
C4	100	80	90	85	70	97	91	86
C5	81	69	70	100	90	94	77	84
C6	41	26	87	44	51	58	45	66
C7	85	84	44	45	81	28	43	45
C8	13	56	24	85	44	47	16	27
	531	528	518	512	545	525	527	485

Table 6: Nomenclature of the criteria for the application of the Entropy method. Source: own elaboration

Nomenclature	Criterion
C1	Age
C2	Number of investigations carried out on the topic of a national nature
C3	Number of investigations carried out on the subject of an international nature
C4	Courses, seminars, or higher studies related to the cause where you have participated
C5	Causes that are known to be similar to the cause that is summoned
C6	Years of work experience
C7	Approximate amount of news heard in different communication media per month related to the topic of the cause
C8	Competence coefficient of the judges

When the weighting of the criteria was carried out by the experts, the scores matrix was normalized (Table 7). The values for the calculation of the entropy were determined, followed by the diversity calculation, and the entropy is shown in Table 8, which allowed the calculation of the weights of each factor.

Table 7: Normalized criteria weighting matrix. Source: own elaboration

	C1	C2	C3	C4	C5	C6	C7	C8
C1	0.128	0.166	0.121	0.077	0.166	0.141	0.154	0.119
C2	0.179	0.104	0.181	0.185	0.183	0.188	0.185	0.183
C3	0.090	0.132	0.081	0.026	0.045	0.049	0.141	0.032
C4	0.188	0.151	0.169	0.160	0.132	0.183	0.171	0.162
C5	0.153	0.130	0.132	0.188	0.169	0.177	0.145	0.158
C6	0.077	0.049	0.164	0.083	0.096	0.109	0.085	0.124
C7	0.160	0.158	0.083	0.085	0.153	0.053	0.081	0.085
C8	0.024	0.105	0.045	0.160	0.083	0.089	0.030	0.051
Total	531	528	518	512	545	525	527	485

Table 8: Determination of the values for the calculation of the entropy. Source: own elaboration.

	C1	C2	C3	C4	C5	C6	C7	C8		
C1	-0.114	-0.129	-0.111	-0.086	-0.129	-0.120	-0.125	-0.110	0.052	0.123
C2	-0.134	-0.102	-0.134	-0.135	-0.135	-0.137	-0.135	-0.135	0.025	0.060
C3	-0.094	-0.116	-0.088	-0.042	-0.061	-0.064	-0.120	-0.048	0.049	0.115
C4	-0.137	-0.124	-0.131	-0.127	-0.116	-0.135	-0.131	-0.128	0.076	0.179
C5	-0.125	-0.115	-0.116	-0.137	-0.131	-0.133	-0.122	-0.127	0.022	0.051
C6	-0.086	-0.064	-0.129	-0.090	-0.098	-0.105	-0.091	-0.113	0.054	0.128
C7	-0.127	-0.127	-0.090	-0.091	-0.125	-0.067	-0.088	-0.091	0.049	0.116
C8	-0.039	-0.103	-0.061	-0.127	-0.090	-0.093	-0.046	-0.066	0.096	0.227
	-0.948	-0.975	-0.951	-0.924	-0.978	-0.946	-0.951	-0.904	-	-

Once the weights of the factors were calculated, the data for each criterion was collected for each candidate through personal interviews. The data was collected in a database of the Council of the Judiciary for subsequent selections to save time. The collection of primary data is shown in Table 9 and its respective normalization in Table 10.

Table 9: Data of the criteria to be evaluated by each judge candidate. Source: own elaboration

Candidates	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8
J_1	29	3	7	2	3	22	9	0.87
J_2	58	9	4	3	4	11	3	0.91
J_3	39	5	5	0	3	14	18	0.90
J_4	28	4	7	1	3	20	20	0.93
J_5	31	7	4	4	8	15	8	0.84
J_6	48	10	5	4	3	10	11	0.79
J_7	30	6	6	0	2	17	3	0.93
J_8	19	6	3	3	2	17	3	0.84
J_9	33	10	0	5	0	10	5	0.74
J_{10}	25	7	4	3	4	25	20	0.92
J_{11}	46	2	1	5	8	18	20	0.78
J_{12}	55	8	4	5	1	11	20	0.79
J_{13}	48	5	4	0	6	19	19	0.88

J_{14}	46	9	7	3	4	7	7	0.96
J_{15}	55	0	8	3	6	18	13	0.90
J_{16}	59	9	8	1	0	29	7	0.91
J_{17}	51	1	6	5	3	25	5	0.93
J_{18}	29	2	0	3	4	7	17	0.80
J_{19}	38	10	0	3	2	25	15	0.84
J_{20}	51	5	3	4	2	19	6	0.86
J_{21}	53	7	4	3	0	28	2	0.86
J_{22}	45	10	4	5	4	27	3	0.91
J23	56	4	2	2	1	27	8	0.81

Table 10: Normalization of the criteria to be evaluated by each judge candidate. Source: own elaboration

Candidates	C_1	C_2	C_3	C_4	C_5	C_6	C7	C_8
J_1	0.03	0.022	0.073	0.03	0.041	0.052	0.037	0.044
J_2	0.06	0.065	0.042	0.045	0.055	0.026	0.012	0.046
J_3	0.04	0.036	0.052	0	0.041	0.033	0.074	0.045
J_4	0.029	0.029	0.073	0.015	0.041	0.048	0.083	0.047
J_5	0.032	0.05	0.042	0.06	0.11	0.036	0.033	0.042
J_6	0.049	0.072	0.052	0.06	0.041	0.024	0.045	0.039
J_7	0.031	0.043	0.063	0	0.027	0.04	0.012	0.047
J_8	0.02	0.043	0.031	0.045	0.027	0.04	0.012	0.042
J_9	0.034	0.072	0	0.075	0	0.024	0.021	0.037
J_{10}	0.026	0.05	0.042	0.045	0.055	0.059	0.083	0.046
J_{11}	0.047	0.014	0.01	0.075	0.11	0.043	0.083	0.039
J_{12}	0.057	0.058	0.042	0.075	0.014	0.026	0.083	0.04
J_{13}	0.049	0.036	0.042	0	0.082	0.045	0.079	0.044
J_{14}	0.047	0.065	0.073	0.045	0.055	0.017	0.029	0.048
J_{15}	0.057	0	0.083	0.045	0.082	0.043	0.054	0.045
J_{16}	0.061	0.065	0.083	0.015	0	0.069	0.029	0.046
J_{17}	0.052	0.007	0.063	0.075	0.041	0.059	0.021	0.047
J_{18}	0.03	0.014	0	0.045	0.055	0.017	0.07	0.04
J_{19}	0.039	0.072	0	0.045	0.027	0.059	0.062	0.042
J_{20}	0.052	0.036	0.031	0.06	0.027	0.045	0.025	0.043
J_{21}	0.055	0.05	0.042	0.045	0	0.067	0.008	0.043
J_{22}	0.046	0.072	0.042	0.075	0.055	0.064	0.012	0.046
J_{23}	0.058	0.029	0.021	0.03	0.014	0.064	0.033	0.041

Step 4. Calculation of the expertise index of those selected in the previous step

Through equation 8, the Index of Expertise of each candidate was calculated based on the weight of the criteria selected by the experts and their data input. The task also served to determine the Cutoff Point for the IE, which turned out to be 0.0435. The results of these data are shown in the next step.

Step 5. Conformation of the pool of judges

For the selection of the pool of judges, the scores of the IEs achieved by the deputies were plotted and a vertical asymptote was drawn with the value of the Cut-off Point as shown in Figure 1. From the analysis, it was determined that 11 candidates can be part of the jury for the case for the crime of administrative corruption in the municipality of the Metropolitan District of Quito. The unselected candidates were not rejected, they will only become substitutes in case the selected ones cannot be part of the jury.

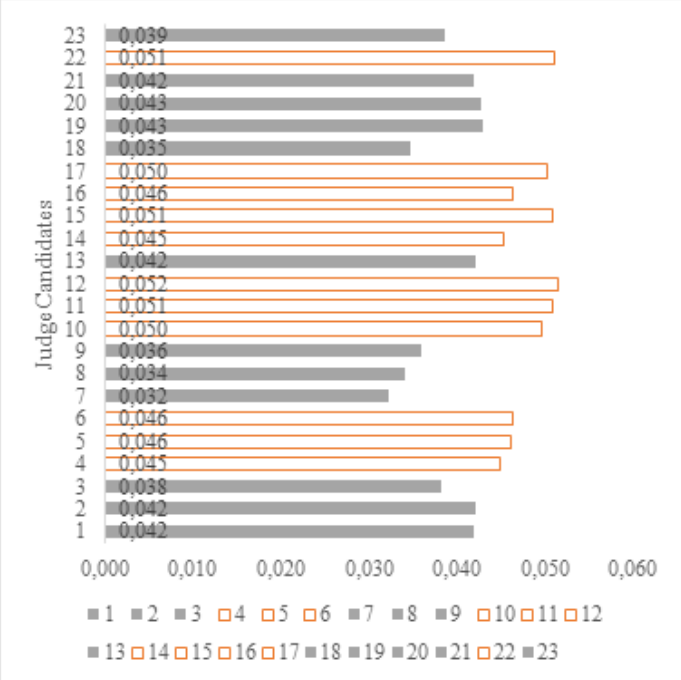

Fig 1: Representation of the cut-off point for the selection of judge candidates. Source: own elaboration

CONCLUSIONS

In conclusion, it can be argued that, although jury trials are not authorized by law in Ecuador, a procedure was proposed for the selection of a pool if some of the draft projects that are under revision are approved. Its design allowed for a tool that improves the selection process, not only in the nation but that can be used in other legislations. For its design, the selection of experts was taken into account using the Delphi method, and the calculation of the Index of Expertise for each candidate was among the most relevant aspects.

Its application was carried out in the form of an exercise that was classified as satisfactory by the Council of the Judiciary when selecting 11 candidates from a population of 23 possible candidates with a high Index of Expertise compared to the average. The data of the candidates were registered in a database for investigative use or in case of authorization of trials by juries, to have people qualified for the cause of study. Although the investigation was not a practical contribution to the Ecuadorian legal system, it marks a starting point for the acceptance of the legislators of this type of trial by solving one of its main drawbacks related to the low preparation of the judges and their easy manipulation by the legal parties.

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