Article

Open Government in Spain: An Introspective Analysis

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Abstract: In recent years, there has been an increasing amount of research analyzing open government initiatives that enable access to the information held by public bodies, promoting accountability and the fight against corruption. As there are few studies on intermediate governments to date, this research focuses on this level of government in Spain, one of the most decentralized countries in the world. The autonomous communities in Spain manage over 35% of consolidated public spending and are responsible for providing most social services, including health, education, and social services. To achieve this goal, the perceptions of the seventeen heads of open government in Spain's autonomous communities were collected through a questionnaire. This approach fills a research gap as individuals outside of public administration have made the previous assessments. By allowing for a comparison with the conclusions reached by prior research, this study contributes to the creation of new knowledge. The study's results are consistent with previous research and suggest that the open government in Spain is positively regarded, not falling below the European or global averages, and has a promising future despite significant obstacles, such as a resistance to change. Transparency is the most developed aspect of open government, while citizen collaboration ranks last. The autonomous communities of the Basque Country, Aragon, Castile Leon, and Catalonia have been identified as the most advanced in terms of open government. The analysis did not reveal any gender-based differences in opinion. Still, it did show variations based on age, the size of the autonomous community, or membership to the most developed group. Therefore, it is evident that promoting open government in the autonomous communities of Spain should continue.

Keywords: accountability; collaboration; open government; public administrations; transparency

1. Introduction

Contemporary democracies are developing policies to promote transparency and citizen participation as a form of the relationship between institutions and the stakeholders (Paricio-Esteban et al. 2020) who increasingly demand greater attention to the problems affecting society in general (Estanyol 2020). Technology plays a leading role (Rodríguez-Fernández and Vázquez-Sande 2019) by making information about the application of public resources available in a transparent and timely manner, in an act of accountability (Da Costa-Silva et al. 2022) which fosters more engaged and innovative governance (Ramírez-Alujas 2011) and which correlates positively with trust in governments (Myeong et al. 2021), a key indicator for assessing a country's political capacity (Baek and Kim 2018).

Transparency is based on the provision of government information (Wang 2020; Cerrillo-Mártinez and Casadesús-de-Mingo 2021). However, there are significant differences between countries and levels of government in this regard. Spain is placed as a leading country in open data provision in terms of the Open Data best practices of Europe's Top Three Performers (European Data Portal 2018); however, at the local government level, there is still a long way to go (Simelio-Solá et al. 2021), as half of Spain's municipalities do not provide real information on transparency (Beltrán-Orenes and Rodríguez-Mateos 2020).

Assessing the performance of intermediate governments (autonomous communities) is a matter of great interest since Spain is a largely decentralized country, practically quasi-federal (Bastida et al. 2019), with important competencies managed by its autonomous communities (Quiles et al. 2017), among which are items of great relevance for citizen welfare, such as health and education (Fernández-Llera and Morán-Méndez 2013). There are a small number of studies that have sought to assess the situation of Spanish autonomous regions in terms of transparency, open data, and open government, and all of them have been conducted with personnel outside of public administration. For this reason, it seemed relevant to us to invert the perspective by analyzing the feelings of the back office, so that those responsible for the autonomous regions themselves can make an assessment of the current situation and compare it with Europe and the rest of the world, give their opinion on the future evolution of open government and its respective dimensions, identify its main strengths and limitations of development, and point out the most advanced autonomous communities.

Therefore, the main research question would be as follows: what are the perceptions of those responsible for open government in Spain's autonomous communities about the current state of transparency, open data, and open government in the country? From this question, a sub-question arises: how do their ratings compare with other regions in Europe and the world?

This study aims to complement existing knowledge on transparency, open data, accountability, and the role of citizenship, all of which are part of the concept of open government. Transparency refers to the availability and accessibility of government information to the general public. Open data involve the publication of government data in a machine-readable format with open and re-usable access. Accountability refers to the obligation of governments to explain and justify their actions to the public and to take corrective action when necessary. The role of citizenship involves participation and collaboration.

These constructs provide the analytical framework for this study, enabling a systematic examination of the perspectives of those responsible for open government in the autonomous communities as the research topic. The main objective of this research is to conduct a bivariate analysis to identify similarities or differences of opinion. The structure of the work is as follows: After this introduction, the work continues with the Section 2 aimed at presenting the theoretical framework and the main open government laws in force, implemented by Spanish autonomous communities. This is followed by the Section 3 detailing the methodology and the Section 4 presenting the results, ending with a discussion and the conclusions reached, accompanied by the limitations of the study and future lines of research that could be put into practice in the future.

2. Open Government: Its Concept and Development in Spain

Over the last fifteen years, the concept of open government has become one of the paradigms of primary importance in the field of public administration (González-García and García-García 2022), attracting a large number of professionals and academics. This new way of understanding how public affairs should be managed involves a radical break with the old forms of management, the "arcana imperii" (Chamorro-González 2022), relying on governmental activities being open at all levels (Pacios et al. 2019).

The term first appeared in written form in Parks (1957). Although it was coined in the United Kingdom in the late 1970s (Moreno-Carmona et al. 2020) and came to be used in the 1980s (Ramírez-Alujas 2012), it was not widely implemented until the coming to power of President Obama and his famous memorandum on transparency and open government (Curto-Rodríguez and Pascual-Fernández 2021), which proposed a government with an unprecedented level of openness based on three pillars: transparency, participation, and collaboration.

It is not surprising, therefore, that some of the most cited definitions of open government in the literature include these three classic aspects: "Open Government is a form of open, permanent and bidirectional communication between the administration and

citizens, based on transparency on the part of the administrations, collaboration with civil society and participation" (Ferrer-Sapena et al. 2011, p. 260).

The nexus of these three classic pillars of open government is the provision of public sector information since, without access to the functioning of these institutions, it is very difficult to assess the management carried out (Galdámez-Morales 2019). This access to information will make it possible to open the windows of the public sector, reduce government opacity (Chapman and Hunt 1987), allow public scrutiny (Martínez-Rodríguez et al. 2018), and facilitate monitoring (Galli et al. 2019).

It is widely accepted that, in an advanced democracy, there should be free access to the public information about public administrations (Krah and Mertens 2020). The agency theory is the most relevant hypothesis for explaining the disclosure of information by governments (Rodríguez et al. 2013).

Agency theory is often used to explain public sector reforms, particularly in the context of New Public Management (O'Flynn 2007). The theory describes an information imbalance between rulers (principals) and citizens (agents), where the latter delegates responsibilities to the former to act on their behalf (Rodríguez et al. 2013). It is important to reduce the asymmetries that cause politicians not to follow the general interest of voters and seek their own interests (Funk and Gathmann 2011). According to this, disclosing information that enables the supervision and monitoring of rulers can reduce conflicts between rulers and the ruled (Laswad et al. 2005; Zimmerman 1977), thereby resolving the agency problem (Ferejohn 1999) and promoting accountability (Bauhr and Grimes 2012).

As indicated above, it is understandable that public administrations should make an effort to disseminate information about their management, which will also contribute to improving citizens' confidence in governments, with a view to subsequent re-election. However, public policies must tackle new challenges such as artificial intelligence, the digital revolution, and data processing (Sanahuja 2019). These open government data form the fourth pillar of open government considered in this research, data that are already unequivocally present in Spain's fourth open government action plan (Ministerio de Política Territorial y Función Pública 2020), which points them out as one of the major objectives to be met in the deepening of transparency, accountability, and open data.

Open data, which make the latest policy information available (Zhang et al. 2022), are at the forefront of making government more transparent, responsive, accountable (Kim and Eom 2019), and even intelligent (Cerrillo-Martínez 2018), while also favoring the provision of services (Myeong et al. 2014). Open data's task is to disclose all information held by governments that is not subject to any restrictions on its use and provision (López and Sagol 2012). These open government data have experienced great growth in recent years due to the benefits derived from the promotion of transparency (Wang et al. 2022) being a fundamental part of open government policies (Díez-Garrido and Melero-Lázaro 2022). Spain could be considered a leader in open data, with more than 300 open data portals across different institutions and levels of government (Abella et al. 2022).

Another fundamental element to consider (the fifth pillar of open government contemplated by this research) is accountability. This concept is sometimes confused with transparency, although it has a different meaning. While transparency allows one to see inside organizations, "opening the windows" (Chapman and Hunt 1987), accountability is associated with how leaders must answer for their behavior or activity (Rubiños-Gil 2014) and is more related to accountability (Oszlak 2016; García-García and Alonso-Magdaleno 2020). At present, no one hesitates to demand from our political leaders the implementation of good governance plans that are accompanied by a set of measures aimed at promoting accountability for the work carried out.

Having set out the five components of open government to be assessed (transparency, collaboration, participation, open data, and accountability), it is appropriate to point out the regional laws (Table 1) that developed the national law 19/2013 on transparency, access to public information, and good governance.

Table 1. Main open government laws in force at the Spanish autonomous community level (Sources: own elaboration based on https://www.consejodetransparencia.es/ct_Home/transparencia/transparencia-en-espanya.html) (accessed on 19 April 2024).

Autonomous Community	Initiatives
Andalusia	Ley 1/2014, de 24 de junio de transparencia pública de Andalucía
Aragon	Ley 8/2015, de 25 de marzo, de Transparencia de la Actividad Pública y Participación Ciudadana de Aragón.
Canary Islands	Ley 12/2014, de 26 de diciembre, de transparencia y de acceso a la información pública
Cantabria	Ley 1/2018, de 21 de marzo, de Transparencia de la Actividad Pública
Castile León	Ley 3/2015, de 4 de marzo, de Transparencia y Participación Ciudadana de Castilla y León
Castilla-La Mancha	Ley 4/2016, de 15 de diciembre, de Transparencia y Buen Gobierno de Castilla-La Mancha
Catalonia	Ley 19/2014, de 29 de diciembre, de transparencia, acceso a la información pública y buen gobierno
Community of Madrid	Ley 10/2019 de 10 de abril, de Transparencia y de Participación de la Comunidad de Madrid
Comunidad Foral de Navarra	Ley foral 5/2018, de 17 de mayo, de transparencia, acceso a la información pública y buen gobierno
Comunidad Valenciana	Ley 1/2022, de 13 de abril, de la Generalitat, de Transparencia y Buen Gobierno de la Comunitat Valenciana
Extremadura	Ley 4/2013, de 21 de mayo, de Gobierno Abierto de Extremadura
Galicia	Ley 1/2016, de 18 de enero, de transparencia y buen gobierno
Balearic Islands	Ley 4/2011, de 31 de marzo, de la buena administración y del buen gobierno de las Illes Balears
La Rioja	Ley 3/2014, de 11 de septiembre, de Transparencia y Buen Gobierno de La Rioja
Basque Country	Proyecto de Ley 2016 del País Vasco sobre Transparencia y Buen Gobierno
Principality de Asturias	Ley 8/2018, de 14 de septiembre, de Transparencia, Buen Gobierno y Grupos de Interés
Region de Murcia	Ley 12/2014, de 16 de diciembre, de Transparencia y Participación Ciudadana de la Comunidad Autónoma de la Región de Murcia

As shown in Table 1, the Spanish autonomous communities have neither a uniform pattern in the content of their laws nor a homogeneous regulatory time horizon. Furthermore, a very heterogeneous set of initiatives has been developed (open government strategies, open government model agreements, action plans, white papers). There are two peculiarities to note: on the one hand, only the Valencian Community has recently updated its law (the previous one was Law 2/2015, of 2 April, on the Transparency, Good Governance, and Citizen Participation of the Valencian Community) and, on the other hand, only the autonomy of the Basque Country still does not have a transparency law approved (it is still a draft law dating from 2016), despite it being one of the autonomous communities with more open government initiatives implemented. It is interesting to understand the impact of this regulatory configuration on the perceived level of open government development.

This could translate into differences in performance, both globally and in a disaggregated manner, for each of the five pillars identified, which is one of the issues that this research aims to assess, based on the opinion of open data's top managers. However, despite the fact that there are very few previous studies on the subject, their results will be compared with those obtained in this work in the Section 5.

3. Design of the Investigation, Materials, and Methods

Initially, each of the heads of open government in the seventeen Spanish autonomous communities was located, which was essential given the population-based (and not sample-based) nature of this study.

This fieldwork began by calling the general citizen's attention telephone number of each of the seventeen Spanish autonomous communities to find out who the department or person to contact was. In most cases, this was not easy (or at least as transparent as would be necessary) to find their contact details.

On a positive note, three regions in the north of Spain stood out, where eight minutes were enough for the customer service manager to identify the area and person in charge, put a call through directly to us, and schedule a date and time for us to complete the

questionnaire. Other autonomous communities were not as efficient (but at least effective, since the objective was achieved, albeit over a long time). On the negative side, it is worth noting the impossibility of locating the person in charge on a total of seven occasions (including responses of "there is no such department here").

In any case, it is necessary to point out that the structure of open government sections is different in each autonomous community and depends on the other departments in each region (although the presidency is predominant). In addition, there are various groupings of managerial responsibilities. For example, in Navarra, there is even a specific head of service for the transparency section, while in the Principality de Asturias, the person in charge was the general director of public governance, transparency, citizen participation, and digital agenda (who has a broader remit).

However, to continue this study, it was necessary to search for information on web pages based on the published organization charts, sometimes by sending an e-mail or filling out a form on transparency and open data portals. In these mailings, participation in the study was requested by conveying the principal investigator of this research, their university, and their most relevant publications on transparency and accountability to generate greater motivation.

Finally, the list of participants was completed. It should be noted that once contact was made with the person responsible, their willingness to partake in the study could be rated as good or very good, with the sole exception of two communities whose implementation was very costly and which had to resort to sending multiple reminder e-mails and telephone calls until the questionnaire was returned, which took practically a year. The disposition of the heads of the autonomous communities who carried out this study through a personal survey was very good. One of them (from the Basque Country) even gave us his direct telephone number so that we could call him at any time to complete the survey for his autonomous community. The heads also took the opportunity to add a lot of additional information on the development of the open aspects of open government. The average duration of the survey was one hour.

The profiles of the interviewees include ten men and eight women, around 50 years of age (although the age range is 31 years: minimum 30–maximum 61 years), all of them with higher education (mostly bachelor's degrees, although two reached the postgraduate level and one reached the doctoral level).

The questionnaire prepared for this purpose (Appendix A) was designed to collect all the answers to the questions posed by this research, which were subsequently processed by quantitative analysis, using SPSS version 22. Although there were questions of all types, many of them were Likert scale questions with five answer options, because, as the following points out (Trespalacios-Gutiérrez et al. 2005, 2016), this type of questionnaire speeds up the completion of the questionnaire and its statistical processing. As can be seen in Appendix A, the questionnaire ended with pertinent classification questions (gender, age, level of studies, autonomous community size) that would allow a cross-analysis to be made.

Two methods of completing the questionnaire were offered: self-administered, i.e., the open government manager completed the questionnaire sent by e-mail, or in-person, so that the researchers had a meeting via Teams, and, after projecting the questionnaire, they were asked the questions.

Eleven communities chose the self-administered option (all mailings were received from the e-mail of the person in charge of the secretariat to which they belonged) as opposed to the personal interview, which was chosen by the Principality de Asturias, Cantabria, Castile and Leon, Valencia, Navarra, and the Basque Country. It should be noted that the regional managers who decided to complete the questionnaire with the support of the interviewer took the opportunity to comment on the virtues of their open government program, showing not only the importance they attached to these initiatives but also a marked interest in disclosing any information not regulated by data protection laws.

The response rate to each of the questions was very satisfactory. It is important to note as missing values one response on their opinion of the development of open government in Spain, two on a Spain–Europe comparison, and another on Spain–the rest of the world. Likewise, one respondent did not respond about the improvement in participation and collaboration experienced in his autonomous community. Therefore, it can be concluded that, in general, the degree of involvement in completing the questionnaire was very high, even for the question "Which are the most developed autonomous communities in open government?", which could be somewhat sensitive.

Based on the information obtained, descriptive analyses (frequency tables, means, modes, medians) and bivariate analyses (cross tables, correlation coefficient, and a test of means) were carried out, which are given in the following section dedicated to showing the main results. In general, the values or levels of significance of the statistical inference that allow for the extrapolation of results from this sample have not been indicated, since the subjects analyzed are the entire population under study, that is, the seventeen Spanish autonomous communities.

4. Results

4.1. Open Government (in General)

The results of the respondents' scores on the development of open government (see Table 2) show a median score of 7 points and an average score close to remarkable (6.75 points). However, there is significant variability in their responses, since the maximum value is 9 points and the minimum value is 4 points (range 5 and standard deviation 1.438).

Table 2. Rating from 0 to 10 points of the development of open government in Spain.

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	4	1	5.9	6.3	6.3
	5	2	11.8	12.5	18.8
	6	4	23.5	25.0	43.8
	7	4	23.5	25.0	68.8
	8	3	17.6	18.8	87.5
	9	2	11.8	12.5	100.0
Lost		1	5.9		
Total		17	100.0		

The comparative analysis of Spain with Europe (Table 3) shows that the modal value corresponds to the "equal" response (although more people think it is lower than those who consider it to be higher or much higher).

Table 3. Comparison of the development of open government in Spain compared to Europe.

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Lower	5	29.4	33.3	33.3
	Equal	6	35.3	40.0	73.3
	Higher	3	17.6	20.0	93.3
	Very Superior	1	5.9	6.7	100.0
	Total	15	88.2	100.0	
Lost		2	11.8		
Total		17	100.0		

When a worldwide comparison was requested (Table 4), the response was more concentrated, since more than half of the interviewees consider it to be "superior".

Table 4. Comparison of the development of open government in Spain compared to the world average.

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Lower	2	11.8	12.5	12.5
	Equal	4	23.5	25.0	37.5
	Higher	9	52.9	56.3	93.8
	Very Superior	1	5.9	6.3	100.0
	Total	16	94.1	100.0	
Lost		1	5.9		
Total		17	100.0		

It is observed that, in both cases, the answer "much lower" is never observed when converting the answers into numbers (1, much lower; 2, lower; 3, the same; 4, higher; 5, much higher). It can be affirmed that the average values achieved do not have negative connotations, as they are 3 points out of 5 compared to Europe and 3.56 points worldwide (which incidentally allows us to deduce that the respondents assign a higher value to the average development of European governments than those worldwide).

As for the future of open government, there is some optimism. There were no responses indicating abandonment, neglect, or stagnation, with thirteen respondents predicting growth and four others saying that open government will experience major growth.

The research continues with a battery of questions that ask respondents to evaluate, from 1 to 5 points, the main obstacles to the development of open government: economic–budgetary, legal–regulatory, mentality, or resistance to changing limitations. Their average values were 3.47, 3.24, and 4.13 points, respectively, so these factors should be identified as very relevant. In addition, an open question was left for the interviewees to incorporate other options, with ten responses received: decided political impetus (mentioned on two occasions), weak inter-administrative collaboration, low media impact, the reduced interest of civil society, resistance to change on the part of politicians (not civil servants), and technical, IT, or professional training issues.

4.2. Open Government in the Autonomous Communities

The next section of the questionnaire was devoted to collecting the opinion of the regional manager regarding the development of open government (in general) in their region. Figure 1 shows the results.
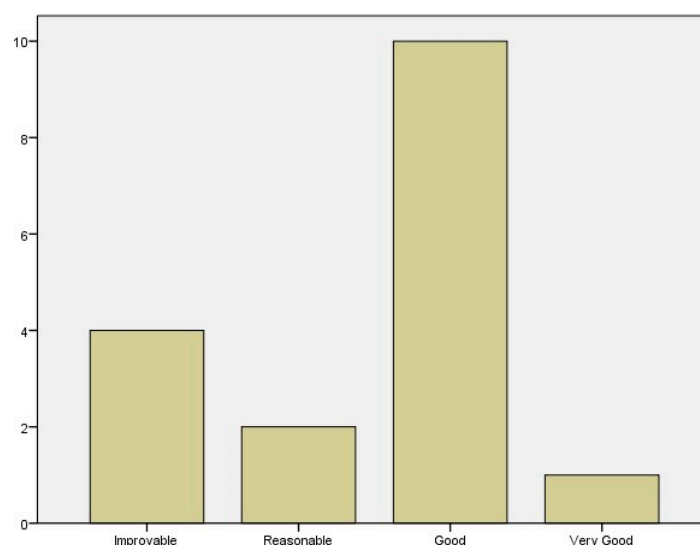
Figure 1. Assessment of the current situation of open government (as a whole) in autonomous communities (respondents had five response options to evaluate, in aggregate, the level of development of their regional open government: very improvable, improvable, acceptable, good, or very good).

The response "good development" is predominant, with ten responses, followed by "improvable", "acceptable", and "very good." No response of "very improvable" was recorded. The disaggregated analysis of each of the pillars or components of open government is shown in Figure 2.
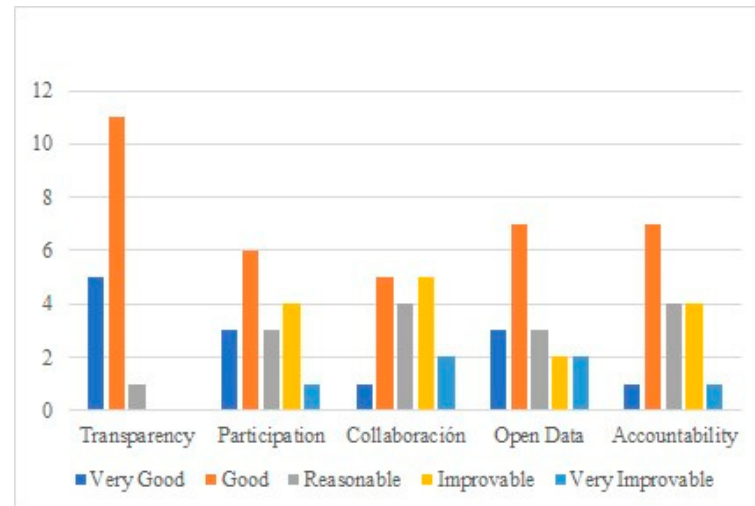
Figure 2. Assessment of open government dimensions (respondents were given five response options for their disaggregated ratings of the five components of open government: very improvable, improvable, acceptable, good, or very good).

As can be seen in Figure 2, "good" is the predominant response, used on thirty-six occasions, followed by "acceptable", "improvable", or "very good", used on an approximate number of occasions. In contrast, "very improvable" only appears in six responses.

Translating these responses into scores (in the same way as mentioned above) makes it easier to compare the development of each dimension of open government. Thus, transparency obtains the highest score, with 72 points (average of 4.24 out of 5 points), followed at some distance, with values very close to each other, by open data and participation (58 and 57 points, respectively) and, receiving the worst scores, accountability with 54 points and collaboration with 49 points. The hierarchy obtained can be confirmed through the analysis of the question "Rank the development of each dimension of open government from highest to lowest", which obtains similar results, as shown in Figure 3.

From the observation of Figure 3, it can be deduced that transparency is the most developed dimension of open government (this is what twelve of the sixteen respondents who answered the question say). It can also be seen that open data occupy the second position. Although it is difficult to assign the third and fourth positions (to participation and accountability), again, there is consensus in affirming that the least developed aspect of open government is citizen collaboration.

The next block of the questionnaire asked about the improvements experienced in the respondent's autonomy, both in open government as a whole and in a disaggregated manner. The most frequent responses were "acceptable" for open government overall and the collaboration dimension, "good" for participation and transparency, and "very good" for open data. Only accountability was "improvable", indicating that there is a generalized opinion about improvement.
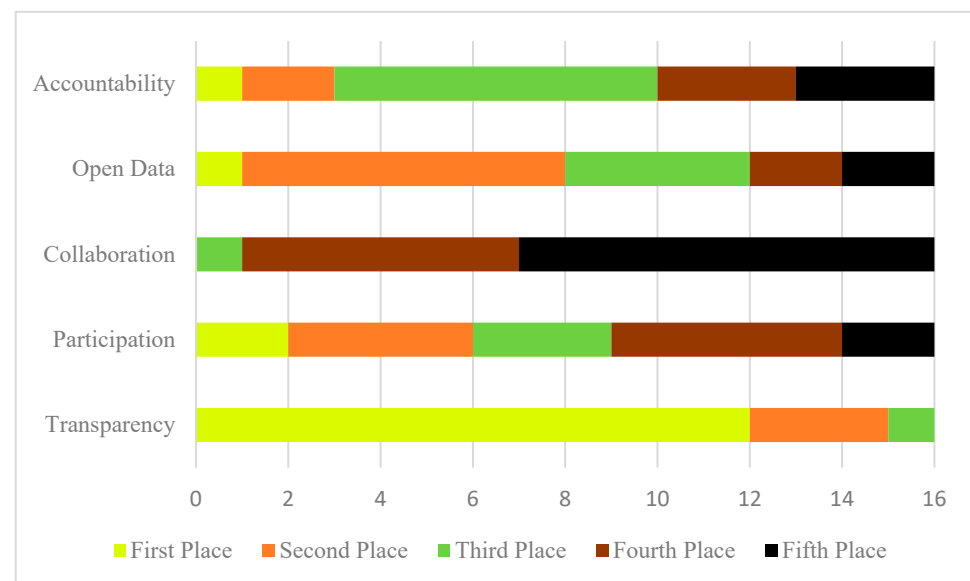
Figure 3. Organization of the development of the components of open government by autonomy (respondents were asked to rank the development of each element in their autonomous community: first place or most developed, second place, third place, fourth place, and fifth place).

4.3. National Situation

To analyze the relative perception of the situation in autonomous regions compared to the national situation, a comparison was requested, both at an aggregated level and for each of the dimensions considered (Table 5).

Table 5. Comparison of the development of open government in Spain compared to the world average.

	Open Government	Transparency	Participation	Collaboration	Open Data	Accountability	Total Percentage
Much lower	0	0	1	0	0	0	1
Lower	2	0	3	2	3	3	13
Equal	6	4	5	14	7	9	45
Higher	8	10	7	1	4	4	34
Very Superior	1	2	1	0	2	1	7

Table 5 shows that the most frequently used response, at the global level, was "the same as the national average" (45% of occasions), followed by "better" with 34%. These two responses together account for almost 80% of opinions, which suggests that the regional managers believe that their region is not doing worse than the others.

To conclude the descriptive analysis, heads' opinions on the most advanced autonomous communities in terms of open government in their country were gathered. The question was posed, allowing up to three of the most outstanding autonomous regions to be indicated. However, if the respondent included their own, a fourth one should be added. It should be noted that, of the sixteen respondents who answered the question, only four of them included their autonomy in their answer. Figure 4 summarizes the results.

As shown in Figure 4, a total of twelve autonomous regions have been mentioned at least once, while five of them have not received a single vote (the Principality de Asturias, Balearic Islands, Cantabria, Extremadura, and La Rioja). In the opinion of these regional authorities, the Basque Country is by far the most advanced autonomous region in terms of open government, with fourteen mentions, followed by Aragon with ten votes, Castile-Leon with nine votes, and, at a short distance, Catalonia with eight votes. Further behind are the remaining eight autonomous regions, which together account for only 20% of the remaining votes cast.
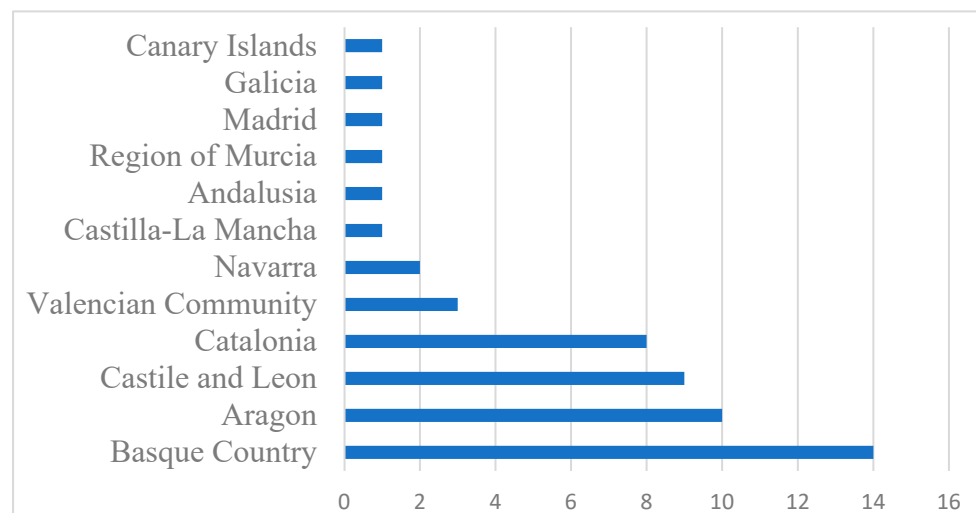
Figure 4. Number of votes received for the most advanced autonomous regions in terms of open government.

4.4. Bivariate Analysis

After the descriptive analysis, several bivariate analyses were performed. Our correlation analysis aims to show some relevant associations between the different responses, all of them significant according to the statistical program SPSS version 22.

For example, the higher scores given to the development of open government in Spain correlate positively with regional authorities' assessment of the level of open government in their community ($r = -0.517$), which could indicate that those communities identified as leaders have a higher perception of the development of national open government. Also correlated, but in the opposite direction, is mindset as a limitation to the development of open government ($r = -0.52$), which could indicate that those communities where mindset is not a relevant limiting variable are those that score highly on their level of open government at the national level.

On the other hand, the authorities' opinion on the future of open government correlates positively with their assessment of transparency in their autonomous community ($r = -0.523$), i.e., those autonomous communities with a high perception of transparency in their community predict a promising future for open government. Finally, and as expected, their assessment of open government in their autonomous community correlates positively with every one of the components or dimensions of the concept ($r = +0.503$: $+0.653$).

The analysis of the classification questions (age, level of study, gender, autonomous community size, and whether their autonomous community is identified as leader) shows that variable age correlates negatively with the authorities' opinion of the current situation regarding open data in their autonomous community ($r = -0522$) and with its national comparison in terms of the development of open data ($r = -0.643$), which could indicate a greater degree of demand on the part of older people.

The lack of heterogeneity in the level of study variable (fourteen of the respondents answered "bachelor's degree") does not make its use advisable in the analysis, which is also true of the dichotomous variable "gender" when using contingency tables (Chi-square is not used because the necessary conditions were not met: 80% of the expected values in each cell must be greater than five). Table 6 shows the difference in opinion on the question of the development of open government in Spain.

Table 6. The development of open government in Spain (respondents rated this from 0 to 10 points).

			4	5	6	7	8	9	Total
Gender	Male	Count	1	1	2	1	3	1	9
		% within gender	11.1	11.1	22.2	11.1	33.3	11.1	100.0
	Female	Count	0	1	2	3	0	1	7
		% within gender	0.0	14.3	28.6	42.9	0.0	14.3	100.0
Total		Count	1	2	4	4	3	2	16
		% within gender	6.3	12.5	25.0	25.0	18.8	12.5	100.0

There are no major differences (8 points from the male gender compared to 7 from the female gender), although there is a greater dispersion in the responses of the male gender (Table 6).

Tables 7 and 8 compare the level of governmental development in Spain to Europe and compare Spain to the rest of the world. Once again, Table 7 shows small differences, with "equal" being the most frequently used response by the male gender, while "inferior" and "equal" were the most commonly used responses by the female gender.

Table 7. Spain's position in terms of open government concerning Europe.

			Lower	Equal	Upper	Very Upper	Total
Gender	Male	Count	2	3	2	1	8
		% within gender	25.0	37.5	25.0	12.5	100.0
	Female	Count	3	3	1	0	7
		% within gender	42.9	42.9	14.3	0.0	100.0
Total		Count	5	6	3	1	15
		% within gender	33.3	40.0	20.0	6.7	100.0

Table 8. Spain's position in terms of open government compared to the rest of the world.

			Lower	Equal	Upper	Very Upper	Total
Gender	Male	Count	1	2	4	1	8
		% within gender	12.5	25.0	50.0	12.5	100.0
	Female	Count	1	2	5	0	8
		% within gender	12.5	25.0	62.5	0.0	100.0
Total		Count	2	4	9	1	16
		% within gender	12.5	25.0	56.3	6.3	100.0

Even more similarity can be seen in the worldwide comparison, since the majority response received in both cases is "superior" (Table 8).

All of the above allows us to observe simply the absence of marked divergences between these opinions by gender, which is confirmed using a test of means, which is not attached in detail. However, the results are the evaluation of open government (male gender: 6.78, female gender: 6.71), a comparison with Europe (male gender: 3.25, female gender: 2.71), and a comparison with the rest of the world (male gender: 3.63, female gender: 3.50).

The bivariate analysis continues with the reclassification of the population size of each autonomous region into two groups according to their number of inhabitants. Thus, La Rioja, Cantabria, Navarra, the Principality of Asturias, Extremadura, Balearic Islands, Aragon, and the Region of Murcia are labelled as small. In contrast, Castilla-La Mancha, the Canary Islands, Basque Country, Castile Leon, Galicia, Comunidad Valenciana, Madrid, Catalonia, and Andalusia are labelled as large.

In first place (Table 9) are those variables whose valuation difference between groups (small–large) exceeds 10% of the valuation range.

Table 9. Differences in opinion between small and large autonomous regions.

Size of Autonomous Communities (Reclassified)		N	Mean	Standard Deviation	Mean Standard Error
Comparison of the development of open government in Spain to Europe	Small	7	3.29	1.113	0.421
	Large	22.2	11.1	33.3	0.250
Evaluation, from 1 to 5 points, of the legal–normative limitations as a limit to the development of open government	Small	8	3.00	0.756	0.267
	Large	9	3.44	1.130	0.377
Assessment of the current situation of open government (as a whole) in your autonomous community	Small	8	3.13	0.991	0.350
	Large	9	3.78	0.833	0.278
Assessment of the current situation of open data in your autonomous community	Small	8	2.88	1.553	0.549
	Large	9	3.89	0.782	0.261
Assessment of the current situation of accountability in your autonomous community	Small	8	2.88	1.356	0.479
	Large	9	3.44	0.726	0.242
Comparison of your autonomous community to the national average in terms of participation	Small	8	3.00	1,195	0.423
	Large	9	3.44	0.882	0.294
Comparison of your autonomous community to the national average in terms of open data	Small	7	3.00	0.816	0.309
	Large	9	3.56	1.014	0.338

As Table 9 shows, the small autonomous regions only have higher values than the large ones in their perception of the development of open government in Spain compared to Europe. On the other hand, the more populated autonomous regions place a higher value on legal and regulatory limitations, considering that their current situation, in terms of open government, at the aggregated level and in terms of open data and accountability is superior to that of the smaller autonomous regions. Finally, they also believe more strongly that they are better than the national average in terms of participation and open data.

The following is a test of averages, comparing the opinions of the autonomous communities indicated as leaders (Aragon, Catalonia, Castile Leon, and the Basque Country) with those of the rest. Table 10 analyzes their assessment of the development of open government in Spain and compares it with Europe and the world.

Table 10. Test of means for independent samples. Differences in opinion between autonomous regions identified as leaders and those that are not.

		N	Mean	Standard Deviation	Mean Standard Error
Rate from 0 to 10 the development of open government in Spain.	Leader	4	5.50	0.577	0.289
	Not leader	12	7.17	1,403	0.405
Comparison of the development of open government in Spain compared to Europe.	Leader	4	2.25	0.500	0.250
	Not leader	11	3.27	0.905	0.273
Comparison of the development of open government in Spain compared to the rest of the world.	Leader	4	3.25	0.500	0.250
	Not leader	12	3.67	0.888	0.256

As Table 10 shows, the scores given by the leading autonomous regions are lower than those of the rest of the autonomous areas. This implies that, despite being identified as the most developed open governments in Spain, they show a less optimistic assessment of this country's development and its relative situation compared to Europe and the rest of the world.

Extending this test of averages to other variables, other divergences can be observed, such as the fact that the leading autonomous regions have a higher average value for the legal limitations to their development of open government (3.75 versus 3.08) and mentality limitations (4.75 versus 3.91), while those following have a higher average value for budgetary–economic limitations (3 versus 3.62). The greatest percentage difference

concerning the maximum calculable range occurs for the evaluation of the development of open data (leader: 4.33; non-leader 3.08), which, as Table 11 shows, would obtain significance at 0.05% ($\alpha = 0.033$), even if the study were a sample study (remember that it is population-based, analyzing all the Spanish autonomous communities, and inference is not necessary).

Table 11. Test of means for independent samples. Differences in authorities' opinions on the relative position, in terms of open data, of their autonomous community.

		Levene's Test of Equality of Variances		*t*-Test for Equality of Means						
		F	Sig	t	Gl	Sig. (Bilateral)	Difference in Means	Difference in Standard Error	95% of CI of the Difference	
									Lower	Upper
Comparison of the autonomous community to the national average: open data	Equal variances are assumed	1.16	0.3	2.37	14	0.033	1.256	0.530	0.119	2.393
	Equal variances are not assumed			1.80	2.42	0.192	1.256	0.699	−1.307	3.819

5. Discussion

Is Spain a country with a well-development open government? As indicated by González-García and García-García (2022) in their work "Meaning of the Open Government Concept in Spanish Administrations", the concept is polysemic, which makes it difficult to assess its practical implementation. Therefore, as mentioned by García-García and Curto-Rodríguez (2019), this term—or any of its components—has a certain degree of subjectivity, as there is no consensus about its definition.

Therefore, several proxy indicators show an approximated answer: in the 2023 Corruption Perceptions Index, Spain ranks 36th out of 180 countries (first quartile in its performance) (Transparency International España 2024); in the open data useful—re-usable data index, it is stated that Spain is a European leader in terms of open data (OCDE 2023); the best-performing countries in the 2023 OURdata Index are Korea, France, Poland, Estonia, Spain, Ireland, Slovenia, Denmark, Sweden, and Lithuania, rated as having a very high level of performance; and, finally, in the Open Data Maturity Report 2023, Spain is ranked fifth overall, with a performance of 95% out of 100 (European Union 2023). In short, Spain can be considered to have good open government development.

The results obtained from the most advanced autonomous regions in terms of open government in Spain (Basque Country, Aragon, Castile Leon, and Catalonia) are contrasted below with other previous studies.

First, the work of the Fundación Orange, and Arvo Consultores y Tecnología (2014), called "Open data in the autonomous communities and their largest municipalities 2014", dealt only with assessing the open data in autonomous communities and conducted a back-office analysis, through a questionnaire that was answered by all the autonomous communities except the Valencian Community and Region of Murcia, and a front office analysis. Although they did not draw up a ranking by autonomous community, the Basque Country, Catalonia, and Aragon, with 2288, 1427, and 1215 datasets, respectively, are highlighted as the most important autonomous communities.

Another study with high media impact carried out some years ago was the so-called INCAU (transparency index of the Spanish autonomous communities) prepared by Transparency International Spain. It was based on an indicator that used a checklist composed of 80 items on the existence of information associated with transparency, awarding a minimum score of zero points and a maximum of one hundred points. The results are shown in Table 12.

Table 12. Autonomous regions' results in the INCAU (2010–2016).

Rk	Autonomous Region	2010	2012	2014	2016	Average
1°	La Rioja	83.8	97.5	96	97.5	93.70
2°	Andalusia	87.5	92.5	88	96.3	91.08
3°	Galicia	87.5	90.0	94	91.9	90.85
4°	Catalonia	82.5	78.8	100	98.1.	89.85
5°	Castile Leon	73.8	90.0	100	94.0	89.55
6°	Basque Country	57.5	97.5	100	100.0	88.75
7°	Navarra	80.0	91.3	89	81.9	85.55
8°	Extremadura	81.3	87.5	85	88.1	85.48
9°	Cantabria	53.8	95.0	88	95.0	82.95
10°	Balearic Islands	56.3	83.8	93	98.1	82.80
11°	Aragon	70.0	75.0	85	88.8	79.70
12°	Principality de Asturias	67.5	66.3	90	93.8	79.40
13°	Madrid	80.0	72.5	65	98.1	78.90
14°	Valencia	56.3	63.8	93	94.4	76.88
15°	Canary Islands	66.3	63.8	80	95.0	76.28
16°	Murcia	70.0	55.0	79	96.9	75.23
17°	Castilla-La Mancha	62.5	58.8	84	90.6	73.98
	Average per year	71.56	79.95	88.76	94.05	83.58

It should be mentioned that this indicator presented two relevant problems: the first was called by Alonso Magdaleno and García-García (2014) positive learning and perverse learning (the autonomous managers knew in advance exactly what the index was going to value and focused on providing exactly that information) and the second was the gradual increase in the score of most of the autonomous communities, which resulted in a loss of their discriminatory capacity (note that the autonomous average in 2016 was 94.05 and that the Basque Country had already totaled 100 points by 2014). All this caused the cancellation of the project (today, it is not easy to find these data because many reports have been removed from the International Transparency Spain website).

Both the Orange Foundation and INCAU studies are outdated. Therefore, it is fitting to review other more recent research, such as that of García-García and Curto-Rodríguez (2019), who assess the provision of information associated with the active transparency of regional open data portals in 2017 and their ease of reuse, ranking the Basque Country as the leader, Catalonia in third place, Castile Leon in fifth place, and Aragon in sixth place. Although Curto-Rodríguez (2020) found, through a cluster analysis, that inter-autonomous differences are decreasing, it can be seen that there are two groups of autonomous regions: some that disseminate a variety of information and others that are not taking advantage of the portals at all.

The most up-to-date study is that of Curto-Rodríguez and González-Astorga (2022), who, based on data from 2019 and after extending their search for information to the transparency portals and the institutional web, give the first position to the Basque Country, the second to Aragon, the third to Catalonia, and the sixth to Castile Leon.

The results for the Basque Country are noteworthy, as it is the best autonomous region in terms of open government in Spain and one of the pioneers in its development. On 25 January 2010, it presented a web channel called Irekia (which in Spanish means Open) to facilitate direct communication between citizens and the Basque administration through the Internet, avoiding the use of administrative language. The website mentions that this "open window for citizen participation" promotes transparency by making available to citizens real-time updated data on their plans, intentions, decisions, and activities; participation, by allowing the assessment and discussion of laws and decrees by citizens; and collaboration, by providing innovative tools and new methods for collaborative work for both companies and citizens. The Open Data Euskadi initiative accompanied this project. This, the most populated Spanish regional data portal, allows the reuse of the information hosted by using free and open property licenses that favor its use even for commercial purposes.

Another of the Basque Country's milestones is that it was the first Spanish regional government to join the Open Government Partnership. This alliance for the development of open government was created in 2011 and currently contains 75 partner countries and 104 jurisdictions. The Basque Country elected, in 2018, to participate in the project by signing a commitment to create an accountable government with a higher degree of openness and responsiveness to its citizens.

In its first action plan (for the period 2018–2020), it committed—and more importantly, achieved a positive evaluation of its efforts—to carrying out a shared diagnosis of the open government challenges to be faced, to further develop the Open Data Euskadi initiative to create a public innovation laboratory on citizen participation and the creation of an open forum, to promote a more participatory citizen culture as early as the school level and, finally, to create a Basque system of integrity in the administrations that reinforce its ethical infrastructure.

The Basque Country is currently immersed in its 2021–2024 action plan, which aims to implement five commitments: an observation of COVID-19 data and adaptation of services to citizens' needs; transparency and accountability (budgetary); the development of the open school (integrity education), a tool for collecting legislative or regulatory initiatives; and pilot offices designed based on open government parameters, both in person and online.

As for the autonomous communities identified as less advanced, Galletero-Campos and Álvarez-Peralta (2021) highlight, after analyzing their legislative situation and accountability in terms of active transparency, the Community of Madrid, Cantabria, and Galicia for their shortcomings both in terms of their regulations and ease of access to information. The authors point out that the heterogeneity observed represents an inequality in the right of access to information that highlights the need to review the regulatory framework to update it.

Thus, based on this battery of studies related to the present work, it should be noted that the opinions of Spanish regional managers seem to be in line with the most recent research.

6. Conclusions

Public administrations in all countries and at all levels have implemented open government programs to generate economic growth, facilitate people's daily lives, and promote transparency and accountability. Spain has not been unaffected by this phenomenon and, given that it is one of the most decentralized countries in the world, it is important to focus our research on the study of its autonomous communities. There are very few studies on this level of government and all of them have been carried out by people outside public service; for this reason, it was decided to collect the internal opinion of the seventeen autonomous community heads of open government using a questionnaire designed for this purpose. Compliance with the postulates of the agency theory seems to be fulfilled, since all those surveyed hold a very favorable opinion of the need to continue advancing open government, allowing us to observe, in the questionnaires carried out personally, the interest of those responsible at the regional level in achieving good open governance.

Our descriptive results evaluate the development of open government in Spain at 6.75 points out of 10, a performance similar to the European level and somewhat higher than the world level, predicting a promising future of expansion or growth and identifying as the main obstacle to its development the reasons of a resistance to change, economic–budgetary, and legal–regulatory reasons. Transparency stands out as the most developed dimension of open government, followed by open data, participation, and accountability, with citizen collaboration being the least developed pillar. Each manager rated the level of open government in their community as good, indicating an improvement compared to previous years.

These autonomous community leaders point to the Basque Country as the most advanced autonomous community, followed at some distance by Aragon, Castile Leon, and Catalonia (fourteen, ten, nine, and eight votes, respectively), with the Principality de

Asturias, Balearic Islands, Cantabria, Extremadura, and La Rioja at the opposite end of the scale, receiving no favorable votes.

The differences are significant, which, in our opinion, was expected due to the diversity of existing regional open government regulations and initiatives (and the differences in size and income between the autonomous communities). In any case, the results confirm the findings of previous studies, with the undeniable leadership of the Basque Country (despite it being the only Spanish autonomy without a transparency law) motivated, in our opinion, by its open government initiative Irekia, awarded and replicated internationally, and the fact of it being the first Spanish autonomy to sign an open government plan sponsored by the Open Government Partnership (which it currently continues to implement through five commitments of its new action plan for 2021–2024).

Our bivariate analysis does not identify relevant differences in opinion concerning gender. Still, it does identify differences according to the age of the respondent, since older respondents rate the condition of open data less highly. The size of the autonomous region, according to its population, is a relevant differential issue, showing that the larger ones consider themselves in a better position than the smaller ones in terms of open government, which could be because they have a greater volume of resources via tax collection, which would allow them to implement these initiatives more easily. Finally, the autonomous regions classified in the study as less advanced gave, curiously, a higher average score for their evaluation of open government in Spain than the advanced ones.

The limitations of the study include its descriptive nature, justified by the small population size, which limits the use of analytical techniques. Furthermore, the opinions expressed by these regional authorities should be taken with caution as they may not be free of subjectivity (although some of the results obtained are in line with those proposed by other researchers and investigations), which suggests a possible future line of research contrasting these statements with the opinions of experts on open government. Another limitation of the study is the relative brevity of the questionnaire; a longer questionnaire could have led to discouragement and a reduction in the response rate. However, in this way, a population-based study is achieved, which gives greater relevance to the results obtained.

Finally, this work's conclusions generate value and fill a gap in the literature in terms of its introspective approach. They point out the problems to be solved and identify successful initiatives that can serve as examples for intermediate levels of government, so that this regional profile can serve as a basis for new research in Spain or other countries.

Appendix A. Questionnaire
BLOCK A—OPEN GOVERNMENT (IN GENERAL)

(1) To begin with a general question. Rate from 0 to 10 points the level of development of open government in Spain (0 being the minimum score and 10 the maximum).. . . . .

(2) Comparing Spain with Europe, he thinks that Spain presents a development:

Very High	Higher	Equal	Lowest	Very Lowest

(3) Its development for the world average is:

Very High	Higher	Equal	Lowest	Very Lowest

(4) Their view of the future of open government is that it will experiment:

High growth	Growth	Stagnation	Neglect	Abandonment

Rate from 1 (least important) to 5 (most important) the following constraints to the further development of open government:

(5) Economic-Budgetary

1	2	3	4	5

(6) Legal-Regulatory

1	2	3	4	5

(7) Mentality—staff resistance

1	2	3	4	5

(8) Other: Specify

1	2	3	4	5

BLOCK B—OPEN GOVERNMENT COMPONENTS

Evaluate the current situation of your Autonomous Community in:

(9) Open Government (in general).

Very Good	Good	Acceptable	Improvable	Very Improvable

(10) Transparency.

Very Good	Good	Acceptable	Improvable	Very Improvable

(11) Participation.

Very Good	Good	Acceptable	Improvable	Very Improvable

(12) Collaboration.

Very Good	Good	Acceptable	Improvable	Very Improvable

(13) Open Data.

Very Good	Good	Acceptable	Improvable	Very Improvable

(14) Accountability.

Very Good	Good	Acceptable	Improvable	Very Improvable

Rate the improvement experienced in the last year in your Autonomous Community in the following areas:

(15) Open Government (in general).

Very Good	Good	Acceptable	Improvable	Very Improvable

(16) Transparency.

Very Good	Good	Acceptable	Improvable	Very Improvable

(17) Participation.

Very Good	Good	Acceptable	Improvable	Very Improvable

(18) Collaboration.

Very Good	Good	Acceptable	Improvable	Very Improvable

(19) Open Data.

Very Good	Good	Acceptable	Improvable	Very Improvable

(20) Accountability.

Very Good	Good	Acceptable	Improvable	Very Improvable

(21) Order from highest (5) to lowest (1) the development of each component in your region. Note you can only put a number 1, a number 2, a number 3, a number 4, and a number 5:

Transparency:

Participation.

Collaboration.

Open Data.

Accountability.

BLOCK C—NATIONAL SITUATION

Please answer truthfully; I think that my Autonomous Community is above the national average in

(22) Open Government (in general).

Very High	Higher	Equal	Lowest	Very Lowest

(1) Transparency.

Very High	Higher	Equal	Lowest	Very Lowest

(2) Participation.

Very High	Higher	Equal	Lowest	Very Lowest

(3) Collaboration.

Very High	Higher	Equal	Lowest	Very Lowest

(4) Open Data.

Very High	Higher	Equal	Lowest	Very Lowest

(5) Accountability.

Very High	Higher	Equal	Lowest	Very Lowest

To conclude,

(6) In your opinion, who are the three most advanced Autonomous Communities in open government?
Note: If your region is one of the selected regions, please indicate a fourth.

☐   ☐   ☐

Classification questions

M   ☐   ☐   W

Age   ☐

Profile/Education Level   ☐

Autonomous Communities   ☐

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