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Open Active Transparency in Spain: Regional Conglomerates and the Role of Accounting Information

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Abstract: Active transparency is developed through the provision of information by public administrations. However, for this information to be reusable, it must be offered through free licenses and open formats, two characteristics present in open data. This paper aims to investigate the disclosure of information associated with active transparency that Spanish autonomous communities performed through open data in December 2023, ten years after the approval of Law 19/2013 on transparency, access to public information, and good governance, indicating their performance for comparison among them. Despite the modest magnitude of the observed scores, the disparities among the autonomous communities are substantial. Consequently, the cluster analysis identifies distinct groups of communities, which have been designated as "advanced", "intermediate", and "lagging". Furthermore, while the balance between the accounting data block and the information block pertaining to the governors and the destination of spending is achieved for two-thirds of the autonomous communities, the remaining third exhibits a notable dearth of attention to accounting information.

Keywords: active transparency; autonomous communities; information disclosure; open data; Spain

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1. Introduction and Conceptual Framework

The effective consolidation of the right of access to public information is a contemporary phenomenon. With the exception of the Greek civilization, where the publicity of archives was part of their vision of Democracy, the period up to the modern age was characterized by limited access to information by leaders (Chiaretti, 2013).

This was until the Swedish Freedom of the Press Act of 1766, which granted the right of access to official documents, and the Finnish law of 1951, to perceive an incipient movement that was accompanied several years later by the relevant example of the American Freedom of Information Act of 1966. This legislation allowed anyone to access the records of federal agencies (with the exceptions provided for). It was accompanied by other similar laws in other pioneering countries such as Australia and New Zealand in 1982, Canada in 1983, Colombia in 1985, Hungary in 1992, Lithuania in 1996, Latvia in 1998, and the Czech Republic in 1999, consolidating a process that now has more than 100 countries with regulations in place.

Spain was not one of the first countries to have a law to this effect; in fact, it has become the only country in the European Union with more than one million inhabitants without such regulations (Garriga, 2013). Furthermore, the approval of the national law was

subsequent to other regional laws: Galicia (Law 4/2006 extended by Law 1/2016); Balearic Islands (Law 4/2011); Navarra (Foral Law 11/2012 updated with Foral Law 5/2018) or Extremadura (Law 4/2013).

In any case, the entry into force of the national law has contributed to an increase in the studies related to transparency in recent years (Rodríguez-Navas et al., 2017), constituting an impulse for the implementation of autonomous laws (Sierra-Rodríguez, 2022). The fact is that, except for the Basque Country (curiously, the most developed in open government according to regional leaders as shown by the work of Curto-Rodríguez et al. (2024) which has a draft transparency bill approved at the end of 2023, all the autonomous Spanish regions have a law with this task, which can be consulted in the grouping made by the Council of Transparency and Good Governance of Spain (https://www.consejodetransparencia.es/ct_Home/transparencia/transparencia-en-espanya.html) (accessed on 19 January 2025).

The approval of National Law 19/2013 on transparency, access to public information, and good governance has also served to meet the commitments made to the Council of Europe and the Open Government Partnership (Beltrán-Orenes & Martínez-Pastor, 2017). The regulation has not been exempt from criticism. It has been described as late, unambitious (Serrano et al., 2017), with lights and shadows (Benítez-Palma, 2018), and even as a great failure (Nuet, 2015).

Although the national regulations have recently been modified by Law 14/2022, on 8 July, amending Law 19/2013 on 9 December, regarding transparency, access to public information, and good governance (with the aim of regulating the statistics of micro, small and medium-sized enterprises in public procurement), what concerns public administrations has not undergone any changes worth highlighting. Three conceptual blocks can still be identified: active transparency, the right to access public information, and the principles relating to good governance. Sections in the text are grouped into two distinct parts: transparency in public activity and access to public information (first title) and good governance (second title).

Although certain articles of the regulations that are of special interest for the research are analyzed in more detail in the methodology section, it should be noted that the first title is the most relevant (especially that relating to transparency), a concept that we briefly delimit at a theoretical level.

Transparency is related to accountability and legitimacy Brucato (2015), although it seems that there is no universal definition of transparency (Segijn et al., 2021). To define transparency is to speak of a broad concept related to the availability of information (Y. Wang, 2020; Cerrillo-Martínez & Casadesús-de-Mingo, 2021) and its accessibility and ease of use by citizens and stakeholders (Cifuentes-Faura et al., 2024). This openness aims to overcome hermeticism and opacity by promoting visibility and public exposure (Chamorro-González, 2022), fostering trust since no one can trust what they do not know (Blanes, 2022).

Therefore, transparency and access to information are two strongly related concepts since governments can only be transparent if they provide information about what it is they are doing (Grimmelikhuijsen & Meijer, 2012), share their databases, and disclose their action plans (Piedrabuena-Moraleda & Criado-Fernández, 2013). Thus, the provision of information becomes essential to break the informational asymmetries between governors and governed (Esteller-Moré & Polo Otero, 2012) so that the citizenry can build an opinion on the management performed (Galdámez-Morales, 2019).

While the legal regimes of transparency were intended to show the goodness of public policies in the management of resources (O. García, 2022), over time, this transparency has become a tool of great importance, both to exercise public control and to promote accountability (Sánchez & Sierra, 2020; Campos & Vaquero, 2019; Osorio-Sanabria & Barreto-

Granada, 2022), germinated in more recent developments such as in open governments or open data that overflow the initial concept (Rodrigo, 2022).

Mabillard and Keuffer (2020) distinguish three types of transparency. The first is called active transparency, which consists of the proactive disclosure of information on a voluntary basis (increasingly online through government applications and websites). The second is passive transparency, understood as the disclosure of information in response to a request. Finally, there is forced transparency, consisting of spontaneous and uncontrolled disclosure of information by parties external (or internal) to public administrations.

This research focuses on active transparency but takes into consideration the important role that technology and open data play in this process.

First, technology has undoubtedly played a fundamental role in promoting transparency (Rodríguez-Fernández & Vázquez-Sande, 2019; Cruz-Meléndez & Pinacho, 2020), contributing to trust in governments (Myeong et al., 2021) and to the process of evaluating their performance (Baek & Kim, 2018), which can strengthen both their quality and effectiveness (Meijer & Rodríguez, 2016).

The Internet has been one of the innovations that have most transformed the public sphere (Moreno-Sardà et al., 2017; Masip et al., 2019), contributing to the improvement of information disclosure (Criado & Gil-Garcia, 2019; Ruvalcaba-Gomez et al., 2019) and facilitating the unstoppable development in the provision of government open data (Giménez-Chornet, 2012; Otero, 2021). It is this synergy between technology and open data that is the starting point in achieving the three basic pillars of any open government: transparency, participation, and collaboration (Figure 1).

Figure 1. The role of technology and data in open government. Source: Criado and Guevara-Gómez (2021).

Secondly, there is the role of open data. Public institutions produce and manage a huge volume of information that is published in an accessible way called open government data (Rangel-Carrillo et al., 2020), and, in recent years, there has been a strong interest in the administrations to disclose their data (V. Wang & Shepherd, 2020), both for their ability to improve service delivery (Myeong et al., 2014) and transparency (Kim & Eom, 2019), achieving more accountable governments (Hrustek et al., 2024).

According to the Open Data Charter (https://opendatacharter.net/) (accessed on 19 January 2025), open data are digital data that are made available with the necessary technical and legal characteristics so that they can be freely used, reused, and redistributed by anyone, anytime, anywhere.

Therefore, open data are more than a simple collection of information for two reasons: the first is that it is not enough to disseminate data in any way (but meeting several requirements such as the use of free licenses and reusable formats), and the second is that the information will be accompanied by metadata (additional data that contextualizes and enriches the information). Figure 2 shows an example of a dataset.

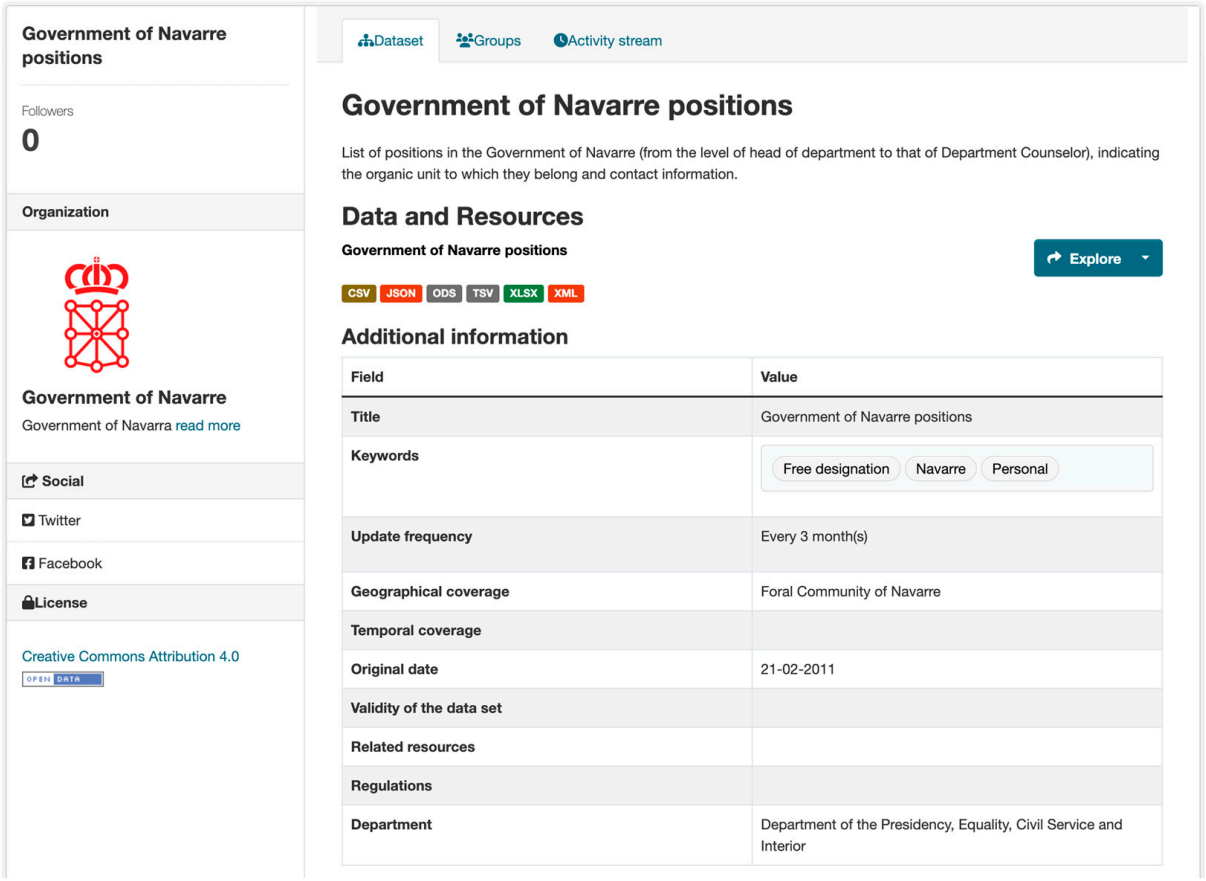

Figure 2. Dataset of the Government of Navarra Positions. Source: Navarre open data portal.

As can be seen, the dataset shown in Figure 2 provides a list of Navarre government positions, including the organizational unit to which they belong and their contact details. It can be downloaded in csv, json, ods, tsv, xlsx, and xml formats, which makes it possible to meet the needs of different types of users. Its license is open, specifically Creative Commons BY, which is the least restrictive. The information is accompanied by additional elements such as update frequency, date of creation, department responsible, etc., which gives it greater value.

In any case, the nature of open data is diverse, and, therefore, so is its usefulness. While value creation is one of the most important objectives of open data (Benmohamed et al., 2024), open data has been proposed as a solution to a wide range of public problems (Pozen, 2020). Promoting transparency (Lnenicka & Nikiforova, 2021), contributing to government openness (Zuiderwijk et al., 2019), publicizing the latest political information (Zhang et al., 2022), and disclosing government achievements (Emigawaty et al., 2023) are all aspects that have been identified as beneficial. The facilitation of democratic debate (Ruijer et al., 2024) and citizen participation (de Juana-Espinosa & Luján-Mora, 2019) are some of the virtues of the media, fostering trust in government institutions (Tubekova et al., 2023).

It is not surprising, therefore, that open government data have experienced great growth, with these last years being a fundamental part of open government policies (González-Limón & Rodríguez-Ramos, 2019; Díez-Garrido & Melero-Lázaro, 2022) and be-

ing at the forefront to achieve more responsive (Kim & Eom, 2019) and intelligent (Cerrillo-Martínez, 2018) institutions by favoring the provision of services (Myeong et al., 2021).

However, let us remember that not all open data are amenable to fostering open government. The work "The New Ambiguity of Open Government" (Yu & Robinson, 2011) clarifies this aspect through an example indicating that bus schedules may generate value or facilitate people's day-to-day lives but have little relation to fostering transparency or accountability. Therefore, this research is restrictive in terms of the meaning of the concept of open government data by requiring the data to be open in format and to belong to the sphere of open government, as illustrated in Figure 3.

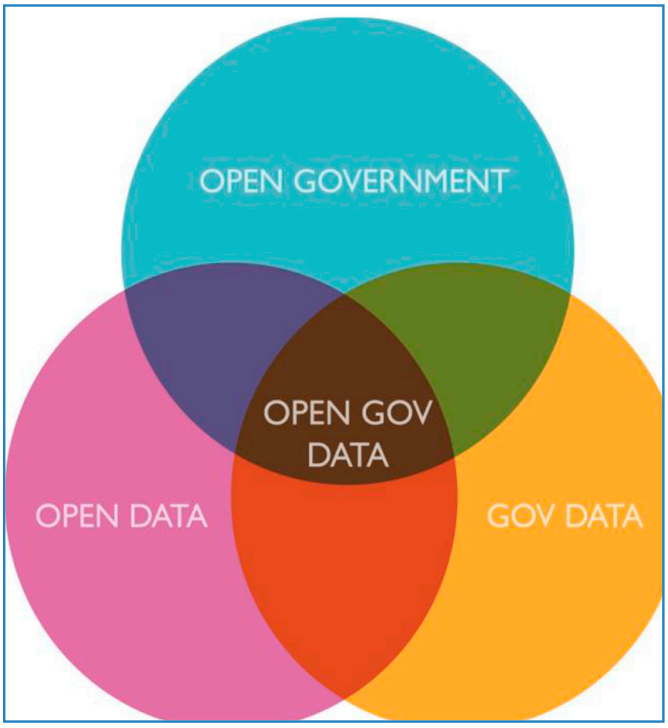

Figure 3. Open data supporting the development of open government. Source: United Nations (2013).

After making this point, we proceed to point out several results achieved by Spain in different supranational studies related to transparency or open data, which allow us to contextualize the country's overall performance at the international level.

We begin with the Open Budget Survey. In the 2021 study, Spain scored 2 points for participation, 61 points for budget oversight, and 54 points for transparency, reaching 47th place out of 120 countries analyzed globally.

Turning to specific studies on open data, it is worth noting that Spain could be considered a world leader in open data, with close to 300 open data portals from different institutions and levels of government (Abella et al., 2022).

The OURData (Open-Useful-Reusable Data Index) study was conducted by the Organization for Economic Cooperation and Development to evaluate the efforts made by governments in the design and implementation of national open data policies. This index, which analyzes aspects related to data access, availability, and support for its reuse, has been carried out in four editions, wherein Spain must be framed among the leading countries as it obtained the relevant positions in 2017 (sixth place), 2019 (eighth place), and 2023 (fifth position, after South Korea, France, Poland, and Estonia). The Open Data Maturity conducted by the European open data portal during the period 2015–2023 indicates that Spain obtained second position (2017, 2018, 2019, and 2020 editions) and third position in 2021, moving back its valuations for the 2022 (seventh position) and 2023 (fifth position) editions.

Once this introduction has been made and the theoretical framework of the paper has been presented, to help present the objective of the research, which is to value the attention to transparency that open data offers, the research is structured as follows. The second section deals with the methodology used and details the fieldwork carried out, followed by the main results in the third section. After the discussion and conclusions offered in the fourth section, the paper ends with the bibliographical references used in this research.

2. Methodology

Spain has become one of the most decentralized countries in the world and probably the most decentralized in Western Europe (Rodríguez-Pose & Gill, 2003). It is a practically quasi-federal state (Bastida et al., 2019), where its autonomous communities have great political autonomy (Fernández & Lago, 2013) by managing very important areas such as Education, Health, or Social Services (Fernández-Llera & Morán-Méndez, 2013).

The autonomous communities' unquestionable relevance, together with their sufficient size for human and financial purposes that would allow them to implement projects such as open government data made us choose the Spanish autonomous communities as the study's object. This area has been seldom analyzed in terms of economic-financial disclosure (Rodríguez et al., 2013).

The fieldwork began in December 2023 with the collection of the open data that the autonomous communities were disclosing (Table 1). Each autonomous community's portal was visited (with the exception of the Principality of Asturias, which prefers to syndicate its content in the national portal).

Table 1. Dataset offerings 2023.

Autonomous Community	Portal Name	Datasets
Andalusia	Datos Abiertos	692
Aragon	Aragón Open Data	2703
Canary Islands	Datos Abiertos Canarias	13,646
Cantabria	Icane—datos (versión beta)	290
Castilla and Leon	Datos Abiertos de Castilla y León	745
Castilla-La Mancha	Datos abiertos de Castilla-La Mancha	341
Catalonia	Datos Abiertos GenCat	1207
Community of Madrid	Comunidad de Madrid datos abiertos	244
Autonomous Community of Navarra	Open Data	1533
Valencian Community	Dades obertes gva	1427
Extremadura	Gobierno Abierto—Catálogo de datos	13
Galicia	abert@s	512
Balearic	Dades obertes caib	453
La Rioja	Datos Abiertos Rioja	839
Basque Country	Opendataeuskadi	10,908
Principality of Asturias	Open Data del Principado de Asturias	1788
Region of Murcia	Datos abiertos Región de Murcia	959
	TOTALS	**38,300**

Of all these data, we have tried to select those associated with transparency, which could consist, according to Kopits and Craig (1998), of all information on the structure and functions of government, public sector projections and accounts, and fiscal policy intentions. In Spain, the common framework is established by Law 19/2013 with three categories: institutional, organizational, and planning information; information of legal relevance; and economic, budgetary, and statistical information (Sierra-Rodríguez, 2019).

For this purpose, we have reviewed articles 5 to 11 belonging to Chapter II of the National Law (active transparency), selecting, for the first block of our checklist related

to accounting and economic-financial information, what is proposed by the following paragraphs of Article 8:

> *"Article 8.d. The budgets, with a description of the main budget items and updated and comprehensible information on their state of execution and on compliance with the objectives of budgetary stability and financial sustainability of the public administrations".*

> *"Article 8.3. The annual accounts to be rendered and the reports on the auditing of accounts and audits by the external control bodies issued thereon..."*

Regarding the second block, which deals with the active transparency of those in power, the articles considered were:

> *"Article 8.f. The remuneration received annually by senior officials and top managers of the entities included in the scope of application of this title. Likewise, the compensation received, if any, on leaving office shall be made public".*

> *"Article 8.h. The annual declarations of assets and activities..."*

Finally, the third block will be inspired by the following articles:

> *"Article 8.a. All contracts, indicating the object, duration, the amount of the tender and award, the procedure used for its conclusion, the instruments through which, if applicable, it has been advertised, the number of bidders participating in the procedure and the identity of the successful bidder, as well as the modifications to the contract..."*

> *"Article 8.c. The subsidies and public aid granted with an indication of their amount, objective or purpose and beneficiaries".*

With the joint consideration of three blocks, our twenty-item checklist (Table 2) is defined.

Table 2. Checklist.

BLOCK 1. Active Transparency in Accounting and Economic-Financial Information.
Related to the budget of expenses and revenues:
1. By any classification (organic, functional, or economic)
2. By breakdown of budget items
3. Report with a description of the budgetary programs
Concerning the execution of the budgets:
4. Monthly execution information
5. Annual liquidation
6. Budget modifications
Other economic and financial information:
7. Budgets of public entities, companies, and foundations.
8. Annual accounts of public companies
9. General Account of the Autonomous Community
10. Compliance with the budget stability objective
11. Level and breakdown of indebtedness
12. Audit report by an external audit body
BLOCK 2. Active Transparency of government officials
13. Organization chart and contact
14. Remuneration of members of the government and senior management.
15. Declarations of assets of members of the government
16. Declarations of activities of members of the government
17. List and remuneration of positions of trust
BLOCK 3. Active Transparency in the destination of expenditures
18. Grants and subsidies
19. Scholarships, prizes, or competitions
20. Contracts awarded

However, we cannot be satisfied with the fact that the information simply "exists". We must demand quality, usability, and accessibility parameters from this online information

so that citizens can find it, review it, analyze it, and, if necessary, reuse it (Martínez, 2015; Cerrillo-Martínez, 2018).

In this sense, we should mention the work of the Sunlight Foundation and its guidelines for open data policies. The eight principles of open government data were forged in terms of quality and reusable data (Sunlight Foundation, 2007): complete, primary, timely, accessible, machine processable, non-discriminatory, non-proprietary, and unlicensed.

At least three of these aspects are related to the file format, i.e., how the information contained in the digital file has been encoded: non-proprietary, i.e., available in a format over which no entity has exclusive control and can add restrictions on its use; machine-processable, the data must be reasonably structured to be automatically processable and, finally, accessible, the data must be available for the widest range of users and purposes (in terms of the breadth of formats to be offered).

This file format is at the heart of the five-star open data (Berners-Lee, 2010), whose qualification focuses on the technical aspect of open data. It classifies formats into five levels according to their openness and reusability (Table 3).

Table 3. Scale 5 stars open data.

★	The information is on the web (in any unstructured format). This implies that extra techniques or effort are required to use the data. Examples are image, video, or music formats, as well as PDFs.
★★	The data are published in structured (machine-readable) formats, which facilitates their processing; however, they are in a proprietary format, which may require the purchase of a license to work with the information. Example: XLS (Microsoft Excel).
★★★	The data are published on the web in a structured format, and they are open and non-proprietary. Anyone can easily access and use the data. An example is CSV.
★★★★	The use of URI (Uniform Resource Identifier) allows users to reuse parts of the data and link it to any other data. The data are already "on the web" and will acquire meaning depending on the tags used to create the document.
★★★★★	Linked data level: The original data are linked, using URIs, to new data from other providers. This data linking provides the original data with a new context.

Source: Berners-Lee (2010).

As Table 3 shows, the PDF format frequently used in transparency portals is assigned to the lowest step because it requires additional effort and processing to be incorporated into databases (Ballester, 2015), an effort that would be unnecessary if its format were structured (A. García, 2013).

Based on the checklist (Table 2) and the openness of the information (Table 3), we are in a position to formulate our active transparency indicator specifically. This tool will attribute one point for completing each item with complete and updated information and an additional point for each of the first four levels according to the five-star data scale, depending on the format. Thus, the maximum score would be set at 100 points for completing the 20 sections of the checklist with semantic web levels (four or five stars). The application of this indicator to the fieldwork consisting of the review of the 38,300 datasets indicated in Table 1 allowed us to obtain the results shown below.

3. Results

This section begins by showing the items addressed for those autonomous regions that have achieved a positive score in at least one of the study's sections. It then details the number of formats in which the information was available (the digit accompanying the x) and the level five star data (the number in parentheses).

Table 4 summarizes the findings of the accounting information. It can be seen that the item that has been completed most often is the budget (a total of twelve occasions), while the general account of the autonomous community, compliance with the budget stability objective, and the level and breakdown of indebtedness have not been completed on any occasion.

Table 4. Active transparency in Open Data 2023: accounting information.

	AND	ARA	AST	BAL	CAT	CNR	CNT	CTL	CTM	GAL	MUR	NAV	RIO	VAL	VAS
1	x1 (3)	x1 (1)	x1 (1)		x6 (4)	x5 (4)	x6 (4)		x3 (3)	x1 (3)	x2 (3)	x1 (3)	x3 (4)		x1 (3)
2					x6 (4)						x2 (3)	x1 (3)			x1 (3)
3												x1 (3)			x1 (3)
4					x1 (2)		x6 (4)	x2 (3)							
5			x1 (1)	x5 (4)	x6 (4)	x5 (4)	x6 (4)	x2 (3)				x6 (4)	x3 (4)		x2 (3)
6								x1 (3)							
7			x1 (1)												x1 (3)
8					x6 (4)										
9															
10					x6 (4)										
11															
12															

NOTE: AND, Andalusia; ARA, Aragon; AST, Principality of Asturias; BAL, Balearic Islands; CAT, Catalonia; CNR, Canary Islands, CNT; Cantabria; CTL, Castilla and Leon; CTM, Castilla-La Mancha; GAL, Galicia; MUR, Region of Murcia; NAV, Autonomous Community of Navarra; RIO, La Rioja; VAL, Valencian Community, and VAS, Basque Country.

There are also relevant differences in terms of formats, both in breadth (the minimum corresponds to Asturias with a single offer and the maximum to Catalonia and Cantabria with six different options) and in regards to the Tim Berners-Lee level (Aragon, Asturias, and Galicia offer formats on the lowest scale compared to Balearic, Canary Islands, Cantabria, and Catalonia—on five of the six occasions—which reach the maximum level of openness granted by this research).

Table 5 shows the results for the other aspects covered by the checklist. The differences are also evident in terms of the information provided (the greatest disclosure corresponds to grants and subsidies on eleven occasions, while any autonomous region does not provide asset declarations and declarations of activities of members of the government). The breadth of supply and the levels of openness of the formats are higher than those of accounting information since, with the exception of Castilla-La Mancha for information related to aid and subsidies, the supply and level of openness are not unique.

To show the total score grouping all the sections (20 items and file formats), Figure 4 is shown (minimum total score 0 points and maximum 100 points). Figure 4 shows that the regional leaders are Catalonia, with 53 points, and Basque Country, with 40 points. They are followed by a group of autonomous communities with intermediate performance formed by the Canary Islands, with thirty points; Autonomous Community de Navarra, with twenty-seven points; Castilla and Leon, with twenty-three; Andalusia, with twenty-two; Cantabria and La Rioja, with twenty; Principality of Asturias, with nineteen, Murcia and Aragón, with seventeen; and Balearic, with fifteen points. The group of autonomous regions lagging is made up of five autonomous regions that do not even complete a tenth

of the maximum total: Castilla-La Mancha, Valencian Community, Galicia, Extremadura, and Community of Madrid, with nine, eight, four, zero, and zero points respectively.

Table 5. Active transparency in open data 2023: governors and destination of spending.

	AND	ARA	AST	BAL	CAT	CNR	CNT	CTL	CTM	GAL	MUR	NAV	RIO	VAL	VAS
13	x5 (4)	x4 (4)			x1 (4)	x1 (3)									
14			x2 (3)		x6 (4)						x4 (4)	x6 (4)			x5 (4)
15															
16															
17	x2 (3)				x6 (4)	x1 (3)		x1 (2)	x1 (2)						x5 (4)
18	x5 (4)	x1 (4)	x5 (4)	x5 (4)	x6 (4)	x1 (3)		x2 (3)	x1 (1)				x3 (4)	x1 (3)	x5 (4)
19			x3 (3)			x1 (3)	x6 (4)								x5 (4)
20	x2 (3)	x3 (4)		x5 (4)	x6 (4)	x1 (3)		x2 (3)			x3 (3)	x6 (4)	x4 (4)	x1 (3)	

NOTE: AND, Andalusia; ARA, Aragon; AST, Principality of Asturias; BAL, Balearic Islands; CAT, Catalonia; CNR, Canary Islands, CNT; Cantabria; CTL, Castilla and Leon; CTM, Castilla-La Mancha; GAL, Galicia; MUR, Region of Murcia; NAV, Autonomous Community of Navarra; RIO, La Rioja; VAL, Valencian Community, and VAS, Basque Country.

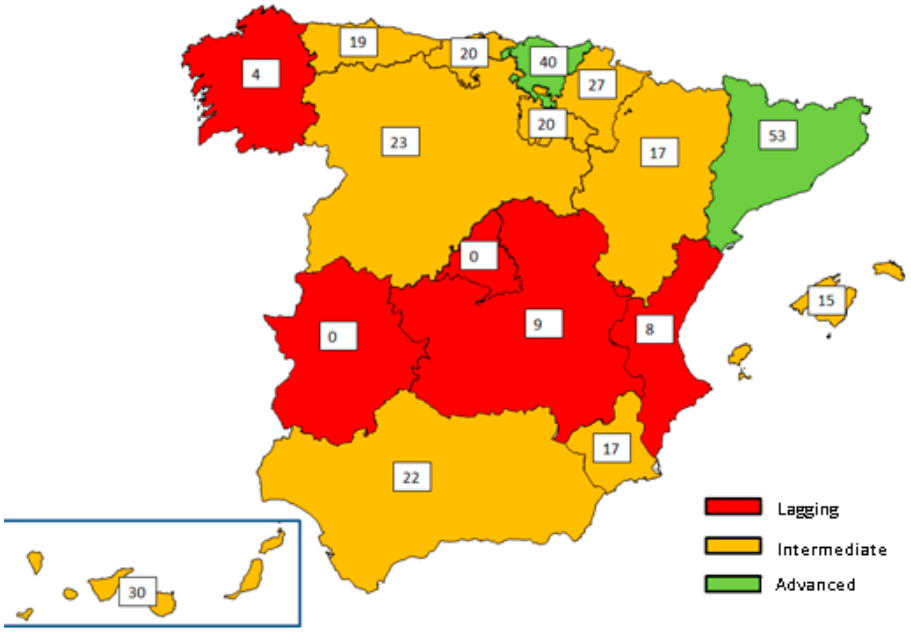

Figure 4. Overall assessment of attention to regional active transparency in open data 2023. Note: laggards with less than 15 points, intermediate between 15 and 30 points, advanced more than 30 points.

To confirm this proposed classification with statistical rigor, we have resorted to cluster analysis, a technique that analyzes the membership of cases to different groups (Martín & de Paz, 2007; Abascal & Grande, 2007), composed of more than 100 modalities (Levy & Varela, 2003).

In this research, we apply two disjoint-type techniques (in which each individual is assigned exclusively to one group): one of the methods under consideration is hierarchical, while the other is non-hierarchical.

The hierarchical method is not practical for large databases (Pérez, 2005); however, it is highly recommended when there are limited observations (Trespalacios-Gutiérrez et al., 2016). The decision was made to apply Ward's (1963) criterion, which tends to create compact groups and is not very sensitive to extreme values (Luque, 2000).

The application of the described technique provides the clustering history given in Table 6 and the graphical representation (dendrogram) in Figure 5.

Table 6. Clustering history: Ward's criterion and total regional score.

Stage	Combined Cluster		Coefficients	The First Appearance of the Stage Cluster		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	16	17	0.000	0	0	10
2	10	11	0.000	0	0	7
3	7	8	0.000	0	0	6
4	13	14	0.500	0	0	12
5	5	6	1.000	0	0	9
6	7	9	1.667	3	0	9
7	10	12	4.333	2	0	11
8	3	4	8.833	0	0	14
9	5	7	18.467	5	6	11
10	15	16	29.133	0	1	12
11	5	10	66.542	9	7	14
12	13	15	128.175	4	10	15
13	1	2	212.675	0	0	16
14	3	5	353.300	8	11	15
15	3	13	1294.100	14	12	16
16	1	3	3000.941	13	15	0

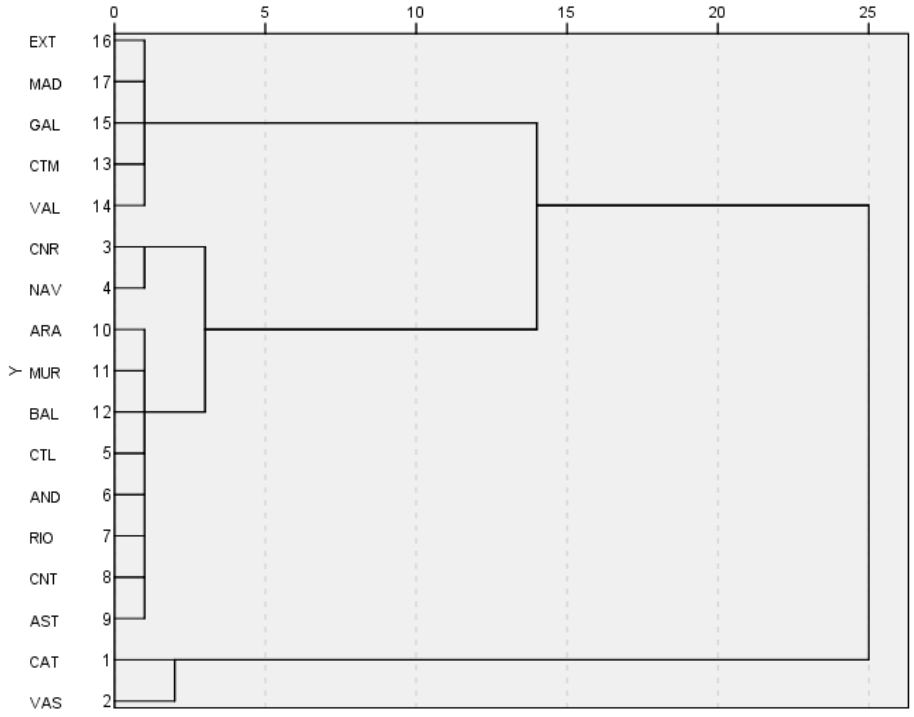

Figure 5. Dendrogram of the regional grouping open active transparency 2023.

As we can see, Ward's method corroborates the initial proposal of three groups: the leaders in this regard are Catalonia and Basque Country, while Extremadura, Madrid, Galicia, Valencia, and Castilla-La Mancha are considered laggards. The remaining regions are classified as intermediate performers.

The results appear to be unequivocal, prompting the decision to forego the implementation of additional hierarchical criteria. Instead, a direct comparison is made between the proposed solution and a hierarchical method. This approach will be guided by the findings of Trespalacios-Gutiérrez et al. (2005), which stipulate that the number of proposed groups should be contingent upon the outcomes of the hierarchical methods. The application of the chosen technique, created by Anderberg (1973) and known as the iterative refinement

algorithm or k means, shows us as the most plausible solution (and in only two iterations), the same proposed by Ward (first cluster with two observations and cluster center, 46.50 points; second cluster with ten components and cluster center 21, and third cluster with five observations and cluster center, 4.20).

Before concluding the results section, we wanted to check the weight of block A of the indicator (accounting information) with respect to the rest of the information sought, i.e., information on the governors (block B) and the destination of the expenditure (block C). This way, the checklist is distributed practically in two similar halves (Figure 6).

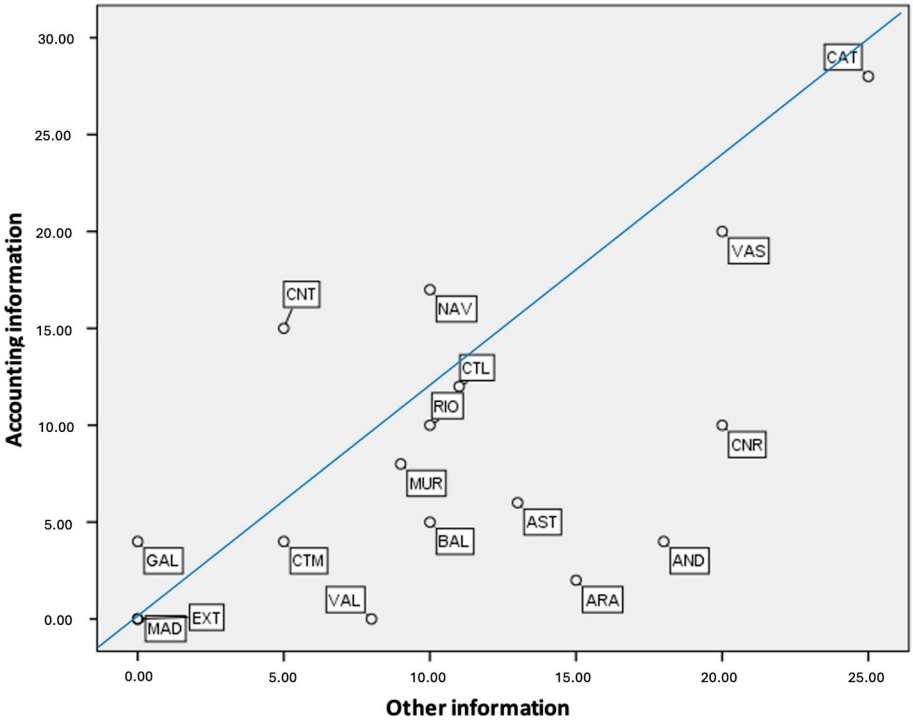

Figure 6. Open active transparency 2023: accounting information versus the rest.

As can be seen in Figure 6, ten autonomous regions are located close to the bisector of the graph, which indicates that there are quite a number of regions with a balanced score for the two components of the indicator. To this group belong autonomous regions with zero performance, such as Madrid and Extremadura; others with reduced performance, such as Galicia with four points and Castilla-La Mancha with nine points, including a large group of autonomous regions with intermediate performance (Murcia, La Rioja, Castilla and Leon, Navarra, and the two best rated, namely, Basque Country and Catalonia).

The analysis of these autonomous communities with uncompensated performance shows that only one autonomous community values accounting information higher (Cantabria) compared to six that value it lower, with the Andalusian community standing out with a ratio of one to four.

Consequently, it can be concluded that balance is the prevailing trend (60% of the cases), yet information regarding the rulers is predominant in 35% of the remaining cases. This indicates that accounting information (5%) receives significantly less attention and is clearly of lesser importance.

4. Discussion

It has been proven that technology has served to improve trust in the government, making it possible to evaluate its effectiveness and efficiency, which is why transparency portals (where the visualization of existing information is a priority) and open data portals

(whose formats and licenses favor reuse) have been opened. However, we must escape from the "technological solutionism" pointed out by Morozov (2013), questioning the unlimited power of technology to solve public sector problems because of the fact that the information is more open in its technical aspect, which does not guarantee that it is more credible or that it has not been distorted.

However, while there may be a debate about the advantages and disadvantages of the open data process, the general opinion is in favor of openness by default, i.e., proactive or unsolicited communication of all data held by public administrations that are not protected by data protection law (mostly personal data, seeking to respect the privacy and rights of individuals). This stance towards the opening of data has been clearly identified at the Spanish autonomous community level since all Spanish autonomous communities have open data portals (generally quite populated). Moreover, although it is clear that, without high-quality data, monitoring of governments becomes almost impossible, this finding allows us to identify a clear risk, and that is that the volume of data becomes a problem, so that "infoxication" paradoxically contributes to making the information sought less accessible by being hidden or camouflaged among the tangle of existing data.

Despite the above, we have been able to identify an even more worrying risk, which is the systematic absence of certain "sensitive" information. We are referring to information that any autonomy has not been completed and that explicitly measures the work of the rulers in aspects such as the level and breakdown of indebtedness (proxy of bad management that entails the payment of interest—a sterile expenditure of the public budget) or the detail of their assets and their activities, which could mask cases of corruption. This last reflection could imply that the observed behavior is moving away from the postulates of agency theory (which proposes the provision of information to reduce informational asymmetries between governors and governed, increasing trust in governments) and is in line with neo-institutional theories that support the provision of data and initiatives that confer an image of modernity and an appearance of transparency (but without providing certain useful information for the supervision of the governors). In this way, the adoption of transparency and open government initiatives would become more of an end in itself rather than a means to promote accountability.

5. Conclusions, Limitations, and Prospective

Active transparency is based on the disclosure of information; therefore, to assess the performance of the Spanish autonomous communities, an indicator is developed that considers two dimensions: the existence of information and its ease of reuse.

Regarding the information disclosed, and following the observation of Law 19/2013, a checklist has been drawn up consisting of twenty-three items grouped into three sections. The first section is accounting and budgetary information. The accounting information consists of mandatory disclosure in the public sector (Bakar & Saleh, 2011) and budgets that are established as the basic instrument of public management developed throughout a fiscal year, reflecting both the resources obtained and the use made of them (García-García & Alonso-Magdaleno, 2020). Secondly, a block of information related to the governors included information whose task is to improve trust in the government due to its monitoring function (Galli et al., 2019). Finally, a third block concerning the destination of spending has been included since citizens are showing a growing interest in seeing what the public sector does with the funds it receives (Ríos et al., 2019). On the other hand, after reading Article 5.4 of Law 19/2019, which mentions that the information subject to transparency obligations will be published in the corresponding electronic headquarters or web pages and in a clear, structured, and understandable way for the interested parties and, preferably, in reusable formats, facilitating accessibility, interoperability, quality, and reuse of the

information published, as well as its identification and location, we have decided to ponder the existence of this information.

To this end, the literature offers various proposals. One of the pioneering tools is MELODA (Abella et al., 2014), which incorporates evaluation dimensions until reaching a total of eight dimensions (Abella et al., 2020): licensing of datasets, access to information, technical formats, standardization, georeferenced content, update frequency, reputation, and dissemination. Although this tool is of undoubted interest, it is not applicable to our study since several aspects do not make sense (for example, georeferencing for accounting information). We have also decided to discard the Methodology for the Evaluation and Monitoring of Transparency in Public Activity (MESTA), presented in 2017 by the Council for Transparency and Good Governance, since, as Ros-Medina (2020) indicates, it has had a timid practical application. For all of the above, we have opted to use Tim Berners-Lee's five-star scale, which is widely used and accepted. In our study, we have awarded an extra point for each level of openness reached by the format (up to a maximum of four points).

Combining these two aspects defines the indicator that will give each autonomy a score between 0 and 100 points. Since only open data prioritizes the reuse of information disclosed by public administrations, emphasizing document formats and the use of free and open licenses, the focus of this research has been on regional open data. In December 2023, fieldwork was carried out that analyzed more than 38,000 datasets.

In general, and based on the low results obtained, a communication model associated with active transparency based on open data is not appreciated. The cluster analysis observes significant differences between the different autonomous communities in terms of performance. The cluster analysis identifies three groups of autonomous communities: advanced (Catalonia and Basque Country), laggards (Castilla-La Mancha, Valencia, Galicia, Madrid, and Extremadura), and the rest with intermediate disclosure.

The leadership of Catalonia could be justified by the continuous improvement of its open data portal in terms of information provision and training. At the same time, the performance of Basque Country seems to be more linked to a more global open government initiative called Irekia. In any case, it is important to note that both communities are among the few Spanish autonomous regions belonging to the Open Government Partnership, having signed two action plans in the case of Basque Country and one in the case of Catalonia. We hope that such initiatives will serve as an example to the rest of the autonomous communities to improve their active transparency through open data, allowing them to raise its value (Curto-Rodríguez & Pascual-Fernández, 2021) thanks to reuse (Beltrán-Orenes & Martínez-Pastor, 2016).

The research presents the results obtained at a disaggregated level considering, on the one hand, accounting information and, on the other hand, information from the governors and expenditure monitoring. It can be seen that in ten of the seventeen autonomous communities, the contribution is balanced. However, in six of the remaining seven, the role of accounting information in active transparency through open data is not equal to that of the rest of the information.

Therefore, we believe that we have fulfilled the objectives of the research by showing how active regional transparency is in Spain. This country, which appears as a leader in open data initiatives, does not contemplate attention to transparency as one of the main tasks of the portals since the indicator accumulates only 324 points out of 1700 achievable (19%), with a limited role of accounting information.

As for the study's limitations, we know that public transparency depends on many variables relating to both citizens and the behavior of those in power (Castañeda-Rodríguez & Leon-Silva, 2024) and that, when any type of indicator is applied, however well justified its formulation, the results could be different if another tool was used.

With respect to foresight, we are aware that the Spanish autonomous communities are very different from one another in terms of surface area, population, income level, and historical, linguistic, and cultural identity. The differences observed between autonomous regions do not seem to respond to general questions of the type, geographic location, population, etc.; therefore, a future line of research could deal with the real determinants that justify the differences found. The political aspect is of great interest since it is one of the most relevant factors (and the one most studied in the literature). Therefore, key issues such as the ideology of the ruling party, the fact of having an absolute majority, the nationalist or regionalist character of the ruling party, the degree of citizen participation in elections, political strength, or having been re-elected could be addressed to give support to previous research conducted in Spain, such as those of García-García and Curto-Rodríguez (2018), whose results show that absolute majority and political strength are associated with lower levels of transparency.

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