

Digital communication and NextGenerationEU european funds: analysis of the web portals of spanish administrations

Comunicación digital y fondos europeos NextGenerationEU: análisis de los portales web de las administraciones españolas

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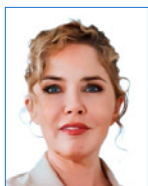
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ABSTRACT: The communication-public aid binomial is becoming more decisive because the funds provided by the EU are linked to the obligation on the part of the managing administrations to carry out effective social communication. For the first time, Europe has agreed to issue public debt to deal with the consequences created by Covid-19. To this end, it has created the NextGenerationEU instrument, endowed with €809 billion, with the aim of achieving a more digitalized, sustainable and innovative EU. Among the countries that have benefited the most is Spain, which has given a leading role to its 19 regions (Autonomous Communities and Cities) in channelling and structuring the funds. Likewise, to ensure their proper dissemination, the EU enacted the need for Member States to create a website to act as a one-stop shop. Spain created its own and urged the different regions to do the same. Therefore, this paper explores whether regions have created a website that brings together Next

Generation information and measures its quality. For this purpose, a protocol was created consisting of eight parameters and 65 indicators. The Valencian Community, Catalonia and Aragon are the regions with the best performance, while the Canary Islands, Navarre and Ceuta are the most deficient.

Keywords: Spain; communication; dissemination; web; digital communication; social media; transparency; public aid; subsidies; European funds.

RESUMEN: El binomio comunicación-ayudas públicas se está volviendo cada vez más decisivo, ya que los fondos proporcionados por la UE están vinculados a la obligación por parte de las administraciones gestoras de llevar a cabo una comunicación social efectiva. Por primera vez, Europa ha acordado emitir deuda pública para afrontar las consecuencias generadas por la Covid-19. Para ello, ha creado el instrumento NextGenerationEU, dotado con 809.000 millones de euros, con el objetivo de lograr una UE más digitalizada, sostenible e innovadora. Entre los países que más se han beneficiado se encuentra España, que ha otorgado un papel protagónico a sus 19 regiones (Comunidades y Ciudades Autónomas) para canalizar y estructurar los fondos. Asimismo, para asegurar su adecuada difusión, la UE estableció la necesidad de que los Estados miembros crearan un portal web que actuara como ventanilla única. España creó el suyo propio e instó a las diferentes regiones a hacer lo mismo. Por lo tanto, este estudio explora si las regiones han creado un sitio web que recopile información sobre NextGeneration y evalúa su calidad. Para ello, se creó un protocolo compuesto por ocho parámetros y 65 indicadores. La Comunidad Valenciana, Cataluña y Aragón son las regiones con mejor desempeño, mientras que Canarias, Navarra y Ceuta son las más deficientes.

Palabras clave: España; comunicación; difusión; web; comunicación digital; redes sociales; transparencia; ayudas públicas; subvenciones; fondos europeos.

1. Introduction

The coronavirus pandemic changed the course of events globally and in the European Union (EU) itself. In the latter case, despite its devastating effects, it also created opportunities for all EU Member States. Thus, for the first time in the history of the EU, the European Council agreed to create the NextGenerationEU fund which, unlike the other European instruments, is being financed by issuing debt on the capital markets. This fund amounts to €809 billion (at 2020 prices) and during the years 2021-2026 will be aimed at creating a more digitalized, sustainable and innovative Europe, among other aspects (Escario, 2021), with Spain being one of the main beneficiaries.

In order for these funds to reach potential applicants, social communication is an essential element. It is no longer enough to create effective instruments; it is essential that the population in general and potential beneficiaries in particular are aware of the different aid and subsidies available to them. Against this backdrop, the European Union has urged its Member States to create a one-stop shop to facilitate the dissemination of these funds. In Spain, Royal Decree-Law 36/2020 (30 December 2020) introduces the urgent measures to be adopted by Public Administration to implement the Recovery, Transformation and Resilience Plan (PRTR, according to its Spanish acronym), the main programme of NextGenerationEU (Government of Spain, 2021). The text foresees the creation of a web portal that centralizes and channels all the information on these funds and serves as a one-stop shop that provides information and facilitates the management of all the procedures for interested parties.

In the case of Spain, due to the structure of its territorial organization, which is highly decentralized through the semi-federal figure known as Autonomous Communities, these, as well as the Autonomous Cities, the City Councils and the different local entities of the Spanish cities are playing a very important role in the management and distribution of these funds (Government of Spain, 2022). Therefore, the success of the call does not depend exclusively on the actions carried out by the Central Administration, but is directly linked to the web communication strategies of the Autonomous Communities.

In this context, the following paper aims to carry out a case study of the web portals of the Spanish Autonomous Communities and Cities in order to measure their quality and carry out a comparative analysis of territorial differences. To our knowledge, this is the first work to explore this important issue, which is crucial to guarantee the communication of these funds and to provide the best possible distribution thereof, with the consequent decisive consequences for ensuring a more inclusive society.

2. Theoretical framework

2.1. European Union funds

The European Union (EU) has implemented a number of financial incentives based on different ordinary and extraordinary funds (Renew Europe, 2021). Ordinary funds are permanent EU instruments and extraordinary funds are temporary instruments created to resolve a specific situation. The extraordinary funds include NextGenerationEU, an economic stimulus instrument approved by the European Council on 21 June 2020, to respond in a joint and coordinated way to the social and economic crisis caused by Covid-19 and to achieve a greener, more digital and resilient Europe. The instrument is endowed with more than €806.9 billion (€750 billion in 2018 prices, when the proposal was adopted) and the Recovery and Resilience Facility (RRF) is the central element, with €723.8 billion in loans and grants.

The main countries that will benefit from the RRF are Italy (€89.31 billion), Spain (€81.95 billion), France (€48.53 billion) and Germany (€30.87 billion)¹. In the case of loans, Italy (€108.37 billion) and Spain (€72.41 billion) are the two countries likely to receive the largest amounts (Bruegel, 2020).

Spain is made up of different Autonomous Communities and Autonomous Cities (AACC), i.e. territorial entities endowed with autonomy and their own legal system. In allocating the NextGenerationEU budget, it was agreed that the regions themselves would play a prominent role in the management of the funds (Ministry of Finance, 2021a, 2021b).

However, as with the distribution among Member States, the distribution of the budget by Autonomous Communities is also uneven. According to Ministry data, as of 16 March 2023, the Autonomous Communities have been allocated €21,609 million, with Andalusia (3,420), Catalonia (3,181), Madrid (2,374), Valencia (2,060), Castile and Leon (1,353) Galicia (1,276) and Castile-La Mancha (1,060) being the regions that have mobilized the most funds (Government of Spain, 2023).

2.2. Communication in the PRTR

Communication and visibility of funding is essential in all European programmes, because the EU “aims to create a sense of belonging among the European population and to raise citizens’ awareness of the work of the European Union to improve their quality of life, economic and environmental sustainability and the future” (Ministry of Transport, Mobility and Urban Agenda, 2022).

This is reflected in the regulatory framework of the RRF itself (Regulation (EU) 2021/241), in its Article 34 “Information, communication and publicity”, which establishes three important elements: firstly, that “The Commission may undertake communication activities to ensure the visibility of Union funding”; secondly, that “recipients of Union funding shall indicate the origin of this funding and ensure its visibility”; and, thirdly, that the Commission shall

¹ At 2020 market prices. Calculation by Bruegel (2020).

undertake outreach activities related to the Facility and the results achieved and that “the financial resources allocated to the Facility shall also contribute to corporate communication” (p. L 57/51).

To facilitate its interpretation, the European Union has created the guide *Communication and visibility rules. European funding programmes 2021-27* (European Commission, 2021). The transposition of these principles in Spain can be found in the *Communication Manual for managers and beneficiaries of the Transformation, Recovery and Resilience Plan* (General Secretariat of European Funds, 2022). The latter document compiles the legal acts and includes a series of recommendations for the fulfilment of the communication obligations.

In particular, it is recommended to add a link to the official download page of the graphic material in all calls for proposals and tenders; those responsible should provide their official logos; in case of logos of specific programmes (e.g. Plan MOVES) and of other administrations, it is advised to include the link in the calls for proposals and tenders. In addition, all PRTR-related audiovisual campaigns should make reference to the funds. In funded activities or seminars, it is also “recommended to use photocalls, roll ups or elements that serve to identify the source of funding” (p. 18).

The official websites of the decision-making bodies (Ministries) and the websites specifically developed by the implementing bodies (Autonomous Regions) should include the European emblems, together with the logos, in a prominent place. At the level of the Autonomous Regions, the creation of a specific website is recommended, if it does not exist, which includes access to PRTR calls for tenders and calls for proposals, imitating the model of the Spanish Government’s Recovery Plan website.

In the case of social networks, the manual clarifies that the ACs should also follow the guidelines drawn up by the Secretariat of State for Communication and the Social Network Strategy of the Recovery Plan which, as indicated above, have been provided to the different regions (Secretaría General de Fondos Europeos, 2022).

To channel all official information on the funds in general and the Spanish strategy in particular, the Spanish government launched the website <https://planderecuperacion.gob.es> on 21 July 2021 (La Moncloa, 2021a). The platform functions as a kind of one-stop shop that collects information on calls for proposals and on the state strategy itself (El Español, 2021). It does not function as an electronic office to carry out all procedures as initially planned (Cinco Días, 2020). Specific profiles on X (formerly Twitter), Facebook, Instagram and LinkedIn were also activated to provide updated information on #NextGenerationEU (La Moncloa, 2021b).

2.3. Communication and state aid from an academic perspective

Communication on public funding has basically been approached from four perspectives.

In the first place, the grants to which the academic community itself has access in the field of communication. Here we can highlight, for example, the work of Travieso-Rodríguez and Ríos-Hilario (2020), who carried out an analysis of the projects awarded in the State R&D&I Programme Oriented to the Challenges of Society during the period 2012-2018; or the research of Gaitán Moya et al. (2021), who analysed the R&D projects funded in the field of communication.

Secondly, the communication plans and actions to be developed by entities accessing European grants. Scientific communication is understood as a process that must be scrupulously planned to address all phases of the projects. Thus, the relevance of communication in the resolutions of the calls for proposals has been increasing, to the point of becoming consolidated as an essential requirement (Gertrudis Casado, 2021). In this sense, Campos and Codina (2021) made a narrative synthesis of how the communication plan should be designed in the Horizon 2020 programme and defined a tool for effective communication of projects (Campos et al., 2021).

Thirdly, the communication carried out by aid beneficiaries for the sake of dissemination and transparency. This aspect has been addressed by several authors from two perspectives and has also focused on R&D&I grants: the analysis of legislation regulating publicity and transparency; and works examining how communication is implemented by beneficiaries. In her work, Gertrudis Casado (2021) described how communication has been gaining greater relevance in the different European research framework programmes and in the regulations that govern them.

Along the same lines, Campos et al. (2021) analysed the legal texts that regulate publicity and dissemination measures in H2020 and concluded that scientific communication has become a priority for European bodies. At the national level, Vilaplana-Aparicio et al. (2018) examined the legal requirements describing the communication obligations that a company must carry out and pointed out the lack of homogenization of the texts.

On the other hand, several studies have addressed the communication activities undertaken. Specifically, G ertrudix et al. (2020) created a model for analysing scientific communication in digital media to evaluate the web and social media communication actions of the projects led by Spain in H2020.

For their part, Mea et al. (2016) explained their experience in the dissemination of an R&D project and, among their main conclusions, highlighted that the website and X are two of the most useful tools. In the national context, there are also several studies that have analysed the communication of R&D&I grants by companies and have concluded that it is necessary to make progress on this issue in order to communicate beyond the minimum required by the regulations (Vilaplana-Aparicio et al., 2021).

Finally, the last perspective from which the communication-public aid binomial has been approached is the dissemination undertaken by the organizations that manage public resources, both to comply with the principles of transparency established by European and national regulations, and to guarantee knowledge and absorption of the funds. This issue, which has been addressed to a lesser extent, is the subject of this research.

In this direction, Mart n-Llaguno, Sol s and Vilaplana-Aparicio (2022) analysed the main barriers that influence the absorption of European structural funds and suggested that misinformation is one of the determining factors in companies' failure to access subsidies.

Another study relevant to our research reviewed the communication plans made by the Spanish Autonomous Communities to disseminate the ERDF and ESF+ Funds (ordinary funds). Among the main conclusions, Mart n-Llaguno, Vilaplana-Aparicio and Gand a-Solera (2022) underlined the fact that not all regional websites correctly collect the information, and that access to the communication plans is confusing in some cases.

As can be seen from the above, NextGenerationEU is a programme that has managed to gather unprecedented resources in the EU and that represents a great opportunity to achieve a stronger and more competitive Europe. Therefore, taking into account that Spain is one of the most benefited countries; that communication is essential for potential recipients of aid to know the instruments they can access; that dissemination contributes to improving the absorption of funds; that it is a priority in the EU public agenda; and that the Autonomous Communities will acquire a relevant role in the management of NextGenerationEU funds in Spain, this work is of great interest since it can help the autonomous administrations to improve their communication. Thus, we aim to address several key research questions: Have the Autonomous Communities (ACs) created websites that centralize information on NextGenerationEU funds in line with communication recommendations? Do these websites ensure effective communication and high-quality content? Are there territorial differences? Do the websites comply with the communication requirements outlined by the government? And does the communication effort vary according to the funds allocated to each region?

The general objective is to analyze the quality of these websites. More specifically, we seek to determine whether the Autonomous Communities have established a centralized platform in the form of a website, assess the quality of these websites and their content, evaluate their adherence to communication principles outlined in reference texts, examine regional differences and similarities, and explore whether the communication effort correlates with the funds allocated to each region.

3. Methodology

In order to achieve the objectives, it was necessary to identify the web portals of the 19 regions (17 Autonomous Communities and 2 Autonomous Cities). To do so, a Google search was carried out with the following terms: “NextGenerationEU” OR “Recovery Plan” OR “European funds” AND the name of the region.

Subsequently, a heuristic analysis system was developed, also called expert analysis (Codina & Pedraza-Jiménez, 2016), which provides criteria to measure and compare the quality of websites (Morales-Vargas, 2023). The concept of web quality can be difficult to define because it is a “multidimensional and abstract concept” (Olsina et al., 2006: 109). However, Morales-Vargas et al. (2020) defined it very clearly as “the ability of a website to meet the expectations of its users and owners, determined by a set of measurable attributes” (p.3).

To measure this quality, a protocol (see section 6 “Data availability”) was developed to comprehensively examine the characteristics and quality of the websites, with the aim of detecting the strengths and weaknesses of the different platforms (Codina & Pedraza-Jiménez, 2016). To this end, a composite analysis system was established (Roig & Pedraza-Jiménez, 2016; Morales-Vargas 2021; Morales-Vargas et al. 2023) and different variables were added to verify whether the websites comply with the communication guidelines of the funds.

Once the protocol was drafted, it was validated using the expert judgement method (Escobar-Pérez & Cuervo-Martínez, 2008) and the final version consisted of eight parameters and 66 indicators (table 1). Specifically, it was passed on to four experts, two communication specialists and another two specialists in R&D&I aid.

Table 1. List of parameters and indicators used for the analysis

Parameter	Indicators
1. Technical aspects. This includes elements relating to indexability, adaptation to mobile devices or optimization of the website, both for mobiles and computers.	5
2. Structure and navigation. This section includes indicators relating to the accessibility, organization and navigation systems of the websites.	8
3. General content of the site. It includes indicators on the content of the website.	7
4. Search engine. This refers to the tool that allows searches to be carried out within the site. Indicators are included that allow the presence and functionality of search engines on the website to be analysed.	10
5. Information on grants: the quantity and quality of information published for each grant is analysed.	8
6. Assistance. Indicators are used to help measure the trustworthiness of the websites analysed.	6
7. Social media. The presence and use of social networks to disseminate information about the funds and the different calls for proposals is examined.	15
8. Compliance with the communication measures indicated in the regulations/reference manuals.	7

Source: Own elaboration.

To determine whether the page appeared among the first results and the level of indexed pages, Google was used in incognito mode. The web optimization analysis was analysed with the tool www.pagespeed.web.dev and accessibility with the website www.accessibilitychecker.org.

In the Autonomous Communities with several co-official languages, it was analysed whether the information was in both languages: Basque in the Basque Country; Catalan and Aranese in Catalonia; Galician in Galicia; Valencian in the Valencian Community; Basque in Navarre; and Catalan in the Balearic Islands (Ministry of Territorial Policy, 2022). This condition was also observed in Asturias, where Bable is not considered an official language but has a long tradition among the population. This variable was not incorporated into the overall computation, as it is a condition that only occurs in some regions.

To measure the indicators, a dichotomous scoring system was established in most cases (with 0 when the criterion is not met, and 1 when it is met) and, to a lesser extent, a simple scale of 0 to 3 (0 non-existent, 1 low level, 2 medium level and 3 high level). In the parameters relating to web optimization and accessibility, the same code was used as that offered by the websites consulted (1 red -low-, 2 orange -medium-, 3 green -high-). To measure indexability, 0 points were assigned to websites with no indexed documents, 1 point to those with between 1 and 100, 2 points to those with between 101 and 1,000 and 3 points to those with more than 1,000.

Several test analyses were carried out to validate the protocol. Once a validated version was obtained, the data was extracted, and discrepancies were resolved by consensus. The analysis was conducted between late 2022 and early 2023, although the final testing of all websites was done in April 2023.

4. Results

4.1. Identification of the regional 'windows'

First, the websites of each Autonomous Community were identified (table 2). Some regions have fragmented information on several websites. An example is found in Catalonia, where ACCIÓ - Agència per la Competitivitat de l'Empresa, a public entity attached to the Departament d'Empresa i Treball (Department of Business and Work) has a Next Generation EU office² and the Generalitat de Catalunya has another page dedicated to European funds that includes a section for Next Generation³. In this case, the Next Generation EU office was selected for the analysis, since the second website redirects to the ACCIÓ website to consult calls for proposals or request information. Another example is the case of the Basque Country, which has two web pages within the euskadi.eus site⁴; or Asturias, which has part of the information on the website of the Project Office⁵ and part on the website of the Economic Development Agency of the Principality of Asturias (IDEPA, for its acronym in Spanish)⁶. Finally, Extremadura initially had the information on one link⁷ and, subsequently, on another.

Some communities such as Catalonia, Madrid or Asturias have integrated the information as a section of the institutional website. However, others such as Castile and Leon, Galicia, Navarre and Murcia have launched a specific portal.

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² <https://www.accio.gencat.cat/ca/accio/agencia/>

³ <https://fonseuropeus.gencat.cat/ca/next-generation-catalunya/>

⁴ <https://www.euskadi.eus/next-generation-eu/web01-a2ogafon/es/> (selected) and <https://www.euskadi.eus/fondos-next-generation-eu/web01-ejeduki/es/>

⁵ https://www.asturias.es/general/-/categories/833101?p_r_p_categoryId=833101

⁶ <https://www.idepa.es/sobre-idepa/fondos-europeos>

⁷ <http://www.juntaex.es/ddgg002/next-generation-eu>

Table 2. Websites analysed by region

DEMARCATIION	OFFICIAL WEBSITE
Andalusia	https://www.juntadeandalucia.es/organismos/haciendayfinanciacioneuropea/areas/planrecuperaeuropa.html
Aragon	https://www.aragon.es/-/next-generation-eu
Asturias	https://www.asturias.es/general/-/categories/833101?p_r_p_categoryId=833101
Balearic Islands	https://www.caib.es/sites/oie/es/pla_de_recuperacio_per_a_europa/
Canary Islands	https://www.planderecuperaciondecanarias.es
Cantabria	https://cantabriaeuropa.org/next-generation-ue
Castile and León	https://fondoseuropeos.jcyl.es/web/es/fondos-next-generation.html
Castile-La Mancha	https://clmavanza.castillalamancha.es
Catalonia	https://www.accio.gencat.cat/ca/serveis/innovacio/innovacio-empresarial-i-rd/oficina-next-generation-eu/
Valencian Community	https://gvanext.gva.es/es-es/index
Extremadura	https://www.juntaex.es/temas/administracion-publica/fondos-europeos/next-generation-eu
Galicia	http://www.nextgenerationgalicia.gal
C. of Madrid	https://www.comunidad.madrid/gobierno/actualidad/next-generation-eu-mecanismo-recuperacion-resiliencia
Murcia	https://www.nextcarm.es
Navarre	https://nextgeneration.navarra.es
Basque Country	https://www.euskadi.eus/next-generation-eu/web01-a2ogafon/es/
La Rioja	https://www.larioja.org/accion-exterior/es/rioja-union-europea/fondos-europeos-ngeu
A.C. of Ceuta	https://www.ceuta.es/ceuta/fondos-next-generation
A.C. of Melilla	https://fondoseuropeosmelilla.es/fondos-next-generation/

Source: Own elaboration.

Finally, it should be noted that the Canary Islands, Castile-La Mancha, Catalonia, Navarre, Valencia, Extremadura, Galicia, the Basque Country and Murcia created a logo for the funds (image 1):

Image 1. Logos developed by the different Autonomous Communities



Source: Own elaboration: Logos compiled on each region's website.

4.2. Technical aspects

All websites appear on the first page of Google results, except for Andalusia, Valencia and the Balearic Islands.

If we look at the number of pages indexed in Google, we can see that the Balearic Islands have no pages at all; thirteen regions have less than one hundred pages indexed, of which seven have only one page indexed; one region has more than one hundred; and four have more than one thousand (Castile-La Mancha, Valencia, Galicia and Murcia).

The vast majority are adapted to mobile devices, with the exception of Ceuta. The regions of the Canary Islands and Murcia are not considered to be adapted either because they use Power BI to display economic data. Moreover, the graphs that are inserted have a larger page width that does not adapt to mobile devices (Canary Islands) or are very small, as in the case of Murcia.

When analysing whether the website is optimized for computers with the pagespeed.web.dev tool, it can be seen that the Canary Islands, Valencia and Madrid have a score of between 90–100 points; Aragon, the Balearic Islands, Catalonia and Extremadura have a very low score of between 0 and 49 points; and the rest have an average score of between 50 and 89 points. The Canary Islands have the highest score (99) and the Balearic Islands the lowest (23). Data is not available for Navarre.

In the case of mobile-friendliness using the same tool, it is observed that no website is in the highest range. Seven communities have between 50 and 89 points (Andalusia, Aragon, Asturias, Balearic Islands, Cantabria, Catalonia, Extremadura, Madrid, Basque Country and La Rioja) and the rest register less than 50 points. The Canary Islands achieved the highest score (84) and Extremadura the lowest (19). In Navarre the data is not available either.

In summary, the constituencies with the best performance in this section are Castile-La Mancha and Galicia, with 84.6% of the points that can be scored in this section; those with the worst scores are the Balearic Islands (23.1%) and Navarre (38.5%).

4.3. Structure and navigation

An accessible design and development is essential for people with functional diversity to be able to access information under equal conditions. To measure whether the website is designed under these conditions, the tool <https://www.accessibilitychecker.org> was used. The analysis shows that Andalusia, the Balearic Islands, Castile and Leon, Murcia and the Basque Country have an excellent adaptation. However, Asturias, the Canary Islands, Cantabria, Castile-La Mancha and Ceuta obtained the lowest scores, the most extreme case being Cantabria with 32 points. It is noteworthy that Madrid and Castile and Leon have a text-to-speech function for the blind, and Extremadura has a specific menu with functions dedicated to improving accessibility. These include voice commands, keyboard navigation or navigation for the visually impaired, among others.

About 58% use a breadcrumb navigation menu to let the user know where they are. Among them, Madrid uses a different version and the sections are coloured as the content is presented. A similar system is used in Castile and Leon, which also incorporates a strip that shows the percentage of content displayed. In Catalonia there is a menu with these characteristics, but when entering a subsection it is not possible to return to the previous section.

Given that NextGenerationEU includes different categories of subsidies, it is interesting to have a good taxonomic organization so that interested parties can find the most related ones (e.g. energy, innovation, or sustainability). However, despite its potential advantages, only Aragon, the Balearic Islands, Castile and Leon, Catalonia, the Valencian Community, Murcia, Navarre

and the Basque Country include it. Moreover, none of them provide the number of grants per category, which could be very useful for the user.

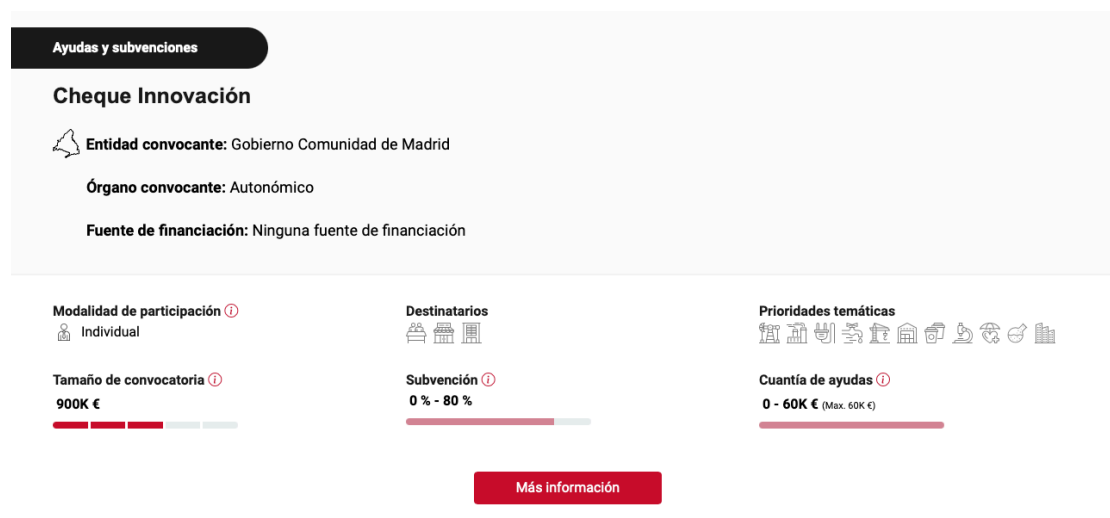
Another aspect to highlight is that NextGenerationEU has grant lines for different audiences (public bodies, universities, associations, etc.). Therefore, a navigation by audience could help to find the information more quickly. Nevertheless, only Catalonia, Valencia and Murcia offer this possibility.

In the same vein, providing different ways of organizing aid (sector, company size or type of investment) can facilitate the aid-seeking process. However, only Valencia and Murcia include this option.

Another essential element of the structure and navigation is the labelling, i.e. the set of labels used to designate the components of each menu. The name of the funding, the categories, and the sections of the website must be clear, descriptive and use the language of the users. In all cases, the labelling is clear.

The use of visual elements that the user recognizes and identifies as standard is also one of the aspects that improves usability. All regions except the Canary Islands, Castile-La Mancha, Galicia, Murcia, Navarre and Melilla use visual elements. It should be noted that those regions where there is only one element were not taken into account, such as Murcia, with the magnifying glass, or Galicia, with the little house to return to the beginning. One of the communities that incorporates more visual elements is the Valencian Community (image 2). In addition to using the magnifying glass for the search engine, or the world ball to change the language, it represents the mode of participation, the recipients and the thematic priorities with visual elements.

Image 2. Visual elements used in the Valencian Community



Source: <https://gvanext.gva.es/es-es/index>

4.4. Content

Offering information in the co-official languages of each region can improve the user experience. In Catalonia, the content is only in Catalan. In the Valencian Community, the Balearic Islands and Galicia it is in both co-official languages, although in the latter case some words have not been translated into Spanish. As for Asturias, although Bable is not considered an official language, the website offers the possibility of consulting the information in Asturian, but all the

contents are translated, with the exception of those relating to the European Projects Office. Finally, in Navarre, information is only available in Spanish.

In addition, none of the websites are in other languages such as English or French, which could be of interest in order to facilitate the search for aid to foreign investors.

The information of complementary value provided is asymmetrical and only the Canary Islands and Extremadura do not include explanatory texts on the funds, in the latter case merely directing the user to the website of the Spanish Government. La Rioja offers scarce and scattered information, as it has a separate landing page with information on NextGenerationEU and the content of the calls for proposals can be found on another page. Castile and Leon also presents rather limited information, focusing only on the objectives of the funds and a brief description of the different Next Generation instruments.

In Navarre, there is a video with a 360° experience that explains the plan in four languages. In the case of the Valencian Community, when consulting certain information, the user is redirected to the presidency website (<https://presidencia.gva.es/es/web/gvanext/fons-next-generation>), losing the possibility of continuing the tour on the previous website in a simple way.

One of the crucial elements when providing information on funding is to include a catalogue of subsidies that allows consultation of current and/or planned aid. Only Aragon, the Balearic Islands, Castile and Leon, Castile-La Mancha, Catalonia, Valencia, Murcia, the Basque Country and La Rioja offer this option. Murcia has an aid catalogue, but it is not complete. For example, when selecting “aid” and “digitalization”, only one result appears and calls such as Kit Digital, which were open at the time of the fieldwork, are omitted.

In Galicia, there is no catalogue as such, but merely a list of aid. The same is true of Madrid, in which case, moreover, only the aid of the autonomous community itself is included. In Navarre, leverage policies are explained, the components within the leverage policies are described, and in their description some programmes are listed and links are inserted, but it is not possible to identify which link corresponds to which aid. The aid catalogue of the Valencian Community is one of the most complete and allows searches on the basis of eight criteria. Nevertheless, in order to access the complete information on aid, prior registration is required.

The same investment can be supported by different subsidies at the same or different levels (regional, national, European, or other). Therefore, facilitating the comparison of the different subsidies can be of great interest. However, no community offers this option.

Including information on success stories from other companies can have a positive pull effect. Catalonia, however, is the only region that provides this type of information on its platform.

Finally, a glossary of key terms such as what *competitive concurrence* means when applying for NextGenerationEU funds, what *de minimis* means, or what is meant by *SME*, is also very helpful for organizations wishing to access these funds. It is therefore surprising that no territory provides a glossary.

In conclusion, the scores in this section are very low. Only Catalonia obtained 50% of the points, and the Canary Islands and Extremadura did not score in this section.

4.5. Search engine

The search engine is an important element in facilitating the search for information. It is therefore surprising that only Aragon, the Balearic Islands, Castile and Leon, Castile-La Mancha, Catalonia, Valencia, Murcia, and the Basque Country have a specific search engine for public aid. Moreover, only five of them have it located in a place that meets the usual

expectations, i.e. at the top. In the Basque Country it is at the bottom of the page, and in Castile-La Mancha it is a subsection within the “Convocatorias” (Calls) section.

Aragon has a search engine for grants, but to access it you have to enter from the home page in a section called “Portal de ayudas y subvenciones” (Aid and subsidies portal). In other words, if the user does not browse through the different pages of the website, they will not find it. Additionally, only Aragon, Castile-La Mancha and the Valencian Community provide some kind of help on how to use it correctly.

The remaining eleven territories do not have a specific search engine, but most of them have a general search engine, mostly located in the upper right-hand corner. The Canary Islands and Galicia have neither a specific nor a general search engine.

In the same vein, offering advanced search with specific search fields, Boolean operators and so on is an extra help for the user, but no community allows it, nor is predictive text suggested. However, parameterized search using different fields is available in Aragon, Castile-La Mancha, Catalonia, Valencia, Murcia and the Basque Country. In Aragon, it is possible to filter by “date”, “topics”, “body” or “profiles”. In Castile-La Mancha it is possible to combine different parameters such as “status of the call”, “calling administration”, “type of funding”, “beneficiaries” and “investment areas”.

In Catalonia, you can search by “status”, “aimed at”, “themes” and “geographical area”. In the Valencian Community by “autonomous community”, “type of call”, “status of call”, “type of beneficiary”, “thematic priorities”, “organizing body” and “funding sources”. Murcia allows narrowing the search by “show only open calls”, “type of call”, “type of beneficiary”, “economic sector of the beneficiary” and “economic sector of the aid”. Finally, the Basque Country offers the possibility to retrieve information based on “type of procedure”, “status of procedure”, “topics” and “organization”.

However, once the information has been retrieved, only Aragon and the Valencian Community offer sorting options. In the case of Aragon, it is possible to sort by “relevance”, “title”, “modified” or “modified (oldest first)”; while in the Valencian Community, sorting can be done by “relevance”, “recent”, “next due date”, “size of call”, “maximum subsidy” or “maximum funding”.

Aragon, Catalonia and the Basque Country indicate the number of results retrieved. In no case is it possible to export the search, and in the case of not retrieving any item only the Basque Country provides suggestions to improve the search.

4.6. Individual subsidy page

Providing information on public grants is important to ensure that beneficiaries can find the lines of support for their projects. In addition, the names of grants should be descriptive and easily identifiable. 53% of the sites use clear terms. A good example is found in the Valencian Community, which simplifies the titles to make them shorter, simpler and more direct (Kit Digital; Innovation Cheque, CIEN-CDTI Projects...). Even so, there are also cases where the titles are not very precise, such as “Subsidies for the financing of projects included in investment 4 «entrepreneurship and microenterprises» of component 23 «New public policies for a dynamic, resilient and inclusive labour market» (2022)” in Castile and Leon.

It is significant to note that Andalusia, Asturias, the Canary Islands, Cantabria, Extremadura, Navarre, Ceuta and Melilla do not provide information on aid; the Balearic Islands, Castile-La Mancha, Galicia, Madrid and La Rioja do so on between one and four sections; and Catalonia, Murcia and the Basque Country on between five and eight. The territories providing the most data are Aragon, Castile and Leon and the Valencian Community.

Madrid and Aragon only have information on regional subsidies, and in the Basque Country the information varies from one subsidy to another.

Similarly, attaching the legal texts that regulate the aid, such as the terms and conditions of the call or the call itself, can help interested parties in the application process. Nevertheless, only Aragon, Castile and Leon, Castile-La Mancha, Catalonia, the Valencian Community, Galicia, Madrid, the Basque Country and La Rioja supply these documents.

Offering users a list of frequently asked questions and answers so that they can resolve their general doubts can be very useful. Only 26.3% (Aragon, the Balearic Islands, Castile and Leon, Castile-La Mancha and the Valencian Community) include FAQs.

While not included in most territories, in one case in Castile and Leon a grant with specific FAQs was also found. However, it was not taken into account given that in the vast majority of grants there are no specific FAQs.

Several regions, such as Murcia, also link to the FAQs published on the Spanish Government's Recovery Plan website.

On the other hand, providing explanations in written format to present the determining aspects of the grant can facilitate the processing itself. Only Andalusia, Castile and Leon, Catalonia and the Valencian Community have manuals. Andalusia's website contains different guides on DNSH, double funding or the no detriment principle; Castile and Leon has a guide to administrative appeals; Catalonia has a general guide to grants and a specific guide to NextGenerationEU funds; and the Valencian Community offers a generic manual with information on how to submit projects and investments.

Explanations in audiovisual format to present the key aspects of the grant and its processing can be of great help to potential beneficiaries. Only two regions have made some kind of explanation in this format. Aragon has explanatory content on electronic processing and the Valencian Community has 12 videos with information on the funds, in addition to the video on the home page explaining how the platform works. In Castile and Leon there is a document called *Tutorial to submit a grant application under RD 1124/2021*, but it is a PDF with screenshots.

Setting up alerts to be notified in case of publication or modification of the call for applications can help the user to be informed. Only Cantabria, Castile and Leon, Castile-La Mancha, Catalonia, the Valencian Community, the Balearic Islands, Madrid, Murcia and the Basque Country offer this option. Cantabria does not have a list of subsidies, but reports on them through its regular newsletters, to which the population can subscribe.

In summary, Asturias, the Canary Islands, Extremadura, Navarre, Ceuta and Melilla did not score any points in this section. In contrast, Aragon (70%), Castile and Leon (80%) and the Valencian Community (90%) obtained the highest scores.

4.7. Assistance

The beneficiary service is an important section that should be in a visible place, so that the user can seek answers to a specific problem. Only the Canary Islands, Navarre, Ceuta and Melilla do not have this module. In addition, in Murcia and Asturias it is possible to request an appointment for companies to receive information. In the Valencian Community there is a section called "Puntos GVANEXT" which redirects to a website to examine the multiple consultation points.

Additionally, including a (visible) contact telephone number so that entities interested in aid can contact directly is a confidence-building element. All regions except the Canary Islands, Galicia, Navarre and Melilla provide a contact telephone number. This telephone number is

only free of charge in Asturias, Cantabria, Castile and Leon, Extremadura, Madrid and La Rioja. Furthermore, very few regions provide information on the cost of calls, as is the case in Castile and Leon.

An essential element of user support is the inclusion of a contact form so that organizations interested in grants can contact the managing body directly. Nearly half of the sample (Andalusia, Aragon, Cantabria, Castile and Leon, Castile-La Mancha, Catalonia, Galicia, Murcia, the Basque Country and La Rioja) have a contact form and, in all cases, it is easily accessible.

Finally, an automated chat or chat with real people to resolve doubts instantly can benefit users, but only six communities offer this option. Aragon has a WhatsApp service for “Digital Services Technical Support”; Castile-La Mancha also has a WhatsApp; Catalonia offers an online LiveChat; Extremadura has a Telegram and WhatsApp service; Madrid has a WhatsApp and video call or video call in sign language; and the Basque Country has a Telegram service.

Once again, the Canary Islands, Navarre and Melilla did not score any points in this section, while Aragon, Cantabria, Castile and Leon, Castile-La Mancha, Catalonia, Madrid, the Basque Country and La Rioja achieved the highest performance, with 83.3% each.

4.8. Social Networking

Social networks are an extraordinary means of reaching the population on a massive scale. 94.7% are present on Facebook, with the sole exception of Melilla; 89.5% on Instagram, with Catalonia and Castile and Leon being the only ones without a presence; 100% on X and 94.7% on YouTube, with Melilla as the only exception. However, the presence on LinkedIn is lower, since 68.4% have a profile on the platform, but Andalusia, the Balearic Islands, Extremadura, La Rioja, Ceuta and Melilla do not.

A total of 63.2% have links to social networks from the website, although they do not always have all the profiles, as in Castile-La Mancha, which has profiles on YouTube and LinkedIn, but they are not linked. In the case of the Canary Islands, Ceuta and the Basque Country, the social networks were not on the website. They had to be identified through the official website of the Government of the Canary Islands (<https://www.gobiernodecanarias.org/redessociales/>), the Irekia website (<https://www.irekia.euskadi.eus>), the Basque Country’s open government platform, or through the social networks themselves in the case of Ceuta. In the Canary Islands, as no generic account could be found, the profiles of the presidency were analysed, given that there was no profile for the Provisional Administrative Unit (UAP, for its acronym in Spanish), responsible for the management and control of European funds. In Cantabria and La Rioja, the profiles of their respective European offices and regional governments were reviewed.

On the other hand, the fact that the website allows content to be shared on social networks can enhance the aid dissemination process. It is therefore curious that only 42.1% offer this possibility. Similarly, only 36.8% do the same for sharing content by email.

In 84.2% of the websites, there is a section with informative and topical content of value for the different target audiences. The Canary Islands, Ceuta and Melilla do not have one. However, only 63.2% of the total have published information on NextGenerationEU in the last 30 days. It is worth mentioning that there are communities that have created specific websites for the funds, such as Cantabria Europa or La Rioja Europa, but whose information content is published on the regional governments’ websites. Moreover, in territories such as Aragon and Asturias, the news section is accessed from the home page of the website and the user has to navigate to find it.

The dissemination of content about the instrument through social networks is heterogeneous. 94.7% have communicated via X, 78.9% via Facebook, 26.3% via Instagram and YouTube and

only 15.8% via LinkedIn. It is also remarkable that no region publishes content on all five platforms and only the Balearic Islands, Catalonia, Valencia and Madrid have published on four social networks. At the other end of the spectrum are the Basque Country, which has not carried out any type of communication through this medium, and Murcia and Melilla, which have only used one network, in both cases X.

In summary, Madrid (86.7%), Catalonia (86.7%) and Valencia (93.3%) are the regions with the best performance in this section. In contrast, Melilla (20%) and the Basque Country (46.7%) are the worst performers.

4.9. Communication requirements

Grant managing bodies should follow a series of recommendations to improve the dissemination and absorption of the funds. One of the mandates is to link to the government's official website so that grant recipients can download graphic material and publicize the origin of the funds. Despite their importance, no entity includes the links in the calls for proposals. Nor are the logos of specific programmes such as the Plan MOVES provided.

Alternatively, some regions have opted to create a section dedicated to communication, including manuals created by the competent authorities and links to download graphic materials. This has been the strategy followed by Andalusia, the Balearic Islands, Castile and Leon, Castile-La Mancha, Extremadura, the Basque Country and Melilla. In other cases, such as in Cantabria, there is no section dedicated to communication, but there is a section with documents, which includes the communication manual.

Another requirement is to include a mention of the funding on the official websites of the Decision-Making Entities (Ministries) and Sub-Project Executing Entities (in this case, ACs and LGUs). Furthermore, the recommendations specify that it should be posted in a visible place when accessing the website through any device. Once again, it is surprising that only Aragon, the Canary Islands, Castile-La Mancha, Galicia, Murcia, Navarre and the Basque Country include the mention clearly and, in all cases, visibly.

Andalusia, Castile-La Mancha, Ceuta, Valencia, Melilla, the Balearic Islands and La Rioja do not make this mention following the same pattern, although they include a similar description when explaining what the funds consist of. On the other hand, in communities such as Extremadura, no mention or description is made of the funds.

Normally, the aid procedure is initiated on a platform other than the one containing the information and including it speeds up the interested party's management. Nonetheless, only Aragon, Castile and Leon, Castile-La Mancha, Madrid, Murcia and the Basque Country add it to the aid description.

Another point to bear in mind is that the Spanish Government uses social networks to bring PRTR information closer to citizens, the self-employed and companies. The Plan has profiles on Facebook, X, Instagram and LinkedIn. Therefore, it was analysed whether profiles were created on social networks to disseminate information on the Plan at the regional level. Astonishingly, Murcia is the only one to have created a profile on X while the Balearic Islands, through the "Oficina de Planificació i Coordinació d'Inversions Estratègiques" (Office of Planning and Coordination of Strategic Investments), which was established as a result of the funds, has its own profile on X, Facebook and YouTube, with extensive content on the funds.

Finally, the reference texts indicate that any communication action must refer to the funds. Social networks are a key tool to bring the necessary information on the funds closer to citizens, the self-employed, companies and interested organizations. The analysis carried out shows that only 42.1% of the Communities correctly mention the funds on social networks (Aragon,

Asturias, the Balearic Islands, Castile-La Mancha, Catalonia, Valencia, Murcia and Ceuta). The Valencian Community is one of the territories that most complies with this requirement. In addition to using the hashtag #NextGenerationEU, it also does the same with #GVANext, the name of the website created to inform about the grants. In Castile-La Mancha, the term *Next Generation* is included, but without the hashtag.

In Andalusia, the Canary Islands, Cantabria, Castile and Leon, Extremadura, Galicia, Madrid and Navarre, posts were found which were related to the funds, but which could not be identified at first glance because they did not refer to the funds or mentioned *European funds* in generic terms. In order to ratify their relationship, it was necessary to access the news item or to identify them by the vocabulary used. For example, in the Canary Islands, one publication mentions the *Perte de microelectrónica y semiconductores*, a term closely linked to NextGenerationEU.

In Catalonia, it was also found that funds are sometimes not identified, such as when talking about the Activa Startups programme. In addition, two hashtags, #Nextgeneration and #NGEUCat, are used on X, which clouds the effectiveness of communication. Melilla has only one insertion on X, and it is impossible to know the origin of the grants if one does not enter the call for proposals. In La Rioja, posts on social networks are very scarce. There is one that is repeated on Facebook, Instagram and X that has the logo on the lectern of the person speaking in the photo, but in the rest there is no mention.

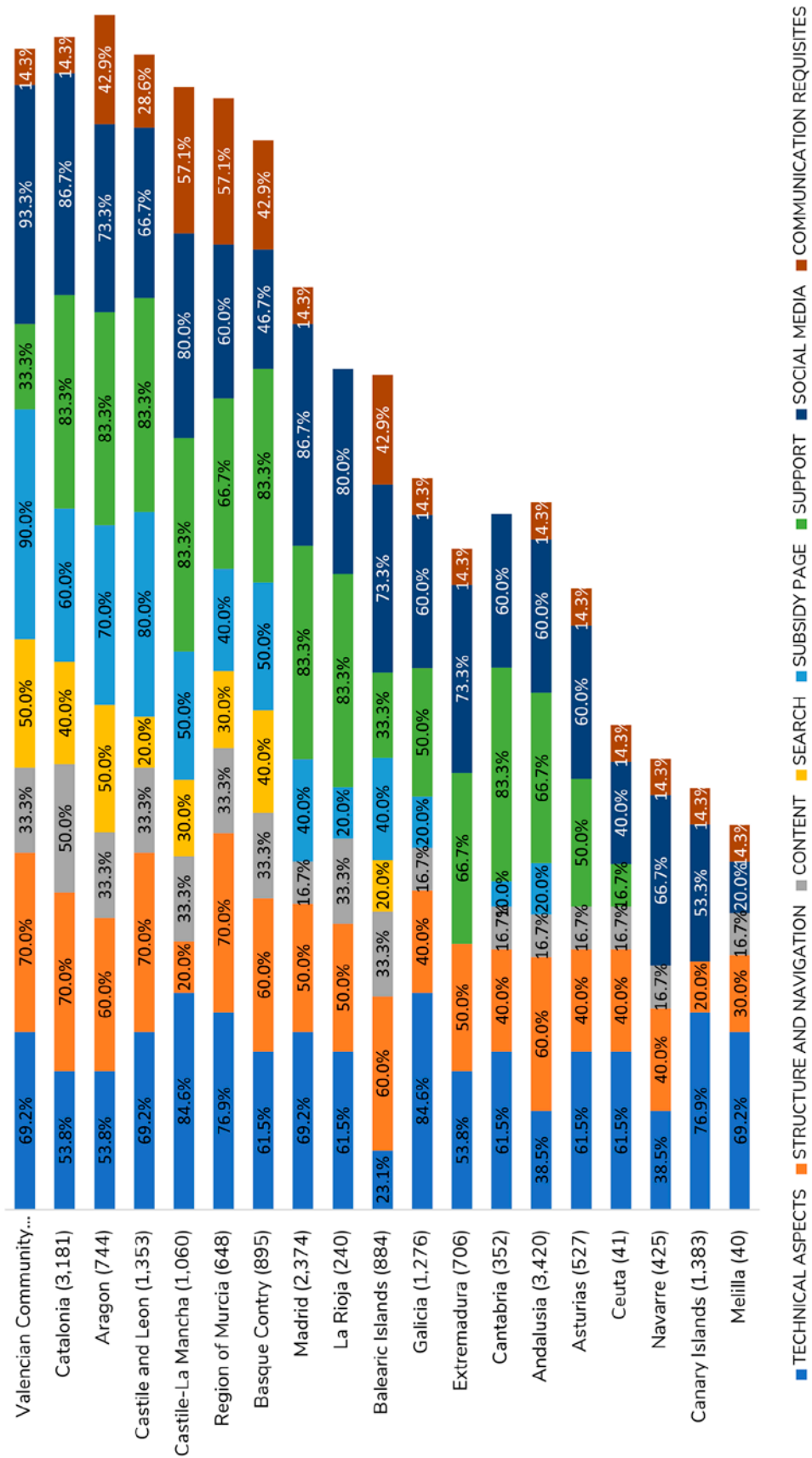
In this section there is a general failure. Only Castile-La Mancha and Murcia scored more than half of the points, with 57.1% each. In contrast, the territories with the lowest scores are Cantabria and La Rioja, which scored no points at all.

4.10. Overall summary and comparison with the allocated budget

As can be seen in graph 1, only seven regions scored more than half of the points when applying the analysis protocol, with the Valencian Community (63.6%), Catalonia (59.7%), Aragon (59.7%) and Castile and Leon (58.4%) accumulating the highest scores. Conversely, the worst as far as communicated is concerned are Melilla (22.1%), the Canary Islands (27.3%), Navarre (27.3%) and Ceuta (27.3%).

Finally, it can be observed that there is no correspondence between the allocated budget and the performance in terms of communication. The regions that have received the most funds in March 2023 are Andalusia (fourteenth in our analysis), Catalonia (second), Madrid (eighth), Valencia (first), Castile and Leon (fourth) and Galicia (eleventh).

Graph 1. Overall summary of the scores achieved by each region (in parentheses, the budget allocated by autonomous community)



Source: Own elaboration.

5. Discussion and conclusions

This study aims to explore how Spain's Autonomous Communities are resolving the important communication-public aid binomial, which is increasingly important for the future inclusiveness of nations. And, in particular, how they have dealt with it in order to disseminate NextGenerationEU funds. We believe that our study has significant implications, as it helps the different territories to identify areas for improvement and the Central Government to propose recommendations and corrective measures to ensure effective communication.

Regarding the first research question, we identified that the different ACs have created websites that centralize the information of the NextGenerationEU funds, which although not mandatory, was recommended (Dirección General del Plan y Del Mecanismo de Recuperación y Resiliencia, n.d.). However, in light of the results obtained, agencies have followed different strategies. While some regions incorporated the information through a landing page, others preferred to separate it on a specific website.

In addition, the study also illustrates that in several cases information is fragmented on different sites, making it difficult for the end-user to have all the information. Therefore, a first implication could be to compile all fund-related information on a single website per region. In the same vein, publishing the list of websites per community on the official website of the Recovery and Resilience Plan would be of great help to potential beneficiaries.

Another significant aspect, and in response to RQ2, is that only seven regions achieved more than 50% of the protocol score, which shows that the quality of the websites has ample room for improvement. In this sense, it would be of interest to standardize this quality and, for the territories with a lower score, to improve the different variables analysed. In up to four variables, the average score was below 50%, making it clear that the Autonomous Communities and Cities must make an effort to improve their lack of content, aid search engine, assistance, dissemination through social networks and compliance with the communication requirements established by the regulations. Melilla, the Canary Islands, Navarre, Ceuta, Asturias, Andalusia, Cantabria, Extremadura, Galicia, the Balearic Islands, La Rioja and, to a lesser extent, Madrid should urgently review their websites. Likewise, taking into account the differences in performance that would respond to RQ3, it would be advisable to extend the communication guidelines provided by the Central Administration to try to reduce the gap observed between Autonomous Communities and Cities.

The study has also responded to RQ4 by noting the worrying situation regarding compliance with communication-related guidelines. Only two regions obtain a pass mark in this area. Websites need to provide links to graphic material, improve the dissemination of related content through social media, and correctly and consistently name the origin of funds.

On the other hand, in response to RQ5, one observes that there is not a complete correspondence between reporting and funds received. It would therefore be useful to reflect on whether reporting obligations should be modulated according to the aid received.

It is worth mentioning that the poor performance in communication by the autonomous communities could have a significant impact on the absorption level of European funds, as proposed by Martín-Llaguno, Solís, and Vilaplana-Aparicio (2022) in their analysis of structural funds. In this regard, future research lines could analyze the correlation between communication and absorption levels to verify whether a direct relationship exists and how this relationship could be optimized. Likewise, our study confirms the conclusions proposed by Martín-Llaguno, Vilaplana-Aparicio, and Gandía-Solera (2022), which highlight deficiencies in the implementation of communication plans for the ERDF and ESF+ funds by public administrations in Spain, additionally noting significant differences between territories.

In this context, it is worth highlighting the robustness of the developed analysis protocol, which provides a reliable and comprehensive tool for evaluating the quality of websites. This protocol, consisting of eight parameters and 66 indicators, can be useful not only for future research in other European countries but also for website managers of public organizations, who can use it both for self-administered audits and to improve their platforms (Codina & Pedraza-Jiménez, 2016).

As far as limitations are concerned, we can point out the following: we have not been able to analyse similar profiles on social networks. While in Murcia we analysed the X account created specifically to disseminate these funds, in the Canary Islands we examined the profile of the Presidencia del Gobierno de Canarias (Presidency of the Government of the Canary Islands). Another limitation was the difficulty of finding the websites in the absence of official guides. Despite a thorough research, the authors may have missed some related websites.

In any case, communication managers of organizations and teams applying for and receiving EU funding should be aware of the fundamental importance of what we have called the communication-public support binomial. Our work is intended to be a useful contribution to both researchers and practitioners in the sector.

6. Data availability:

Protocol used: <https://figshare.com/s/183c540948b7a381bbf8>

Data: <https://figshare.com/s/ff0a61db05de5b67120e>

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8. Contribution

Task	Author 1	Author 2	Author 3	Author 4
Conceptualization	x			
Formal analysis	x	x	x	x
Funding acquisition	x	x		x
Project administration	x			
Investigation	x	x	x	x
Methodology	x	x		
Data curation	x	x		
Resources	x	x		
Software	x	x		
Supervision	x	x		
Validation		x	x	x
Visualization	x	x	x	
Writing – original draft	x	x	x	x
Writing – review and editing	x	x	x	

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