Contrast

Innovation in the Cultural and Creative Industries

Contrast II study

CCSIs and innovation:

ecosystems, typologies, measurement, and impacts.

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PART I: **INTRODUCTION**

1. Presentation

This report collects and analyses the results of the Contrast II study on CCSIs and innovation. The document is structured in four main parts: introduction, results, in-depth analysis, and final recap.

As an introduction, the document initially presents the Background, objectives and methodology to place the reader adequately in the context of the study.

The beginning of the *Results* part begins with an initial contextualization (Regional contexts) of the territories analysed, taking into account, firstly, secondary data on territories, population and economy and, secondly, innovation, offering an overview with data extracted from the Global Innovation Index. The section closes with a context summary at a general level that allows a better reading of the data in the specific field of CCSIs.

The report then goes into the core results of the content of the study in the section on Innovation and CCSIs. This section addresses all the relevant dimensions for the study of innovation and CCSIs combining policy information and agents involved in each territory with their specific innovation practices and organizations in the cultural and creative sector. This section provides a descriptive view (graphs and charts, descriptive statistics…), drawing on two main tools: the questionnaire to regional coordinators, on regional contexts, and the questionnaire to CCSIs

agents, on the innovation they produce. This entails addressing all relevant dimensions of innovation in CCSIs at two different levels.

Thus, the section “CCSIs monitorization and innovation” reflects on the existence of tools and agents that monitor CCSIs and/or innovation; the section “Regional strategic approaches” it reflects on the type of strategic approaches of administrations; section “Innovation environment” it reflects on actors and types of tools used in support of the sector and its innovation; the section “Innovation features” reflects on what kind of innovations are made and for what reasons, and at the section “Measuring results, impacts and innovation value” it reflects on the positive social, economic and environmental externalities produced by the sector from its innovation.

In the third part (In-depth analysis), an interpretive perspective is provided. From all the results presented in previous sections, deeper looks and analyses are made expanding and crossing results, but also providing interpretative and conceptual keys that generate greater understanding of the state of the matter. Two large dimensions structure this part: Trends, typologies and singularities, on one hand, and Innovation measurement in CCSIs: scope and limitations. The first section is divided into two parts: Innovation ecosystems and Types and innovation values in CCSIs. In each of these parts, the content is structured into two subparts: one for summarizing the previous results and the other for deepening the analysis.

In the section on the measurement of innovation in CCSIs, specific issues related to measurement in CCSIs are addressed through the results obtained in the organizations' survey, assessing how the design and used indicators have functioned. Reflections are made on how CCSIs adapt to established measurement frameworks and their uniqueness.

To conclude, fourth part, Final Recap, wraps up the study by revisiting the initial objectives and summarizing the key findings.

2. Background, objectives and methodology

Diagram 1. Methodological process summary

CONTRAST II: OBJECTIVES

- ✓ Describe innovation contexts in the CCSIs.
- ✓ Identify innovation specificities in the CCSIs.
- ✓ Measuring innovation in the CCSIs.

requires

- → Analysis of the region
- → Analysis of the organizations

METHODOLOGY

1	Regional coordinator selection
2	Fieldwork for the analysis of the regions: questionnaire to the regional coordinator + selection of organizations in their regions.
3	Fieldwork for the analysis of the organizations.

SAMPLE

16 regions	88 organizations

DATA EXPLOITATION

- ✓ Description of regional environments
- ✓ Description of levels and types of innovation in the CCSIs

Analysis of contexts influences:

- ✓ Innovation and socio-economic regional context on innovation in the CCSIs.
- ✓ Regional innovation context in the CCSIs in the

- ✓ Assessment of the organization's questionnaire design for measuring innovation in CCSIs

Source: Own elaboration

Origin of the study

The Department of Culture and Language Policy of the Basque Government is promoting a work route within the framework of RIS3 around Cultural and Creative Industries (CCSIs) as an area of opportunity.

In 2019, a process of reflection began on the conceptualization and exploitation (through indicators) of R+D in the Basque cultural and creative sector. The reason for undertaking it is the deficit of R + D that is reflected in the data of cultural and creative sectors compared to the three strategic priorities (Advanced Manufacturing, Energy and Life Sciences - Health) and two of the four areas of opportunity (Food and Urban Habitat) included in the RIS3.

Based on this problem, the work began with the development of a conceptual framework for the application of R+D in the cultural and creative sectors with the following objectives:

- Raise awareness about the innovation that is taking place in the CCSIs, according to approved and standardized measurement criteria for all sectors.
- Show the uniqueness of CCSIs, identifying aspects that characterize cultural innovation, which are not reflected in the frameworks established for other sectors and that make them unique.

In 2020 and 2021, a broad process of reflection and contrast was carried out on two levels:

- Drafting of a report concerning R+D in the CCSIs contrasted with local experts. It was shown that existing innovation indicators at European and regional level could not reflect the authentic levels of cultural innovation in the Basque Country.
- This report gave rise to an international project, where experts in R+D in cultural and creative sectors and industries (*CCSIs*) analysed and debated models and practices on measuring innovation. The conclusion was that an international case study was needed to complete the research. This case study was the *Contrast I* pilot study.

Objectives and main hypothesis

The objectives of the initial pilot study (*Contrast I*) carried out in 5 European regions and extended worldwide through *Contrast II* are:

- Identify elements of the regional context that characterize and favour the development of innovative projects in the CCSIs.
- Carry out a comparative analysis of good innovation practices to detect both shared elements with other sectors and those elements inherent to cultural and creative innovation.

- Advance on the design of operational indicators to monitor innovation in the cultural and creative industries in the future.

In the *Contrast I* pilot study final report it was concluded that it is relevant to address the general context in which each region is inserted. Contexts influence and indirectly contribute to explaining certain aspects of CCSIs and their innovation by mixing structural conditions, opportunities, and constraints. In this sense, some correlation was observed between the general context in urban and socioeconomic terms and some aspects related to CCSIs and their innovation. Therefore, it was considered relevant to deepen the general characterization of the regional context and the creation of a typology to classify them. This typology, in *Contrast I*, relied on the classification scheme of European welfare systems as a starting point.

The *Contrast II* study is proposed in 2022 as an expanded version of the analysis of regional innovation contexts in CCSIs, this time on a global scale. It maintains the same objectives (the exploratory and descriptive nature of innovation ecosystems) and raises again the general hypotheses on the importance of the context:

- Influence of the global context into the specific context: There is a correlation between an advanced socioeconomic and innovative context with the specific development of the CCSIs and their innovation.

- Case-specific context influence: Various specific types of innovation ecosystems within the CCSIs generate innovation outcomes and impacts accordingly.

Methodology

To achieve its objectives, *Contrast* is based on two pillars:

A. Context analysis or innovation ecosystems analysis in the CCSIs.

B. Analysis of cases or agents of innovation in the CCSIs.

The common thread of the whole project intertwines two levels: the political, administrative and strategic levels; and the agents in the field (companies, associations, NGOs...).

It should be noted that the *Contrast II* project does not end with this report. There will be a final open conference on October 25-26 where participating regions and organizations, along with CCSIs experts, will debate the results of this study, contributing to drawing the final conclusions.

Until now, the methodological approach carried out has followed three steps:

1. Selection of a coordinator for each of the 16 selected regions (see Table 1 for sample characteristics). These coordinators are connected in different ways to the ecosystems of the CCSIs in their respective regions (public officials, consultants, researchers…).

Table 1. Characteristics of the regional sample

Area	Europe								Africa			Asia-Pacific		North America		Latin America
Country	Germany	United Kingdom	Spain	Denmark	Estonia	Finland	Portugal	Italy	Kenya	South Africa	Uganda	India	Australia	United States of America	United States of America	Colombia
Case type	Region	Region	Region	Country	Country	Country	Region	Region	Country	Region	Country	Region	Region	Region	Region	Region
Case	Baden-Württemberg	Cardiff Capital Region (CCR)	Comunitat Valenciana	Denmark	Estonia	Finland	Região do Norte	Puglia	Kenya	Western Cape	Uganda	Karnataka	South Australia	Washington	California	Antioquia

Source: Own elaboration

2. These **coordinators have answered a questionnaire** about their regions concerning: sources of information, general positioning of the region in terms of innovation and CCSIs, general strategic approach and characteristics of the innovation environment. Additionally, the **coordinators have selected between 5 and 10 practices** from their respective regions based on their informed criteria.

3. These **88 organizations**, which constitute a large and relevant sample from a theoretical/qualitative point of view (see Figure 1 for the list of participating organizations and the sample characteristics) have also answered a specific questionnaire. Through their answers, **a key component of *Contrast II* study**, they also

provide information on characteristics of their innovation environment, the types of innovation they carry out, and their organization's results and impacts.

Therefore, the process is shaped through fieldwork at two levels, each with its own questionnaire in which closed and open questions are combined for the regional coordinators and for the innovation agents (organizations). Both questionnaires can be found in the methodological annex (Annex 1).

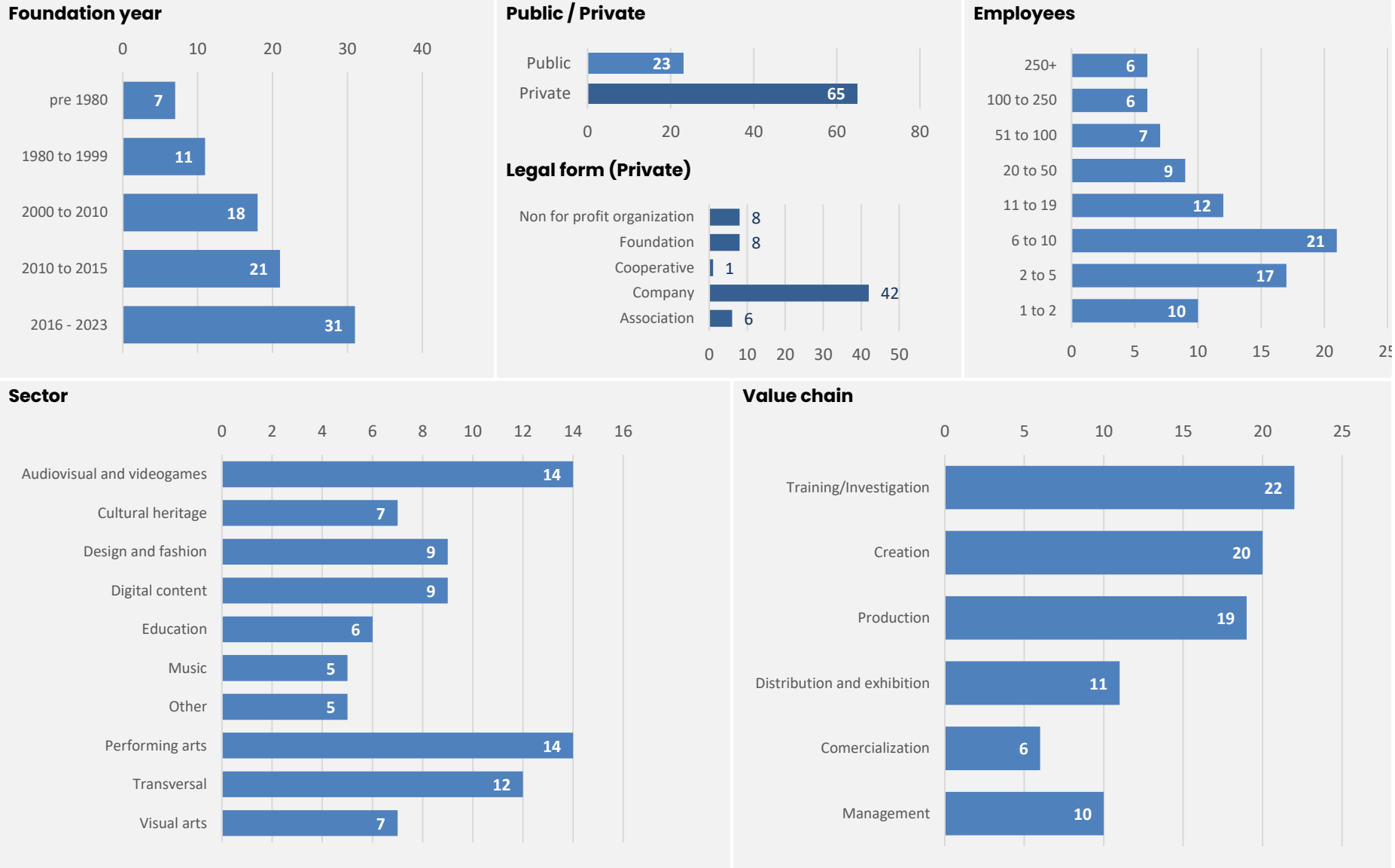
It is important to note that the design of the organizations' survey is itself a proposal for measuring innovation in CCSIs. Through the **lessons learned from *Contrast I* and based on the theoretical framework of the project**[1], a set of questions has been introduced to capture innovation in CCSIs. Not only with the goal of measuring this innovation but also to reflect on the challenges and possibilities of doing so. For this reason, the questionnaire also included questions about the extent to which participants felt represented by the proposed items. Additionally, for the same reason, the report includes a section (section 6 "Innovation measurement in CCSIs: scope and limitations") reflecting on how the questionnaire has functioned in relation to this objective.

[1] Contrast I report: *Innovation context within CCSIs in 5 European regions* (2022)
https://www.euskadi.eus/contenidos/informacion/ksi_cwf_workshop_20220719/eu_def/adjuntos/Basque_Country_Innovation_CCIs_pilot_draft.pdf
Theoretical framework: *CCIs and innovation contrast. General outcomes* (2021)
https://www.euskadi.eus/contenidos/informacion/ksi_contrast_proiektua/en_def/adjuntos/CCIs-and-Innovation_General_Outcomes.pdf

Figure 1. List of participating organizations and characteristics of the organizations sample
List by regions:

1. Realities Extended at the University of Adelaide (South Australia)
2. Flinders University - The Void (South Australia)
3. Light ADL (South Australia)
4. Illuminate Adelaide (South Australia)
5. ModelFarm (South Australia)
6. Corporación Hérmetus (Antioquia)
7. Museo de Antioquia (Antioquia)
8. Orquesta Filarmónica de Medellín (Antioquia)
9. Pantolocos de la Corporación Casa Arte (Antioquia)
10. Impact Hub Medellín (Antioquia)
11. diidoo® (Antioquia)
12. Popakademie Baden-Württemberg GmbH (Baden-Württemberg)
13. NEXT Mannheim (Baden-Württemberg)
14. Hochschule der Medien Stuttgart (Baden-Württemberg)
15. K3 Kultur- und Kreativwirtschaftsbüro Karlsruhe (Baden-Württemberg)
16. Wirtschaft und Stadtmarketing Pforzheim /EMMA - Kreativzentrum Pforzheim (Baden-Württemberg)
17. MFG Baden-Württemberg (Baden-Württemberg)
18. Virtual Dimension Center (VDC) w.V. (Baden-Württemberg)
19. Tinkertank, Interactive Media Foundation gGmbH (Baden-Württemberg)
20. AMCRS - Animation Media Cluster Region Stuttgart (Baden-Württemberg)
21. SkySpirit GmbH (Baden-Württemberg)
22. Center for Cultural Innovation (California)
23. Destination Crenshaw (California)
24. Arts for LA (California)
25. BRIC Foundation (California)
26. BWLB Ltd (Cardiff CCR)
27. Object Matrix (Cardiff CCR)
28. Hijinx Theatre (Cardiff CCR)
29. edge21 studio ltd (Cardiff CCR)
30. Y Pod Cyf. (Cardiff CCR)
31. gorilla TV (Cardiff CCR)
32. Palau de les Arts Reina Sofía, Fundació de la Comunitat Valenciana (Comunitat Valenciana)
33. Fira Trovam (Comunitat Valenciana)
34. IVAM (Comunitat Valenciana)
35. Centre del Carme Cultura Contemporània - Consorci de Museus de la Comunitat Valenciana (Comunitat Valenciana)
36. Institut Valencià de Cultura (Comunitat Valenciana)
37. Espai LaGranja- IVC (Comunitat Valenciana)
38. Espai d'Art Contemporani de Castelló (Comunitat Valenciana)
39. Marahaba Music expo (Uganda (East Africa))
40. Malafi'arts production (Uganda (East Africa))
41. Orupaap Cultural Foundation (Uganda (East Africa))
42. Culture and Development East Africa (CDEA) (Uganda (East Africa))
43. MOTIV (Uganda)
44. Quad - A Group (Uganda)
45. The GoDown Arts Centre (Uganda)
46. Filaret OÜ (Estonia)
47. Aus Design OÜ (Estonia)
48. Myceen (Estonia)
49. RAIKU Packaging (Estonia)
50. The Ladies Association of Kuopio / Design Union (Finland)
51. Helsinki Xr Center/Metropolia Univeristy of Applied sciences (Finland)
52. Creative Export Innovations (Finland)
53. Uniarts Helsinki (Finland)
54. Aalto University (Finland)
55. VIPROF ELECTRONICS (Karnataka)
56. Indian Institute of Science (Karnataka)
57. Edunet Foundation (Karnataka)
58. BlackRhino VR (Kenya)
59. Kenya Private Sector Alliance (Kenya)
60. Standup Collective (Kenya)
61. THE ART OF MUSIC FOUNDATION (Kenya)
62. Circle Art Agency (Kenya)
63. Art at Work Limited (Kenya)
64. Kariboo Creative (Kenya)
65. Trio Media Kenya (Kenya)
66. TIKITWORLD (Região do Norte)
67. Canal180 (Região do Norte)
68. Everythink, Lda (Região do Norte)
69. 4Humanz - Consultancy and research for humanz (Região do Norte)
70. Applicazioni di Ingegneria ed Informatica s.r.l. (Puglia)
71. Espero srl (Puglia)
72. Didap s.r.l.s. (Puglia)
73. Università del Salento (Puglia)
74. Tou.Play ETS (Puglia)
75. IMAGO (Puglia)
76. 34° Fuso APS (Puglia)
77. Chocolate Tribe (Western Cape)
78. The Craft and Design Institute (Western Cape)
79. Nyamakop (Western Cape)
80. Empatheatre (Western Cape)
81. Free Lives (Western Cape)
82. The Centre for the Less Good Idea (Western Cape)
83. Path with Art (Washington)
84. Terrain Programs dba Terrain (Washington)
85. Cultural Space Agency (Washington)
86. Mighty Tieton Production (Washington)
87. TwispWorks Foundation (Washington)
88. King County Creative (Washington)

Characteristics of the organizations in the sample:



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

PART II: **RESULTS**

3. Regional contexts

In this first section of results, the environments of the selected regions are characterized at a general level. First, variables related to territory, population and economy are described based on secondary information generally from the United Nations or the World Bank.

Secondly, a characterization of each general environment is also offered in terms of innovation. In this sense, the general innovation contexts of each region are described through the results of the Global Innovation Index 2022. Since the Global Innovation Index also incorporates a specific section of Creative Outputs, the results of each environment are also noted in these terms. This provides external information, based on objective indicators, which will complement the primary information collected in the study through the information provided by regional coordinators.

All this secondary information based on general characterization is analysed at country level. This is the minimum unit of information for which it is possible to find standardized information common to all regions, which have different territorial ranges or levels as will be shown in Table 1 (states, regions, and countries).

In the last subsection, a synthesis of these contexts is made, which, for the final reflection, should be useful for a better interpretation of the results obtained.

Thus, this section becomes relevant in terms of exploring the hypothesis of the influence of the general context in the specific context of innovation in the CCSIs.

3.1 Territories, population, and economy

As seen, the analysed regions are in 5 global areas (Europe, Africa, Asia-Pacific, North America, and Latin America). The diversity of contexts is very high, with very different demographic, political and welfare systems and with very different world economic positions, even within the same global area.

In Annex 2, it is possible to consult a summary for each region of indicators in the basic dimensions of demography and economy, but also in terms of society, education, environment, and health:

- At demographic level, the differences in terms of percentage of urban population stand out. The sample has an average of 69,1% of the percentage of urban population, but there are contexts in which this percentage rises above this average and others in which it remains below, even far away. Among the countries of Europe, the figure rises to 77,6%. In the African countries it remains 39,6% (South Africa remains above this average, Kenya and Uganda remains below). India's percentage is similar, 34,5%, which differs greatly from the other country in the same global area as Australia, 86,1%.

→ In the dimension of economy and society, GDP per capita also shows very different realities following this same pattern, which are also manifested, in issues such as percentage of employment in services or industry.

In terms of GDP per capita, the United States reaches approximately 76,000 US $, an average of 54.500 US $ in the European countries and 8,000 US $ for African countries. India also reaches about 8,000 US $, although Australia reaches approximately 62,500 US $ and Colombia is in between with about 20.000 US $.

The GINI coefficient also offers a glimpse into different social and welfare realities. Countries in Europe have the lowest inequality rates, with a GINI average of 31.8 compared to 48.8 for African countries. Both Asia-Pacific countries are around 35, the United States are around 39.7 and Colombia 51.5.

In economic terms, it is important to highlight that in some countries there is a relevant external debt, a sign of the different positions in the world economic panorama. This is the case of Colombia, India, Kenya, South Africa, and Uganda.

→ In relation to the educational dimension, African countries, together with India, have the lowest average number of years of schooling, between 10.1 (Uganda) and 13.6 (South Africa). On the contrary, in European countries this number rises to 17.3, in Australia to 16.5 and in the United States to 16.3.

→ Finally, different characteristics are also observed in other dimensions such as environment and health. Pollution issues are related to indicators such as the percentage of urban population or the type of economy. To contrast examples, CO^2 pollution in African countries is the lowest and in Australia and the United States the highest, with Europe in between. On the contrary, the primary energy intensity follows the opposite trend.

The set of indicators contributes to drawing a set of different economic and social positions between the countries, pointing to the fact that general contexts may influence in different ways the specific issues concerning the CCSIs.

3.2 Innovation level

The Global Innovation Index (GII), led by World Intellectual Property Organization (WIPO), has a special value because it provides a common basis for describing countries according to their levels of innovation. This allows for a better understanding of the regional context of each case, introducing information about innovation at different levels and dimensions (see Annex 3 for more information.)

Table 2. Results of each case (by country) in the GII and proposed classification

Country	Score	Position (total = 132 countries)	Classification according GII
United States of America	61,78	2	Innovation leader
United Kingdom	59,73	4	Innovation leader
Germany	57,23	8	Innovation leader
Finland	56,88	9	Innovation leader
Denmark	55,93	10	Innovation leader
Estonia	50,19	18	Innovation leader
Australia	47,14	25	Innovation leader
Italy	46,06	28	Performing at expectations for its level of development
Spain	44,62	29	Performing at expectations for its level of development
Portugal	42,11	32	Performing at expectations for its level of development
India	36,57	40	Performing above expectations for its level of development
South Africa	29,82	61	Performing above expectations for its level of development
Colombia	29,22	63	Performing at expectations for its level of development
Kenya	22,75	88	Performing above expectations for its level of development
Uganda	15,66	119	Performing at expectations for its level of development

Source: Own elaboration based on data from the Global Innovation Index 2022

As shown in Table 2, the regions participating in the study exhibit distinct innovation profiles and levels, ranging from leading positions to emerging ones. In the broader context of innovation according to the *Global Innovation Index*, seven countries stand out with a leading innovation profile (USA, UK, Germany, Finland, Denmark, Estonia, and Australia). Italy, Spain, and Portugal are very close to each other and near a leading position, yet they might be better characterized as 'advanced profiles'. India holds and intermediate position, being a clear leader in its own region, but not from a global perspective. Alongside South Africa, Colombia, Kenya, and Uganda, they constitute a heterogenous block of moderate and emerging innovation profiles.

The *Global Innovation Index* measures a very broad set of variables in seven dimensions ranging from aspects related to the political and administrative environment to sustainability, through the characteristics of business and knowledge or education (for more details about indicators, Annex 3). Four of them are considered as "inputs" of innovation and two of them are considered as "outputs" of innovation.

In fact, one of the subdimensions of *outputs* has to do with creative outputs and the production and export of cultural and creative goods and services. This provides valuable information to complement this study, which is why it will be briefly discussed in a specific subsection of this chapter.

Before that, Table 3 summarizes the position of each country in each of the seven dimensions of the *Global Innovation Index*:

Table 3. Countries' position in the Global Innovation Index and scores in each dimension

		Inputs					Outputs	
Countries	**GII Position**	**Institutions**	**Human capital and research**	**Infrastructure**	**Market Sophistication**	**Business Sophistication**	**Knowledge and technology**	**Creative outputs**
USA	**2**	80.9	59.9	58.7	80.8	64.5	60.8	48.4
UK	**4**	74.5	61.5	62.9	67.6	51.7	55.7	55.9
Germany	**8**	76.5	64.1	57.7	53.7	52.7	54.8	52.3
Finland	**9**	82.5	60.6	65.9	51.7	61.6	59.6	39.0
Denmark	**10**	64.5	43.3	58.3	29.6	46.2	44.7	29.9
Estonia	**18**	82.2	42.7	61.6	68.8	48.3	41.2	38.2
Australia	**25**	77.2	61.7	58.8	50.2	48.6	32.2	37.8
Italy	**28**	59.0	46.8	57.4	41.9	39.3	45.2	41.3
Spain	**29**	66.8	47.7	59.8	43.4	41.4	38.1	36.8
Portugal	**32**	62.5	49.4	53.4	38.8	38.6	33.3	38.1
India	**40**	60.1	38.3	40.7	50.3	30.9	33.8	24.3
South Africa	**61**	51.9	26.9	40.7	40.4	27.6	24.7	19.5
Colombia	**63**	54.6	27.4	46.0	32.5	35.6	20.5	17.9
Kenya	**88**	51.8	14.0	30.3	19.7	24.7	19.2	15.6
Uganda	**119**	57.5	10.4	28.7	11.0	16.0	11.0	2.2

Source: Own elaboration based on Global Innovation Index 2022 data

3.2.1 Creative products: overview and specific focus on CCSIs

The three subdimensions of "Creative outputs" dimensions ("Intangible assets", "Creative goods and services" and "Online creativity") cover different fields, with a concept of creativity that goes beyond the usual sectoral delimitation of CCSIs (including issues related to patents and trademarks and software products). Moreover, it includes a subdimension ("Creative goods and services") closely related to cultural products and services (the export of cultural and creative services, national audiovisual productions, the entertainment and media market, the weight of graphic arts and the export of creative goods).

Without being a detailed portrait of the strength of the sector in terms of results, it does establish a useful guidance given the usual difficulties of finding internationally comparable information in the field of CCSIs.

The comparison between the global position, the position in the *Creative Outputs* dimension and the position in the *Creative goods and services* subdimension[2] allows us to see that, in the specific concept of the *Creative goods and services* subdimension, most countries lose positions.

[2] The entire information structure of the Global Innovation Index can be seen in Annex 3.

As can be seen from Table 4, on average, the countries in the sample are in a general position with a score of 35'73, in position 37'8 for the Creative *Outputs* dimension and in position 47'57 regarding the Creative *goods and services* subdimension. The loss of *position in the dimension of Creative Outputs* is very slight, but it is significant in the subdimension of *Creative goods and services*.

Table 4. Comparison among countries in the dimension of Creative outputs, the subdimension of Creative goods and services and the overall position, together with the detailed scores of the dimension of Creative outputs.

	Positions			**Specific scores**			
	Creative Outputs general position	**Creative goods and services specific position**	**Overall GII position**	**Creative outputs (dimension)**	Intangible assets (subdimension)	Creative goods and services (subdimension)	Online creativity (subdimension)
UK	**3**	**5**	**4**	**55.9**	68.3	42.3	44.8
Germany	**7**	**34**	**8**	**52.3**	67.8	28.4	45.2
USA	**12**	**4**	**2**	**48.4**	52.8	44.8	43.0
Denmark	**14**	**21**	**10**	**29.9**	24.1	40.6	30.9
Italy	**16**	**46**	**28**	**41.3**	62.2	25.3	15.5
Finland	**18**	**40**	**9**	**39.0**	46.0	27.0	36.8
Estonia	**24**	**9**	**18**	**38.2**	39.6	40.0	33.4
Portugal	**25**	**51**	**32**	**38.1**	51.2	23.6	26.5
Australia	**27**	**48**	**25**	**37.8**	43.3	24.5	40.2

Spain	**28**	**43**	**29**	**36.8**	50.6	26.1	19.9
India	**52**	**61**	**40**	**24.3**	38.0	17.2	4.1
South Africa	**64**	**99**	**61**	**19.5**	34.3	5.5	4.1
Colombia	**75**	**81**	**63**	**17.9**	26.4	10.2	8.6
Kenya	**79**	**44***	**88**	**15.6**	17.7	25.8	1.3
Uganda	**123**	**124**	**119**	**2.2**	3.9	0.9	0.3

Source: Own elaboration based on Global Innovation Index 2022 data

From the observation of the table and the data of the *Global Innovation Index* itself, it is worth highlighting:

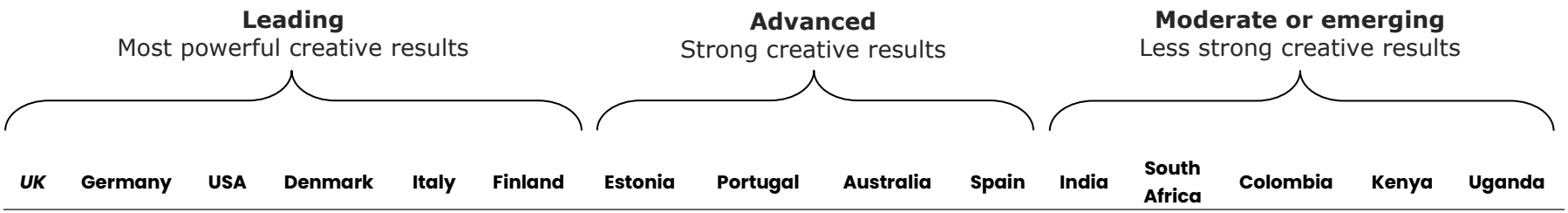
- The case of Kenya, which gains positions, and one explanation could be the lack of information on audiovisual productions, on one hand, and for a leading position in the concept of graphic arts as part of the total manufacturing (it is ranked 3 worldwide).
- The case of Estonia also presents a similar situation, where a lack of information in the field of entertainment and media is combined with a position of world leader (second) in terms of national audiovisual productions by population aged 15 to 69.
- On the contrary, South Africa goes down one step, and goes from occupying position 61 in the general ranking and 64 in the dimension of *Creative Outputs* to occupy 99 in the specific ranking most linked to CCSIs. It is the case in which there is a worse comparison in these terms. It is also due to a lack of information

in one indicator (graphic arts on total manufacturing) and the drag of two indicators in which positions worsen: exports of cultural and creative services and national audiovisual production.

- In Uganda, it highlights that there are significant information gaps and no data in 3 of the 5 indicators.
- A large group of countries worsen their position relative to the general ranking and go from what could be considered leading to advanced (Germany, Australia, and Finland), or maintain their advanced position despite losing some positions (Spain, Portugal, or Italy).
- Finally, they maintain an almost identical position as leading US and United Kingdom.

Considering the score in the *Creative outputs* dimension, **the following classification (Diagram 2) is proposed in terms of cultural and creative context** according to the three main jumps that occur in the ranking (between position 18 in Finland and 24 in Estonia, and between position 28 in Spain and 52 in India).

Diagram 2. Blocks of regions according to their results in Creative Outputs dimension of the GII



Source: Own classification based on the Global Innovation Index 2022

This classification is relevant to obtain a better portrait of reality and because it provides a secondary information based on objective data to complement and interpret the primary information obtained by the regional coordinators. In this sense, this classification will be used in the synthesis section to explore the relationship between general contexts and CCSIs ecosystems (section 5.1.2). Specifically, as will be explained, our results (those obtained from the regional coordinators' survey) will be weighted with this external, objective data, helping to obtain a more comprehensive general view of each of the CCSIs contexts.

3.3 Regional context summary

To summarize this initial section, it is essential to highlight two points:

- The relationship between countries innovation profile and their socioeconomic profile.
- The specific secondary information about CCSIs provided by the Global Innovation Index.

Firstly, in Table 5 it can be observed each case with its results in terms of general innovation and the different variables of context of territory, population, and economy. The cases are ordered according to their general position in the *Global Innovation Index* and coloured according to their general innovation category, as indicated by the results in Table 2.

As can be seen immediately, green predominates at the top of the table, yellow colours and softer shades of green are in the middle and, at the bottom, orange and red are the ones most predominant.

This is indicative of the relationship between the general characterization variables (socioeconomic profile of the region) and the overall results in terms of innovation.

Table 5. Comparative characterization (colour scale) of the territory, population, and economic data of each region at country level, ordered according to their position in the Global Innovation Index general ranking.

Country (listed by their position at the global ranking)	% urban population	GDP millions ($ US) 2022	GDP per capita ($ US) 2022	% unemployment (modelled ILO estimate)	Gini Index	% employed services	External Debt Stocks (% of GNI)	Average years of schooling	CO2 emissions (metric tons per capita)	PM2.5 air pollution, mean annual exposure	Life expectation
USA	82,5	25.462.700	76.399	8,1	39,7	78,73	&	16,3	14,67	7,4	77,2
United Kingdom	83,7	3.656.809	54.603	4,5	32,6	80,83	&	17,3	5,22	10,47	80,7
Germany	77,4	5.309.606	63.150	3,8	31,7	71,61	&	17	7,91	12,02	80,6
Finland	85,4	328.004	59.027	7,8	27,1	74,58	&	19,1	7,37	5,86	82
Denmark	88	436.857	74.006	5,6	27,5	79,23	&	18,7	5,1	10,02	81,4
Estonia	69,1	62.797	46.697	6,8	30,7	68,12	&	15,9	7,67	6,73	77,1
Australia	86,1	1.626.940	62.625	6,5	34,3	78,37	&	16,5	15,23	8,55	84,5
Italy	70,7	3.052.609	51.865	9,2	35,2	70,23	&	16,2	5,31	16,75	82,9
Spain	80,6	2.181.968	45.825	15,5	34,9	75,54	&	17,9	5,09	9,69	83
Portugal	65,8	430.227	41.452	6,8	34,7	69,83	&	16,9	4,33	8,16	81
India	34,5	11.874.583	8.379	8	35,7	32,27	21,4	11,9	1,79	90,87	67,2
South Africa	66,9	952.603	15.905	29,2	63	72,41	51,77	13,6	7,5	25,1	62,3
Colombia	81,1	1.052.389	20.287	15	51,5	64,11	58,3	14,4	1,6	16,52	72,8
Kenya	27,5	311.410	5.764	5,7	40,8	39,43	38,45	10,7	0,42	28,57	61,4
Uganda	24,4	127.282	2.694	2,8	42,7	21,36	46,53	10,1	0,13	50,49	62,7

Source: Own elaboration based on data and sources from table 1

Secondly, it must be considered that the information provided by the Global Innovation Index in terms of Cultural Outputs is very valuable. This establishes a basis for comparison for all the regions with objective information that can complement our primary (survey) data.

In this regard, it is relevant to keep in mind the categorization of the cases (regions/countries) according to their position in the **specific ranking of Creative Outputs**, which allows them to be classified accordingly to their cultural and creative results:

- → **Leading** (Most powerful creative results): UK, Germany, USA, Denmark, Italy, and Finland
- → **Advanced** (Strong creative results): Estonia, Portugal, Australia, and Spain
- → **Moderate or emerging** (Less strong creative results): India, South Africa, Colombia, Kenya, and Uganda

These results and classifications, assuming the hypothesis of general contexts' influence in innovation, are relevant for a better understanding of the reality of each case. They may be relevant also for a subsequent reading of the specific data in terms of CCSIs innovation ecosystems.

4. CCSIs and Innovation

Section 4 presents the results of the questionnaires carried out to regional coordinators in their respective territories and to organizations on their innovation practice. It offers an overview of the state of the art on CCSIs and innovation, addressing relevant dimensions, addressing both regional issues with information from regional coordinators (policies, tools, agents...) and addressing individual issues with information from organizations (specific forms of innovation).

- The first and second sections of **"Monitoring CCSIs and innovation"** and **"Strategic approaches at the regional level"** are formed solely from the results of the questionnaires to regional coordinators. The information therefore refers directly to the characteristics of the regions.
- The third section of **"Innovation Environment"** intersperses both the results of the questionnaire to regional coordinators and the questionnaire of organizations. Therefore, a look at innovation environments is obtained with information from the universe of regional coordinators and the universe of organizations.
- Subsections four and five of **"Characteristics of innovation"** and **"Measuring results, impacts and value of innovation"** are built only with information from organizations, allowing innovation to be studied at case level.

All this information will allow, in the final reflection section, to deepen the hypothesis of the influence of the CCSIs specific ecosystems in the sample of innovation cases (organizations).

4.1 CCSIs' monitorization and innovation

In most of the cases they declare that cultural observatories do exist in their contexts (in 87,5% of the regions), but the percentage decreases slightly as more specific monitoring tools for CCSIs and innovation are considered: In 81.25% of the regions, there are statistics for CCSIs, and in 75% of all regions, there are innovation statistics. Monitoring is therefore quite widespread. However, the information provided by regional coordinators shows different frequencies, agents involved and orientations.

Figure 2a. Cultural observatories (%)

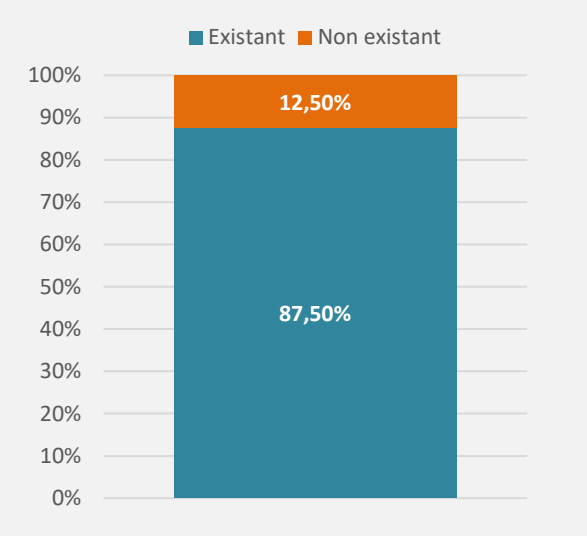


Figure 2b. CCSIs statistics (%)

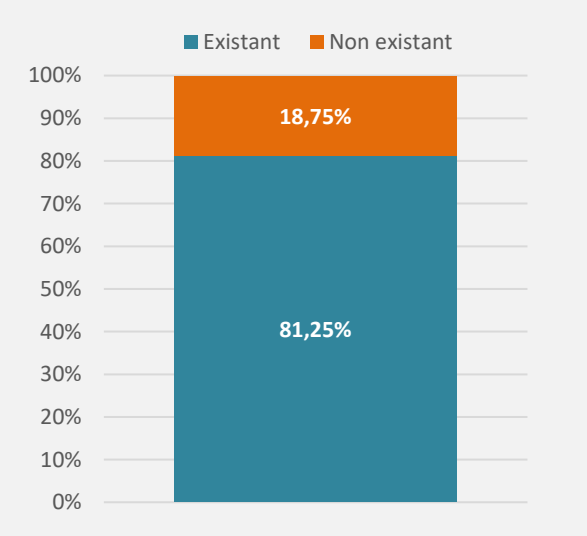
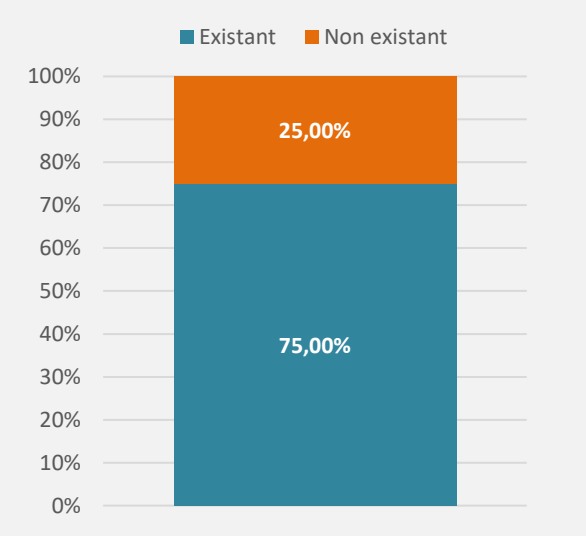


Figure 2c. Innovation statistics (%)



Source: Own elaboration based on surveys data (Regional Coordinators' survey Contrast II)

4.2 Regional strategic approach

Figure 3. Existence of specific plans incorporating CCSIs into economic development (%)

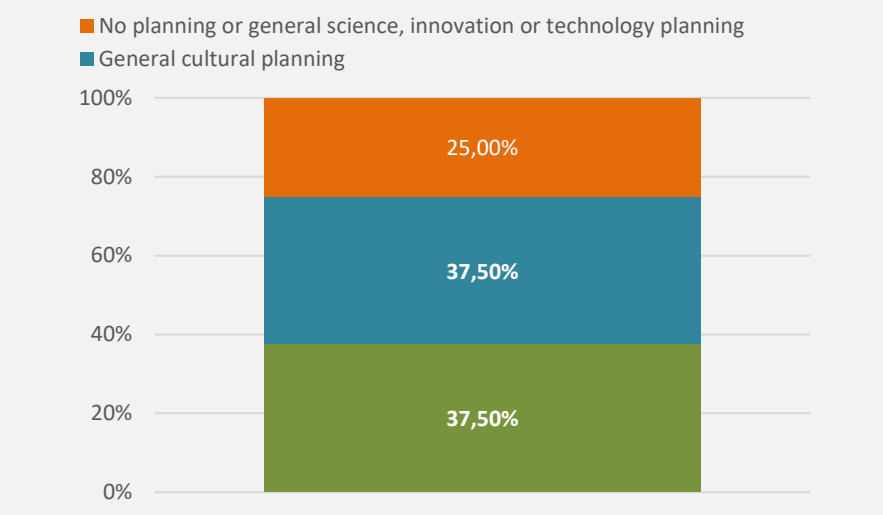
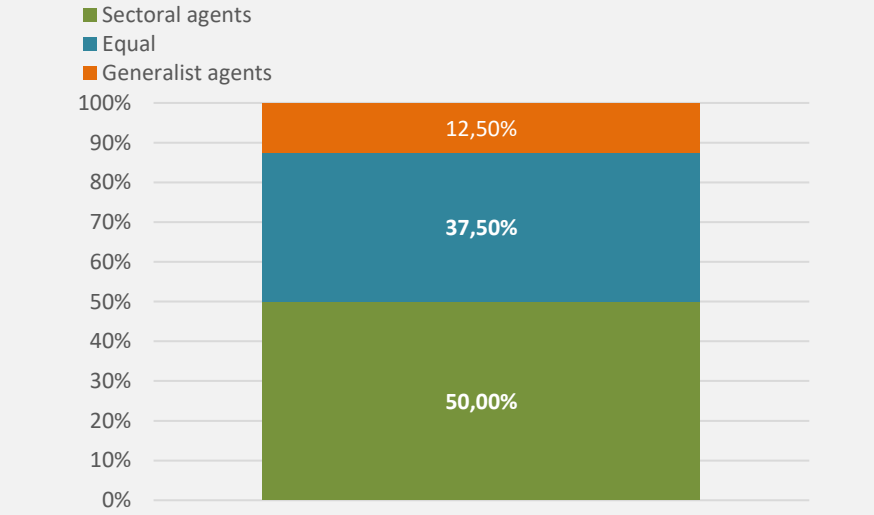


Figure 4. Type of agents involved in the development of CCSIs (%)



Regions with no planning or extra-sectoral planning	Regions with general cultural planning	Regions with CCSIs specific planning	Regions with active general agents	Equal	Regions with active sectoral agents
〉 South Africa – Western Cape 〉 India - Karnataka 〉 Germany - Baden-Württemberg 〉 Australia - South Australia	〉 Italy - Puglia 〉 Kenya 〉 Spain - Comunitat Valenciana 〉 USA - Washington 〉 Estonia 〉 Portugal - Região do Norte	〉 Finland 〉 Denmark 〉 Uganda 〉 USA - California 〉 United Kingdom - Cardiff (CCR) 〉 Colombia – Antioquia	〉 Spain - Comunitat Valenciana 〉 India - Karnataka	〉 Finlandia - 〉 Denmark 〉 Uganda 〉 Italy - Puglia 〉 Kenya 〉 South Africa – Western Cape	〉 USA - California 〉 United Kingdom - Cardiff (CCR) 〉 Colombia - Antioquia 〉 USA - Washington 〉 Estonia 〉 Portugal - Região do Norte 〉 Germany - Baden-Württemberg 〉 Australia - South Australia

Source: Own elaboration based on surveys data (Regional Coordinators' survey Contrast II)

In terms of strategic approach, according to figure 3 (left), it stands out that, in general, there is either a specific planning of the CCSIs or there is a cultural planning with a broader view. Even so, in 25% of the cases studied there is no type of plan.

Concerning the type of agents actively involved (figure 4), it stands out that there are mainly sectoral agents involved (50%). In any case, it is very unusual for the main actors to be generalist [3] (12.5%) and, in many cases, both sectoral and generalist agents are involved jointly.

Considering the administrative levels[4] involved in monetary support (Figure 5a on the back page, left) and non-monetary[5] (Figure 5b, right), the state and higher levels slightly predominate in monetary support. In terms of non-monetary support (Figure 5b, right), the local and regional levels stand out.

[3] The label "generalist agents" refers to "Ministries, areas, or departments in other fields than culture" or "Development agencies or similar of a general nature (several sectors)". On the contrary, the label "sectoral agents" refers to "Cultural ministries, areas, or departments" or "Development agencies or similar specialized in CCSIs".
[4] The label "lower administrative levels" refers to local and regional levels and the label "higher administrative levels" refers to State and international levels.
[5] Monetary support refers to "aid, subsidies, credit lines, tax incentives...", while non-monetary support refers to "infrastructure, advice, training...".

Figure 5a. Administrative levels involved in monetary support (%)

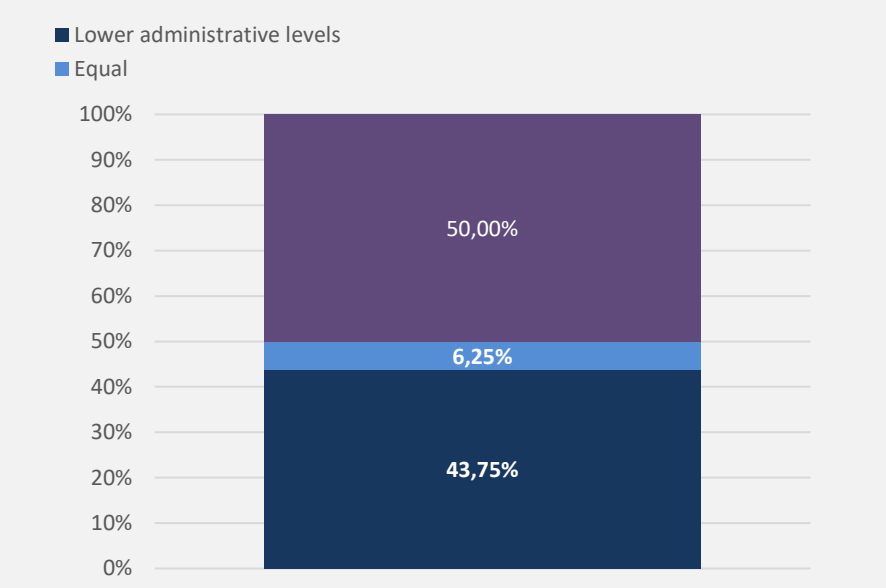
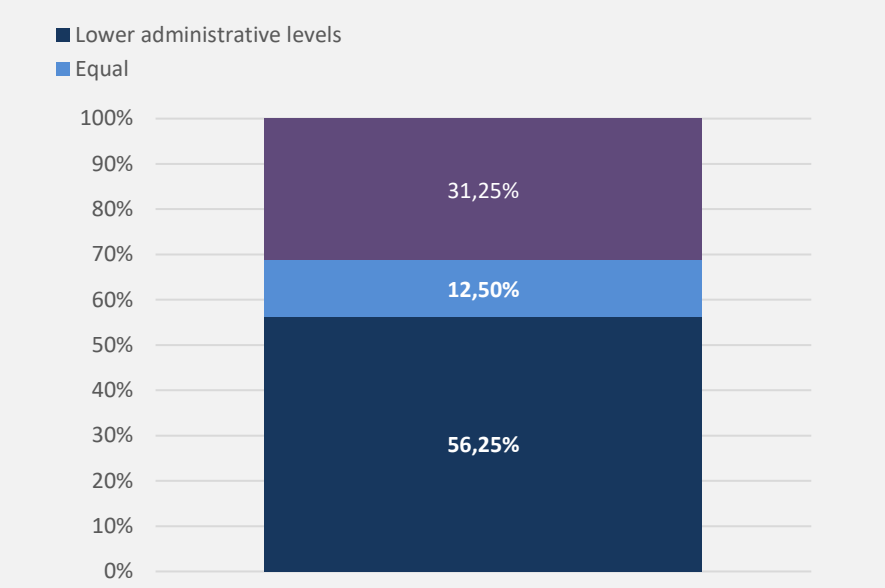


Figure 5b. Administrative levels involved in non-monetary support (%)



Higher administrative levels actively involved providing monetary support.	Equal lower-higher	Lower administrative levels actively involved in providing monetary support.	Higher administrative levels actively involved providing non-monetary support.	Equal lower-higher	Lower administrative levels more actively involved in providing non-monetary support.
〉 Denmark 〉 Uganda 〉 Kenya 〉 USA - California 〉 United Kingdom - Cardiff (CCR) 〉 USA - Washington 〉 Estonia 〉 Portugal - Região do Norte 〉 Australia - South Australia	〉 South Africa – Western Cape	〉 Finlandia 〉 Italy - Puglia 〉 Spain - Comunitat Valenciana 〉 India - Karnataka 〉 Colombia - Antioquia 〉 Germany - Baden-Württemberg	〉 Kenya 〉 Estonia 〉 Portugal - Região do Norte 〉 Australia - South Australia 〉 Spain - Comunitat Valenciana	〉 United Kingdom - Cardiff (CCR) 〉 USA - Washington	〉 South Africa – Western Cape 〉 Denmark 〉 Uganda 〉 USA - California 〉 Finlandia 〉 Italy - Puglia 〉 India - Karnataka 〉 Colombia - Antioquia 〉 Germany - Baden-Württemberg

Source: Own elaboration based on surveys data (Regional Coordinators' survey Contrast II)

4.3 Innovation environment

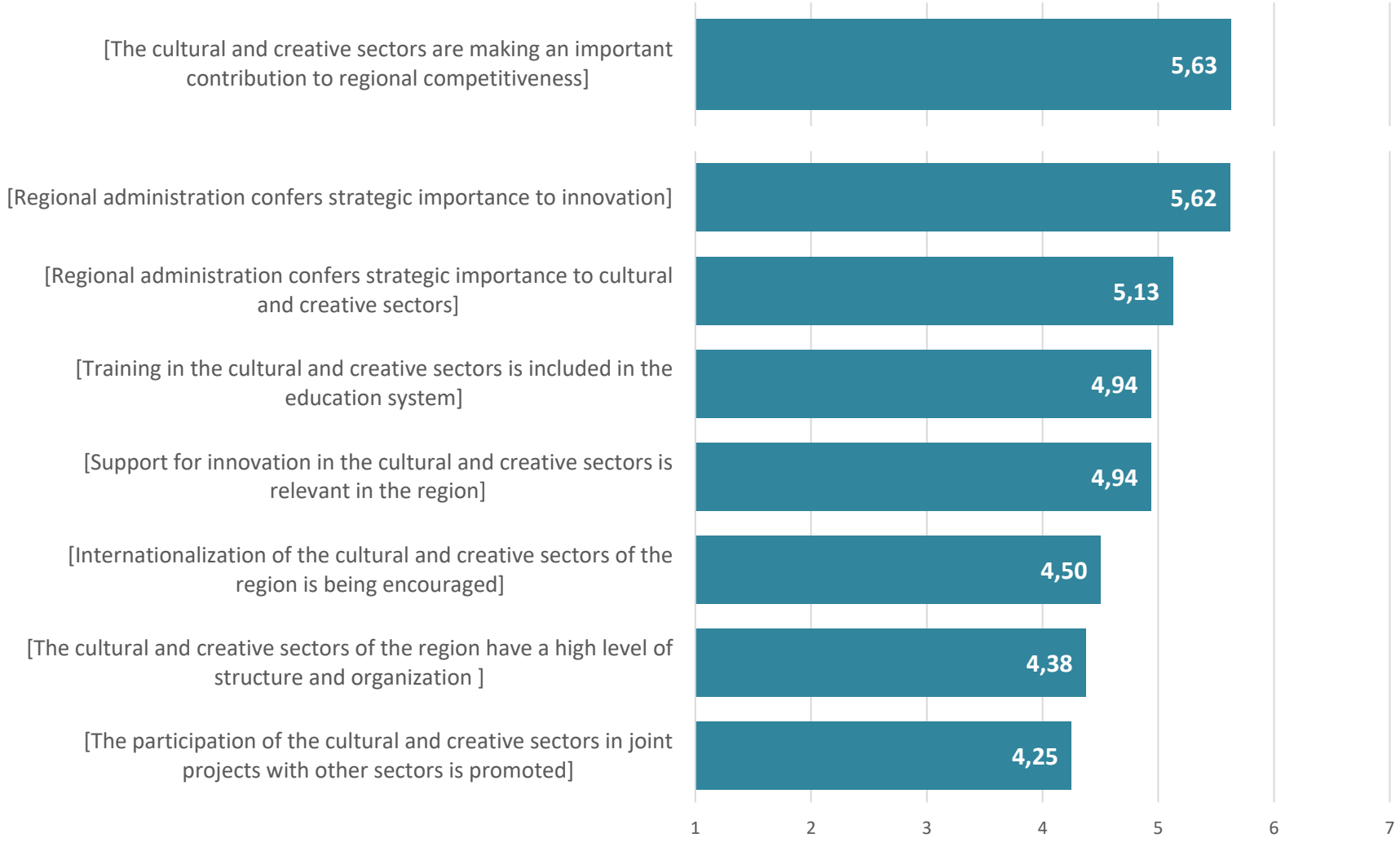
4.3.1 CCSIs and innovation

The respondents of each region have scored in an introductory way their territorial contexts linked to the CCSIs.

They have expressed their opinion regarding 8 items, which can be classified as follows for better interpretation:

- **Programs and public support (5 items):**
  - Support for innovation in the cultural and creative sectors is relevant in the region.
  - Regional administration confers strategic importance to innovation.
  - The participation of the cultural and creative sectors in joint projects with other sectors is promoted.
  - Internationalization of the cultural and creative sectors of the region is being encouraged.
  - Regional administration confers strategic importance to cultural and creative sectors.
- **CCSIs strengths (2 items):**
  - The cultural and creative sectors of the region have a high level of structure and organization.
  - Training in the cultural and creative sectors is included in the education system.
- **CCSIs contribution (1 item):**
  - The cultural and creative sectors are making an important contribution to regional competitiveness.

Figure 6. General strengths and challenges of the selected regions. Coordinators' evaluations average according to various dimensions. Scale from 1 (weak score) to 7 (strong).



Source: Own elaboration based on surveys data (Regional Coordinators' survey Contrast II)

Looking at each item we can see (figure 6) that the assessment of the contribution made by CCSIs in the regions is on average very positive (5.63 out of 7). Informants state public administration attaches strategic importance to both innovation and CCSIs. Despite these intentions, the different characterization items of the sector receive slightly more unfavourable scores. In the worst position are the issues of internationalization of the sector, structuring, and promotion of collaborations with other sectors.

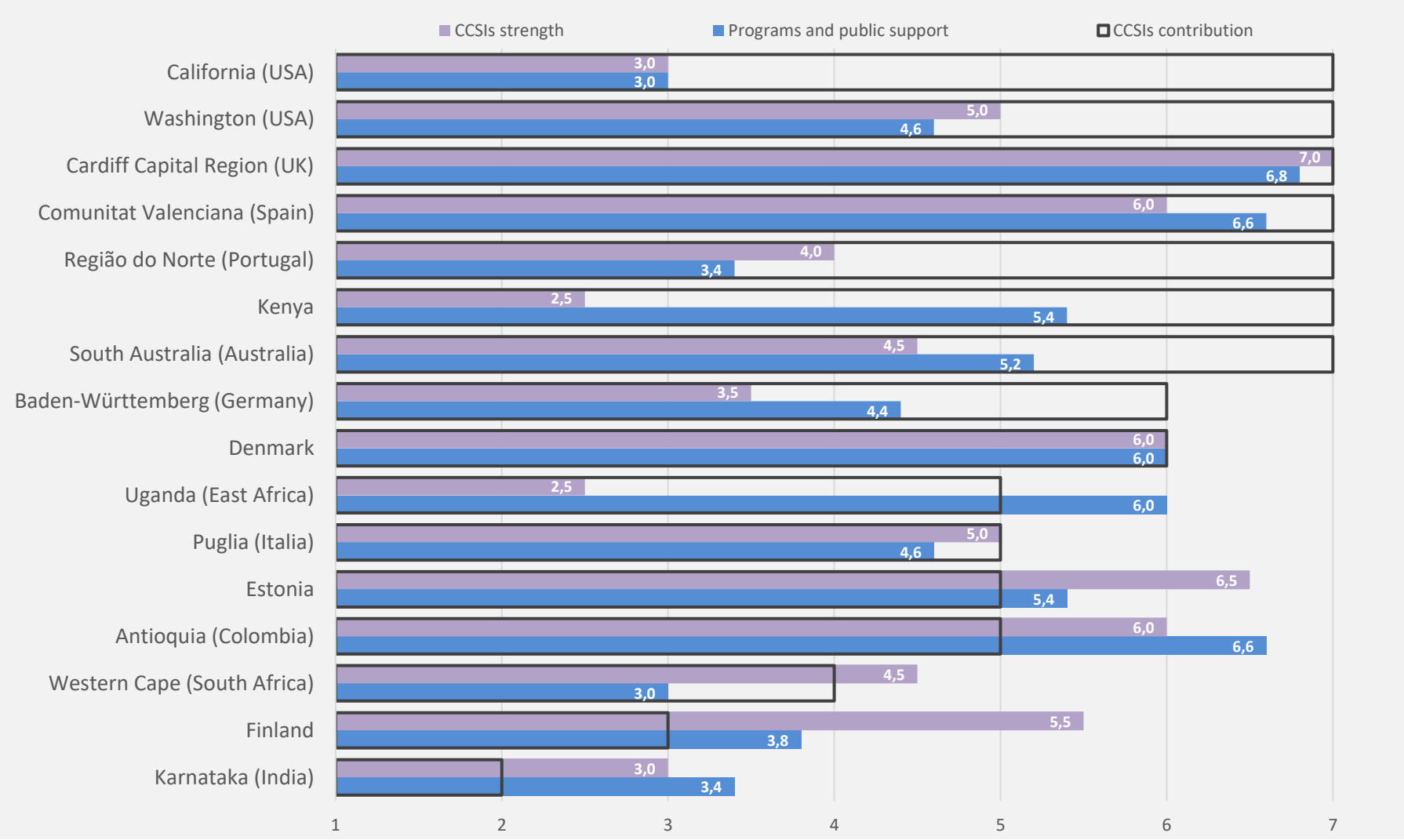
Figure 7 shows a great disparity of region situations contrasting the items organized in two groups with the score on CCSIs contribution to regional competitiveness. There are cases in which the contribution to regional competitiveness of CCSIs is valued very positively, but their characteristics and/or the existent public support to the CCSIs are unfavourable dimensions.

On the contrary, there are cases in which there is great support or a sector with strong characteristics but the assessment of the contribution to regional competitiveness does not stand out so especially. In any case, certain dynamics are noticed:

- Contexts where strengths are aligned and which have structured sectors, strategies and plans to support CCSIs, as well as great awareness of CCSIs ability to contribute to regional competitiveness: Cardiff (CCR) (Great Britain), the Valencian Community (Spain), Denmark and Puglia (Italy).

- Contexts where awareness of CCSIs ability to contribute to competitiveness is maximum, although both the structuring of the sector and the support policies are more limited: Washington (USA), California (USA), South Australia (Australia), Região do Norte (Portugal) and Kenya.
- Strong contexts both in CCSIs structuring and support, but whose capacity to contribute to regional competitiveness is not considered so evident: Estonia and Antioquia.
- Contexts whose CCSIs capacity to influence competitiveness is not clear, whose support is limited but whose level of structuring is high (Finland).
- Contexts where awareness of CCSIs capacity to contribute to competitiveness is medium-high, but with disparate sectoral realities and support tools: Uganda and Western Cape (South Africa).
- Contexts where all CCSIs elements considered are emergent, with low awareness, low level of structuring and weak characteristics: Karnataka (India).

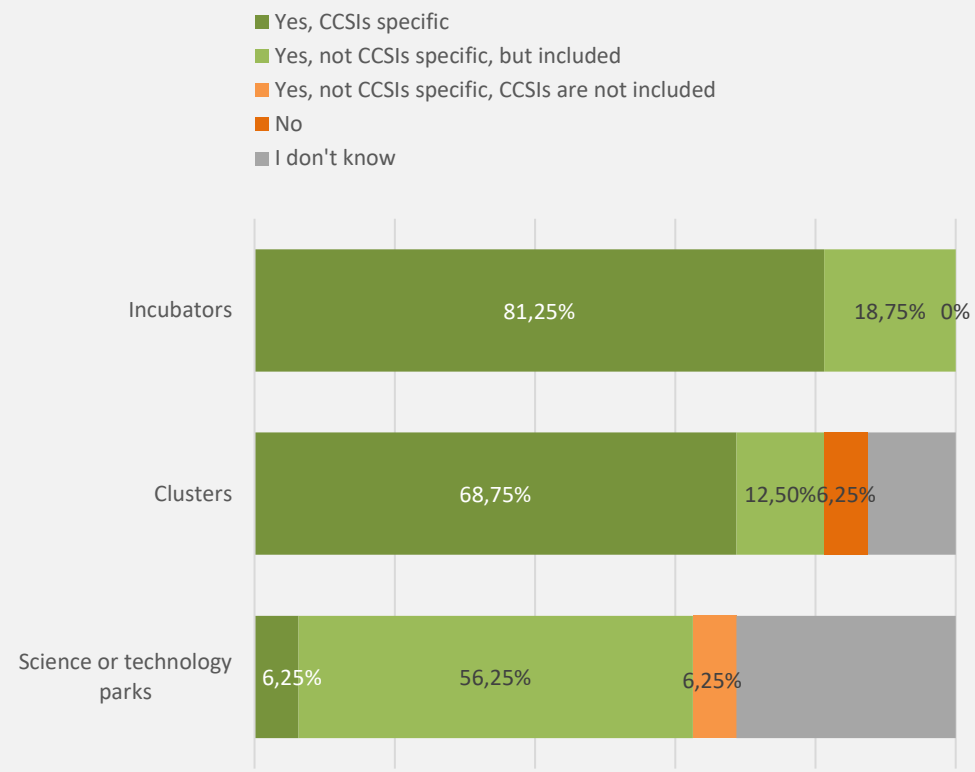
Figure 7. General strengths and challenges of the selected regions. Coordinators' evaluation according to previous items grouped between "CCSIs strength" (2 items) and CCSIs planning, support, or promotion (5 items) and contrasted with the CCSIs evaluation concerning to regional competitiveness. Scale from 1 (weak score) to 7 (strong).



Source: Own elaboration based on surveys data (Regional Coordinators' survey Contrast II)

4.3.2 Generation and knowledge transfer

Figure 8. Summary of specific tools for knowledge generation and transfer (%)



	CCSIs specific*
Incubators	South Australia Baden-Württemberg California Cardiff (CCR) Comunitat Valenciana Denmark Estonia Finland Região do Norte Antioquia Kenya Western Cape Uganda
Clusters	South Australia Baden-Württemberg California Cardiff (CCR) Comunitat Valenciana Denmark Estonia Finland Região do Norte Puglia Antioquia
Sci. or tech. parks	Região do Norte

*Details can be observed at the section Contexts comparison

Source: Own elaboration based on surveys data (Regional Coordinators' survey Contrast II)

Incubators are the most common type of initiative for the generation and transfer of knowledge in the specific field of CCSIs. In most of the cases there are specific initiatives and, in those that do not, there are generalist ones including the CCSIs. Clusters are also a widespread type of strategy with a specific focus on CCSIs. Finally, **science or technology parks** are more generalist initiatives and only in one case is specific to CCSIs.

Another different look at the existence of these tools is their knowledge and use by the organizations surveyed, as well as the perception of relevance they have (Figures 9a and 9b). This perspective confirms the importance of each program.

Figure 9a. Knowledge and participation in each tool by organizations (%)

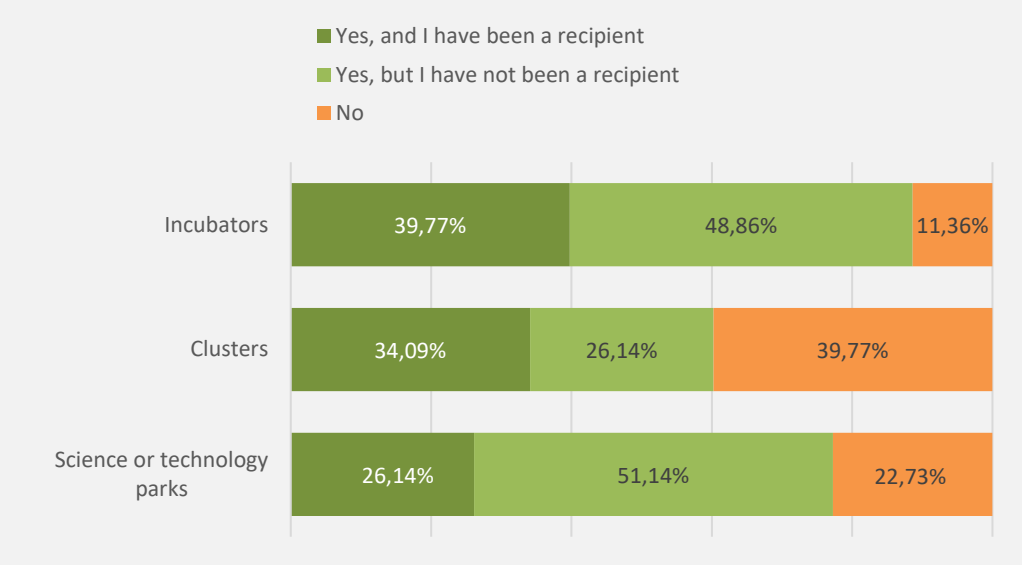
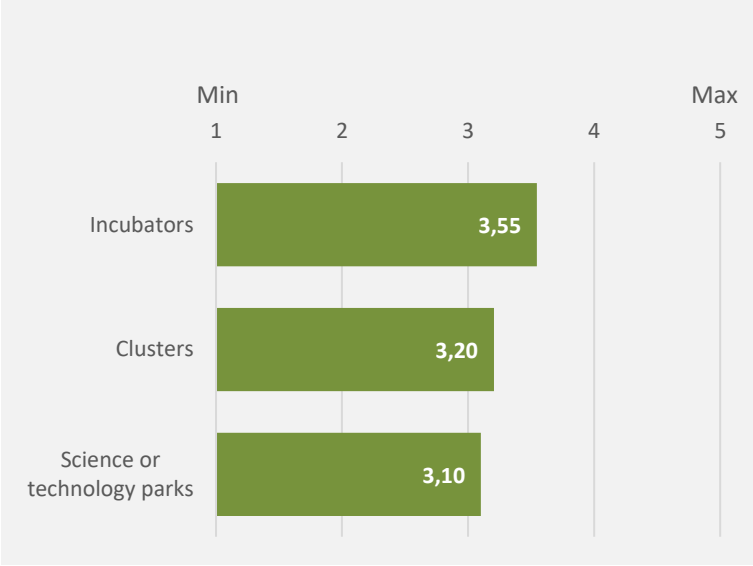


Figure 9b. Perceived relevance of each tool by agents (scale from 1, no relevance, to 5, maximum relevance)



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

4.3.3 Conditions for Innovation

Figure 10. Summary of specific tools to support innovation (%)

	CCSIs specific*
General CCSIs economic programs	South Australia Baden-Württemberg Cardiff (CCR) Comunitat Valenciana Estonia Finland Puglia Antioquia Kenya Uganda
Innovation in CCSIs programs	California Cardiff (CCR) Finland Antioquia Kenya Western Cape Uganda
Advisory and training programs innovation	Baden-Württemberg California Cardiff (CCR) Comunitat Valenciana Finland Kenya
Advisory and training programs entrepreneurship	Baden-Württemberg California Estonia Finland Kenya Western Cape
Awards and recognitions	Baden-Württemberg Cardiff (CCR) Denmark Estonia Washington

*All details appear in the Context comparison

Source: Own elaboration based on (Organizations' survey Contrast II).

In all cases there are **financing and financial aid programs** (grants, credit lines, tax incentives ...) that either specifically target the CCSIs (mostly), or at least include them. In addition, in a good number of cases (although they are not the majority) there are specific economic programs aimed at innovation in CCSIs.

Non-economic support, such as counselling and training and awards, are only specific to CCSIs in about one third of cases. Even so, many of them do include them, especially in the case of advice and training for innovation.

Figure 11. Relevance of different actors in terms of economic and non-economic support. Scale from 1 (irrelevant) to 5 (maximum relevance).

Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

According to the surveyed organizations, there is nearly no difference between the relevance of different actors in terms of monetary and non-monetary support (Figure 11). In addition, this equation includes the relevance of their own resources, a dimension that manifests itself as central to innovation.

In any case and focusing again on the programs (in this case, in the counselling and training programs and in the R&D), it is observed that they are considered quite relevant (Figure 12a), and more than half not only know them, but have been beneficiaries of one of these programs (Figure 12b).

Figure 12a. Knowledge and participation in each tool by organizations (%)

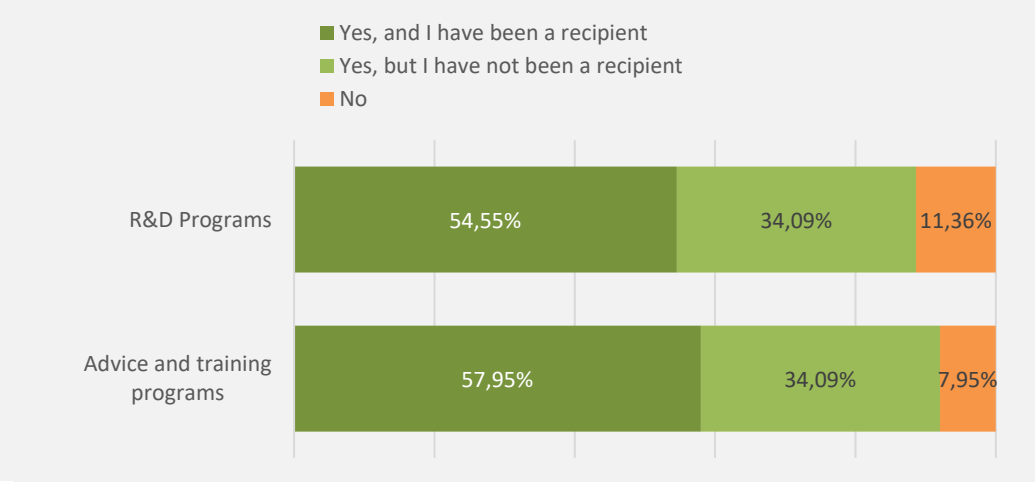
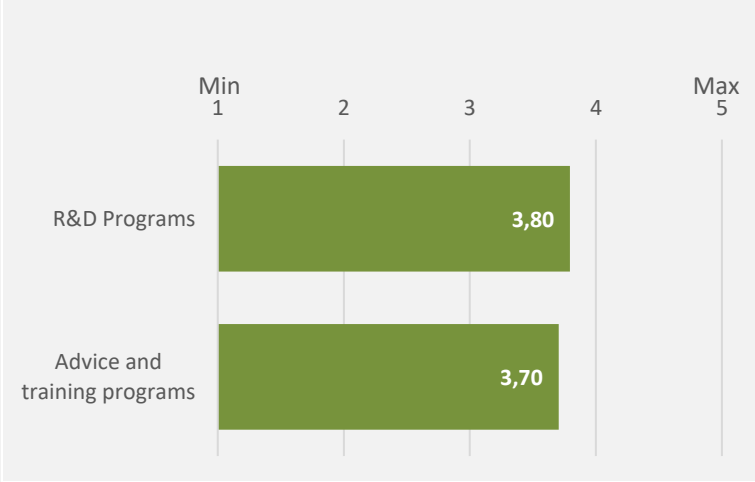


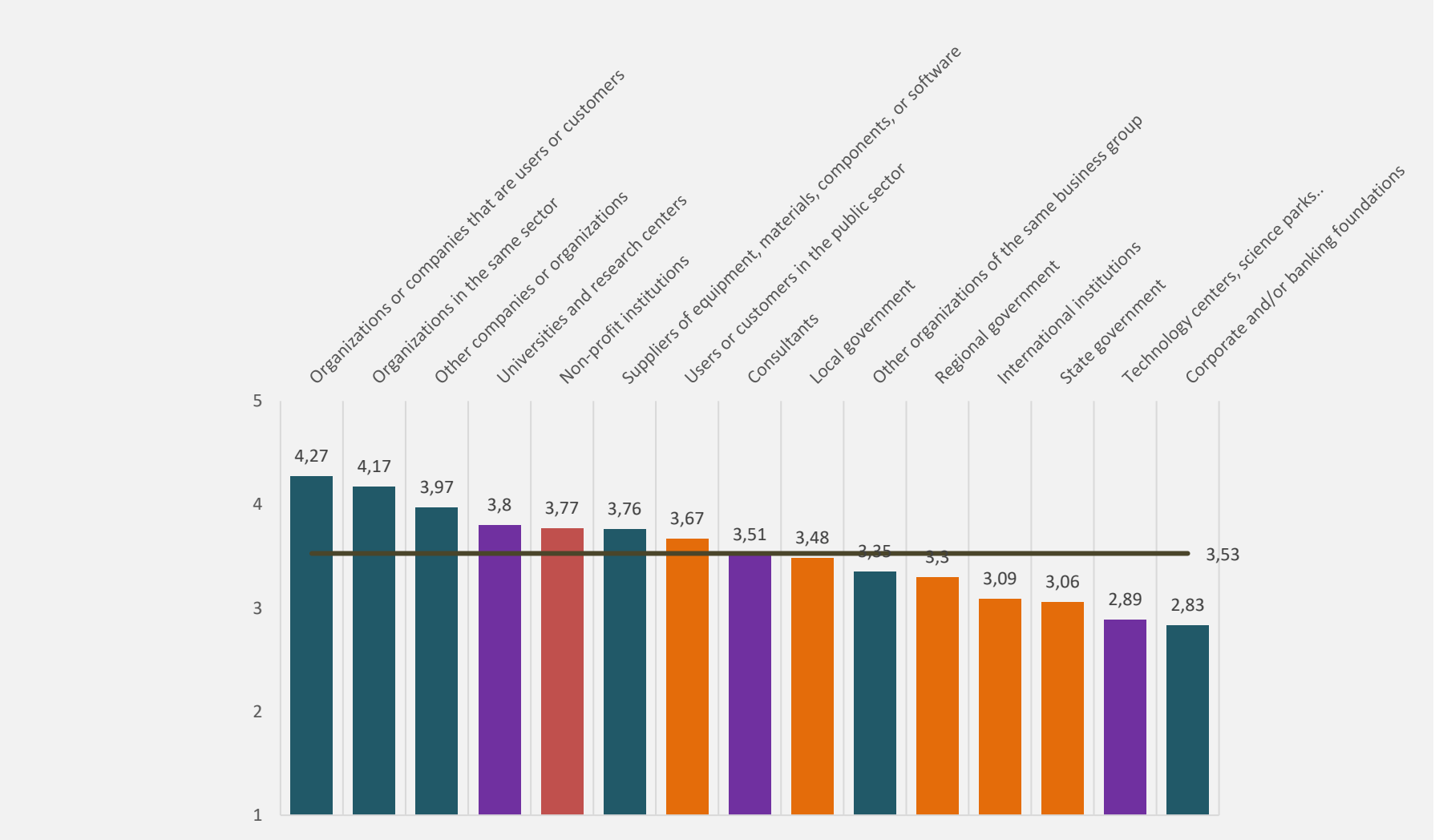
Figure 12b. Perceived relevance of each tool by agents
(scale of 1, no relevance, to 5, maximum relevance)



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

4.3.4 Stakeholders

Figure 13. Contact regularity with the following key *stakeholders* (scale from 1, "never", to 5, "usually")



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

Many agents participate in the environments linked to innovation in the CCSIs, but not all collaborate with all of them with the same frequency. In the first place, it should be noted that stakeholders have different characters, and their character determines the form and, therefore, the regularity of contact. Likewise, organizations in the sector have their own needs, which make them more likely to maintain contact with one or other organizations. For example, banking and business foundations, as well as technology or science parks, are unusual stakeholders for them. Governments, with whom it can be understood that they have a more administrative and formalized relationship are also unusual stakeholders to be in contact with regularly for the surveyed organizations.

On the contrary, the most regular contact occurs with private agents such as organizations and companies that are users or clients, as well as others linked to their specific field of activity. These are key stakeholders for CCSIs.

Thus, it highlights that stakeholders can have a public or private character, and within these categories it is possible to establish other types. The private ones (specifically other related organizations or within the same sector) are more relevant stakeholders. Among the public ones, although the administrations and public institutions of local, regional, state, and international level are not that relevant, universities and research centres are. With these last agents it can be understood that it is possible to maintain relationships more linked to specific interests, with significant specific knowledge to collaborate and innovate, a fact that makes them interesting.

4.4 Innovation features

4.4.1 Innovation types

The analysis of innovation distinguishes two broad general types of innovation: process or methodological[6] and product (services or goods, including artistic works)[7]. Process or methodological innovation has to do with the internal transformation of the organization, while product innovation has to do with the transformation of goods and services that are put into circulation.

The results show that the levels of innovation in both dimensions are very similar, with significant changes around 65% of cases in the reference period. Only a small portion of cases report not having made this type of significant change in their processes or products in the last two years. About 30% in both cases say they have made changes, but of a minor nature. In this sense, it must be considered that these changes of greater magnitude are usually counted as innovations.

[6] Includes novelties or improvements for the organization itself and novelties or improvements for the sector, whether originally developed by the organization itself or initially developed by others. Examples: changes in the forms and tools of creation and production, in sales and marketing channels, in the administration and management of accounting and human resources.
[7] This includes new features or improvements for the organization itself and novelties or improvements for the sector, whether originally developed by the organization itself or initially developed by others. Examples: improvement of materials, incorporation or improvement of software, environmental improvements, digital services.

Figure 14a. Process or methodological innovation (%)

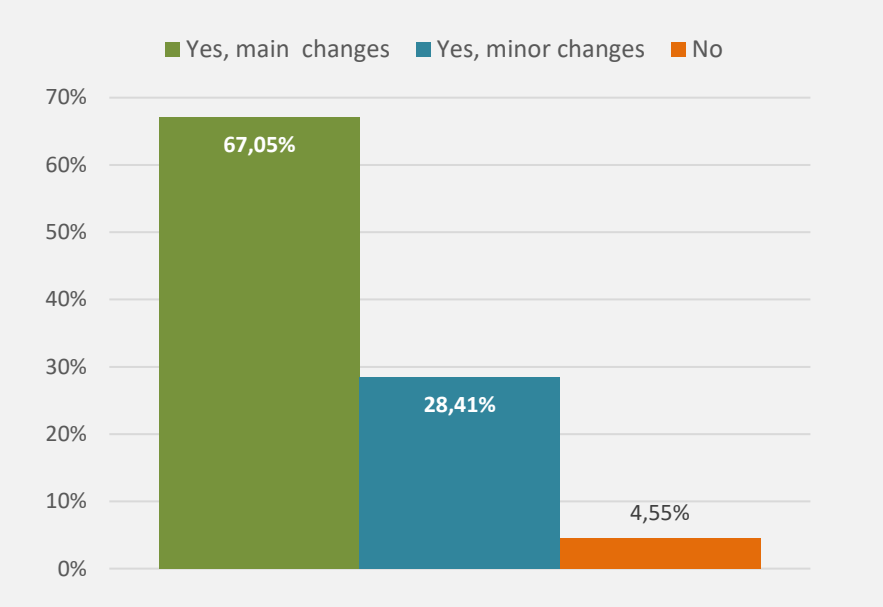
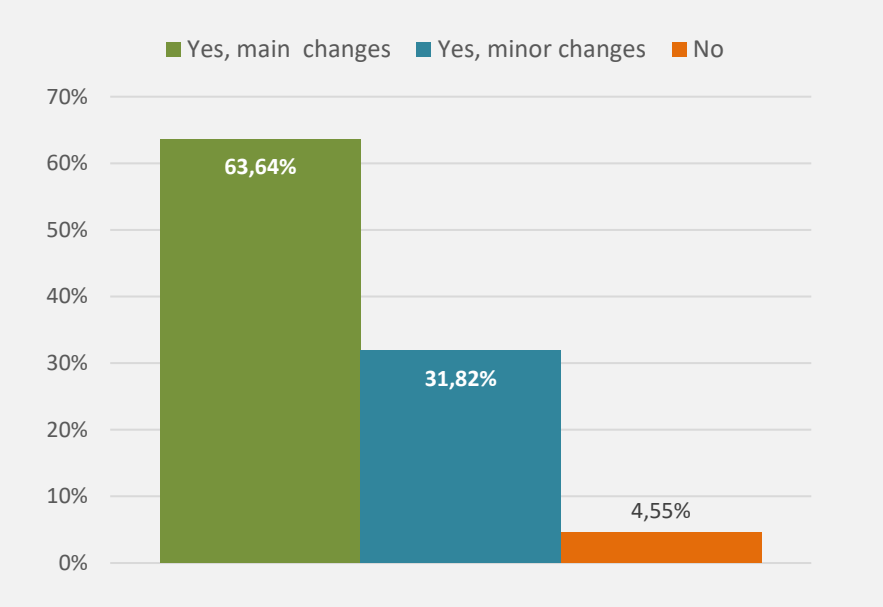


Figure 14b. Product innovation (services, goods, or artistic works) (%)



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

Table 6. Combined look to process or methodological innovation and to product innovation (%)

		Process or methodological innovation			Total
		No	Yes, minor changes	Yes, main changes	
Product innovation (services, goods or artistic works)	**No**	**1,14%**	**3,41%**	**0,00%**	4,55%
	Yes, minor changes	**2,27%**	**17,05%**	**12,50%**	31,82%
	Yes, main changes	**1,14%**	**7,95%**	**54,55%**	63,64%
Total		4,55%	28,41%	67,05%	100,00%

Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

It is interesting to note in Table 6 that there is a combined innovation, a reinforced dynamic: in most cases there are important changes in both process and product concepts (54.55%). Likewise, cases that make minor changes in one dimension are mostly also making changes in the other, and in the same way (minor changes in both dimensions). This can reveal a certain inertia or dynamic in the level of innovation: some involved in a general dynamic (both product and process) of greater changes and others in a dynamic of smaller changes.

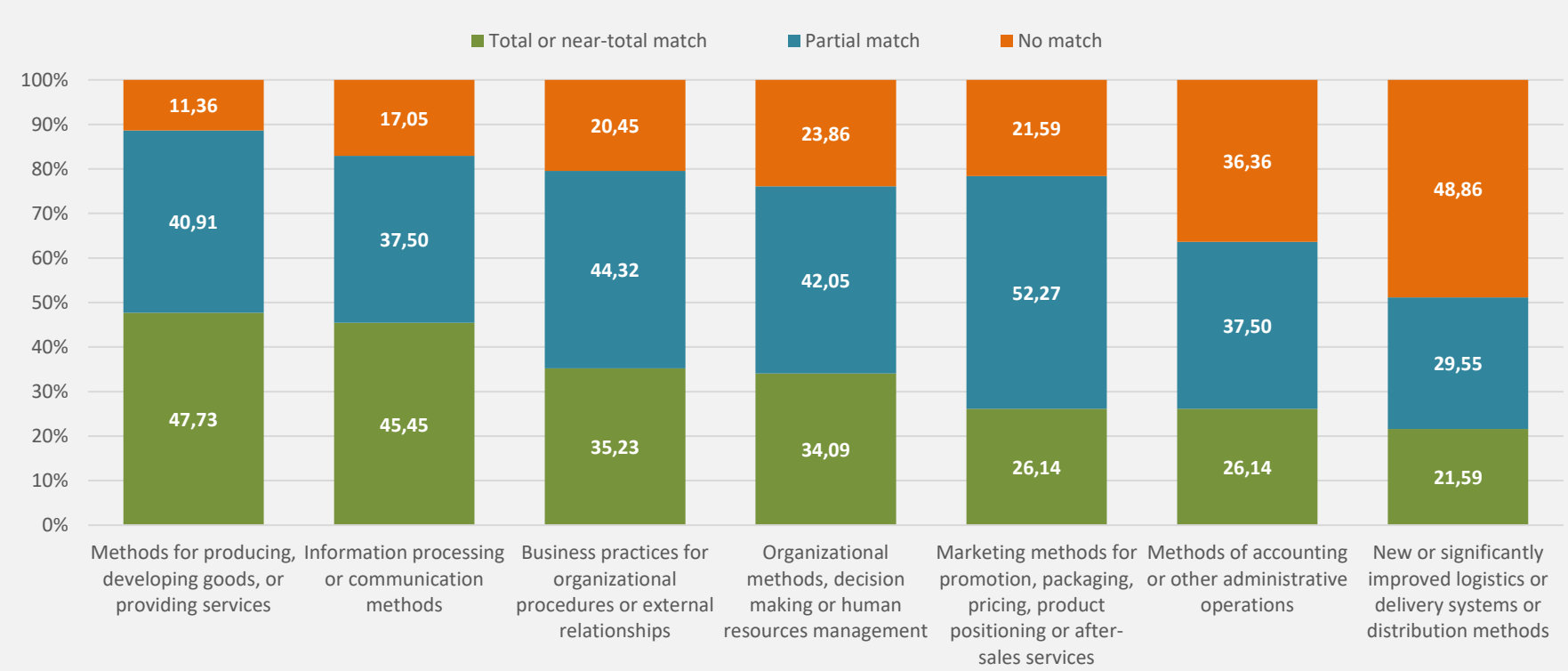
To delve into the type of changes introduced in this regard, the cases have pointed out to what extent these coincide with different areas or characteristics.

In terms of process or methodological innovation, the most common changes in the sector are aimed at modifying "methods for producing, developing goods or providing services", as well as "information processing or communication methods". In these areas there is the highest percentage of "total or near-total match", with 47.73% and 45.45% respectively. In addition, 40.91% of cases and 37.5% respectively manifest changes that are partially related to these areas.

On the opposite side, two areas with little relevance can be included, where there are less changes that are related to them: "accounting or other administrative operations", with 36.36% in the category "no match" and "new or significantly improved logistics or delivery / distribution methods", with up to 48.86%.

In the central block there are three areas in which there is also change but they only partially align with the mentioned areas: it is "business practices for organizational procedures or external relationships", “Organizational methods, decision making or human resources management” and “promotion, packaging, pricing, product positioning and after-sales services”.

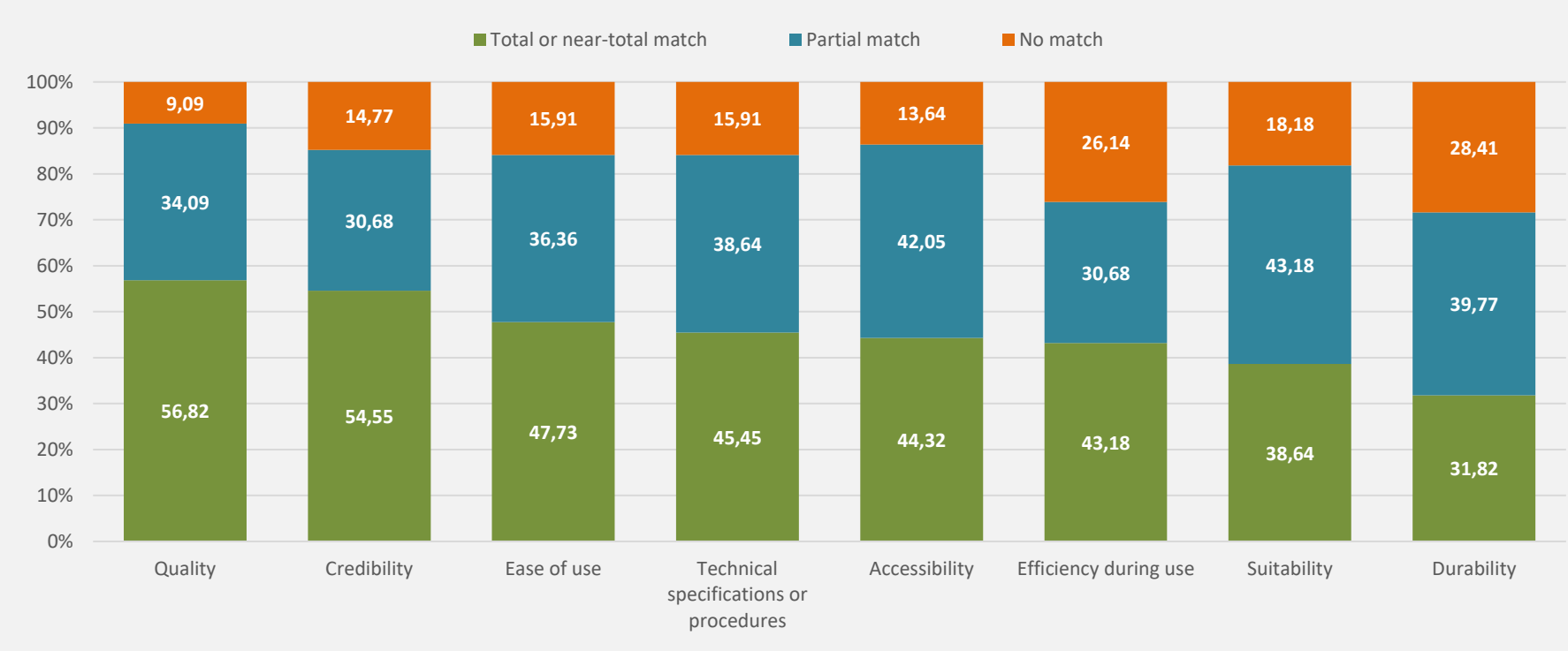
Figure 15. Areas of process or methodological innovation (%)



Source: Own elaboration based on surveys data (Organizations’ survey Contrast II)

In relation to product innovation (whether goods, services, or artistic works) the two criteria for which greater innovations are generated is to improve quality and credibility. About 55% of cases show changes that must do directly with these criteria. On the other hand, the term "suitability" is understood as the quality of adapting to a particular purpose, it is the criterion with which least matches when innovating, and in general the changes only partially coincide with this criterion. In an intermediate block are the "ease of use", the "technical specifications or procedures", the "accessibility" and the "efficiency during use".

Figure 16. Product innovation criteria (goods, services, or artistic works) (%)



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

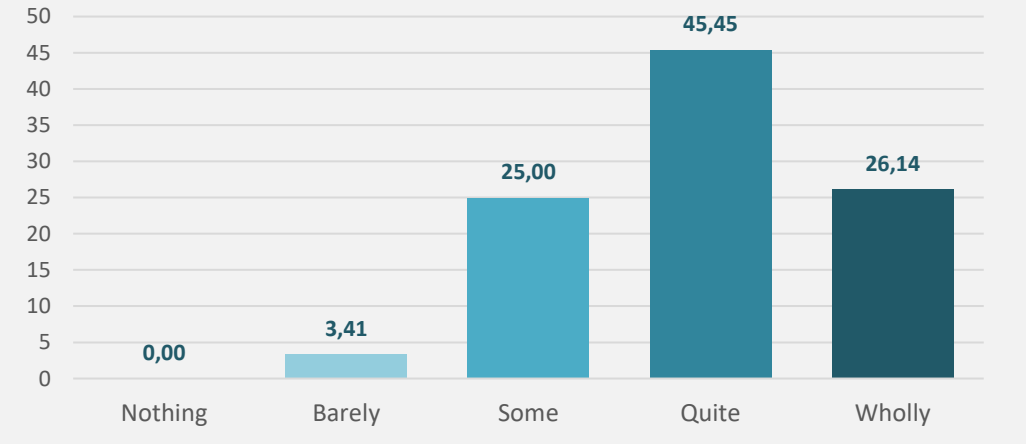
In summary, the process innovations of CCSIs are primarily related to "methods for producing, developing goods or providing services," as well as "information processing or communication methods," and product innovations are associated with "quality" and "credibility".

4.4.2 Procedures and mechanisms

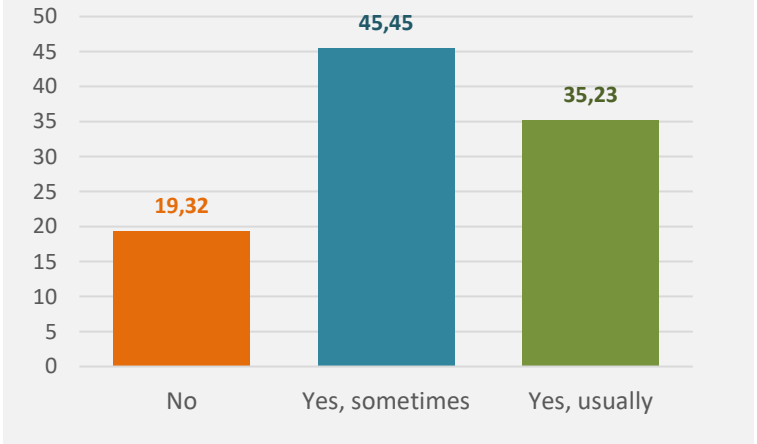
As Figure 11 (conditions and support for innovation) highlighted previously, it should first be noted that organizations report that innovations are made possible by their own resources or means (Figure 17).

Figure 17. Degree of innovation by own means/resources (%)

To what extent has your organization made innovations only by own means/resources?



Feature 18. Use of specific R&D human or economic resources (%)



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

A total of 45.45% of the organizations say that own means are quite important, and 26.14% that they are important. Taken together, this means that seven out of ten organizations believe that innovations are developed almost

entirely or completely thanks to their own resources and means. In this sense, it stands out that in general specific R&D resources (whether human or economic) are used to produce innovations: 45.45% of the organizations state that they occasionally use them, and 35.23% of the organizations state that they do so on a regular basis.

Despite the importance of own resources and means, there is a relevant degree of open or collaborative innovation. In this sense, these are not exclusive issues, but a usual combination with potential.

Organizations say in 39.77% of the cases that the extent to which they have made innovations with external support is "quite a lot", and in 19.32% "completely". This adds up to 59.09% of cases in which external support is manifested as basic, by 40.91% in which it is not so much. It should be specified, in this sense, that the categories "nothing" and "barely" barely add up to 7.96%, reinforcing the idea that external collaboration is vital.

Again, the look at the *partners* with whom we have collaborated reviews the importance of user or customer organizations and those of the sector itself, as well as universities and research centres but also consultants: between 60% and 70% of cases claim to have collaborated with this type of agents. Non-profit institutions also account for more than 50% of responses. The reading obtained is very similar in general to that resulting from the generic question on the frequency of contact maintained with different *stakeholders* (Figure 12).

Figure 19. Open or collaborative innovation (%)
To what extent has your organization made innovations with external support (collaboration, external knowledge, advice, transactions...)?

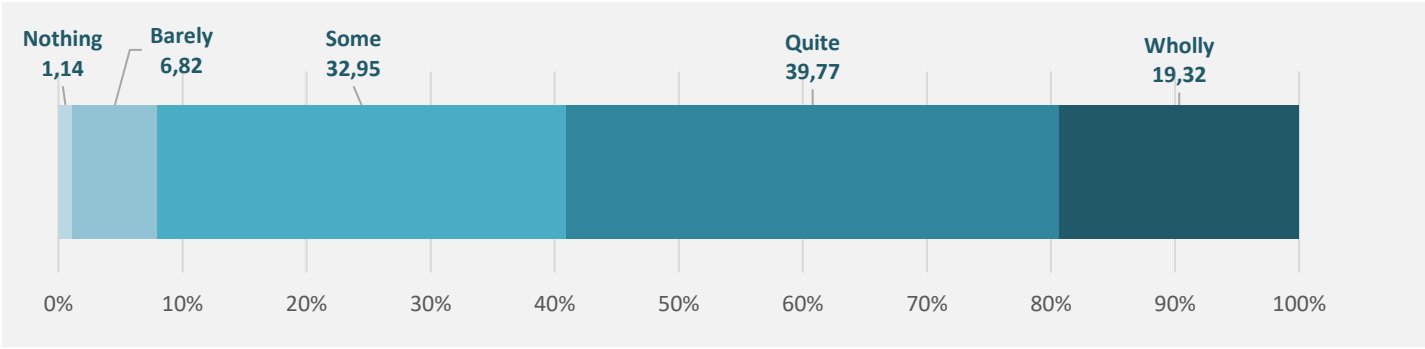
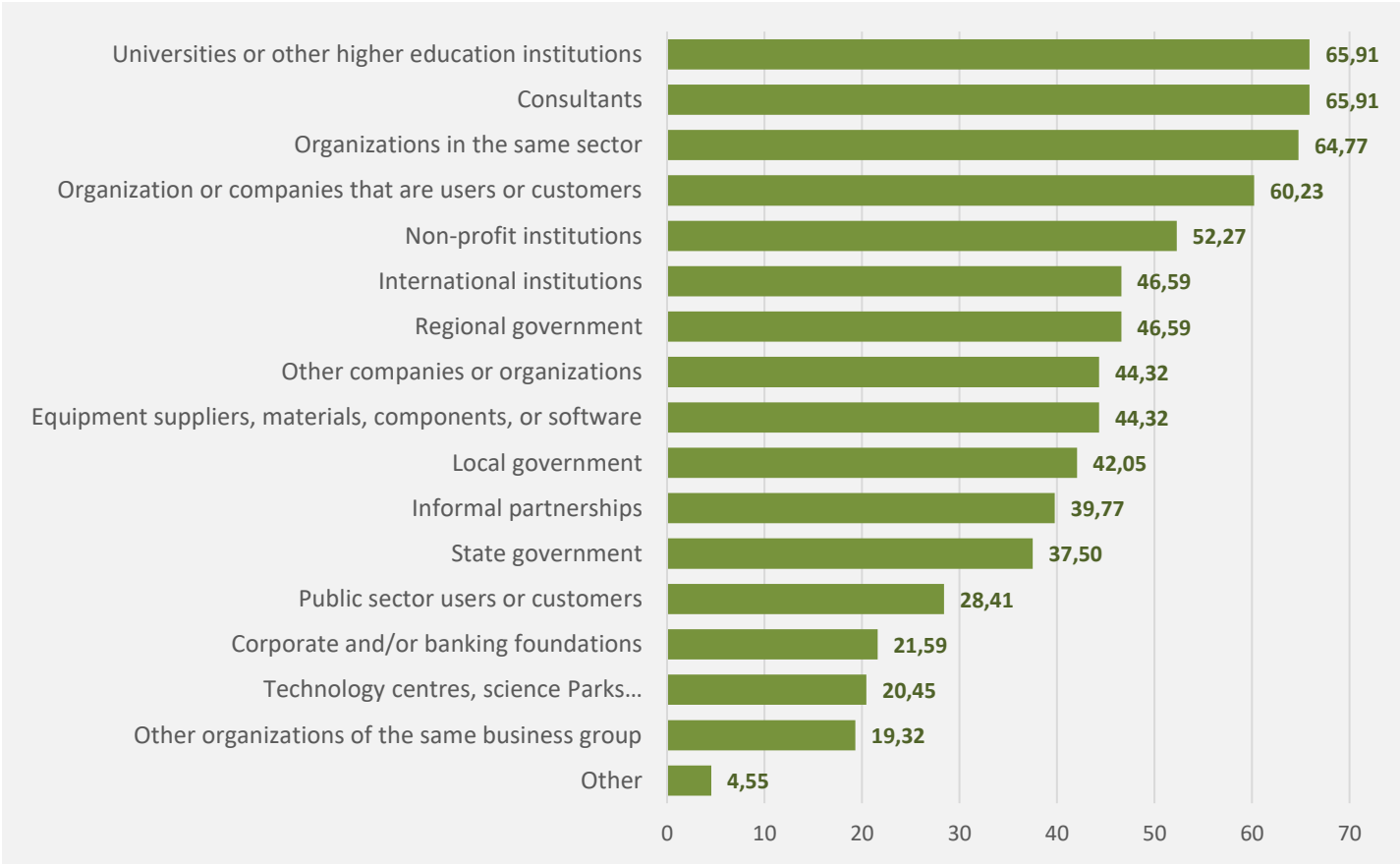


Figure 20. Partners (%)
With which of the following actors have you collaborated during the period 2020-2022 to develop your innovation activities?
Multiple choice question



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

Considering figure 21, the idea of these necessary connections produced by innovation is also reinforced by observing that only 12.5% of organizations state that their innovations are never or almost never directed to organizations in sectors other than their own. 57.95% of the organizations say that from time to time these innovations are directed to other sectors, and 29.55% say that they are always directed to other sectors. Thus, intersectoral innovation reaches a medium and medium-high degree or extension.

Figure 21. Cross sectoral innovation (%)

During the reference period, are the innovations generated by your organization directly targeted at companies or organizations in sectors other than yours?

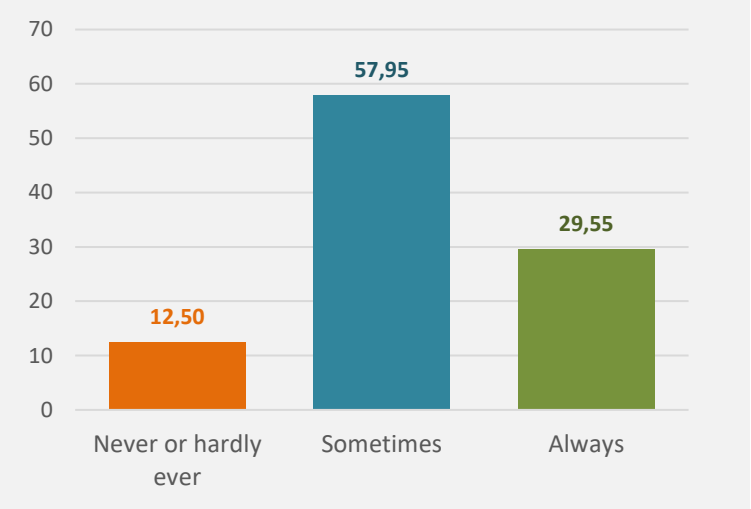
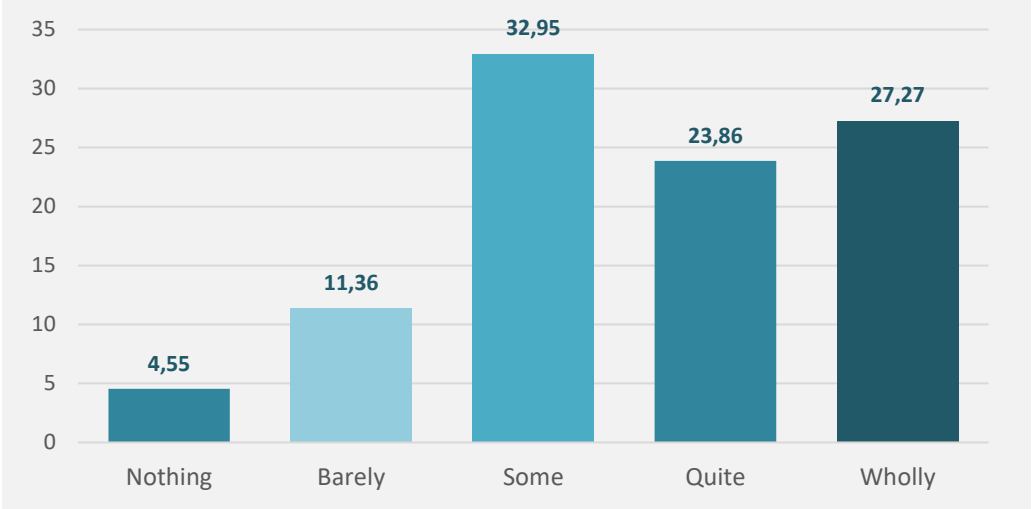


Figure 22. Technology based innovation (%)

To what extent has your organization made innovations through the application, renovation, combination, or development of technologies?



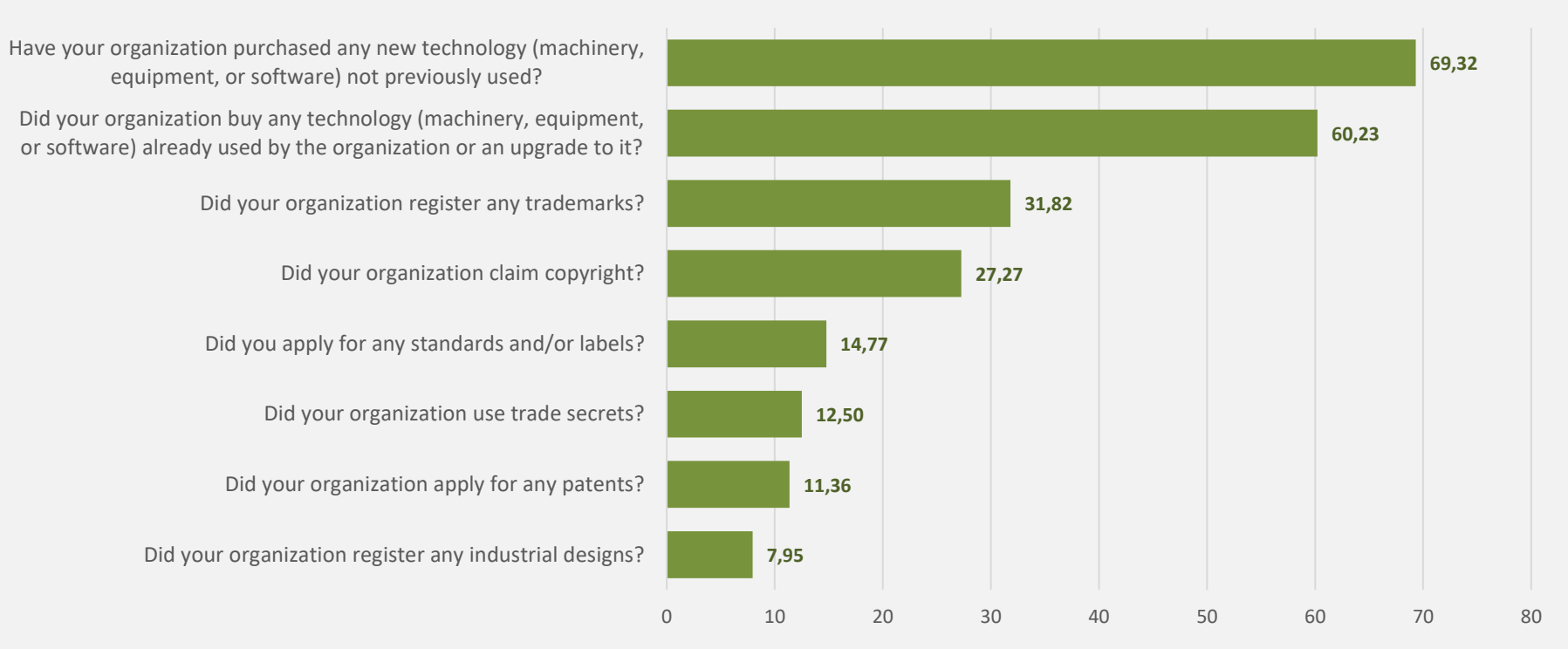
Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

Finally, it is observed that the role of technology in innovations is quite widespread, but not very profusely: only 23.86% and 27.27% of the innovations have to do with the application, renewal, combination or development of technologies and the term selected by the organizations has been "fairly" or "totally" (in total, 51.13%). In 15.91% of cases, innovations are not made in any or almost no way through technology, while a core group (32.95%) states that only sometimes does technology play a role.

According to specific procedures that account for innovation, 69.32% of the cases states that the organization has purchased new technology for its organization, and 60.23% of the cases states also that they have acquired technology that was already used or that they have improved it. They are the two items that get the most responses.

They are followed by the registration of trademarks as distinctive signs and the claim of copyright, with 31.82% and 27.27%. Finally, with a lower incidence is the obtaining of labels, the use of trade secrets, the obtaining of patents and the registration of industrial designs.

Feature 23. Specific procedures linked to innovation (%)



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

Overall, despite everything, the least widespread options add up a total of 57.95% of agents who use at least one of them (basically, as expected, trademarks or copyrights). The situation here is also very heterogeneous (Table 7): 30.68% of the respondents use at least one of the procedures, 17.05% use two of them, and 10.23% 3 or more. In this sense, there is a small segment of organizations that make very broad use of diverse strategies. In this small

segment no pattern is observed: they are agents with a very variable volume of workers, from different sectors (there are from digital content and design and fashion to education and performing arts), with different seniority and different legal forms (public and private).

Table 7. Use of the different mechanisms/procedures less widespread (trademarks, copyrights, labels, trade secrets, patents, industrial designs)

	% Organizations
0 (None of the procedures less widespread)	42,05%
1	30,68%
2	17,05%
3 or more of the procedures less widespread	10,23%

Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

4.4.3 Reasons to innovate

Figure 24. Reasons to innovate (%)

% selected as primary reason		% selected as additional reason (multiple choice)
31,82	**Business** Improvement of strategies and own economic or third parties' results	44,32
31,82	**Cultural** Increase participation or enhance the cultural experience	55,68
13,64	**Educational** Facilitate educational tasks and learning	57,95
5,68	**Environmental** Contribute to sustainability	42,05
4,55	**Urban** Transform environments and communities	43,18
2,27	**Healthcare** Improve health services	13,64
2,27	**Social** Facilitate citizen participation	62,50
7,95	**Other**	7,95

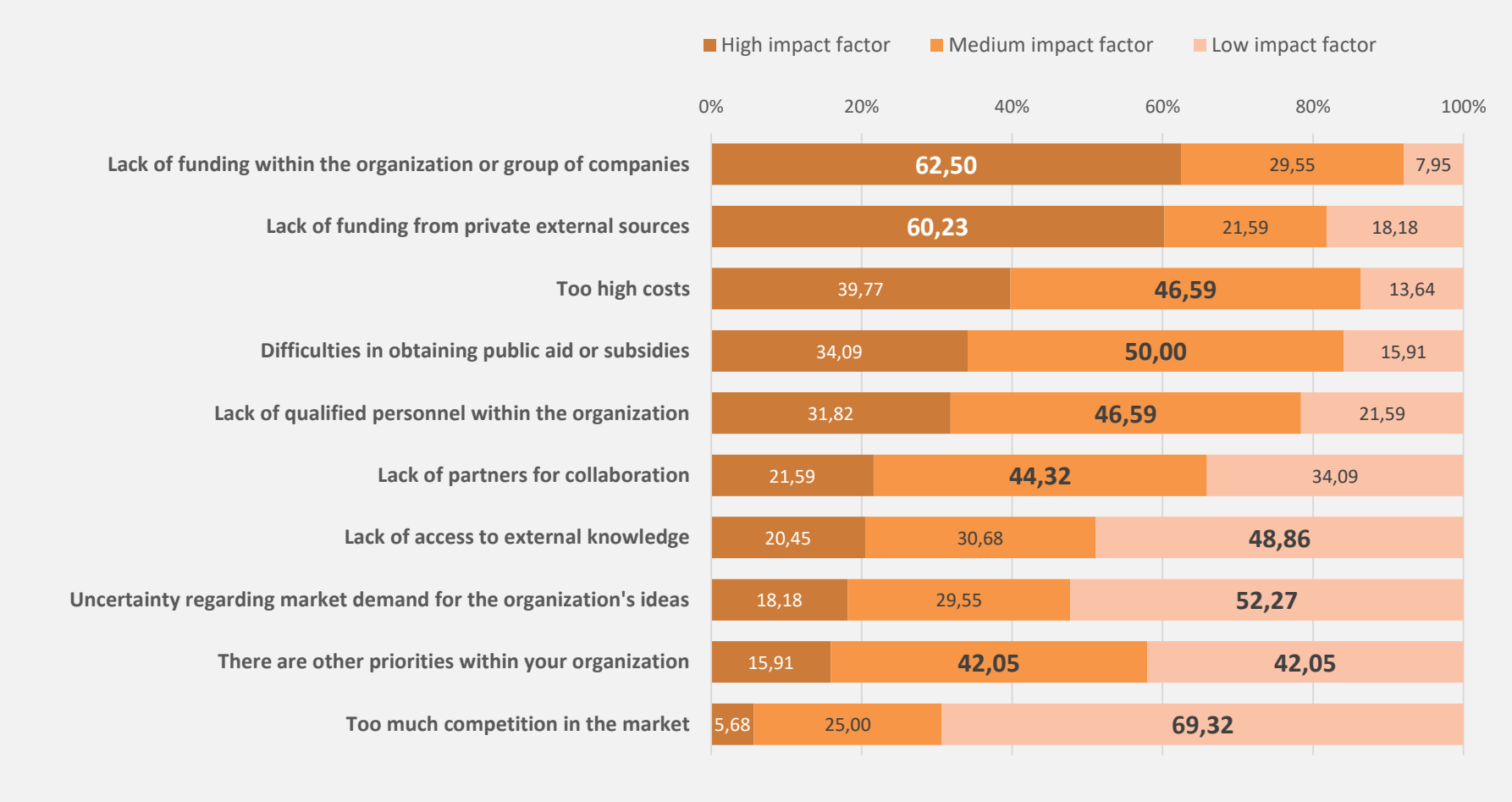
Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

First, it should be noted that the sum of additional reasons selected is 288, an average of 3 additional reasons for each case. Although there are two main reasons to innovate, there is a relevant multidimensionality. In this multidimensionality, the extra-economic vocation of the cultural and creative sector materializes more clearly. Doing business is important, but it is not the most important reason. Their weight is equivalent to cultural vocation, and the rest of the reasons obtain minority weights but encompassed as "non-economic reasons", they make up the majority.

4.4.4 Innovation challenges

Finally, in terms of innovation challenges, figure 25 highlights that on top of the challenges ranking it does not appear, as it might sometimes seem, the difficulty in obtaining public monetary support.

Figure 25. Innovation challenges



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

The **two main difficulties** are the lack of funding within the organization itself and the lack of funding from external private sources. This can be related to the results obtained in terms of partners and stakeholders, where agents such as banking and business foundations appeared to be not very relevant. In this sense, it may be necessary to better connect actors with forms of financing other than public ones.

Concerning the **factors of medium impact**, figure 25 highlights the following items: high costs, difficulties in obtaining public aid, the lack of qualified personnel and the lack of external collaborators.

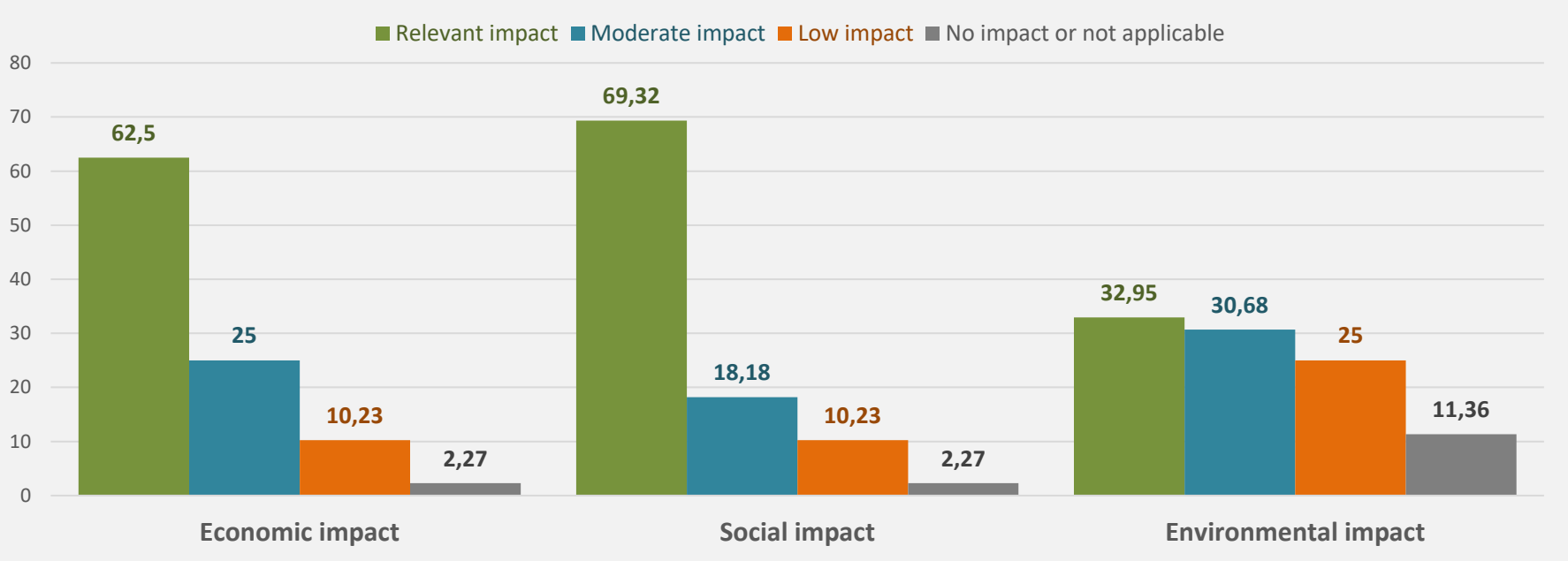
Lack of access to external knowledge, uncertainty regarding market demand, other priorities within the organization and market competition appear as **not very relevant factors.**

4.5 Measuring results, impacts and innovation value

4.5.1 General overview

The respondents of the survey (organizations) first valued the impact they presume they have on three basic dimensions: economy, society, and environment. This first approach highlights that the CCSIs have an impact above all in social terms (69,32% of the respondents claims to have a relevant impact on this dimension) and economic terms (62,5% of the respondents). In the environmental dimension, the reality is much more disparate (32.95% declare a relevant impact, 30.68 % a moderate impact, and 25% a low -but existing- impact).

Figure 26. Self-assessment impacts



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

4.5.2 Standard impact dimensions

Economic dimension

Figure 27a. Approximate mean percentage of turnover for the year 2022 due to innovations

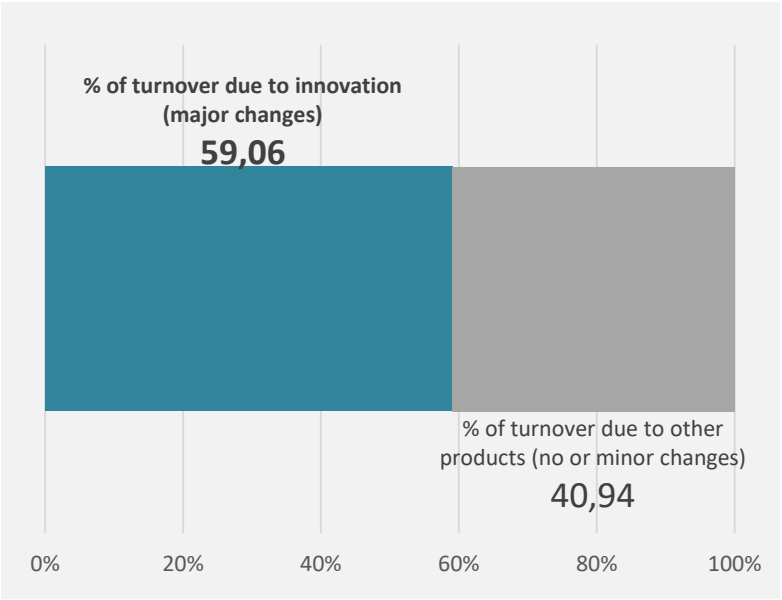
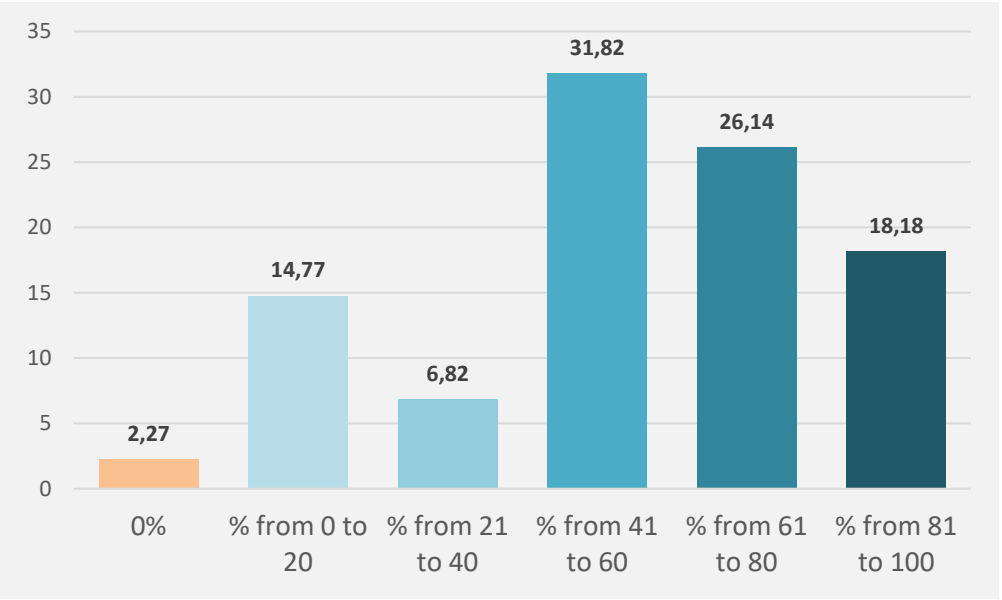


Figure 27b. Approximate percentage of turnover for the year 2022 due to innovations (intervals)

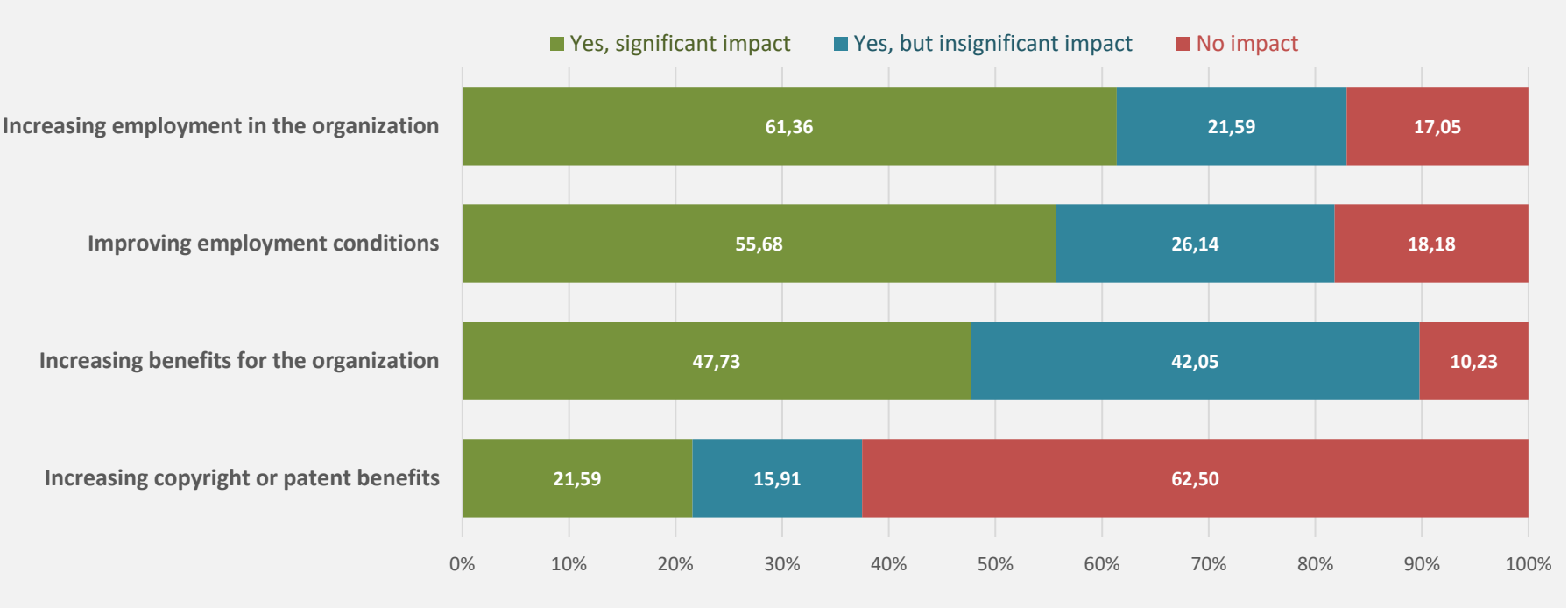


Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

Considering the economic dimension, stands out in the first place that the income of the organizations comes in a relevant way from the innovations generated. 59.05% of revenues in 2022 have to do with significantly improved products or services in the period 2020-2022.

The two most significant impacts have to do with employment: firstly, its increase, and, secondly, the improvement of working conditions. Next, as an existing but less relevant impact, there is the direct increase in profits. Finally, as could already be seen from the results of the figure on specific innovation procedures (figure 23), the impact in terms of increasing benefits from copyright or patents is very little widespread.

Figure 28. Level of innovation in economic dimension

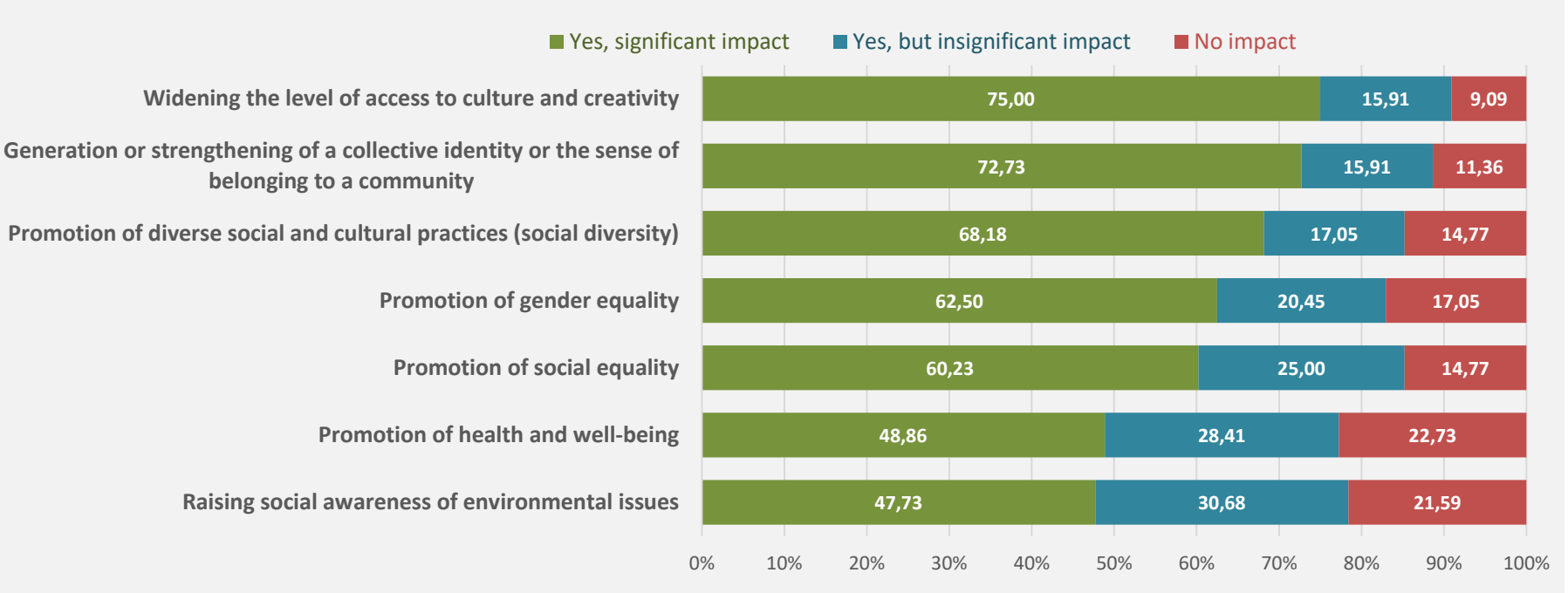


Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

Social dimension

In social terms, it is observed that significant impacts are generally widespread reaching above 60%. The following are highlighted, in order of greater prevalence. The impact on "widening the level of access to culture and creativity", impact on "generation or strengthening of a collective identity or the sense of belonging to a community", impact on "promotion of diverse social and cultural practices (social diversity)", impact on "promotion of gender equality" and impact on "social equality."

Figure 29. Level of innovation in social dimension

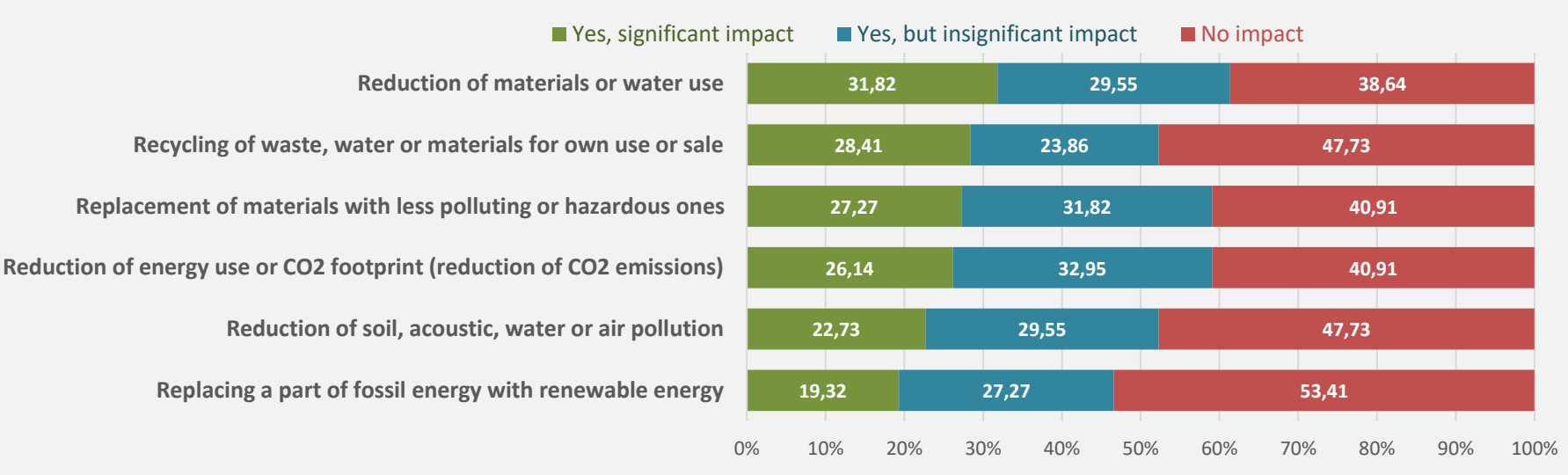


Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

Environmental dimension

Finally, the results allow us to observe in more detail the disparate impact in environmental terms. A very relevant portion of cases that in some items reaches slightly more than 50%, have answered that there is no existing impact, among their organizations, concerning the items used.

Figure 30. Level of innovation in environmental dimension



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

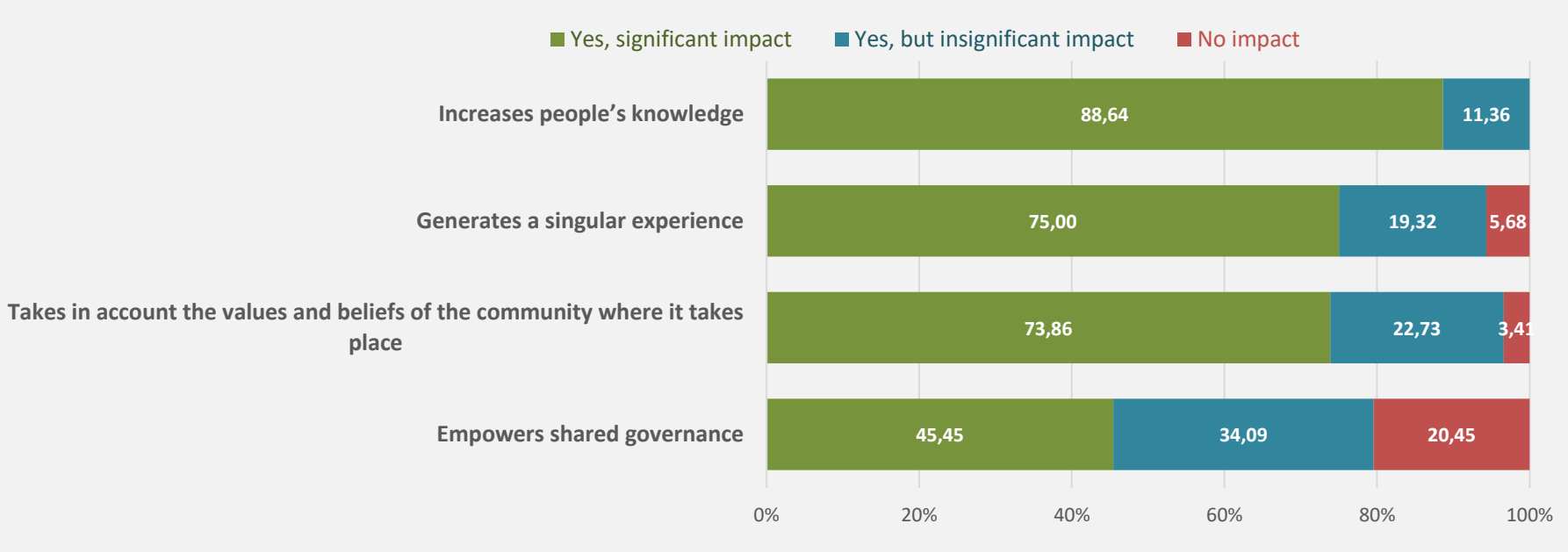
It should be borne in mind that the environmental impact measured with these items has much to do with the use of raw materials and industrial processes, aspects with which different cultural and creative sectors have little relationship due to their creative and, in a certain sense (as opposed to the industrial), artisanal nature. In

addition, it is also true that, according to the information provided by the regional coordinators, only in four of the sixteen regions there are specific plans that promote innovation in terms of sustainability in the CCSIs context. Therefore, there could also be a lack of interest and/or capabilities in that issue.

4.5.3 Intrinsic and social-shared value

Finally, in relation to the dimension of intrinsic value, the highest percentages of significant impact are obtained. Almost all organizations state that their innovations significantly increase the knowledge that people have (88.64%), 75% of the organizations state that unique experiences are generated by their innovation and 73.86% of the organizations state that the values and beliefs of the communities where they operate are considered with their innovations. Thus, the uniqueness of the CCSIs is expressed and materialized according to this intrinsic value. Likewise, social value is also very important, but to a lesser extent.

Figure 31. Intrinsic and social-shared value



Source: Own elaboration based on surveys data (Organizations' survey Contrast II)

PART III: **IN-DEPTH ANALYSIS**

5.Trends, typologies and singularities

In this section, after presenting all the results in a descriptive way, an interpretative perspective is provided: expanding and crossing results, but also providing interpretative and conceptual keys that generate greater understanding of the state of the matter.

This first section is divided in two parts: Innovation ecosystems and Types and innovation value in CCSIs.

In each of these parts, the content is structured into two subparts:

- One for summarizing the previous results.
- The other for deepening the analysis.

5.1 Innovation ecosystems

5.1.1 Innovation ecosystems general elements

First, we summarize the key elements to combine a general and synthetic view of innovation ecosystems[8].

- **Wide existence of initiatives to measure activity** in the field of culture, creativity, and innovation. The differences have to do with the availability of recent information in terms of innovation and CCSIs. Measurement can be considered as a necessary condition, among others, for the development of specific strategies for the CCSIs.
- **Strategies led mainly by specific agents in the cultural field (in 50% of the regions), or at most led in a mixed way between sectoral, generalist or transversal agents (37,5%).** Only few of the cases declare that their strategies are led by generalist agents.
- Regarding the involvement of the different administrative levels, there is a different dynamic for lower levels (local or regional) and for higher levels (state or international levels).

[8] A visual summary of all these elements for each region can be found in Annex 5 (having a look by rows, it is possible to observe each case individually, while having a look by columns it is possible to obtain a comparative or transversal look regarding a specific dimension or variable).

- **In terms of non-monetary support, lower administrative levels** (local and regional) prevail.
- **In terms of monetary support, higher administrative levels** (state and international) prevail.

→ In both **economic and non-economic support**, the cases are in both extremes. In this sense, there is **some specialization according to the administrative level**. It is reasonable to think that the lower administrative levels are closer to the ecosystems and have a better position to design and implement non-economic measures. On the other hand, it is easier for higher administrative levels to have more economic capacity.

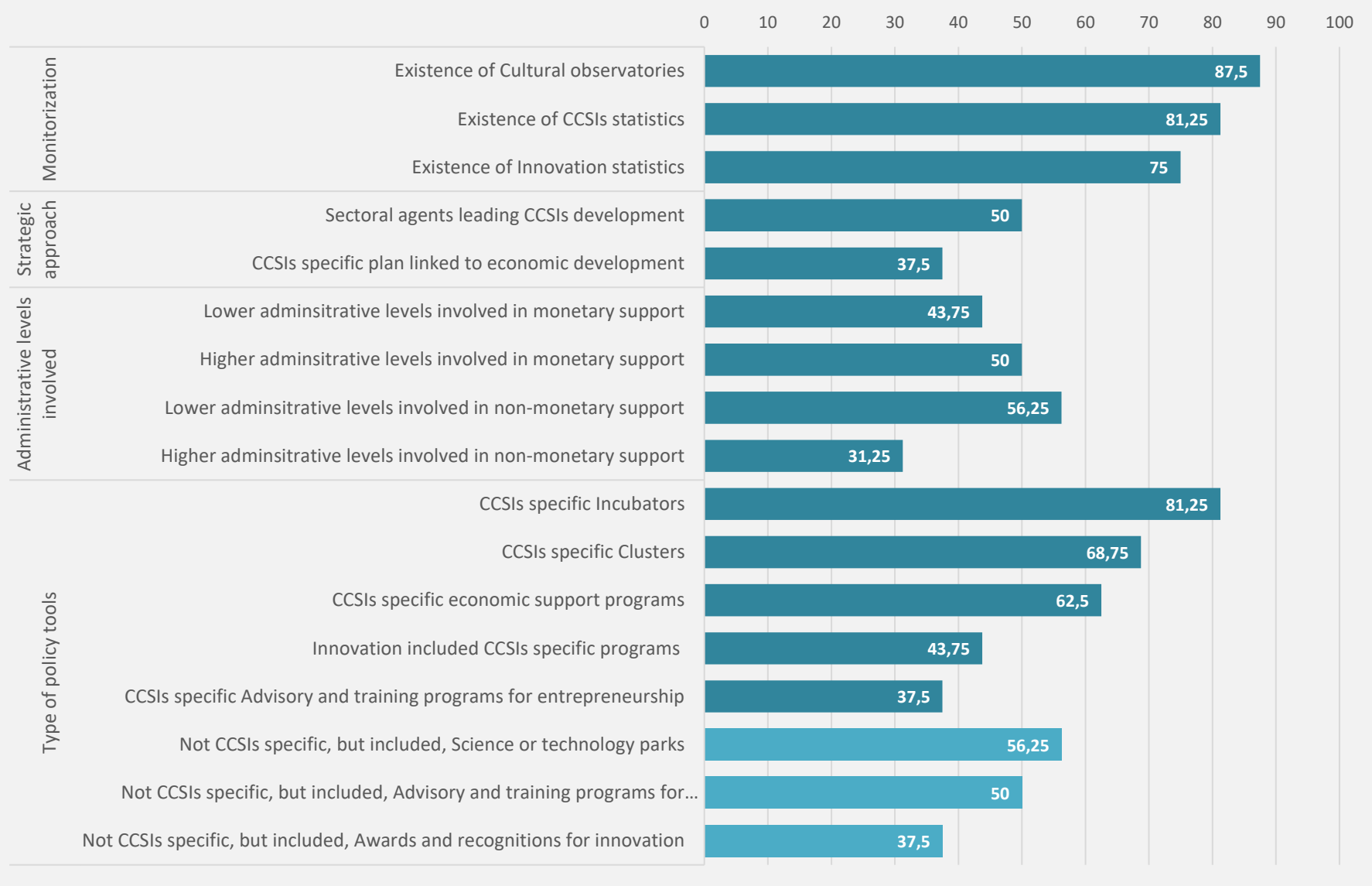
→ Regarding **policy tools**, it is worth highlighting that three of them are **typically tailored specifically for the CCSIs**:

- Incubators (In 81,25% of the regions)
- Clusters or platforms (68,75%)
- Economic support programs (62,5%)

In the case of the other tools, the tendency toward sector-specific customization is lower and does not represent a general trend. In fact, especially in two cases, the trend is **programs that are not specific to CCSIs but include them**:

- Science or technology parks
- Advisory and training programs

Figure 32. Summary of the main categories (highest percentages) from the different dimensions of innovation ecosystem characterization (% of cases in each category)



Source: Own elaboration based on surveys data (Regional Coordinators' survey Contrast II)

5.1.2 Emphasizing diversity related to innovation ecosystems.

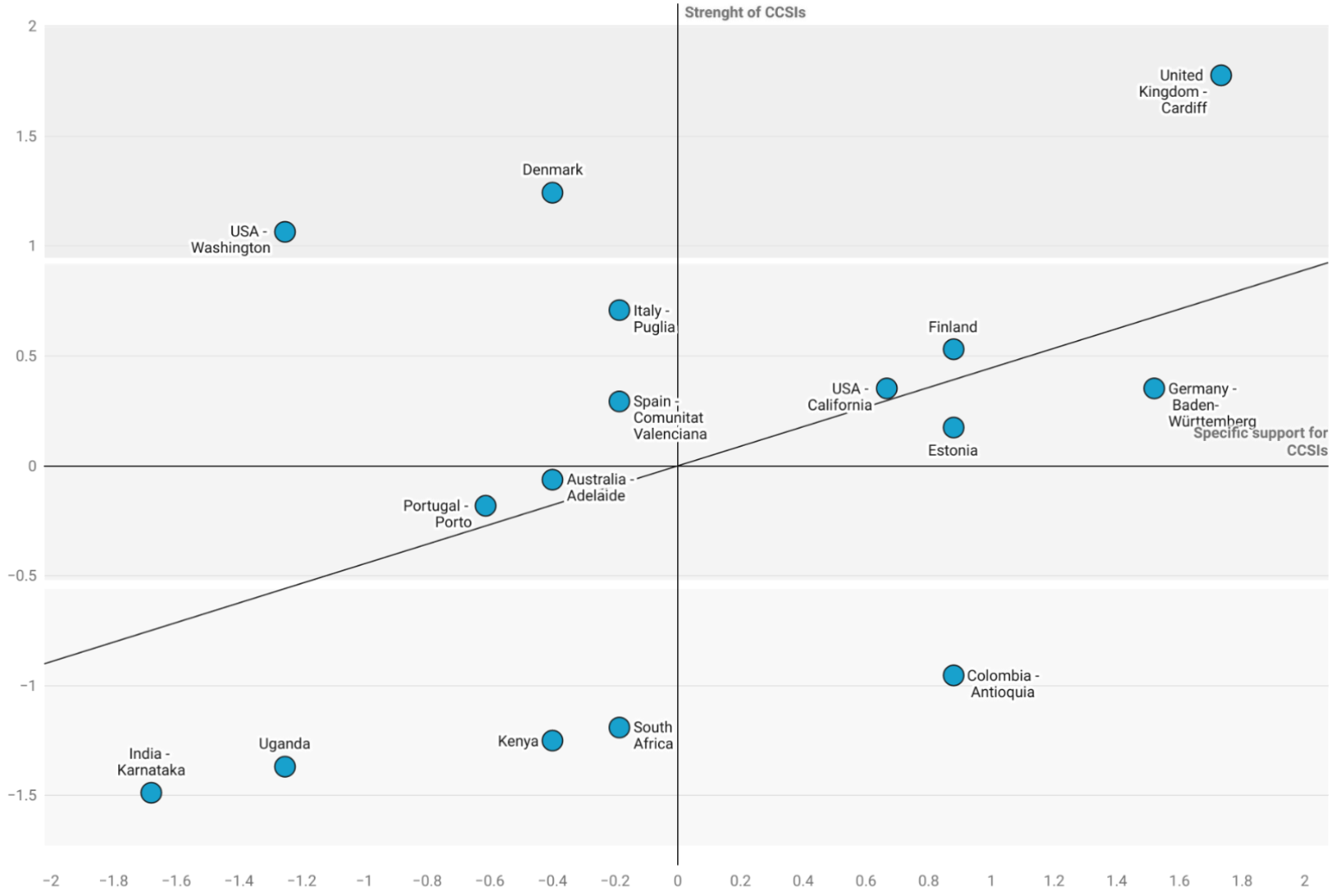
The first idea to highlight is **that innovation, with its differences, is present in all the regions analysed**. Although in the selection of organizations there has been a clear focus on innovative organizations, it must be considered that they are in diverse contexts in socioeconomic and innovation terms, as we can see in the Global Innovation Index. Therefore, it is necessary to analyse the CCSIs specific contexts.

To obtain this view, data related to specific tools to support the sector and its innovation are combined with data on results and characteristics of the sector. Thus, two axes of analysis are created, which allow synthesizing all the information and classifying the different cases/ecosystems from both dimensions. These two axes relate the level of specific tools to the results of the CCSIs:

- → In relation to sector-specific tools, the information from blocks D and E of the survey referring to the innovation environment (section 4.3) is combined with the existence of specific information regarding CCSIs and innovation (section 4.1).
- → In relation to the results and characteristics of the CCSIs (strength of CCSIs), specific information related to the positioning of the region in terms of the importance of CCSIs survey is combined with external, objective information from the Global Innovation Index. This contributes to a better substantiation of the results of the CCSIs based on objective and common information.

The information in the questionnaire itself is combined with the classification of each country in terms of Creative Outputs (differentiating between leading, advanced, and moderate/emerging, section 3.2.1). Specifically, the punctuation obtained from survey data is weighted considering each country's position in term of Creative Outputs from GII.

Figure 33. Positioning of the cases in two axes: strength of the CCSIs (vertical axis) and existence of specific programs for CCSIs (horizontal axis). The zero point of both is the average of the axes.



Source: Own elaboration based on survey data (Regional coordinators survey Contrast II) and Global Innovation Index data in Creative Outputs dimension (Section 3.2.1)

The exercise allows us to observe two main additional facts[9]:

1. The existence of correlation between specific programs and strength of the CCSIs (Figure 33 shows the line of adjustment or linear relationship)
2. The existence of different "stratum" or blocks of cases in key of strength of the CCSIs (shaded areas of Figure 33).
    a. Upper area: UK-Cardiff (CCR), Denmark and USA-Washington.
    b. Intermediate zone: Portugal-Região do Norte, Australia-South Australia, Spain-Comunitat Valenciana, Italy-Puglia, USA-California, Finland, Estonia, and Germany-Baden-Württemberg.
        - In this block, since it gathers a greater number of cases, the first four can be differentiated from the horizontal axis (very close, but slightly below, 0 that indicates the average) from the remaining four (right of 0, higher than the average).
    c. Lower area: India-Karnataka, Uganda (East Africa), Kenya, South Africa-Western Cape and Colombia-Antioquia.

[9] In Annex 4 it is possible to find the same exercise without weighting the axis of strength of the CCSIs with external results and with the weighting from a classification based on the specific subdimension of the CCSIs (Creative goods and services). In all cases there is a relationship between both axes, but external information contributes to a better substantiation of the results of the CCSIs (vertical axis) based on objective information.

In general, a moderate linear relationship is observed (Pearson correlation coefficient of 0.446), so more complex environments tend to generate greater strength. But that's not always the case.

At the bottom are located the countries with a moderate/emerging innovation profile both at a general level and *in terms of creative outputs according to the* Global Innovation Index. In the independent consideration of these cases, a certain linearity is also observed, with the prominent position of Antioquia (Colombia) with a specific ecosystem of complex CCSIs (understood as the diversity of specific programs of CCSIs).

In the intermediate positions there is a large group of cases obtaining similar levels of strength of their CCSIs despite having ecosystems with different degrees of complexity. These cases are always located around the average or above.

Finally, at the top, Cardiff (CCR, United Kingdom), Denmark and Washington (USA) stand out with relevant differences in the complexity of their specific environments of CCSIs, although there is a certain linearity between the 3 cases. The cases of Washington (USA) and Denmark show the existence of contexts in which, despite having less complex CCSIs environments, their results are very relevant. Therefore, we can conclude that there are external variables, reasonably linked to more general social and economic issues, that produce this scenario.

Observing the region/country innovation ecosystems specificities in terms of results, strength, and the existence of specific measures for the CCSIs, appear some nuances. These nuances contribute to the analysis as, in some cases, contradict the preconceived ideas when it comes to understanding the contexts.

According to the regions classification arising from Figure 33, summarized in Table 8 in 4 profiles, it is possible to deepen in this line of analysis.

Table 8. Region's classification according to the strength of the cultural and creative industries and their adaptation to innovation ecosystems with CCSIs' specific tools (Figure 33).

Figure's area	Group label	Group's general description	Cases
Upper area	**Context I**	Leading results, with or without ecosystems adapted to CCSIs' specificities.	UK-Cardiff (CCR) Denmark USA-Washington
Intermediate zone-right	**Context IIa**	Advanced results with highly adapted ecosystems to CCSIs' specificities.	Germany-Baden-Württemberg Finland Estonia USA-California
Intermediate zone-left	**Context IIb**	Advanced results with moderately adapted ecosystems to CCSIs' specificities.	Italy-Puglia Spain-Comunitat Valenciana Portugal-Região do Norte Australia-South Australia
Lower area	**Context III**	Emerging results including those ecosystems adapted to CCSIs' specificities.	Colombia-Antioquia South Africa-Western Cape Kenya Uganda (East Africa) India-Karnataka

Looking at the innovation data of the organizations in each region/country it is worth asking: Is it necessary to have a broad environment adapted to CCSIs to generate innovation? Does more specificity mean more innovation? Not necessarily.

According to data in Figure 33**, there is no linear relationship between the CCSIs contexts and the degree of innovation of their cases.** On one hand, there is a greater intensity of innovation in the contexts of emerging results (context III) than in the rest. On the other hand, it is important to bear in mind that the CCSIs good results are not necessarily due to innovation.

Figure 34. Organizations' innovation degree according to their CCSIs contexts.

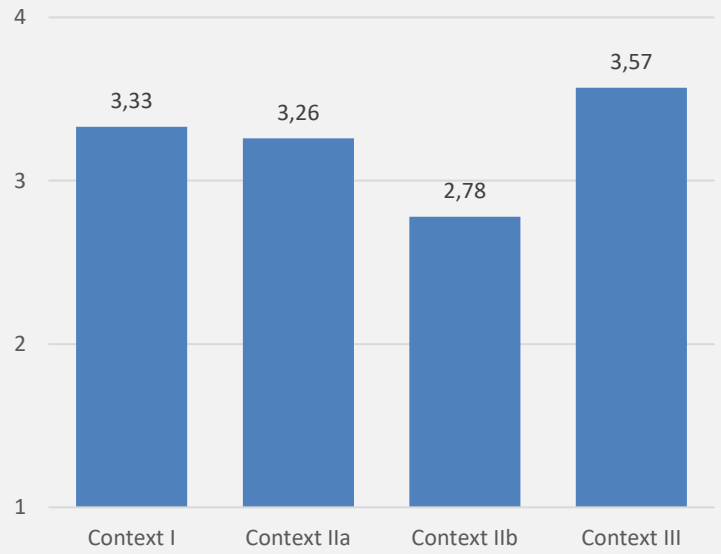


Figure 34 shows the degree of innovation of the cases according to their CCSIs contexts. It is a combination of the variables "product innovation" and "process or methodological innovation". Level 1 is for cases that have either not innovated or have only made a minor change (either in product or process). Level 2 is for cases that have made minor changes in both product and process. Level 3 is for cases that have made a main change in one of the two and a minor change in the other. Finally, level 4 is for cases that have made major changes in both product and innovation.

Source: Own elaboration based on survey data (Organizations' survey Contrast II)

A first question in relation to this could be: How do they do it? The answer, in this case: with own resources (Figure 35). Figure 35 shows that in contexts III and IIb the cases, on average, use own resources and are more relevant. In the absence of a context with support structures, agents are looking for ways to boost their innovation projects with their own means**.** As a reward, there are projects that generate greater economic return as Figure 36 shows: contexts III and IIb the percentage of income due to products with significant changes stands at 69.1% and 61.1% respectively, and stands at 46.9% and 53.3% in contexts IIa and I.

Figure 35. Degree to which organizations consider that they innovate solely on their own resources (scale of 1, nothing, to 5, totally)

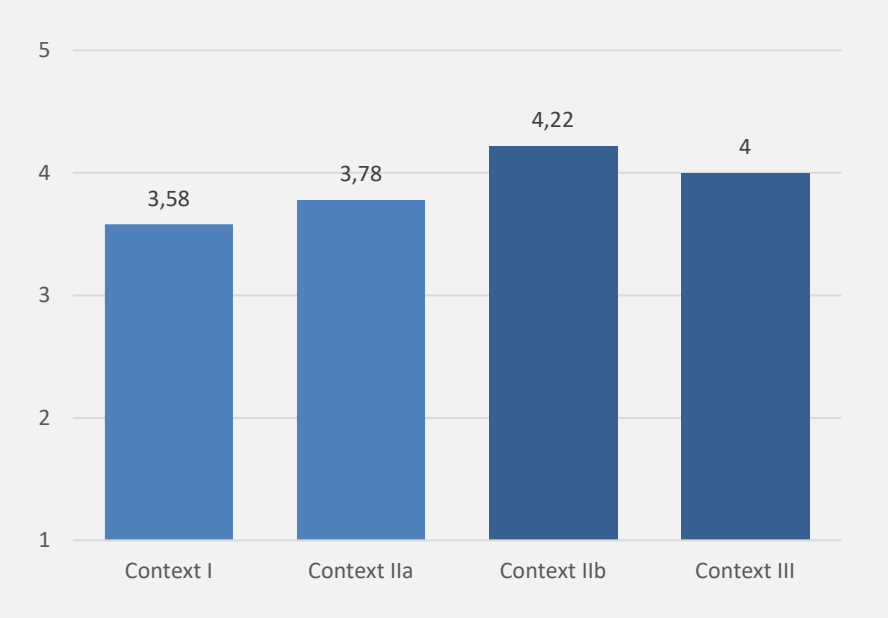
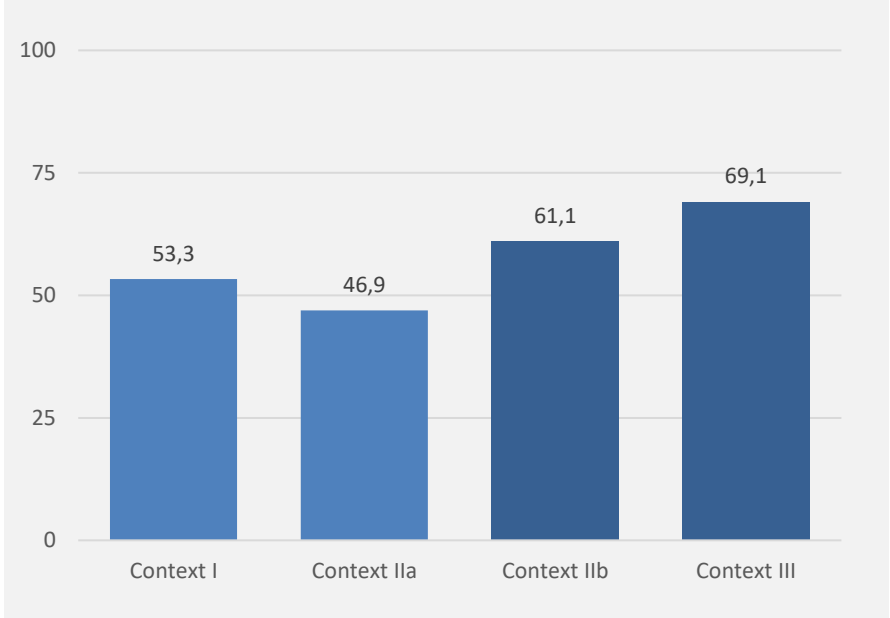


Figure 36. Percentage of revenue derived from innovative products (new or significantly improved) in the period 2020-2022.



Source: Own elaboration based on survey data (Organizations' survey Contrast II)

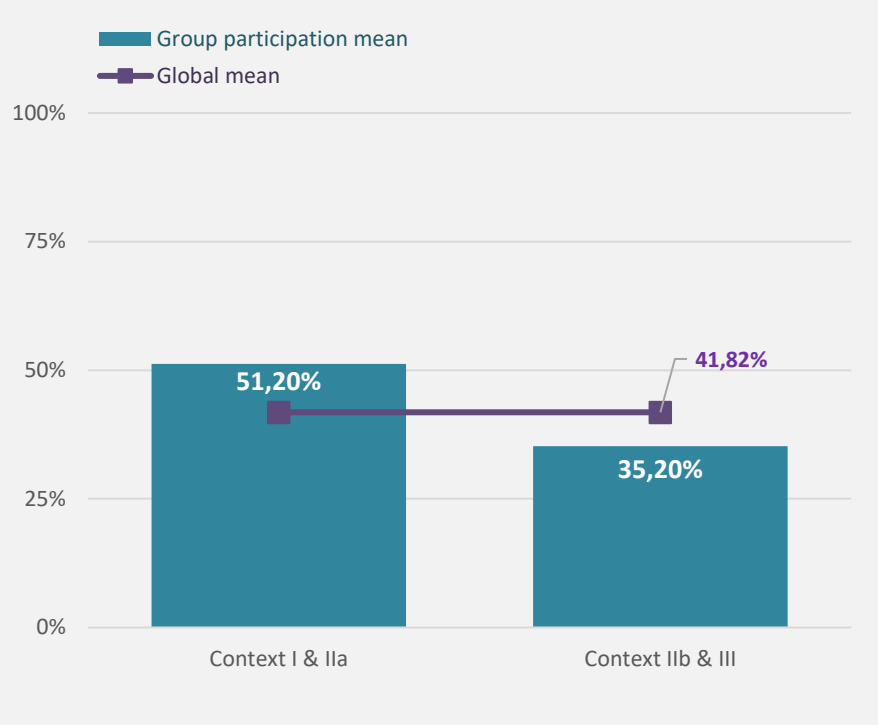
The results also show that, indeed, although with exceptions, in the best positioned contexts there is a greater number of tools or specific strategies in terms of CCSIs (Table 9, green predominates at the top indicating cases with greater specificity).

Moreover, they also show that organizations that are in these contexts use more frequently this type of tools. Contexts I and IIa are above average, and contexts IIb and III are below (Figure 37).

Table 9. Sum of the number of specific strategies or tools (minimum 0, maximum 9) used by the cases ordered according to figure Table 8 and Figure 33.

Case	CCSIs Context type	Specificity score (sum of CCSI-specific tools)
United Kingdom - Cardiff	**Context I**	**7**/9
Denmark - Denmark		**4**/9
USA - Washington		**1**/9
Germany - Baden-Württemberg	**Context IIa**	**6**/9
Finlandia - Finlandia		**7**/9
Estonia - Estonia		**5**/9
USA - California		**6**/9
Italy - Puglia	**Context IIb**	**2**/9
Spain - Comunitat Valenciana		**4**/9
Australia – South Australia		**3**/9
Portugal - Região do Norte		**3**/9
Colombia - Antioquia	**Context III**	**5**/9
South Africa - South Africa		**3**/9
Kenya - Kenya		**5**/9
Uganda - Uganda		**4**/9
India - Karnataka		**0**/9

Figure 37. Percentage of cases that are beneficiaries of: advice and training programs, R&D programs, clusters, platforms, incubators or scientific or technological parks.



Source: Own elaboration based on survey data (Organizations' survey Contrast II)

Thus, in the case of less complex contexts, with fewer specific tools for CCSIs, it is likely that organizations will be forced to better select innovation projects given the risk they assume. In other words, this firm commitment is also made in an economic key, by observing the benefits that return to them. **We can state that in certain contexts they are not licensed to fail, and they do not fail.**

It is a fact that the agents are committed to avoid failure and the results are positive, but it does not mean that the situation should be like this. On the contrary, **the possibility of having this license to fail has been one of the recurring ideas collected in the comments of the agents participating in the study.** Especially when dealing with innovation in CCSIs.

The lack of specific support tools to innovate, designed for and targeted to the CCSIs, does not prevent innovative projects from emerging. However, we can conclude that the fact of having a favourable ecosystem generates a favourable dynamic for innovation that can determine the type of innovation and the way of innovating.

This statement raises new questions about the adequacy of innovation policies to contexts: What measures are needed in different environments? What needs to be reinforced in more advanced environments, where innovation is more widespread? And in more emerging environments, where innovation is more punctual? Having a look at the use of existing measures can guide the response.

We observe some differences between economic support (aid, subsidies, credit lines, tax incentives...) and non-economic support (infrastructure, advice, training):

- In the contexts of emerging results (context III), self-financing, international agents and, to a lesser extent, but relatively higher than in the other contexts, banking foundations or private investors are used.

- In contexts with better results or with highly specific ecosystems (context I and IIa) it is very relevant the importance of regional and local actors both in financing innovation and in non-monetary measures.
- As shown in Figure 37, in contexts with better results (context I) or with highly specific ecosystems (context IIa) with robust and diverse support structures, the percentages of agents that are aware of their existence and use them are higher.

So, which could be the role of a favourable and/or adapted to specificity ecosystem? **Although other external factors (social and economic, macro, or contextual) may influence the results, a more favourable or specific ecosystem contributes to generating an innovative fabric**. While **a less adapted ecosystem generates only innovation projects**. It is, above all, a qualitative effect, and not necessarily quantitative or reflected in outputs in economic and productive terms.

In any case, the analysis of the regional coordinators' qualitative contributions in the survey allows us to approach their demands, challenges, and opportunities of each of the CCSIs contexts:

- **Context I** formed by regions/ countries with leading results with varying degrees of specificity or adaptation: for further development (even though they already generate good results due to intrinsic or extrinsic factors to the context characteristics in terms of CCSIs) **They would need to deepen the idea of the tailor-made suit, with economic strengthening tools according to the characteristics of the sector** (long pre-

commercialization developments, unique monetization pathways, intellectual property...).**Strengthen skills, increase creative and innovative solutions in public tenders, internationalization and strengthen networks and spaces for interaction.**

- **Context IIa** formed by regions/ countries with advanced results with highly adapted/specific ecosystems: Maintain and expand diversity, equity and inclusion in CCSIs and their non-economic impacts. The main challenge arises in economic terms: to generate conditions to attract talent and business and increase the benefits of CCSIs and to disseminate the CCSIs key contributions to competitiveness.
- **Context IIb** formed by regions / countries with advanced results with moderately adapted or specific ecosystems: strengthen environments by enhancing the existing cross-innovation and cross-pollination between agents of the CCSIs and other scientific or technological sectors (for example hubs, R+D funds, Seed starts...) and favour synergies with the objective of economic development, with more network and internationalization.
- **Context III** formed by regions / countries with emerging results with varying degrees of adaptation/specificity: characterized by high rates of young people who need training programs, entrepreneurship support and imaginative tools to support CCSIs. Based on what has been observed, they need support tools that facilitate to a greater extent these "licenses to fail", with resources beyond their own.

They face the difficulties related to the fact that they are contexts with greater difficulties for innovation in general terms, not specifically in terms of CCSIs.

5.2 Types and innovation value in the CCSIs

5.2.1 Innovating from CCSIs: an overview

Once we have analysed the context elements involved to contribute to an "innovation mood", we will now focus on the type of innovation carried out by the cases.

Table 10. Summary of the key indicators characterizing innovation in CCSIs

Process or methodological innovation	Product innovation (goods, services, or artistic works)	Combined innovation	Technology-based innovation
% of cases that incorporated main changes	% of cases that incorporated main changes	% of cases that incorporated main changes in both product and process dimensions	% of cases that selected 'quite' or 'wholly' in response to the question *'To what extent do your innovations come from the usage of technology?'*
67,1%	**63,6%**	**54,5%**	**51,1%**
Open or collaborative innovation	**Main partners who collaborated to develop innovations**	**Cross-sectoral innovation**	**Degree of innovation with own means/resources**
% of cases that selected 'quite' or 'wholly' in response to the question *'To what extent did your innovation receive external support?'*	% of cases that selected those partners. Mostly selected partners	% of cases that selected 'always' in response to the question 'Was *your innovation directly targeted at organizations in sectors other than yours?'*	% of cases that selected 'quite' or 'wholly' in response to the question *'To what extent was your innovation made with your own means/resources'*
59,1%	**Universities = 65,9%** **Consultants = 65,9%** **Organization in the same sector = 64,8%** **Organizations that are users or customers = 60,2%**	**29,6%**	**71,6%**

Source: Own elaboration based on survey data (Organizations' survey Contrast II)

First, it must be remembered that there is a high level of innovation in the sample. Priority has been given to organizations with innovative practices in the selection of cases. 67.1% of the cases have conducted significant process or methodological innovations in the periods 2020-2022, and 63.6% have made significant changes in terms of product innovation.

Up to 54.6% have made significant changes in both dimensions. This uncovers **a reinforced dynamic of innovation**, in which changes of both types are combined. This reveals a possible dynamic specific to the sector: I**n terms of product innovations, due to the nature of the activity of the sector, many of them will be service-specific innovations.** Therefore, innovations may have this combined nature of process and service. Thus, it is not surprising that the main process innovations have to do with services that are offered, and that are grouped in the areas of: "methods for producing, developing goods or providing services" and "information processing or communication methods".

Concerning innovation process, it highlights:

- **A generally high degree of innovation carried out with own means and resources** (71.6% who state that they carry out “all” or “a lot of” their innovation thanks to their own means).

- **Use of technology as a basis for innovation very disparate**, 51,1% stating that innovations proceed "quite" or "wholly" from the use of technology.

Despite this, a more relevant percentage of agents (69.3%) say they have purchased new technology not previously used, and 60.2% say that they bought technologies already used by the organization or upgraded them.

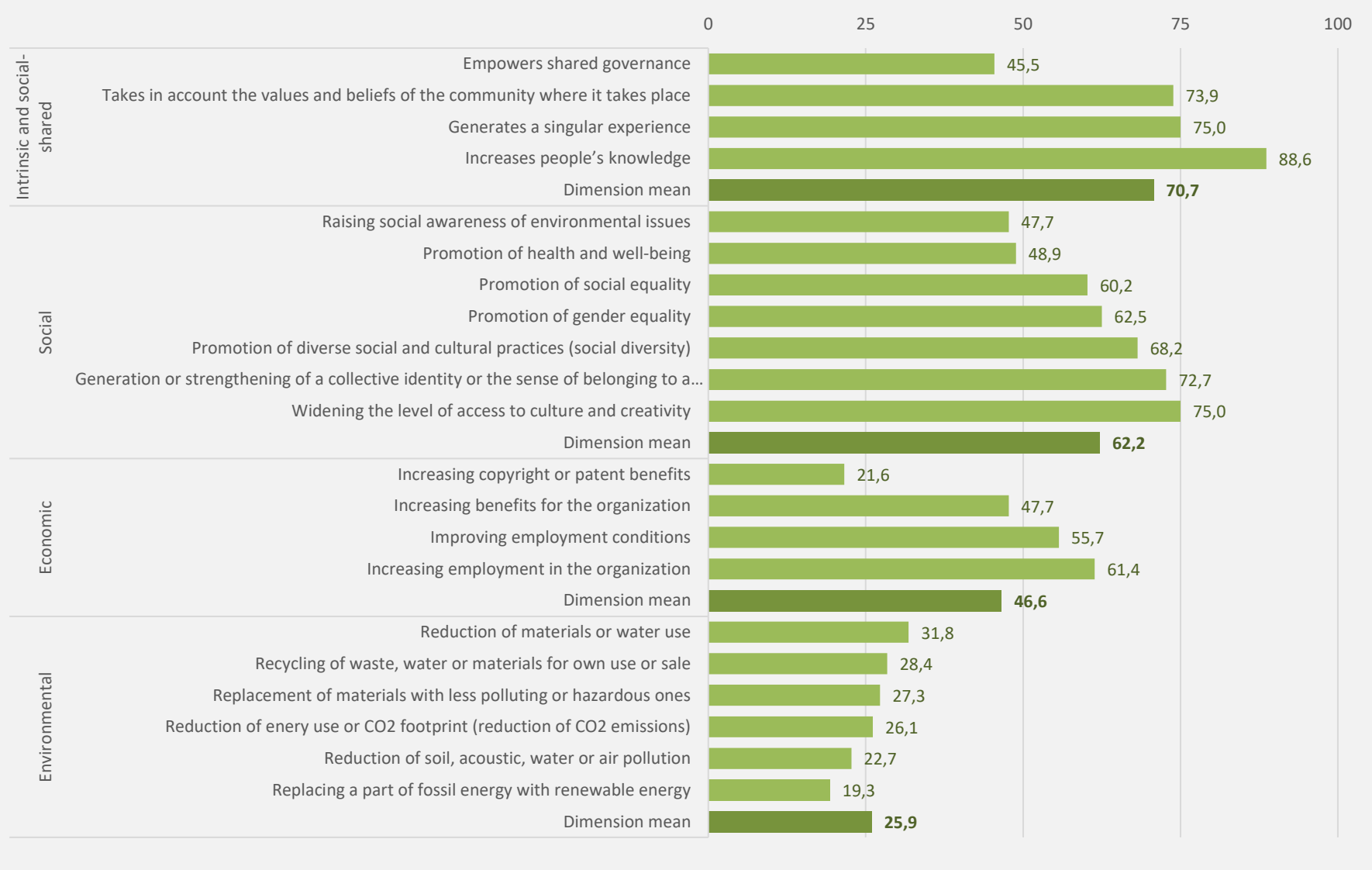
- **Most agents (59.1%) state that they collaborate to innovate in a fairly or regular basis**. Main partners are "universities or other higher education institutions", "consultants", "organizations in the same sector" or "organizations or companies that are users or customers".
- A significant, although a minority of the cases (three out of 10) state that their innovations are always directed to other sectors.
- Finally, in relation to intellectual property protection models and commercial differentiation, **it stands out that approximately 3 out of 10 agents have registered trademarks (31.8%) or claimed copyrights (27.3%) in the period 2020-2022.**

  Less commonly, 14.8% have applied for standards or labels, 12.5% have used trade secrets, 11.4% have applied for patents and 7.9% have registered industrial designs.

Regarding the value and impact of innovation in the CCSIs (Figure 38), among the three usual dimensions of impact, its **social accent stands out, which is combined with a very relevant economic value**. Undoubtedly, and supporting the claimed uniqueness of the sector, the intrinsic cultural value is manifested as the dimension in which greater impacts are generated.

Additionally, it should be remembered, in economic terms, that by 2022 organizations state that 59.1% of their revenues came from products in which they applied significant changes. In total, **76.1% of the cases stated that more than 40% of their income came from innovative products.** This data points out that, for innovative organizations, this activity brings them relevant economic benefits.

Figure 38. Summary of impacts by dimension. Percentage of cases reporting a significant impact in each indicator and the mean for each dimension.



Source: Own elaboration based on survey data (Organizations' survey Contrast II)

Therefore, innovation in the CCSIs not only produces favourable individual or private results (which, in aggregate, are so at a general level), but also important positive externalities, especially of a social and cultural nature. In fact, even in economic terms, the positive impacts in terms of increased employment and its quality also stand out. Thus, **results have a social welfare component.**

Taken together, **all this makes up a unique character of the value of innovation in CCSIs.**

5.2.2 Delving deeper: characteristics of innovation according to agents and contexts

According to organizations

To begin to delve into the characteristics of innovation, the gaze is directed first to the reasons that motivate innovation. Second, we explore whether these reasons differ for different innovation profiles.

At a general level, if the different motivations are observed, business motivations and cultural motivations tie in the lead with 31.8%. However, we must consider that the list of reasons is divisible between economic and non-economic reasons. And if educational, health, environmental, social, or urban reasons are added; non-economic reasons become the vast majority. Likewise, as already observed in section 4.4.3, **when the agents are asked about secondary reasons to innovate, the non-economic motivation is clearly visible.**

In any case, according to the innovation profiles of the agents, different motivational patterns are detected. These innovation profiles are shown in Figure 34 in section 5.1.2. The figure shows the depth and scope of the changes generated by the innovation process, giving rise to 4 profiles:

- **Low-level innovators** (no products with changes or just one minor change, whether it is in product or process dimension of innovation; 6,8%)
- **Medium-low level innovators** (minor changes in both product and process dimensions of innovation; 17,1%)

- **Medium-high level innovators** (one minor change in one dimension and one main change in the other; 21,6%)
- **Maximum level innovators** (main changes in both product and process dimension of innovation; 54,5%)

It is observed that the economic reasons are the predominant ones in the low-level and medium low-level innovator. In the case of the medium-high and maximum level innovators are mainly cultural motivations or other motivations different than the economic ones. (Table 11). If the focus is on those cases that incorporate significant changes in both process and product, the range of reasons is the widest.

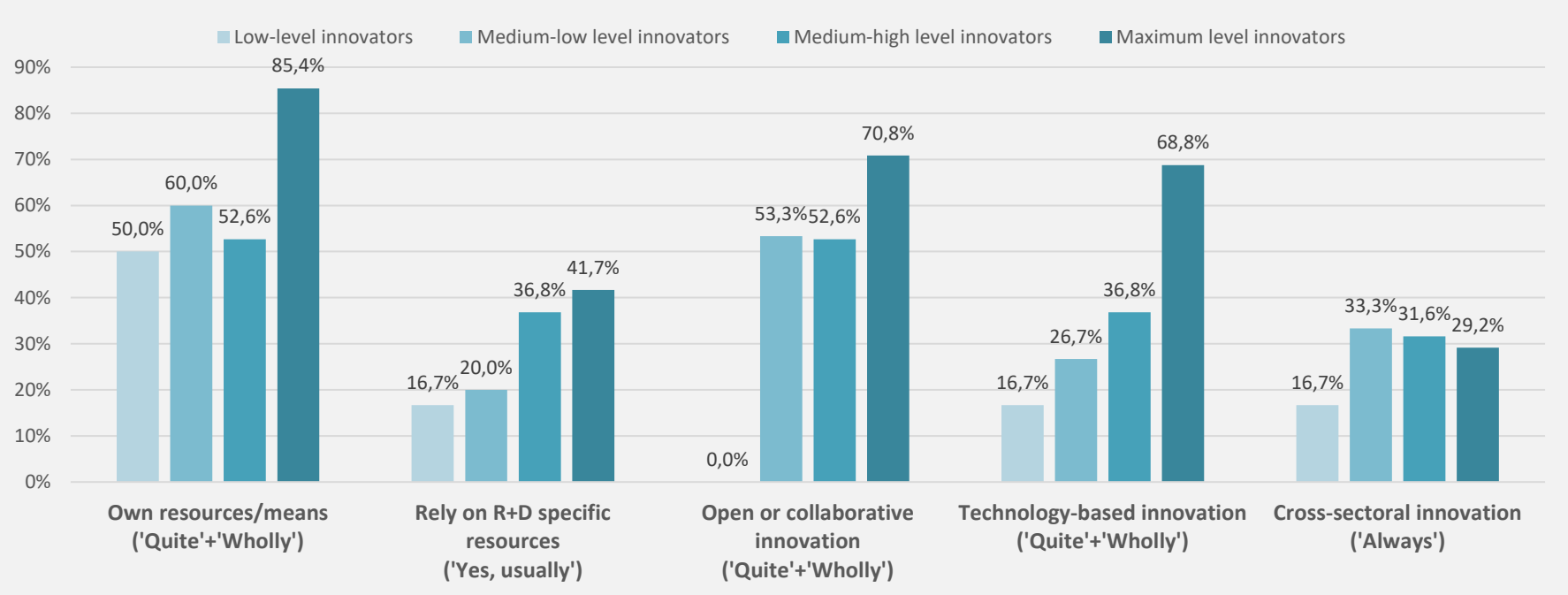
Table 11. Main reasons to innovate according to the innovation profile of organizations

	Business (Improvement of strategies and own economic or third parties' results)	**Cultural** (Increase participation or enhance cultural experience)	**Educational** (Facilitate educational tasks and learning)	**Environmental** (Contribute to sustainability)	**Healthcare** (Improve health services)	**Social** (Facilitate citizen participation)	**Urban** (Transform environments and communities)	**Other**
Low-level innovators	**50,0%**	**16,7%**	**16,7%**	**0,0%**	**0,0%**	**0,0%**	**0,0%**	**16,7%**
Medium-low level innovators	**53,3%**	**26,7%**	**0,0%**	**6,7%**	**6,7%**	**0,0%**	**6,7%**	**0,0%**
Medium-high level innovators	**16,7%**	**44,4%**	**22,2%**	**0,0%**	**5,6%**	**0,0%**	**0,0%**	**11,1%**
Maximum level innovators	**28,6%**	**30,6%**	**14,3%**	**8,2%**	**0,0%**	**4,1%**	**6,1%**	**8,2%**
Mean	**31,8%**	**31,8%**	**13,6%**	**5,7%**	**2,3%**	**2,3%**	**4,6%**	**8,0%**

Source: Own elaboration based on survey data (Organizations' survey Contrast II)

The innovator profile is also related to other characteristics of the innovation process (Figure 39):

Figure 39. Procedures linked to innovation according to the organizations' innovative profile.



Source: Own elaboration based on survey data (Organizations' survey Contrast II)

→ It is observed that in cases of **maximum innovation it is developed due to own resources.**

→ Thus, it is reasonable to think that **cases with less innovative activity may need to a greater extent external levers**. This fact will contribute to entering into an innovation dynamic that is quite based on own resources and means.

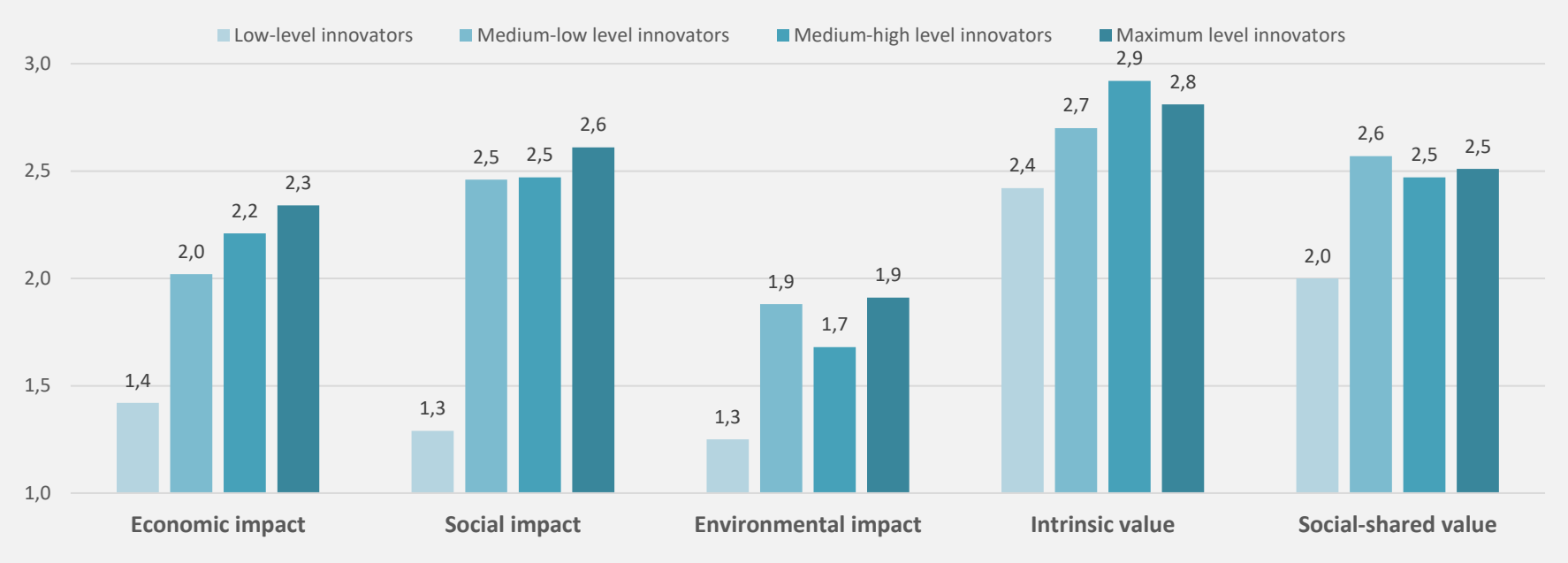
- → **The more they innovate, the more support is also observed in specific R+D resources**, whether in terms of human or economic resources.

  Therefore, it seems that skills do indeed play an important role in promoting innovative activity.
- → Open Innovation, except for the least innovative, it is quite important in the organizations with more innovative profiles. **The most innovative ones are the ones showing most resort to collaboration to innovate**. Therefore, it is possible to think that promoting collaboration is also a key issue in the development of innovative activity.
- → As relevant points linked to the profile of maximum innovation, it is finally observed that the **resource and mastery of technology plays a very relevant role: the more intense the innovation profile is, the more use of innovation-oriented technology exists.**
- → Finally, it is observed that the inclination to cross-sectoral innovation is quite transversal to all innovation profiles, grouping around 30% of cases in each group.

Having seen the motivations that precede innovation and issues related to the process, it is now worth asking about the results. A look at the average impact declared by organizations **shows some linear relationship especially for economic and, to a lesser extent, social and intrinsic impact**. Environmental impacts and shared social value are the two dimensions where there is no clear relationship, although lower-level innovators showed smaller impacts.

In general terms, although the activity of the sector itself (innovative or not) already generates this type of social and cultural (intrinsic and social-shared) impact, innovative activity acts as a multiplier of positive effects.

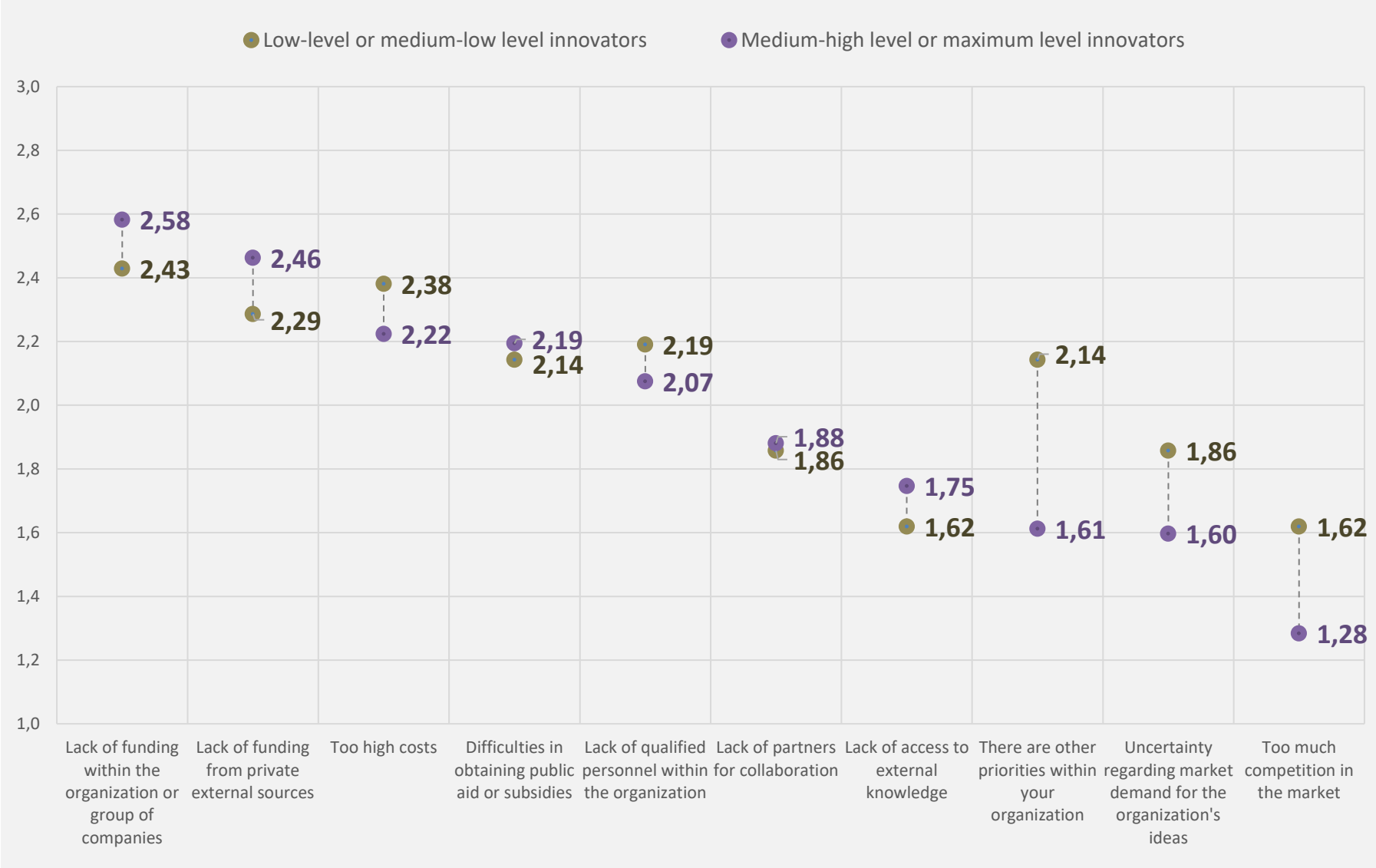
Figure 40. Impacts of innovation according to the innovative profile of organizations



Source: Own elaboration based on survey data (Organizations' survey Contrast II)

Finally, despite differences in profile, considering that most cases have innovative activity, certain differences are perceived with respect to the challenges they encounter to innovate. Therefore, **the profiles of innovators are grouped in two groups:** the Low-level or medium-low level innovators and the Medium-high level or maximum level innovators (Figure 41).

Figure 41. Challenges to innovate according to the innovative profile of organizations. Scale from 1 (low-importance factors) to 3 (high-importance factors)



Source: Own elaboration based on survey data (Organizations' survey Contrast II)

Both groups agree on placing the lack of financing within the organization as the challenge with the greatest impact, although it is even more for the most innovative. For the most innovative the second challenge is also related to the lack of funds, in this case from external private sources. High costs, on the other hand, are the second most impactful factor for the least innovative. In any case, these three factors dominate the top of the table of challenges with minimal differences.

In the middle area of the figure there is an agreement in the assessment of potential challenges, but the greatest differences are observed in the factors of less impact. In this sense, **it is especially noteworthy that among the least innovative, a relevant impact factor is that there are other priorities within the organization**. Likewise, **uncertainty and market competition are more important among the less innovative than among the most innovative.**

According to contexts

To conclude investigating innovation in the CCSIs, this section is centred in the analysis supported by the CCSIs innovation contexts identified in the previous section (Table 8, section 5.1.2):

- → Context I: Leading results, with or without ecosystems adapted to the specificity of the CCSIs
- → Context IIa: Advanced results with highly adapted or specific CCSIs ecosystems

→ Context IIb: Advanced results with moderately adapted or specific ecosystems

→ Context III: Emerging results, including ecosystems adapted or CCSIs specific

It is important to bear in mind, as already seen, that there is no linear relationship between the contexts and the level of innovation (Figure 34, section 5.1.2). In the emerging results context (context III) innovation is, in fact, very intense. The least innovative are spread among the other contexts. Thus, although there is no linear relationship in quantitative or level terms, there are certain qualitative differences according to contexts.

Attending first to the motivations that dominate in each context (Table 12), we can see that:

Table 12. Main reasons to innovate according to organization's context

	Business (Improvement of strategies and own economic or third parties' results)	**Cultural** (Increase participation or enhance the cultural experience)	**Educational** (Facilitate educational tasks and learning)	**Environmental** (Contribute to sustainability)	**Healthcare** (Improve health services)	**Social** (Facilitate citizen participation)	**Urban** (Transform environments and communities)	**Other**
Context I	**41,7%**	**41,7%**	**0,0%**	**8,3%**	**0,0%**	**0,0%**	**8,3%**	**0,0%**
Context IIa	**30,4%**	**13,0%**	**21,7%**	**17,4%**	**4,4%**	**0,0%**	**4,4%**	**8,7%**
Context IIb	**26,1%**	**52,2%**	**8,7%**	**0,0%**	**4,4%**	**0,0%**	**4,4%**	**4,4%**
Context III	**33,3%**	**26,7%**	**16,7%**	**0,0%**	**0,0%**	**6,7%**	**3,3%**	**13,3%**
Mean	**31,8%**	**31,8%**	**13,6%**	**5,7%**	**2,3%**	**2,3%**	**4,6%**	**8,0%**

Source: Own elaboration based on survey data (Organizations' survey Contrast II)

→ In the **contexts with leading results** (context I) **both cultural and business reasons are equated,** and it is concentrated in these two dimensions. On the contrary, in the contexts with advanced results and high complexity ecosystems (context IIa) there is a wider range of reasons, and educational and environmental issues stand out (In contrast, the cultural reason stand out less than in the rest of the contexts).

→ In contexts with **advanced results and medium complexity** (context IIb), **cultural reasons group a significant majority of cases.**

→ Finally, in the **contexts with emerging results (context III), there is again a broader distribution of reasons,** with cultural and business reasons being comparable in importance, but without the relevance that they acquire in context I. In this case, educational reasons also stand out (although to a lesser extent than in context IIa). A remarkable fact, in terms of context, has to do with the main partners in each case (Table 13), since **collaboration has stood out as a relevant factor to give rise to innovation**.

Table 13. Partners to innovate according to the organizations' context

	Context I	Context IIa	Context IIb	Context III	Global mean
Consultants	91,7%	52,2%	56,5%	73,3%	65,9%
Universities or other higher education institutions	50,0%	87,0%	69,6%	53,3%	65,9%
Organizations in the same sector	66,7%	69,6%	56,5%	66,7%	64,8%
Organization or companies that are users or customers	66,7%	69,6%	69,6%	43,3%	60,2%
Non-profit institutions	58,3%	73,9%	39,1%	43,3%	52,3%
Regional government	58,3%	65,2%	43,5%	30,0%	46,6%
International institutions	16,7%	47,8%	34,8%	66,7%	46,6%
Equipment suppliers, materials, components, or software	50,0%	47,8%	39,1%	43,3%	44,3%

Other companies or organizations	75,0%	47,8%	26,1%	43,3%	44,3%
Local government	33,3%	60,9%	34,8%	36,7%	42,1%
Informal partnerships	50,0%	34,8%	34,8%	43,3%	39,8%
State government	50,0%	47,8%	21,7%	36,7%	37,5%
Public sector users or customers	41,7%	43,5%	21,7%	16,7%	28,4%
Corporate and/or banking foundations	16,7%	30,4%	8,7%	26,7%	21,6%
Technology centres, science Parks...	8,3%	39,1%	17,4%	13,3%	20,5%
Other organizations of the same business group	25,0%	17,4%	4,4%	30,0%	19,3%

Source: Own elaboration based on survey data (Organizations' survey Contrast II)

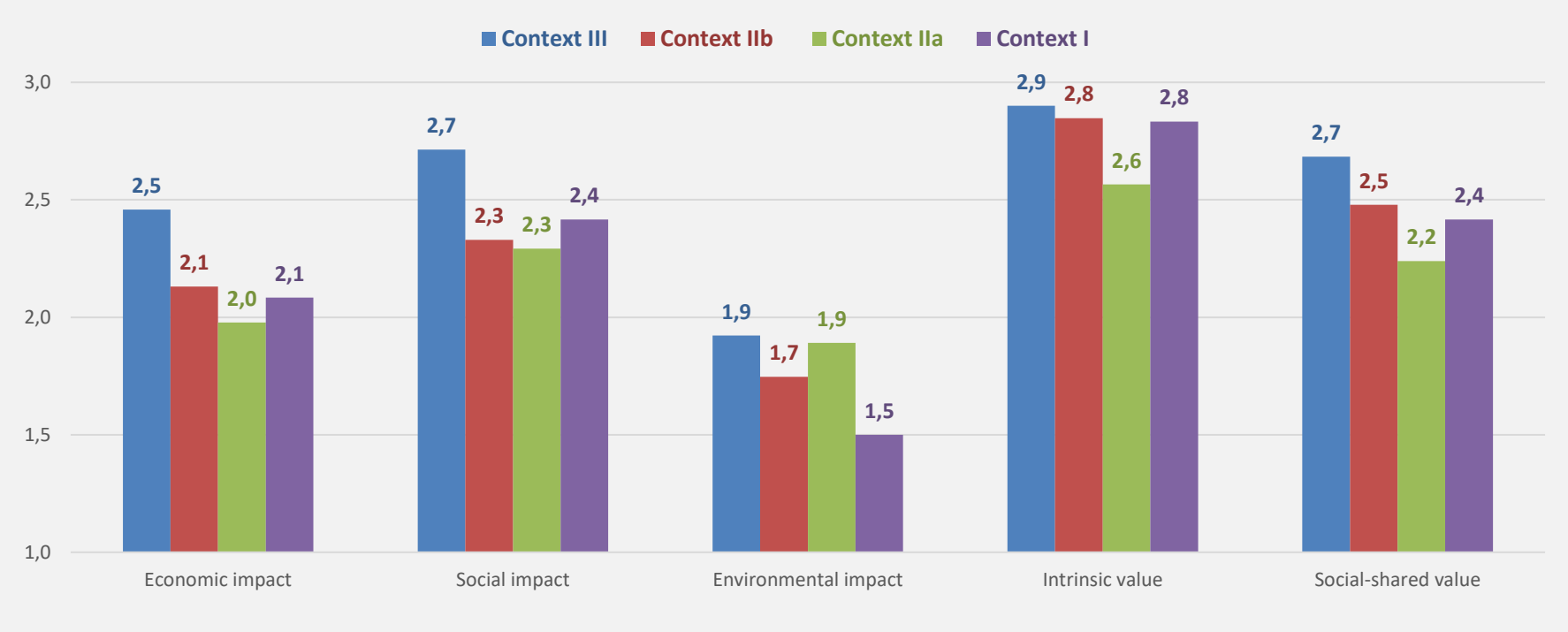
In the case of **contexts with leading results (context I), collaborations with consultants and with other companies or organizations (from different sectors and that are not clients) stand out**. These are two types of collaborators who have a presence in these contexts well above the global average.

Observing the contexts with **advanced results and with highly adapted ecosystems (context IIa), it stands out that they have the widest range of collaborators.** As can be observed, the green colour is prominent in this column, which means that collaborators' presence is more widespread in these contexts than in others. On the other hand, we find the context with advanced results but with moderately specific or adapted ecosystems (context IIb) in which collaboration is also relevant but with minor percentages.

Finally, **addressing the cases of emerging results contexts (context III), it is important to mention that consultants also play an important role alongside international institutions**. Organizations in the same sector are also relevant.

In terms of impacts, the results only show differences between the cases of contexts with emerging results (context III, emerging results in ecosystems with varying degrees of specificity) with the rest (context I, IIa and IIb), but not among the latter. And only in certain dimensions is this more evident: **especially in economic and social terms**, compared to the average, **in context III all the declared impacts are superior.**

Figure 42. Impacts of innovation according to organizations' context



Source: Own elaboration based on survey data (Organizations' survey Contrast II)

6. Innovation measurement in CCSIs: scope and limitations

Measurement in the *Contrast study* addresses two dimensions: **ecosystems and organizations.**

Regarding the innovation ecosystems measurement in the CCSIs, the *Contrast I* pilot study carried out an identification of the map of tools and agents that must be considered to approach the innovation ecosystems in the CCSIs. A scheme that has been applied and improved in Contrast II. The current map considers:

- Types of tools:
  - Economic (subsidies, credit lines, tax incentives…) and non-monetary (incubators/infrastructure, clusters, advice, training…)
- Types of agents and strategies:
  - Sectoral (CCSIs, specific) and generalist (linked to economic development, industry, science, and technology…)
- Administrative levels:
  - Local, regional, national, and international

These dimensions allow us to cover the set of relevant elements for the characterization and analysis of ecosystems linked to CCSIs.

On the other hand, measuring innovation at the organizational level raised bigger questions. In fact, this dimension is directly related to one of the reasons that inspire the *Contrast*, which is:

- Show the uniqueness of CCSIs, identifying aspects that characterize cultural innovation, which are not reflected in the frameworks established for other sectors and that make them unique.

Thus, a basic part of the measurement in the CCSIs comes from the frameworks already established for innovation at a general level, which address aspects related to:

- Product innovation
- Methodological / Process innovation
- Open innovation
- Cross-sectoral innovation
- Technology role
- R+D resources
- Economic impact

To reflect on **the measurement of innovation at the organizational level**, *Contrast II* introduced two types of questions into the questionnaire:

A. Standardized items or questions, aimed at contrasting whether CCSI organizations feel represented and able to respond in existing general surveys.

B. Items or own questions, including singular aspects linked to impacts that allow to make visible in what sense the CCSIs are unique.

To carry out this exercise, the Community Innovation Survey of the European Union was selected as a reference[10]. It is a well-standardized and far-reaching tool, with which it is possible to contrast these ideas: how CCSIs adapt to general surveys and how they are unique.

How CCSIs adapt to innovation measurement established frameworks

The survey included the main concepts of process and product innovation with a slight adaptation that included the label "artistic works" in relation to product innovation.

[10] At the time of designing the Contrast questionnaire, the latest published wave corresponded to the year 2020, so the reference questionnaire dates to that year. The version used is the one adapted by the Basque Institute of Statistics (Eustat): https://www.eustat.eus/comun/ExtractorBlob.ashx?id=cu_223202_2020.pdf
The base version can be consulted on the Eurostat website: https://ec.europa.eu/eurostat/cache/metadata/Annexes/inn_cis12_esms_an2.pdf

In order to evaluate to what extent the concepts linked to each definition do represent the CCSIs, a specific question was included to assess whether the changes/innovations made by the surveyed organizations coincide with these concepts.

Process innovation considers, as part of its definition, changes in the following aspects:

1. Methods for producing, developing goods, or providing services.
2. Information processing or communication methods
3. Business practices for organizational procedures or external relationships
4. Organizational methods, decision making or human resources management.
5. Marketing methods for promotion, packaging, pricing, product positioning or after-sales services
6. Methods of accounting or other administrative operations
7. New or significantly improved logistics or delivery systems or distribution methods

None of the cases who declared having made changes in the concept of process (whether minor or significant) has stated that none of the above items fits their case. In a global view, as highlighted in section 4.4.1, for the first five concepts of the previous list, the percentage of cases that state that these fields are not applicable to the changes they have made is between 11% and 24%. For the latter two, these percentages increase to 36% and 49% respectively.

The items with the highest percentage of cases declaring a "total or near-total match" are "Methods for producing, developing goods, or providing services" and "Information processing or communication methods", reaching 48% and 45%.

Undoubtedly, the percentages linked to each area of innovation show diversity of actions within the CCSIs with two items that are trending. Moreover, the fact that the cases that have made innovations recently have found on the survey list an item that represents its innovation, shows **that the standard concept of process innovation is suitable for CCSIs.**

Concerning product innovation, the exercise is carried out considering that the areas of innovation in this case are linked to the concepts of:

1. Quality
2. Credibility
3. Ease of use
4. Technical specifications or procedures
5. Accessibility
6. Suitability
7. Efficiency during use
8. Durability

Only one of the cases that have innovated in product (either minor or significant changes) states that none of the proposed concepts adapts to their case. For the first five concepts, between 9% and 18% state that the concepts are not applicable to their cases. Only for the last two concepts are slightly higher percentages reached, 26% and 28% respectively. In the cases of "quality" and "credibility", the percentages of "total or near-total match" of the changes made with this concept reach more than 50% (57% and 55% respectively).

In general, the percentages of non-applicability remain somewhat lower than in the case of process innovation. This indicates that, despite the diversity present in the sector, the organizations are generally represented by the areas that define product innovations in a standard way.

The questionnaire also added a question regarding the use of different forms of intellectual property protection as included in the Community Innovation Survey:

1. Trademarks
2. Copyrights
3. Labels
4. Trade secrets
5. Patents
6. Industrial designs

In this case, it is detected that up to 58% resort to some of these forms of intellectual property protection, mainly trademark registration (32%) and copyright claim (27%). This issue, and specifically these items, are intimately linked to cultural and creative activity, so despite the number of companies that make use of these legal forms, they are issues that adapt to CCSIs perfectly.

The last question considered relevant has to do with the economic impact within the organization itself of the innovations made. The basic indicator of the Community Innovation Survey is in this case the percentage of the turnover of the last year due to new or improved products (services, goods, or artistic works) with significant changes within a reference period of the last two years.

Although in almost all cases a valid answer is obtained (only four cases state, without explicit reasons, that this question is not applicable to them), some cases highlight certain difficulties. Despite this, they are not difficulties linked to the fact of being cultural or creative agents. For example:

- Five cases manifest the specificity of their start-up activity or other reasons related to entrepreneurship and the fact that their projects that do not have enough seniority to be correctly evaluated by this item (need to achieve the medium and long term to obtain the expected results).
- It must be considered that the survey was not limited to organizations in the private business sector, so five cases warn that the item is not adequate to measure its impact in the way they believe is most correct.

- In three cases they note that the formulation used is not adequate, giving rise to confusion because "turnover" can also be understood as "employee attrition" and not only as "revenue".

These last answers, but also others, draw attention to the need to offer understandable definitions of all the items linked to what you want to measure and not take any knowledge for granted. While many of the questions related to the type of innovation already included these definitions, not all the survey did.

In this sense, it is necessary to emphasize that the same Community Innovation Survey filters the participation to organizations of more than 10 employees. It is understandable that smaller organizations have greater difficulties in monitoring this type of internal results and even difficulties in dealing properly with the language used.

CCSIs are generally composed of many small agents. Thus, in economic terms there are difficulties **that do not come so much from the specificity of the sector of activity,** but from the type of agents.

Extending the framework to incorporate CCSIs impact.

The Community Innovation Survey itself asks a specific type of question to assess the environmental impact. It is a question of asking whether in "X" scope (for example, reduction of water use) there has been:

- ☐ A significant change
- ☐ A non-significant change
- ☐ No change

This question format has been used in the *Contrast II* questionnaire to ask both for additional economic impact issues (own items beyond income due to innovative products) and for new issues of a social and cultural nature, maintaining those established in the environmental dimension (sections 4.5.2 and 4.5.3).

For the construction of the items in the social and properly cultural dimensions, the questionnaire was again based on the theoretical framework that inaugurated the process of reflection and research of the *Contrast* project.

Table 14. Items proposed in the organizations' survey to evaluate CCSIs impacts in each dimension

Organization's innovation's grading in economic impact
☐ Increasing in employment in the organization
☐ Improving employment conditions
☐ Increasing benefits for the organization
☐ Increasing in copyright or patent benefits
Organization's innovation's grading in social impact
☐ Widening the level of access to culture and creativity
☐ Generation or strengthening of a collective identity or the sense of belonging to a community.
☐ Promotion of diverse social and cultural practices (social diversity)
☐ Promotion of social equality
☐ Promotion of gender equality
☐ Raising social awareness of environmental issues
☐ Promotion of health and well-being

Organization's innovation grading in environmental impact
☐ Reduction of materials or water use
☐ Reduction of energy use or CO2 footprint (reduction of CO2 emissions)
☐ Reduction of soil, acoustic, water or air pollution
☐ Replacement of materials with less polluting or hazardous ones
☐ Replacing a part of fossil energy with renewable energy
☐ Recycling of waste, water or materials for own use or sale
Intrinsic and social-shared value. Your innovation project …
☐ Increases people's knowledge.
☐ Generates a singular experience.
☐ Empowers shared governance.
☐ Considers the values and beliefs of the community where it takes place

Source: Own elaboration based on Organizations' survey Contrast II

Based on the results obtained, it is possible to affirm that the questionnaire design is valid to make visible the uniqueness of the CCSIs in terms of their social and cultural value.

The results obtained through the items used (section 4.5.2) are in line with the pattern declared in an initial general (subjective) approximation (section 4.5.1):

→ A high social impact and slightly higher than the economic one.

→ A limited environmental impact compared to the rest of the dimensions.

→ A proper cultural impact (shared intrinsic and social value) as the main component.

It is necessary to emphasize, in terms of environmental impact, that the contribution of the CCSIs may differ from what is measured in a standard way, which refers to aspects of a very industrial nature. A feature that many sectors and agents of the CCSIs do not have.

In this sense, the explanation for this limited impact can be due to three reasons:

- → Lack of adequacy of items: the limited impact may be since relevant issues specific to the sector and/or the type of agents are not measured.
- → Less interest on these issues: the limited impact may be due to the lack of interest to deepen this type of impact.
- → Lack of knowledge, resources, or capabilities: The limited impact may be due to the lack of means to work in this dimension.

To deepen the reflection, it is necessary to mention that an item linked to the environmental dimension was introduced in the social dimension. In fact, it is the one with the least impact within this social dimension ("raising social awareness of environmental issues"). This may be indicative that the environmental dimension is specific to certain projects or sectors but not to the entire sector. Likewise, the item linked to health in which a less relevant impact is also declared. On the other hand, aspects such as social and gender equality are much more shared by the sector as a whole and the declared impact is greater than in terms of environment or health.

In any case, from the technical point of view of impact measurement, **it seems clear that the design used in the survey is capable of revealing characteristics of the CCSIs in terms of potentialities and difficulties** (Table 14). In fact, in the open-ended questions designed to gather feedback about the proposed items, there have been no doubts or relevant comments in the opposite direction (that is, as inappropriate or incomprehensible items).

Final remark

This brief investigation, from a more technical than conceptual perspective, shows that the standard measurement of innovation is valid for CCSIs, although it has limitations. The question is how to deal with these limitations.

In the first place, it must be considered that participating in the established frameworks must serve to standardize itself in the economy as a whole and that the existing limitations are not enough to renounce being part of the whole. The limitations have to do with the non-visualization of certain specific aspects of the sector. In this connection it should be emphasized that the lack of adequacy to the specificity of the sector is not a unique fact of the CCSIs. Other sectors may also experience a lack of adequacy.

In this sense, a specific sector limitation has more to do with its more widespread type of agents than with the nature of its activity:

- For example, the Community Innovation Survey limits participation to companies with more than 10 employees, understanding that they have organizational structures and resources that allow them to collect more accurate and complete information. Likewise, there is also a type of agent that play a more active role in the investment of R+D and in the development and adoption of new technologies and have greater resources to have specialized personnel.
- In turn, another characteristic of the sector is the legal nature of its agents: the ecosystem is also conformed, in an important way in comparative terms with other sectors, by public agents and private agents of the third sector. Thus, this part of the cultural and creative ecosystem is also outside the gaze usually carried out by innovation surveys, focused on private commercial agents.

Given the limitations, it must first be considered that the claim to make visible other types of agents and impacts should not be justified mainly by the fact that they need to be adapted to the CCSIs: we must look beyond**. Adapting the established frameworks to new parameters should serve to promote a different and more complete look at the economy linked to innovation**. The strategy to make oneself visible thus involves recognizing broader motives and a greater complicity with other sectors.

Secondly, the existence of these limitations must continue to promote new actions aimed at better understanding of the sector by the sector and seeking its own spaces and motives with which to explain itself clearly and precisely, avoiding vagueness and unfounded speeches.

PART IV: **FINAL RECAP**

7. Highlights

7.1 To sum up: back to objectives, methodology and hypotheses

In line with the main objectives of the Contrast project, developed in two phases (pilot study and current extended study), this report has studied in greater depth and systematicity the characteristics of the innovation environments of the CCSIs and their types of innovation.

The diversity of regions and cases has allowed an analysis to be carried out from an objective and unprejudiced position. The sample is relevant to the objectives of the research, although in purely statistical terms it is not representative, it is theoretical.

On the other hand, the methodology used through two questionnaires designed ad hoc, has allowed us to visualize and study shared elements among all sectors and explore those that are unique to the CCSIs. These tools have enabled to know in objective terms key issues raised from the theoretical reflection initiated three years ago and to transfer them to the reality of innovation in the CCSIs. In addition, the research is not limited to a

portrait of the situation (very valuable in itself), but also incorporates contributions of a qualitative nature on the barriers and opportunities for the future development of innovation in the CCSIs in diverse contexts.

Attending again to **the initial hypotheses of the study on the effect of the context at two levels** (the influence of the global context of the region on CCSIs specific context and, second, the influence of CCSIs specific context to the types and procedures of innovation). We must conclude that **the evidence is partial**.

The study confirms that there is a correlation between general contexts and innovation contexts in CCSIs, but **the correlation between specific contexts and case-level innovation is not that clear**. There is no linear relationship between the latter and the level of innovation of the cases. **At this level, the relationship is more qualitative (how you innovate) than quantitative (impact).**

7.2 Findings related to contexts and ecosystems

There are different general elements that dominate transversally the innovation ecosystems of the CCSIs:

- → **The strategies to support and promote innovation in the CCSIs are mainly led by specific agents in the cultural field**. When they are not mainly led by specific agents, there is a co-leadership with generalist agents. In none of the ecosystems studied the leadership come from generalist agents. **There is a high degree of awareness of a certain need for specialization.**
- → **Incubators, clusters, and economic support programs are the type of measures designed specifically for the most widespread CCSIs.** In the rest of the measures, the CCSIs are generally included, but they are not the only recipients of the programs. **Where CCSIs are least included, is in science and technology parks.**
- → When specific tools for CCSIs exist, cultural and creative agents are aware of them and use them to boost their innovation projects.
- → **Non-monetary support predominates at local and regional administrative levels. Monetary support is mainly driven by higher administrative levels (state and international).**

In terms of more general contexts, innovation with its possible differences, is present in all the regions analysed. More strength (better results) and specificity (better conditions) in the supporting ecosystem does not

necessarily mean more innovation, **but it does have a logical effect in promoting a more innovation-friendly dynamic:**

- → In the regions analysed, with their singularities, it is noted that the **open innovation model of the fourth helix (government-universities-industry-civil society) is assumed,** very consistent in fact with the characteristics of the CCSIs given their strong social imprint.
- → Although other external factors (social and economic, macro, or contextual) may influence the results, an innovation ecosystem more adapted to the CCSIs (more specific) **contributes to generate innovative fabric and greater density of innovative initiatives.**
- → On the contrary, despite having a more fragile ecosystem less adapted to the specificities of CCSIs, highly innovative projects can emerge with equally significant impacts. **In the absence of a context with support structures, agents are looking for ways to boost their innovation projects with their own means**. They are the projects that obtain the highest economic return. **It can be said that they are not licensed to fail, and, in view of the results, they do not fail.**

In conclusion, the lack of specific support tools to innovate, designed and directed to CCSIs, does not prevent innovative projects from emerging. In fact, some of the most impactful ones take place in emerging contexts.

Despite this, **the fact of having an enabling ecosystem generates a dynamic favourable to innovation, a special groove that encourages to move in terms of innovation.**

While it is true that a general socio-economic framework is an external factor to the elements of the ecosystem of the CCSIs that can exert a favourable effect, innovation does not only occur in these contexts: **innovation happens everywhere, it is part of CCSIs DNA organizations, and it is possible to observe it wherever they exist.**

7.3 Findings related to innovation types

More than half of the cases have an intense innovative activity and report having made significant changes in both product and process. **Thus, in the CCSIs innovation is mainly combined**. This fact seems to be related to the type of projects of CCSIs organizations, given that their offer is mainly services and, the improvements are also related to process innovation.

In relation to the procedures to innovate, the highlights are:

- **Own resources in high-level innovative profiles are very relevant.**
- **The more you innovate, the more support you see in specific R+D resources.** Skills play an important role in promoting innovative activity.
- **More innovative organizations are turning to collaboration to innovate.**

- Finally, **the more intense the innovation profile is, the more use of innovation-oriented technology there is.**
- **Cross-sectoral innovation is quite transversal to all innovation profiles: three out of ten cases innovate for other sectors.**
- **Trademark registration and copyright claims are the most used forms of intellectual property protection in CCSIs**; being less relevant to the acquisition of labels, trade secrets, the registration of patents and industrial designs.

Regarding the **value and impacts of innovation**, it is observed that innovation has an important economic return for the agents of the CCSIs:**59.1% of their revenues came from products in which they applied significant changes.**

In relation to value and impacts of innovation, it is important to mention:

- Innovation in the CCSIs not only produces favourable individual or private results (which, in aggregate, are so at a general level), **but also important positive externalities, especially of social and cultural nature.** This fact configures a unique character of innovation value in CCSIs.
- **Observing the different motivations, the inclination or the non-economic accent is clearly and definitively visible.** The reasons that induce innovation are not mainly of an economic nature, although it is present. The

economic reasons are behind the profiles of low-level or medium-low level innovators. **Behind the medium-high and maximum level innovators (most of the sample) are the mainly cultural, social, educational motivations, etc.**

→ As for the impacts of innovation, **social impact appears prominent**, in combination with the economic impact, so it is inferred that **social impact is not at odds with economic impact**. At a lower level is situated the environmental impact.

Finally, it highlights that the lack of funding within the organization (or from other private sources) appears as the main barrier to innovation. It is important to take this into consideration since seven out of ten cases innovate with their own means and resources.

7.4 Notes on innovation measurement in the CCSIs

The design of the questionnaires included a series of questions with a double intention: to obtain knowledge of certain aspects but also to assess their operation. This set of questions has served to:

→ Assess whether the CCSIs feel represented in the standard concepts used in the established innovation measurement frameworks.

→ Explore how the new elements added, aimed at highlighting the uniqueness of the CCSIs in tune with the established frameworks, have been useful.

The results have shown that the standard measurement of innovation is valid for CCSIs, although it has some limitations. The question is how to face these limitations, given that they are not enough to renounce being part of the whole and live outside the processes and concepts homologated and extended by the economy.

It has been acknowledged that **a limitation specific to the sector has more to do with its wide range of agents** (many small agents and relevance of public agents and the third sector) **than with the nature of its activity.**

The demand to make visible other types of agents and impacts should not be justified mainly by the fact of adapting the existent framework to the CCSIs: we must look further. **Adapting the established frameworks to new parameters should serve to promote a different and more complete look at the economy.** This is, in fact, a singularity of the sector: the importance of those reasons different than economic ones.

Given these limitations, it must continue **to promote new actions aimed at better understanding of the sector. Likewise, it must continue seeking its own spaces and motives with which to explain itself clearly and precisely, avoiding vagueness and unfounded speeches.**

ANNEXES

ANNEX 1. Samples and surveys

Regions' analysis

The regional coordinators questionnaire was distributed digitally (LimeSurvey platform) between 21 February 2023 and 23 May 2023.

The total responses were 16 cases that are spread across five global areas:

Country	Australia	Colombia	Denmark	Estonia	Finland	Germany	India	Italy	Kenya	Portugal	South Africa	Spain	Uganda	United Kingdom	United States of America	United States of America
Case type	Region	Region	Country	Country	Country	Region	Region	Region	Country	Region	Region	Region	Country	Region	Region	Region
Case	South Australia	Antioquia	Denmark	Estonia	Finland	Baden-Württemberg	Karnataka	Puglia	Kenya	Região do Norte	Western Cape	Comunitat Valenciana	Uganda	Cardiff Capital Region (CCR)	Washington	California

Europe	Africa	Asia-Pacific	North America	Latin America
〉 Baden-Württemberg (Germany) 〉 Cardiff (CCR-UK) 〉 Comunitat Valenciana (Spain)	〉 Kenya 〉 Western Cape (South Africa) 〉 Uganda	〉 South Australia (Australia) 〉 Karnataka (India)	〉 Washington (USA) 〉 California (USA)	〉 Antioquia (Colombia)

〉 Denmark 〉 Estonia 〉 Finland 〉 Região do Norte (Portugal) 〉 Puglia (Italia)				

Coordinators survey:

A) Sources of information

In this initial block, the questions relate to:

1. Existing official statistical agencies.
2. Existing statistics on the cultural and creative sectors.
3. The existence of cultural observatories or research organizations in this field.
4. Other relevant information such as reports, institutions, etc.

In each case, it is requested to provide identifying references, with names and web links.

What are the official statistical agencies in the region? Please, include web links
Do you know any statistics related to innovation in the region or country?
☐ Yes

☐ No ☐ I don't know.
Which ones? Please, include web links
Are there any statistics regarding the number of companies and/or employment in the cultural and creative sectors? Whether specific or not, but with the ability to analyze the cultural and creative sectors in particular
☐ Yes ☐ No ☐ I don't know.
Which ones? Please, include web links
Are there specific observatories or research entities in the field of cultural and creative sectors?
☐ Yes ☐ No ☐ I don't know
Which ones? Please, include web links
Is there any other relevant information on CCSIs or innovation? (Reports, institutions, organizations) If yes, please write it below and including web links:

B) Positioning of the region in terms of innovation and CCSIs

The region's positioning block in terms of innovation and CCSIs includes a subjective view of the coordinator in his/her capacity as a key informant.

This is a short section in which:

1. Different aspects of the cultural and creative context in the region are assessed on a valuation scale.
2. It is requested to classify the region in a stage of development of the CCSIs differentiating between: Emergent, Moderate, Advanced or Cutting Edge.

Two open-ended questions are included regarding the opportunities and constraints that the coordinator identifies as relevant in their region.

In your opinion, on a scale of 1, totally disagree, to 7, totally agree, what do you think in relation to the following statements?

	1	2	3	4	5	6	7
Regional administration confers strategic importance to innovation							
Regional administration confers strategic importance to cultural and creative sectors							
The cultural and creative sectors of the region have a high level of structure and organization							
The cultural and creative sectors are making an important contribution to regional competitiveness							
Internationalization of the cultural and creative sectors of the region is being encouraged							
Support for innovation in the cultural and creative sectors is relevant in the region							

The participation of the cultural and creative sectors in joint projects with other sectors is promoted							
Training in the cultural and creative sectors is included in the education system							

How do you assess the development of the cultural and creative sectors in the region?

- ☐ Emergent
- ☐ Moderate
- ☐ Advanced
- ☐ Cutting Edge
- ☐ Other: _____

Can you briefly explain what elements you take into consideration in making this assessment?

What development opportunities for CCSIs do you see in the region?

And what limitations or challenges do you see in the region?

C) Overall strategic approach

This block aims to explore:

- Type of actors involved:
  - Cultural or non-cultural
  - Nonspecific (such as ministries) or specific (agencies)
- Administrative levels involved.
- Existence of plans or strategies

Questions are included for the differentiation of the role played by each agent. If necessary, additional information can be added by pointing out references and web links.

What are the main areas or departments involved in economic development and innovation policies and programs in the region? (Ministries, departments, or other bodies in other fields than culture)
And in the specific area of cultural and creative sectors, who are the main actors developing policies and programs? (Specification of ministries, departments, or other cultural bodies)

What kind of actors carry out active policies in the cultural and creative sectors in the region?

- ☐ Ministries, areas, or departments in other fields than culture.
- ☐ Cultural ministries, areas, or departments.
- ☐ Development agencies or similar of a general nature (several sectors).
- ☐ Development agencies or similar specialized in CCSIs.
- ☐ Others: Please name the actors:

On a scale of 1, less relevant, to 7, very relevant, what role do the different agents have in the development of strategies for the cultural and creative sectors?

	Not selected in the previous question as an active agent	1 Less relevant	2	3	4	5	6	7 Very relevant
Ministries, areas, or departments in other fields than culture.								
Ministries, areas, or cultural departments.								
Development agencies or similar of a general nature (several sectors)								
Development agencies or similar specialized in CCSIs								
Others								

On a scale of 1, less relevant, to 7, very relevant, what role does each administrative level play in terms of non-monetary support to the CCSIs (infrastructure, advice, training ...)?

	1	2	3	4	5	6	7

	Less relevant						Very relevant
Local government							
Regional government							
State government							
International level							

On a scale of 1, less relevant, to 7, very relevant, what role does each administrative level play in terms of monetary support to the CCSIs (aid, subsidies, credit lines, tax incentives...)?

	1 Less relevant	2	3	4	5	6	7 Very relevant
Local government							
Regional government							
State government							
International level							

Is there any known public plan or strategy incorporating the cultural and creative sectors as a whole or in part as a strategic priority in the regional economic development?

- ☐ Yes, in specific CCSIs plans
- ☐ Yes, in cultural planning
- ☐ Yes, in innovation plans, science and/or technology
- ☐ Yes, others. Please indicate which ones:
- ☐ No

☐ I don't know

If yes, is any specific sector standing out in these plans or strategies?

☐ Yes. Please, indicate which one:
☐ No, all CCSIs sectors
☐ I don't know

Thinking about administrative power, on a scale of 1, no autonomy, to 7, high degree of autonomy, to what extent can you develop policies and programs aimed at the CCSIs in the region?

1 No autonomy	2	3	4	5	6	7 High degree of autonomy

Is there a known public plan or strategy in the region that deals with sustainability and innovation issues?

☐ Yes: Please indicate which one:
☐ No
☐ I don't know

D) Innovation ecosystem and CCSIs

D.1) Generation and transfer of knowledge

This block is mainly focused on the tools to support generation and transfer of knowledge in the CCSIs:

- Incubators (services and infrastructures for business creation) and accelerators (aimed at promoting projects under development through financing or other resources).
- Clusters or other similar networks of companies and institutions.
- Science or technology parks where innovation and knowledge-generation companies and institutions are promoted.

Coordinators are asked to evaluate if the existing tools are CCSIs specific, nonspecific but involving CCSIs, or nonspecific and not involving CCSIs. When an action is specific or related to CCSIs, coordinators are asked to indicate references, web links, and responsible bodies.

Are there **incubators** (services and infrastructures for business creation) and accelerators (aimed at promoting projects under development through financing or other resources)?
☐ Yes, CCSIs specific ☐ Yes, not CCSIs specific, but including CCSIs ☐ Yes, not CCSIs specific, but CCSIs are not included ☐ No ☐ I don't know
If there are CCSIs specific or related incubators and accelerators, please enter names and web links:
Who manages these spaces? Indicate responsible bodies and web link

Are there **clusters or other similar networks** of companies and institutions?
☐ Yes, CCSIs specific ☐ Yes, not CCSIs specific, but CCSIs are included ☐ Yes, not CCSIs specific, but CCSIs are not included ☐ No ☐ I don't know
If there are CCSIs specific clusters or networks, please enter names and web links
Who leads these programs? Indicate responsible bodies and web links
Are there **science or technology parks** where the culture of innovation and competitiveness of knowledge-generating companies and institutions are promoted?
☐ Yes, CCSIs specific ☐ Yes, not CCSI specific, but including CCSIs ☐ Yes, not CCSIs specific, but CCSIs are not included ☐ No ☐ I don't know
If there are there CCSIs specific science or technology parks, please enter names and web links
Who manages these parks? Indicate responsible bodies and web links

D.2) Innovation ecosystem and CCSIs: Conditions and support for innovation

The last block is focused on the existing conditions and support for innovation:

- Financing and economic support programs (subsidies, credit lines, tax incentives…).
- Specific programs to boost innovation in the CCSIs.
- Advisory and training programs in the field of innovation.
- Entrepreneurship programs: Counselling, training, mentoring.
- Awards/recognitions to innovation projects.
- A final assessment table to evaluate the importance of each type of program.

Are there **financing and economic support** programs (subsidies, credit lines, tax incentives…) for the cultural and creative sectors?
☐ Yes, CCSIs specific ☐ Yes, not CCSIs specific, as they concur with other sectors ☐ No ☐ I don't know
Which financing and economic programs are specific to CCSIs? Indicate program names and web links
How much is the total budget of these programs (approximate amount in monetary terms)? Please, indicate the type of currency in brackets.

Who manages the programs? Indicate responsible bodies and web links
Are any of these programs specific to **innovation projects** in the cultural and creative sectors?
☐ Yes: Please indicate which ones ☐ No ☐ I don't know
On a scale of 1, unlikely, to 7, likely, to what extent do you think innovation is done mainly by private initiatives and with its own **self-financing**?

1	2	3	4	5	6	7

Are there **advisory and training** programs in the field of **innovation**?
☐ Yes, CCSIs specific ☐ Yes, not CCSIs specific, but including CCSIs. ☐ Yes, not CCSIs specific, but CCSIs are not included ☐ No ☐ I don't know
Which are the CCSIs specific or involving CCSIs advisory and training programs? Enter names and web links
Who manages the programs? Indicate responsible bodies and web links

Are there **counseling and training** programs in the field of **entrepreneurship**?
☐ Yes, CCSIs specific. ☐ Yes, not CCSIs specific, but including CCSIs ☐ Yes, not CCSIs specific, but CCSIs are not included ☐ No ☐ I don't know
Which are the CCSIs specific or involving CCSIs counselling and training programs? Enter names and web links
Who manages the programs? Indicate responsible bodies and web links
Are there **awards**/**recognitions** for innovation projects?
☐ Yes, CCSIs specific ☐ Yes, not CCSIs specific, but CCSIs are included ☐ Yes, not CCSIs specific, and CCSIs are not included ☐ No ☐ I don't know
Which awards/recognitions are CCSIs specific or CCSIs are involved? Enter names and web link
Who manages the awards/recognitions? Indicate responsible bodies and web links

Looking at them globally, how do you assess the importance of each type of program supporting development of innovation in the CCSIs in the region?

	Non-existent	1 Less important	2	3	4	5	6	7 Very important
Funding and financial support for CCSIs in general								
Financing and financial support for innovation in general								
Advice and training for innovation								
Advice and training for entrepreneurship								
Awards and recognitions								
Incubators and accelerators								
Clusters or other networks and platforms								
Science or technology parks								

How do you assess the development of knowledge generation and transfer mechanisms? Which actions are working or could work? Which are the main difficulties?

What about the conditions and tools to support innovation? What actions are working, or could it work? Which are the main difficulties?

Organizations' analysis

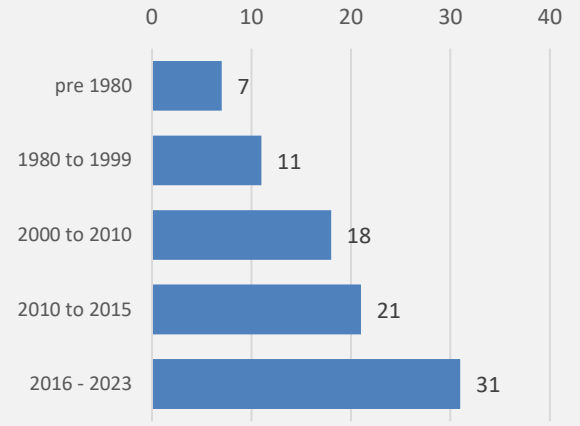
The questionnaire to organizations was distributed online (LimeSurvey platform) between April 25, 2023 and July 19, 2023. The total responses have been 88, organized by regions as follows:

Region	**Organizations**
Western Cape	5
Antioquia	6
Baden-Württemberg	10
California	4
Cardiff (CCR)	6
Comunitat Valenciana	7
Denmark	0
Estonia	4
Finland	5
Karnataka	3
Kenya	9
Região do Norte	4
Puglia	7
South Africa	6
*Uganda/East Africa**	6
Washington	6

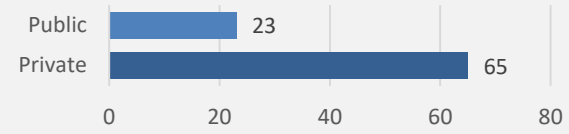
*In the case of Uganda, the territorial focus was broadened to include other countries in concept of East Africa during the fieldwork process.

Organization's basic data:

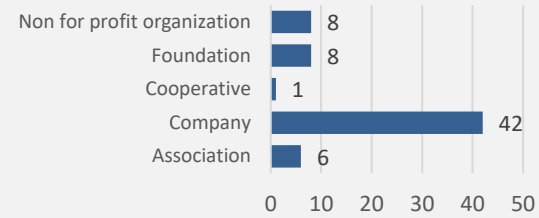
Foundation year



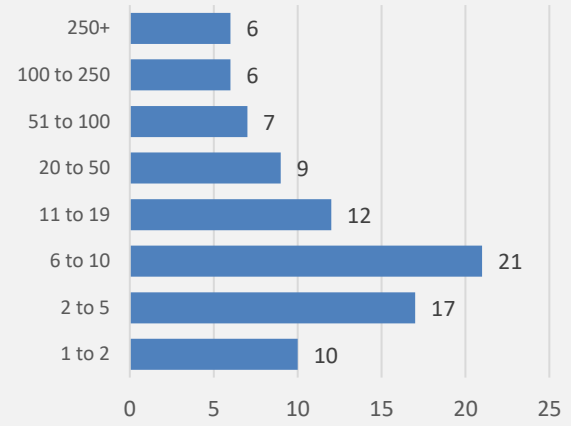
Public / Private



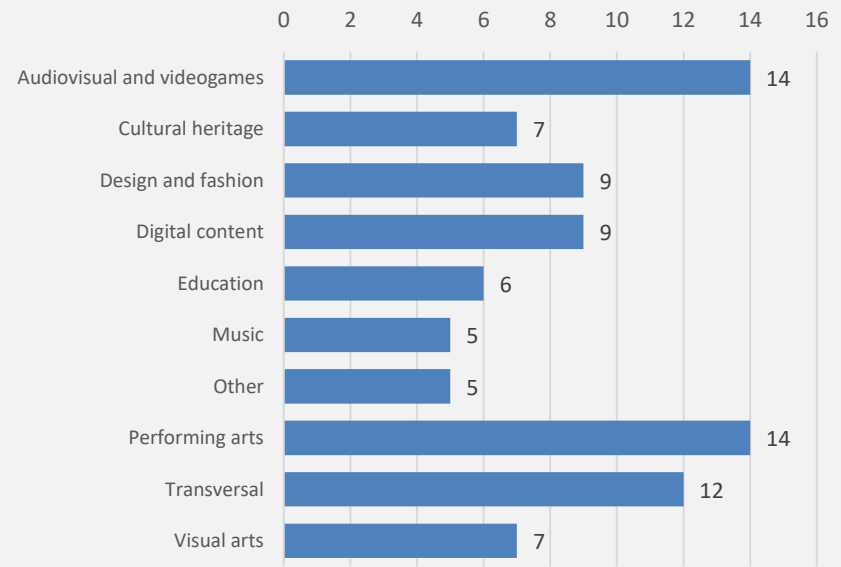
Legal form (Private)



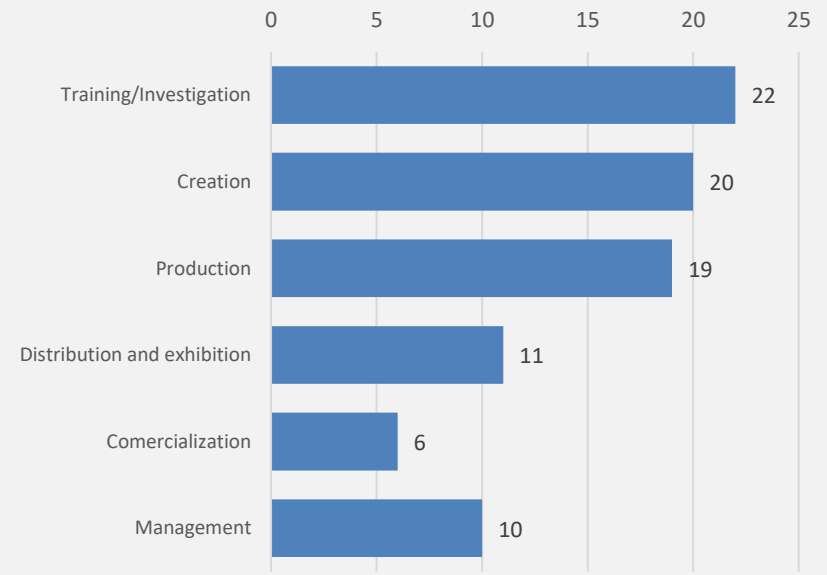
Employees



Sector



Value chain



Organizations' survey:

1.General data about your organization	
E-mail	
Company/Organization name	
Region	
City	
Foundation year	
Legal form	
Private ○ Company ○ Cooperative ○ Free-lance ○ Association ○ Foundation Public ○ Public company ○ Institution /Cultural venue ○ Education centre and/or investigation centre Others:	
Does your organization belong to a business group?	
Yes No	
Number of employees	
Main sector of activity: Indicate the activity that reports the highest percentage of income to the organization	
Cultural heritage	

Performing arts Visual arts Music Publishing Audiovisual Architecture Advertising Design Fashion Videogames Language industry Gastronomy Craftmanship Digital content Other:
Other sectors of activity: (multiple choice)
Cultural heritage Performing arts Visual arts Music Publishing Audio-visual Architecture Publishing Design Fashion Videogames Language industry Gastronomy Craftmanship Digital content Other:
What is your main field of activity with respect to the value chain?

Indicate the activity that reports the highest percentage of income to the organization
Training/Investigation Creation Production Distribution Exhibition Commercialization Management Others:

2.Innovation environment

Stakeholders. On a scale of 1, never, to 5, usually, how regular is the contact that your organization maintains with each of the possible stakeholders.

	1 Never	2 Hardly ever	3 Sometimes	4 Often	5 Usually
Consultants					
Suppliers of equipment, materials, components, or software					
Organizations or companies that are users or customers					
Organizations in the same sector					
Other companies or organizations					
Technology centres, science parks...					
Other organizations of the same business group					

Universities (or other higher education institutions) and research centres					
Local government					
Regional government					
State government					
International institutions					
Users or customers in the public sector					
Non-profit institutions					
Corporate and/or banking foundations					

R & D Programs. In your region, do you know programs aimed at supporting Research, development, and innovation?

Yes, but I have not been a recipient.
Yes, and I have been a recipient.
No

On a scale of 1, irrelevant, to 5, maximum relevance, how do you rate these initiatives to improve the development of your organization?

1 Irrelevant	2 Not so relevant	3 Medium relevance	4 High relevance	5 Maximum relevance

Advice and training programs. In your region, do you know programs aimed at offering training and advice for entrepreneurship and innovation?

Yes, but I have not been a recipient.
Yes, and I have been a recipient.
No

On a scale of 1, irrelevant, to 5, maximum relevance, how do you rate these initiatives to improve the development of your organization?

1 Irrelevant	2 Not so relevant	3 Medium relevance	4 High relevance	5 Maximum relevance

Platforms/Incubators. Do you know platforms or infrastructures acting as creative incubators in your region?

Yes, but my organization is not a member.
Yes, and my organization is a member.
No

On a scale of 1, irrelevant, to 5, maximum relevance, how do you rate these initiatives to improve the development of your organization?

1 Irrelevant	2 Not so relevant	3 Medium relevance	4 High relevance	5 Maximum relevance

Clusters. Are you aware of any cluster or similar in the same sector as your organization, in your region?

Yes, but my organization is not a member.
Yes, and my organization is a member.
No

On a scale of 1, irrelevant, to 5, maximum relevance, how do you rate these initiatives to improve the development of your organization?

1 Irrelevant	2 Not so relevant	3 Medium relevance	4 High relevance	5 Maximum relevance

Scientific and technological parks. Do you know science, technology, or similar facilities in your region?

Yes, but I am not a member and I have not been in contact.
Yes, and I am an active member
No

On a scale of 1, irrelevant, to 5, maximum relevance, how do you rate these initiatives to improve the development of your organization?

1 Irrelevant	2 Not so relevant	3 Medium relevance	4 High relevance	5 Maximum relevance

Financing. On a scale of 1, irrelevant, to 5, maximum relevance, which role have these actors had in the financing of innovation projects in your organization?

	1 Irrelevant	2 Not so relevant	3 Medium relevance	4 High relevance	5 Maximum relevance
Self-financing (own organization)					
International actors					
State actors					
Regional actors					
Local actors					
Corporate and/or banking foundations					
Private investors					
Crowdfunding					

Non-economic support. What role have the same agents had in the provision of support other than economic support (advice, training, infrastructures ...)?

	1 Irrelevant	2 Not so relevant	3 Medium relevance	4 High relevance	5 Maximum relevance
Own resources and capacities (own organization)					
International actors					
State actors					
Regional actors					
Local actors					
Corporate and/or banking foundations					
Private investors					
Crowdfunding					

3.Innovation types

Process/methodological innovation. Has your organization made innovations aimed at improving the organization internally between 2020 and 2022?

*Includes novelties or improvements for the organization itself and novelties or improvements for the sector, whether originally developed by the organization itself or initially developed by others.

Examples: changes in the forms and tools of creation and production, in sales and marketing channels, in the administration and management of accounting and human resources...

Yes, main changes.

Yes, minor changes.

No

To what extent do you think these innovations are aligned with some of the following areas?

	1 Not applicable	2 Partial match	3 Total or near-total match
Methods for producing, developing goods, or providing services			
New or significantly improved logistics or delivery systems or distribution methods			
Information processing or communication methods			
Methods of accounting or other administrative operations			
Business practices for organizational procedures or external relationships			
Organizational methods, decision making or human resources management			
Marketing methods for promotion, packaging, pricing, product positioning or after-sales services			

User-oriented innovation. Has your organization made innovations aimed at improving or expanding the services or goods (including artistic works) offered on the market between 2020 and 2022?

*This includes new features or improvements for the organization itself and novelties or improvements for the sector, whether originally developed by the organization itself or initially developed by others.

Examples: improvement of materials, incorporation or improvement of software, environmental improvements, digital services...

Yes, main changes.

Yes, minor changes.

No

To what extent do you think user-oriented innovation (product, artistic or service innovation) is assessable through the following criteria in your field of activity?

	1 Not applicable	2 Partial match	3 Total or near-total match
Quality			
Technical specifications or procedures			
Credibility			
Durability			
Efficiency during use			
Accessibility			
Suitability			
Ease of use			

What criteria would you propose to best evaluate user-oriented innovation (product, artistic or service innovation) in your sector?

Innovation with own resources. On a scale of 1, nothing, to 5, wholly, to what extent has your organization made innovations only with its own means/resources?

1 Nothing	2 Barely	3 Some	4 Quite	5 Wholly

Open or collaborative innovation. On a scale of 1, nothing, to 5, wholly, to what extent has your organization made innovations with external support (collaboration, external knowledge, advice, transactions...)?

1 Nothing	2 Barely	3 Some	4 Quite	5 Wholly

Partners. With which of the following actors have you collaborated during the period 2020-2022 to develop your innovation activities?

- ☐ Consultants
- ☐ Equipment suppliers, materials, components, or software
- ☐ Organization or companies that are users or customers.
- ☐ Organizations in the same sector
- ☐ Other companies or organizations
- ☐ Technology centres, science Parks…
- ☐ Other organizations of the same business group
- ☐ Universities or other higher education institutions
- ☐ Local government
- ☐ Regional government
- ☐ State government
- ☐ International institutions
- ☐ Public sector users or customers
- ☐ Non-profit institutions
- ☐ Corporate or banking foundations
- ☐ Informal partnerships
- ☐ Others:

Technology-based innovation**.** On a scale of 1, nothing, to 5, wholly, to what extent has your organization made innovations through the application, renovation, combination, or development of technologies?

1 Nothing	2 Barely	3 Some	4 Quite	5 Wholly

Reasons to innovate. What is the main need that your organization's innovations aim to cover?

Business (Improvement of strategies and own economic or third parties' results)
Cultural (Increase participation or enhance the cultural experience)
Urban (Transform environments and communities)
Educational (facilitate educational tasks and learning)
Social (facilitate citizen participation)
Environmental (Contribute to sustainability)
Healthcare (Improve health services)
Other:

Which are other needs that your organization's innovations aim to cover?

Business (Improvement of strategies and own economic or third parties' results)
Cultural (Increase participation or enhance the cultural experience)
Urban (Transform environments and communities)
Educational (facilitate educational tasks and learning)
Social (facilitate citizen participation)
Environmental (Contribute to sustainability)
Healthcare (Improve health services)
Other:

Cross-sectoral innovation. During the reference period, are the innovations generated by your organization directly targeted at companies or organizations in sectors other than yours?

Never or hardly ever
Sometimes
Always

In the reference period, your organization...

	Yes	No
Did your organization claim copyright?		

Did your organization register any industrial designs?		
Did your organization register any trademarks?		
Did your organization apply for any patents?		
Did your organization use trade secrets?		
Did your organization buy any technology (machinery, equipment, or software) already used by the organization or an upgrade to it?		
Has your organization purchased any new technology (machinery, equipment, or software) not previously used?		
Did you apply for any standards and/or labels?		

How would you describe your organization's innovation activities in your own words?
Please use this space to supplement the above data, especially if you feel that your innovation activities are not listed in this survey.

Difficulty factors. On a scale of 1, low importance, to 3, high importance, how do you rate the role of the following factors in making innovations?

	1 Low	2 Medium	3 High
Lack of funding within the organization or group of companies			
Lack of funding from private external sources			
Difficulties in obtaining public aid or subsidies			
Too high costs			
Lack of qualified personnel within the organization			
Lack of partners for collaboration			
Lack of access to external knowledge			
Uncertainty regarding market demand for the organization's ideas			
Too much competition in the market			

There are other priorities within your organization			

R+D. Could you rely or have relied on specific resources for R+D (human or economic resources)?

Yes, usually.
Yes, sometimes.
No

4- Results and impacts of innovation

Self-assessment impacts. On a scale of 1, no impact, to 5, much, to what extent do you consider that the impacts of your organization's innovations to be?

	No impact	Low Impact	Moderate impact	Relevant impact	Not applicable
Economic					
Social					
Environmental					

Economic impact

Impact of product innovations. Indicate the approximate percentage of turnover for the year 2022 due to:

	%
Products (services, goods, or artistic works) with significant changes (new or improved) in the period 2020-2022	
All other products unchanged or with minor changes in the period 2020-2022	
Total	100

Please, if you consider that the previous item is difficult to answer or not suitable for measuring the economic impact of innovations in your organization, please describe the reasons why.

Organization's innovation's grading in...

	Yes, significantly	Yes, but insignificantly	No
Increasing in employment in the organization			
Improving employment conditions			
Increasing benefits for the organization			
Increasing in copyright or patent benefits			

Organization's innovation's grading in social impact

	Yes, significantly	Yes, but insignificantly	No
Widening the level of access to culture and creativity			
Generation or strengthening of a collective identity or the sense of belonging to a community			
Promotion of diverse social and cultural practices (social diversity)			
Promotion of social equality			
Promotion of gender equality			

Raising social awareness of environmental issues			
Promotion of health and well-being			

Organization's innovation grading in environmental impact

	Yes, significantly	Yes, but insignificantly	No
Reduction of materials or water use			
Reduction of energy use or CO2 footprint (reduction of CO2 emissions)			
Reduction of soil, acoustic, water or air pollution			
Replacement of materials with less polluting or hazardous ones			
Replacing a part of fossil energy with renewable energy			
Recycling of waste, water or materials for own use or sale			

Please, if you consider that the previous items are not accurate enough in terms of your organization's innovation impact, please describe the ones you think are more accurate here.

Intrinsic and social-shared value. Your innovation project ...

	Yes, significantly	Yes, but insignificantly	No
Increases people's knowledge			
Generates a singular experience			

Empowers shared governance			
Considers the values and beliefs of the community where it takes place.			

Please, if you consider that the previous items are not accurate enough in terms of your organization's innovation value, please describe the ones you think are more accurate here.

ANNEX 2. Country-level regional characterization

Table 1. Country-level characterization data for each case

	Country	Source (most recent year available)	Australia	Colombia	Denmark	Estonia	Finland	Germany	India	Italy	Kenya	Portugal	South Africa	Spain	Uganda	United Kingdom	United States of America	United States of America
	Case type		Region	Region	Country	Country	Country	Region	Region	Region	Country	Region	Region	Region	Country	Region	Region	Region
	Case		South Australia	Antioquia	Denmark	Estonia	Finland	Baden-Württemberg	Karnataka	Puglia	Kenya	Região Norte	Western Cape	Comunitat Valenciana	Uganda	Cardiff CCR	Washington	California
Demography	Surface (m2)	UN World Statistics	7.692.024	1.141.748	42.938	45.261	336.884	357.581	3.287.263	302.068	591.958	92.226	1.221.037	506.008	241.550	242.495	9.833.517	9.833.517
Demography	Population (thousand)	UN World Statistics	26.177	51.874	5.882	1.326	5.541	83.370	1.417.173	59.038	54.028	10.271	59.894	47.559	47.250	67.509	338.290	338.290
Demography	Pop. Density (per km2)	UN World Statistics	3,4	46,2	138,8	30,5	18,3	239,2	476,7	199,5	93	111,7	49,1	94,7	236,5	278,1	37	37
Demography	% urban population	UN World Statistics	86,1	81,1	88	69,1	85,4	77,4	34,5	70,7	27,5	65,8	66,9	80,6	24,4	83,7	82,5	82,5
Economy and society	GDP million (US$ 2022)	World Bank ICP Database	1.626.940	1.052.389	436.857	62.797	328.004	5.309.606	11.874.583	3.052.609	311.410	430.227	952.603	2.181.968	127.282	3.656.809	25.462.700	25.462.700
Economy and society	GDP per capita (US$ 2022)	World Bank ICP Database	62.625	20.287	74.006	46.697	59.027	63.150	8.379	51.865	5.764	41.452	15.905	45.825	2.694	54.603	76.399	76.399
Economy and society	% unemployment (modelled ILO estimate)	World Bank SDGs Database	6,5	15,0	5,6	6,8	7,8	3,8	8	9,2	5,7	6,8	29,2	15,5	2,8	4,5	8,1	8,1
Economy and society	Gini index	World Bank SDGs Database	34,3	51,5	27,5	30,7	27,1	31,7	35,7	35,2	40,8	34,7	63	34,9	42,7	32,6	39,7	39,7
Economy and society	% employed services	World Bank SDGs Database	78,37	64,11	79,23	68,12	74,58	71,61	32,27	70,23	39,43	69,83	72,41	75,54	21,36	80,83	78,73	78,73
Economy and society	% employed industry	World Bank SDGs Database	19,05	20,12	18,54	28,7	21,63	27,18	25,12	25,87	6,2	24,68	22,3	20,43	6,51	18,12	19,9	19,9
Economy and society	% employed agriculture	World Bank SDGs Database	2,5	15,7	2,2	3,17	3,77	1,2	42,5	3,89	54,3	5,5	5,28	4,03	72,1	1,04	1,36	1,36
Economy and society	External Debt Stocks (% of GNI)	World Bank SDGs Database	&	58,3	&	&	&	&	21,4	&	38,45	&	51,77	&	46,53	&	&	&
Education	Mean schooling years	UN Development Programme	16,5	14,4	18,7	15,9	19,1	17	11,9	16,2	10,7	16,9	13,6	17,9	10,1	17,3	16,3	16,3
Education	Adolescents out of school	World Bank SDGs Database	1,97	3,34	0,14	1,34	0,14	4,3	&	2,44	&	0,13	10,3	0,36	&	0,16	&	&

	Educational attainment, at least completed short-cycle tertiary, population 25+	World Bank SDGs Database	46,4	22,5	37,7	39,4	&	&	&	16,5	&	22,5	&	33,4	&	47,2	48	48
Environment	**CO2 emissions (metric tons per capita)**	World Bank SDGs Database	15,23	1,6	5,1	7,67	7,37	7,91	1,79	5,31	0,42	4,33	7,5	5,09	0,13	5,22	14,67	14,67
	PM2.5 air pollution, mean annual exposure	World Bank SDGs Database	8,55	16,52	10,02	6,73	5,86	12,02	90,87	16,75	28,57	8,16	25,1	9,69	50,49	10,47	7,4	7,4
	Energy intensity level of primary energy	World Bank SDGs Database	4,3	2,51	2	4,49	5,19	2,76	4,28	2,45	5,31	2,54	8,03	2,64	9,98	2,3	4,51	4,51
Health	**Life expectancy**	UN Development Programme	84,5	72,8	81,4	77,1	82	80,6	67,2	82,9	61,4	81	62,3	83	62,7	80,7	77,2	77,2

Source: Own elaboration based on UN World Statistic Pocketbook 2023, World Bank Sustainable Development Goals (SDGs) Database (2022 update), World Bank International International Comparison Program (ICP) 2022, and UN Development Programme (Human Development Report 2021-2022) data.

ANNEX 3. Indicators and sources from *Global Innovation Index*

NUM	NAME	LEVEL	SOURCE
	Global Innovation Index	Index	
IN	Innovation inputs	SubIndex	
IN.1	Institutions	Pillar	
IN.1.1	Political environment	SubPillar	
IN.1.1.1	Political and operational stability	Indicator	IHS Markit
IN.1.1.2	Government effectiveness	Indicator	World Bank, Worldwide Governance Indicators
IN.1.2	Regulatory environment	SubPillar	
IN.1.2.1	Regulatory quality	Indicator	World Bank, Worldwide Governance Indicators
IN.1.2.2	Rule of law	Indicator	World Bank, Worldwide Governance Indicators
IN.1.2.3	Cost of redundancy dismissal	Indicator	World Bank, Employing Workers Project
IN.1.3	Business environment	SubPillar	
IN.1.3.1	Policies for doing business	Indicator	World Economic Forum, Executive Opinion Survey (EOS)
IN.1.3.2	Entrepreneurship policies and culture	Indicator	Global Entrepreneurship Monitor
IN.2	Human capital and research	Pillar	
IN.2.1	Education	SubPillar	
IN.2.1.1	Expenditure on education, % GDP	Indicator	UNESCO Institute for Statistics
IN.2.1.2	Government funding/pupil, secondary, % GDP/cap	Indicator	UNESCO Institute for Statistics
IN.2.1.3	School life expectancy, years	Indicator	UNESCO Institute for Statistics
IN.2.1.4	PISA scales in reading, maths and science	Indicator	OECD, PISA
IN.2.1.5	Pupil-teacher ratio, secondary	Indicator	UNESCO Institute for Statistics
IN.2.2	Tertiary education	SubPillar	
IN.2.2.1	Tertiary enrolment, % gross	Indicator	UNESCO Institute for Statistics
IN.2.2.2	Graduates in science and engineering, %	Indicator	UNESCO Institute for Statistics; Eurostat; OECD
IN.2.2.3	Tertiary inbound mobility, %	Indicator	UNESCO Institute for Statistics
IN.2.3	Research and development (R&D)	SubPillar	
IN.2.3.1	Researchers, FTE/mn pop.	Indicator	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
IN.2.3.2	Gross expenditure on R&D, % GDP	Indicator	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
IN.2.3.3	Global corporate R&D investors, top 3, mn USD	Indicator	European Commission\'s Joint Research Centre
IN.2.3.4	QS university ranking, top 3	Indicator	QS Quacquarelli Symonds Ltd
IN.3	Infrastructure	Pillar	
IN.3.1	Information and communication technologies (ICTs)	SubPillar	
IN.3.1.1	ICT access	Indicator	World Intellectual Property Organization
IN.3.1.2	ICT use	Indicator	World Intellectual Property Organization

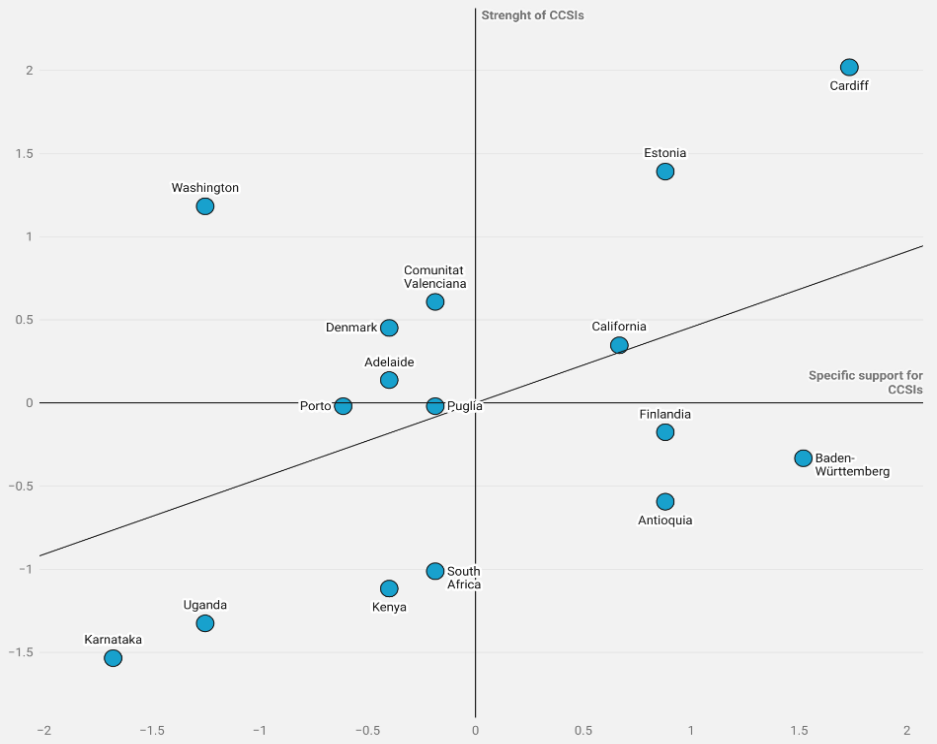
IN.3.1.3	Government's online service	Indicator	Division for Public Administration and Development Management (DPADM), United Nations Department of Economic and Social Affairs (DESA).
IN.3.1.4	E-participation	Indicator	Division for Public Administration and Development Management (DPADM), United Nations Department of Economic and Social Affairs (DESA).
IN.3.2	General infrastructure	SubPillar	
IN.3.2.1	Electricity output, GWh/mn pop.	Indicator	International Energy Agency
IN.3.2.2	Logistics performance	Indicator	Logistics Performance Index, World Bank; Arvis et al., 2018
IN.3.2.3	Gross capital formation, % GDP	Indicator	International Monetary Fund
IN.3.3	Ecological sustainability	SubPillar	
IN.3.3.1	GDP/unit of energy use	Indicator	International Energy Agency
IN.3.3.2	Environmental performance	Indicator	Yale University
IN.3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	Indicator	International Organization for Standardization; International Monetary Fund
IN.4	Market sophistication	Pillar	
IN.4.1	Credit	SubPillar	
IN.4.1.1	Finance for startups and scaleups	Indicator	Global Entrepreneurship Monitor
IN.4.1.2	Domestic credit to private sector, % GDP	Indicator	International Monetary Fund; World Bank
IN.4.1.3	Loans from microfinance institutions, % GDP	Indicator	International Monetary Fund, Financial Access Survey (FAS)
IN.4.2	Investment	SubPillar	
IN.4.2.1	Market capitalization, % GDP	Indicator	World Federation of Exchanges; World Bank
IN.4.2.2	Venture capital investors, deals/bn PPP$ GDP	Indicator	Refinitiv; International Monetary Fund
IN.4.2.3	Venture capital recipients, deals/bn PPP$ GDP	Indicator	Refinitiv; International Monetary Fund
IN.4.2.4	Venture capital received, value, % GDP	Indicator	Refinitiv; International Monetary Fund
IN.4.3	Trade, diversification, and market scale	SubPillar	
IN.4.3.1	Applied tariff rate, weighted avg., %	Indicator	World Bank
IN.4.3.2	Domestic industry diversification	Indicator	United Nations Industrial Development Organization
IN.4.3.3	Domestic market scale, bn PPP$	Indicator	International Monetary Fund
IN.5	Business sophistication	Pillar	
IN.5.1	Knowledge workers	SubPillar	
IN.5.1.1	Knowledge-intensive employment, %	Indicator	International Labour Organization
IN.5.1.2	Firms offering formal training, %	Indicator	World Bank Enterprise Surveys
IN.5.1.3	GERD performed by business, % GDP	Indicator	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
IN.5.1.4	GERD financed by business, %	Indicator	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
IN.5.1.5	Females employed w/advanced degrees, %	Indicator	International Labour Organization
IN.5.2	Innovation linkages	SubPillar	
IN.5.2.1	University-industry R&D collaboration	Indicator	World Economic Forum, Executive Opinion Survey (EOS)
IN.5.2.2	State of cluster development and depth	Indicator	World Economic Forum, Executive Opinion Survey (EOS)
IN.5.2.3	GERD financed by abroad, % GDP	Indicator	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

IN.5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	Indicator	Refinitiv; International Monetary Fund
IN.5.2.5	Patent families/bn PPP$ GDP	Indicator	World Intellectual Property Organization; International Monetary Fund
IN.5.3	Knowledge absorption	SubPillar	
IN.5.3.1	Intellectual property payments, % total trade	Indicator	World Trade Organization and United Nations Conference on Trade and Development
IN.5.3.2	High-tech imports, % total trade	Indicator	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development
IN.5.3.3	ICT services imports, % total trade	Indicator	World Trade Organization and United Nations Conference on Trade and Development
IN.5.3.4	FDI net inflows, % GDP	Indicator	International Monetary Fund; World Bank
IN.5.3.5	Research talent, % in businesses	Indicator	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
OUT	Innovation outputs	SubIndex	
OUT.6	Knowledge and technology outputs	Pillar	
OUT.6.1	Knowledge creation	SubPillar	
OUT.6.1.1	Patents by origin/bn PPP$ GDP	Indicator	World Intellectual Property Organization; International Monetary Fund
OUT.6.1.2	PCT patents by origin/bn PPP$ GDP	Indicator	World Intellectual Property Organization; International Monetary Fund
OUT.6.1.3	Utility models by origin/bn PPP$ GDP	Indicator	World Intellectual Property Organization; International Monetary Fund
OUT.6.1.4	Scientific and technical articles/bn PPP$ GDP	Indicator	Clarivate; International Monetary Fund
OUT.6.1.5	Citable documents H-index	Indicator	SCImago
OUT.6.2	Knowledge impact	SubPillar	
OUT.6.2.1	Labor productivity growth, %	Indicator	The Conference Board
OUT.6.2.2	New businesses/th pop. 15–64	Indicator	World Bank, Enterpreneurship Database
OUT.6.2.3	Software spending, % GDP	Indicator	IHS Markit
OUT.6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	Indicator	International Organization for Standardization; International Monetary Fund
OUT.6.2.5	High-tech manufacturing, %	Indicator	United Nations Industrial Development Organization
OUT.6.3	Knowledge diffusion	SubPillar	
OUT.6.3.1	Intellectual property receipts, % total trade	Indicator	World Trade Organization and United Nations Conference on Trade and Development
OUT.6.3.2	Production and export complexity	Indicator	Harvard University, Growth Lab
OUT.6.3.3	High-tech exports, % total trade	Indicator	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development; Trade Data Monitor.
OUT.6.3.4	ICT services exports, % total trade	Indicator	World Trade Organization and United Nations Conference on Trade and Development
OUT.7	Creative outputs	Pillar	
OUT.7.1	Intangible assets	SubPillar	
OUT.7.1.1	Intangible asset intensity, top 15, %	Indicator	Brand Finance
OUT.7.1.2	Trademarks by origin/bn PPP$ GDP	Indicator	World Intellectual Property Organization; International Monetary Fund

OUT.7.1.3	Global brand value, top 5,000, % GDP	Indicator	Brand Finance; International Monetary Fund
OUT.7.1.4	Industrial designs by origin/bn PPP$ GDP	Indicator	World Intellectual Property Organization; International Monetary Fund
OUT.7.2	Creative goods and services	SubPillar	
OUT.7.2.1	Cultural and creative services exports, % total trade	Indicator	World Trade Organization and United Nations Conference on Trade and Development
OUT.7.2.2	National feature films/mn pop. 15–69	Indicator	OMDIA; United Nations, World Population Prospects
OUT.7.2.3	Entertainment and media market/th pop. 15–69	Indicator	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund
OUT.7.2.4	Printing and other media, % manufacturing	Indicator	United Nations Industrial Development Organization
OUT.7.2.5	Creative goods exports, % total trade	Indicator	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development
OUT.7.3	Online creativity	SubPillar	
OUT.7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	Indicator	ZookNIC Inc.; United Nations, World Population Prospects
OUT.7.3.2	Country-code TLDs/th pop. 15–69	Indicator	ZookNIC Inc.; United Nations, World Population Prospects
OUT.7.3.3	GitHub commit pushes received/mn pop. 15–69	Indicator	GitHub; United Nations, World Population Prospects
OUT.7.3.4	Mobile app creation/bn PPP$ GDP	Indicator	data.ia; International Monetary Fund

ANNEX 4. Summary charts about the cases dispersion in two axes

Chart made with data from the coordinator survey	Chart made weighting the vertical axis with the external results of the specific subdimension *Creatives goods and services* of the Global Innovation Index.



ANNEX 5. Summary table of general elements in innovation ecosystems

Table 7. Comparative characterization (colour scale) of the Regional Coordinators survey on the context of the CCSIs in each region, ordered according to their position in the Global Innovation Index general ranking.

Country/Case (according global GII ranking)	Cultural observatories	ICC statistics	Innovation statistics	Regional administration CCSIs positive intentions (1 min-7 max)	CCSIs strength characteristics (1 min-7 max)	CCSIs contribution to regional competitiveness (1 min-7 max)	Strategic agent type	Non-monetary level support	Monetary level support	Public strategy CCSIs in economic development	Incubators	Clusters or platforms	Science and tech parks	Economic programs	Specific CCSIs innovation programs	Counselling and training innovation	Counselling and training entrepreneurship	Awards
USA - Washington	Yes	No	No	4,6	5,0	7,0	More sectoral	Equal	Higher levels	General culture	Not specific, included	Not specific, included	&	Not specific, included	&	Not specific, included	Not specific, included	CCSIs specific
USA - California	Yes	Yes	Yes	3,0	3,0	7,0	More sectoral	Lower levels	Higher levels	CCSIs specific	CCSIs specific	CCSIs specific	&	Not specific, included	CCSIs specific	CCSIs specific	CCSIs specific	Not specific, included
United Kingdom - Cardiff (CCR)	Yes	Yes	Yes	6,8	7,0	7,0	More sectoral	Equal	Higher levels	CCSIs specific	CCSIs specific	CCSIs specific	Not specific, included	CCSIs specific	CCSIs specific	CCSIs specific	Not CCSIs specific, but included	CCSIs specific
Germany - Baden-Württemberg	Yes	Yes	Yes	4,4	3,5	6,0	More sectoral	Lower levels	Lower levels	No	CCSIs specific	CCSIs specific	Not specific, included	CCSIs specific	&	CCSIs specific	CCSIs specific	CCSIs specific
Finland	Yes	Yes	Yes	3,8	5,5	3,0	Equal	Lower levels	Lower levels	CCSIs specific	CCSIs specific	CCSIs specific	&	CCSIs specific	CCSIs specific	CCSIs specific	CCSIs specific	No
Denmark	Yes	Yes	Yes	6,0	6,0	6,0	Equal	Lower levels	Higher levels	CCSIs specific	CCSIs specific	CCSIs specific	&	Not CCSIs specific, but included	&	Not specific, included	&	CCSIs specific
Estonia	Yes	Yes	Yes	5,4	6,5	5,0	More sectoral	Higher levels	Higher levels	General culture	CCSIs specific	CCSIs specific	NOT included	CCSIs specific	&	Not specific, included	CCSIs specific	CCSIs specific
Australia - South Australia	Yes	Yes	Yes	5,2	4,5	7,0	More sectoral	Higher levels	Higher levels	No	CCSIs specific	CCSIs specific	Not specific, included	CCSIs specific	&	&	&	Not specific, included
Italy - Puglia	Yes	Yes	Yes	4,6	5,0	5,0	Equal	Lower levels	Lower levels	General culture	Not CCSIs specific, but included	CCSIs specific	Not specific, included	CCSIs specific	&	Not specific, included	Not specific, included	Not specific, included
Spain - Comunitat Valenciana	Yes	Yes	Yes	6,6	6,0	7,0	More general	Higher levels	Lower levels	General culture	CCSIs specific	CCSIs specific	Not specific, included	CCSIs specific	&	CCSIs specific	Not specific, included	&
Portugal - Região do Norte	No	Yes	Yes	3,4	4,0	7,0	More sectoral	Higher levels	Higher levels	General culture	CCSIs specific	CCSIs specific	CCSIs specific	Not specific, included	&	Not specific, included	NOT included	NOT included
India - Karnataka	No	No	No	3,4	3,0	2,0	More general	Lower levels	Lower levels	No	Not specific, included	Not specific, included	Not specific, included	Not specific, included	&	Not specific, included	Not specific, included	Not specific, included
South Africa – Western Cape	Yes	Yes	No	3,0	4,5	4,0	Equal	Lower levels	Equal	No	CCSIs specific	&	Not specific, included	Not specific, included	CCSIs specific	Not specific, included	CCSIs specific	Not specific, included
Colombia - Antioquia	Yes	Yes	Yes	6,6	6,0	5,0	More sectoral	Lower levels	Lower levels	CCSIs specific	CCSIs specific	CCSIs specific	Not specific, included	CCSIs specific	CCSIs specific	Not specific, included	Not specific, included	Not specific, included
Kenya	Yes	No	No	5,4	2,5	7,0	Equal	Higher levels	Higher levels	General culture strategy	CCSIs specific	&	&	CCSIs specific	CCSIs specific	CCSIs specific	CCSIs specific	&
Uganda	Yes	Yes	Yes	6,0	2,5	5,0	Equal	Lower levels	Higher levels	CCSIs specific	CCSIs specific	No	Not specific, included	CCSIs specific	CCSIs specific	No	No	NOT included

Source: Own elaboration based on surveys data (Regional Coordinators' survey Contrast II)

Contrast

Innovation in the Cultural
and Creative Industries