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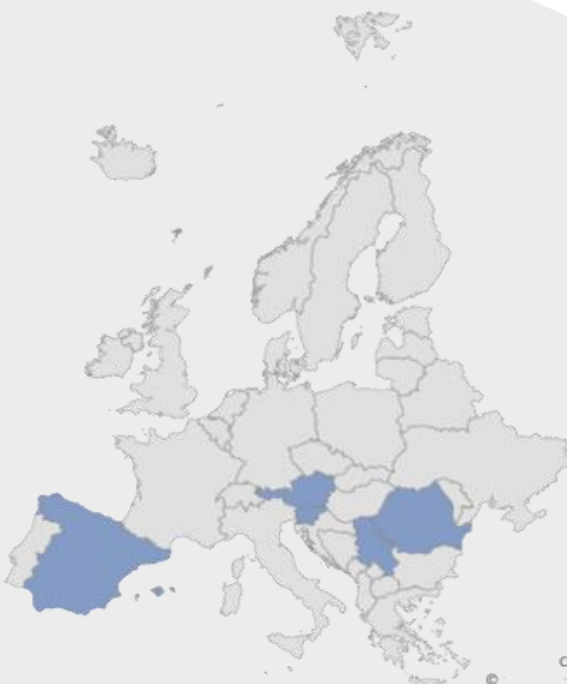


KNOWLEDGE MOBILISATION REPORT

**INCLUSIVE RESPONSIBLE RESEARCH. KNOWLEDGE
MOBILISATION AND UNIVERSITY SOCIAL RESPONSIBILITY**

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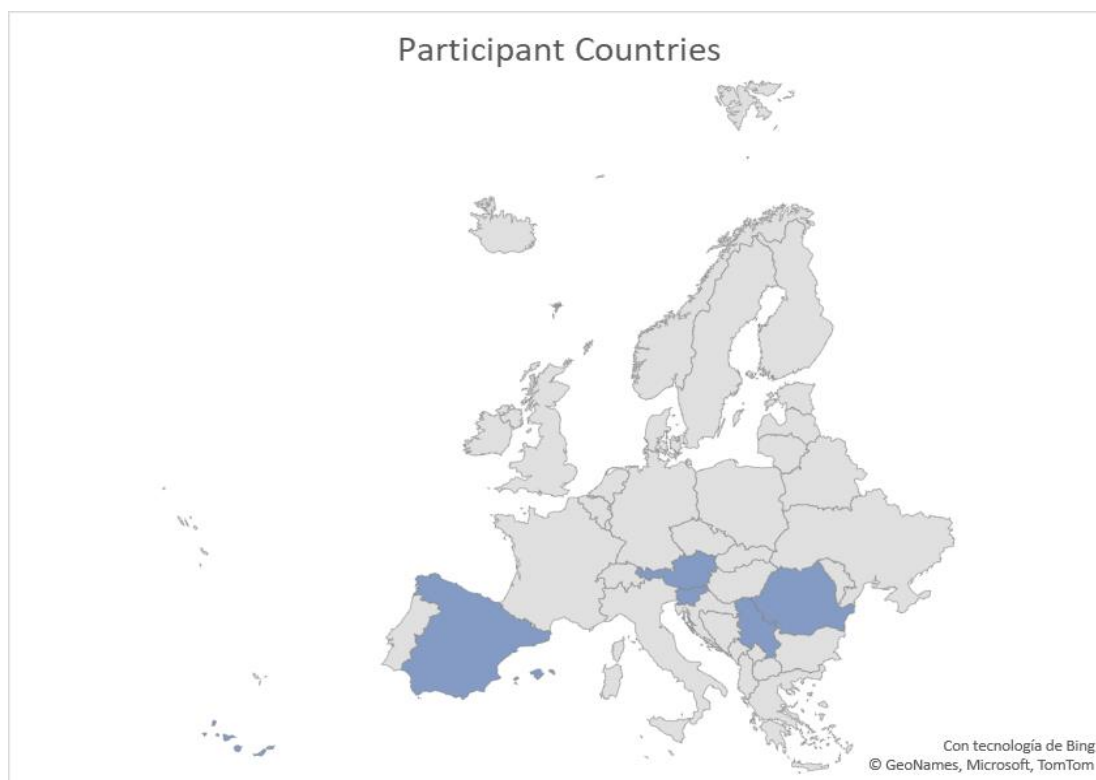
PRESENTATION

The project IRR: Inclusive Responsible Research. Knowledge Mobilisation and University Social Responsibility is funded by the European Commission (2020-1-ES01-KA203-081978) and aims to facilitate the change toward more inclusive responsible research through Knowledge Mobilisation (KM).

The specific objectives of IRR are:

- a. To make visible the need for, and promote, inclusion through KM strategies in university research.
- b. To find profiles of "Inclusive Responsible Research" at the international level.
- c. Establish guidelines for more Inclusive Responsible Research.

The study involves 5 higher education institutions in Austria, Slovenia, Spain, the Republic of Serbia, and Romania.



The main contribution of this project is to help research groups to include knowledge mobilisation in their research. To this end, as a first step, this report introduces the current landscape by presenting findings based on interviews with 107 research groups in these five European countries. Secondly, it analyses the tensions that exist between responsible inclusive research and models of scientific culture and university

policy, and finally, it offers recommendations for facilitating change towards responsible inclusive research. As a consequence of these implications, we need to generate new indicators, centred on knowledge mobilisation, as a model and interactive strategy that goes beyond the transfer model. Thus, one of the practical implications of our definition of RRI is that universities, and university policymakers, now have a concept that is better suited to an interactive model of knowledge mobilisation which can be transferred to indicators that will guide research teams in their decisions in line with this research approach. Inclusive research opens up a new window to the democratisation of knowledge and its shared construction, offering stakeholders real participation in the co-creation of knowledge that goes beyond academic language and enriches, contextualises, and mobilises them, while bringing back the meaning of responsible research to universities.

EXECUTIVE SUMMARY

Introduction

Inclusive responsible research is therefore an emerging concept that defines a type of ethically and socially committed research, grounded in the values of justice, equity and sustainability, and that takes into the account the voices of individuals, their needs and interests, and involves them in the research process to co-create knowledge and contribute to their emancipation and to the transformation of their social reality.

The three categories, key elements of inclusive and responsible research, are defined as follows:

- *Social commitment*: the university's social mission is to research topics that matter to the community and are linked to their territory, fostering responsible research and innovation and committed to transformation and improving society.
- *Ethical approach*: university's function is to promote, through responsible research and innovation, the training of citizens based on the values of justice, social equity and sustainability, grounded in relationships of equality, respect and safety, to empower and emancipate the most vulnerable groups.
- *Participation*: a strategy for engaging and committing to social problems, which involves democratising training and research processes for the shared construction of knowledge between researchers and stakeholders.

This systematic analysis of the literature has provided the main conclusions:

a. There is no consensus in the literature on the reviewed concepts: university social responsibility, inclusive research, and knowledge mobilisation. The indicators established to measure each of these concepts differ from one context to another and according to each study's conceptual framework. The first of these, USR, has been incorporated into every university's mission and it is interesting to see that their indicators refer to the ethical component and social inclusion. The studies link social responsibility with responsible research. Prominence is given to the ethical dimension and the values universities should promote through their research, teaching and extension activities. In research, this means highlighting the social value of the knowledge generated and responsibility on the part of the institution and its researchers for seeking a positive social impact.

b. The inclusive turn in research prioritises this positive social impact and stresses the need to do research with and not on. This is therefore a responsible research, aware of its commitment to the needs of more vulnerable groups, but also with a value added to the concept of responsible research and innovation, since it advocates changing the relationships between citizens and researchers to recognise and generate agency in participants to bring about social change. Inclusion, social justice, equity and sustainability are core values in the development of university research, which entails critical reflection on the problems of research, the processes and methodologies used and the models of communication encouraged and evaluated in the university. This is one of the main findings of our study.

c. This implies rethinking roles in a research as a result of the democratisation of shared knowledge building processes and it brings to light the contradictions and incoherencies in research evaluation policies, which continue to reward transfer criteria (based on corporate research models) and raise barriers to more participatory and emancipatory research.

As a consequence of these implications, we need to generate new indicators, centred on knowledge mobilisation, as a model and interactive strategy that goes beyond the transfer model. Thus, one of the practical implications of our definition of RRI is that universities, and university policymakers, now have a concept that is better suited to an interactive model of knowledge mobilisation which can be transferred to indicators that will guide research teams in their decisions in line with this research approach.

Inclusive research opens up a new window to the democratisation of knowledge and its shared construction, offering stakeholders real participation in the co-creation of knowledge that goes beyond academic language and enriches, contextualises and mobilises them, while bringing back the meaning of responsible research to universities.

Context

A global overview shows us that the research is monitored at both the national and institutional level in the five contexts by quantitative criteria based on published papers and results of scientific-research work. Different career paths for academic staff are recognised in each country, although they share some criteria to monitor their research activities as mentioned above (impact journals, etc.)

Methodology

The methodology essentially consisted of semi-structured interviews with various university research groups, complemented (Bericat, 1998) by a quantitative approach in which the responses from the interviews are classified in a series of ordinal level indicators. Both, interview and the indicators were validated theoretically and empirically at a national and international level. An expert panel of six national and eight international judges provided the theoretical validation and the empirical study was validated through a pilot test with 17 research groups (Ferrández-Berruete et al. 2021).

Sample

The quota non-probability sampling technique (Kalton, 1983) was used; area and type of research were considered as the classification variables. In principle, interviews should have been held with at least six groups from each area defined in Spanish Royal Decree RD1393/2007 (arts and humanities, sciences, social and legal sciences, engineering and architecture, and health), three corresponding to basic¹ and three

¹ Basic: we follow Calvert's (2006) definition from an intentional perspective: the one that "solving a general problem will potentially help solve a wide range of other problems" (p.204).

to applied² research areas. However, although the quotas were met, as can be seen in Table 1, the research type was more complicated, due to the research traditions in the different areas. For example, in the area of science, basic research is dominant while in engineering it is the other way around. Nonetheless, every attempt was made to meet the quota per area and a total of 107 research groups were interviewed in five European countries (Austria, Romania, Slovenia, Republic of Serbia and Spain), representing 1055 researchers of whom 50.3% were men and 49.7% were women. Table 1 shows the sample distribution by Country.

Table 1. Sample distribution per area and research type

Area	Type		Total groups
	Basic	Applied	
Arts & humanities	3	6	9
Sciences	10	3	11
Social & legal sciences	14	18	32
Engineering & architecture	9	34	43
Health	3	7	10
Total	39	68	107

Table 2. Sample distribution by Country

Country	Type		Total groups
	Basic	Applied	
Austria (AT)	4	9	13
Romania (RO)	4	10	14
Serbia (RS)	6	24	30
Slovenia (SL)	6	9	15
Spain (SP)	19	16	35
Total	39	68	107

² Applied: in contrast, the one that solves concrete problems, generally using the results derived from basic research.

Instruments

The interview consisted of three separate parts (see Appendix A). The first part concerned the contextualisation of the research the groups carried out in relation about the subject area, to whom it was addressed or the stakeholders, and its connection with university social responsibility (USR). The second part covered the whole research process from a participatory perspective. In this part, the interlocutor, usually the research group coordinator, was asked about the stakeholders' participation in each stage of the research process: identifying the problem, research design, data gathering, data analysis, dissemination and sustainability; each indicator was scored on an ordinal 3-point scale where 3 was the highest level of participation (see document B for an overview and the full explanation in Appendix A). The third and final part followed the same process stages but this time from an inclusive ethical perspective of participation, exploring the reasons behind the research groups' decisions to encourage stakeholder participation or not. In this case the questions varied according to the response given in the participatory stage, ranging from more reflexive types of questions for less participatory groups, to more specific questions aimed at differentiating types of participation:

- knowledge transference, in which the stakeholder groups participate but their participation is instrumental and only directional; that is, participation takes place but it is controlled by the research group.
- knowledge mobilisation, in which stakeholder participation has a clear emancipatory purpose and is therefore more inclusive.

Table 3. Summary of indicators

	PROBLEM	DESIGN	GATHERING	ANALYSIS	DISSEMINATION	USE
Participative perspective	Indicator 1P 1. The research group defines this unilaterally 2. The direct interested party, as the only beneficiary, proposes the problem to the research group 3. The direct interested party and the research	Indicator 2P 1. The stakeholders do not participate 2. They are informed, but they do not participate in decision making 3. It is designed jointly	Indicator 3P 1. Data gathering is only carried out by the research group with no stakeholder interaction 2. The research group interacts with the stakeholders to gather data	Indicator 4P 1. The stakeholders do not participate 2. The stakeholders do not participate in the analysis, but may provide information if the research group requests it 3. The stakeholders analyse the	Indicator 5P.A 1. The stakeholders do not participate 2. The stakeholders play a supporting role in the process of dissemination initiated and applied by the research group 3. The stakeholders participate as	Indicator 6P 1. No use strategy 2. There is a general use plan, but it is vague and not specifically detailed 3. There is a well-defined strategy for the use of
Indicator 0P	1. The stakeholders are not explicitly defined					

2. The stakeholders are defined in a general way 3. Direct and indirect stakeholders are clearly and concisely defined	group jointly define the problem, of which the direct interested party will not be the only beneficiary		3. The stakeholders share data gathering with the research group	data together with the research group	co-authors in the various dissemination strategies	research results
					Indicator 5P.B 1. Scientific channels 2. Open access channels and non-scientific channels as guests 3. Various scientific and non-scientific formats as organisers	
Ethical perspective Justification for the participation and objective of the research	Indicator 1E 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 2E 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 3E 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 4E 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 5E.A and B 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 6E 1. Not applied 2. Instrumental use 3. Inclusive use
					Indicator 5E.B 1. Not applied 2. Instrumental dissemination 3. Inclusive dissemination	

Data collection

The interviews took place between October 2020 and October 2021. From an initial list with the information for each group, a representative, usually the person who managed or coordinated the group, was contacted by telephone or email. Before the interview they were informed of the objectives and data treatment issues, after which they were asked to sign an informed consent document. In most cases two members of our project research group conducted the interviews so the information could be confirmed. The interviews were recorded and conducted in English or in the national language. Later, the interviewers summarised them in English including literal quotas (also translated) when the interviewee made some interesting comments related to the topic. At the same time, the interviewers score the answers following the indicators described above.

Once the interviews were concluded, a report was sent to the research group interlocutor, who was asked to verify the information contained in it as well as their agreement with the indicator scores. This process is associated with research quality, integrity and veracity strategies as it matches some of the criteria for rigorous research proposed by Guba and Lincoln (1981).

Results

Quantitative approach

To analyse the quantitative results derived from the score in the indicators, we carried out two preliminary analyses.

On the one hand, we calculated a new variable of knowledge mobilisation aggregating, for each research stage, the participatory and the ethical indicator score. Thus, for each research stage considered in the interviews we obtained five new values resulting from the addition of the two indicators that summarise the level of Knowledge Mobilisation in each research phase. Table 4 shows the general interpretation of each new value. Table 5 shows the interpretation of values for indicator 5B related to the dissemination channels, as its interpretation is different from the rest of the indicators.

Table 4. Interpretation for the new aggregated indicators score

Value	Resulting from	Description
2 (no participation)	Scoring 1 in the participatory and in the ethical dimensions	The stakeholder does not participate. All initiatives and activities are exclusively carried out by the research group
3 (passive participation)	Scoring 2 in the participatory and 1 in the ethical	The stakeholder can participate, but only at the request of the research group and in a passive way.

	dimensions	
5 (instrumental participation)	Scoring 3 in the participatory and 2 in the ethical dimensions	The stakeholders participate in an active way but they don't have any autonomy or decision-making power.
6 (Knowledge mobilisation)	Scoring 3 in the participatory and in the ethical dimensions.	The stakeholder and the research group are co-researchers. The relationship between researchers and stakeholders has the aim of improvement and transformation for equity and social justice. This is an emancipatory relationship.

Table 5. Interpretation for the new aggregated values of indicator 5B about the dissemination channels

Value	Resulting from	Description
2 (scientific dissemination)	Scoring 1 in 5PB and 5EB	The research group only disseminates through scientific channels. They prioritise dissemination inside the academia.
3 (scientific open access dissemination)	Scoring 2 in 5PB and 1 in 5EB	The research group only disseminates through scientific channels, but they prioritise open access media.
4 (non-academic guests)	Scoring 2 in 5PB and 2 in 5EB	Open access is prioritised. The research group can disseminate in some non-academic events, but not on their own initiative.
5 (Informational dissemination)	Scoring 3 in 5PB and 2 in the 5EB	In addition to scientific channels, non-scientific media are used on their own initiative but only for informational purposes not educational.
6 (educational dissemination)	Scoring 3 in 5PB and 5EB	Both scientific and non-scientific channels are used and in the latter case, the language is adapted to the audience. The purpose is educational rather than purely informative.

On the other hand, the second preliminary analysis consists of checking the absence of significant differences among the independent variables considered: countries, areas and types of research. This allows us to deal with the information collected in an aggregated way and, in case of detecting significant differences, include the significant variables in the analysis. For this objective we calculated the Median test

(SPSS v.27) for all the new aggregated indicators (KM1 to KM6). As Table 6 shows, only the type of research (basic & applied) showed consistent differences in almost all the indicators. So, in the next analyses only the type of research will be considered as a relevant variable.

Table 6. Significant differences found among countries, areas and type of research

Indicator	Country	Area	Type of research
Stakeholder definition (OP)	No	No	No
Research problem (KM1)	No	No	99%
Research design (KM2)	SP-SL (99%)	No	99%
Information gathering (KM3)	No	No	No
Data analysis & conclusions (KM4)	No	No	99%
Dissemination (KM5A)	No	No	99%
Channels of dissemination (KM5B)	No	No	No
Sustainability (KM6)	No	No	95%

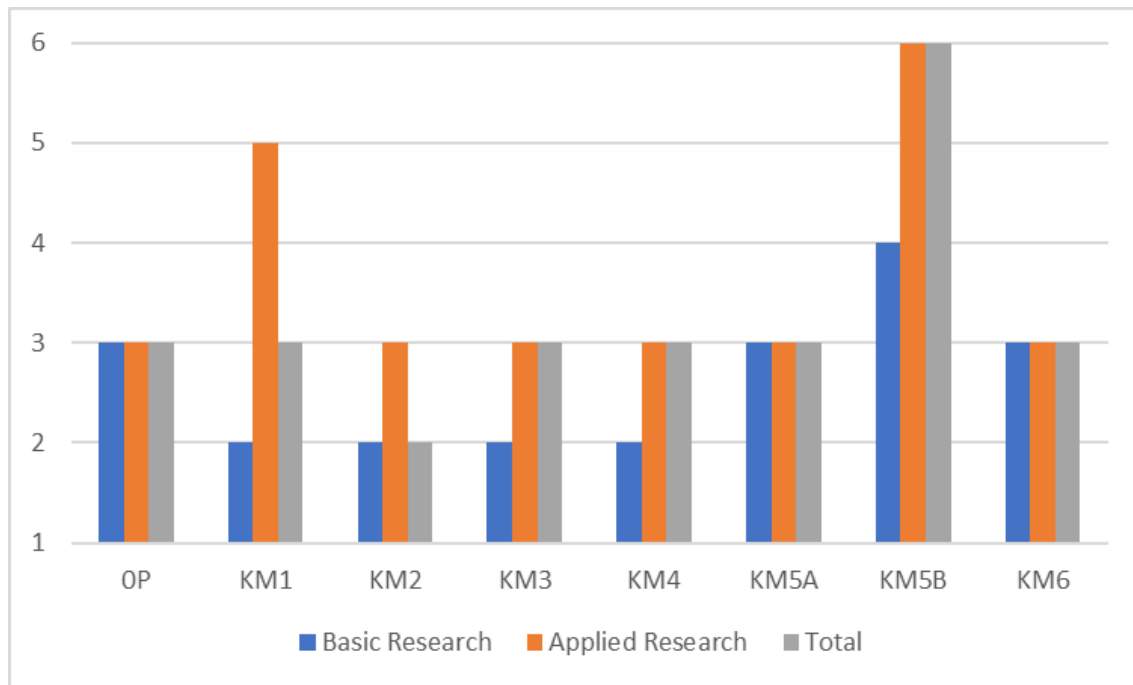
Global descriptive

Table 7. Median of the KM indicators

Indicator	Basic Research	Applied Research	Total
OP ³	3	3	3
KM1	2	5	3
KM2	2	3	2
KM3	2	3	3
KM4	2	3	3
KM5A	3	3	3
KM5B	4	6	6
KM6	3	3	3

³ This indicator is not aggregated and the measure is the original from 1 (stakeholders are not defined) to 3 (stakeholders are clearly defined)

Figure 1. Median of the KM indicators



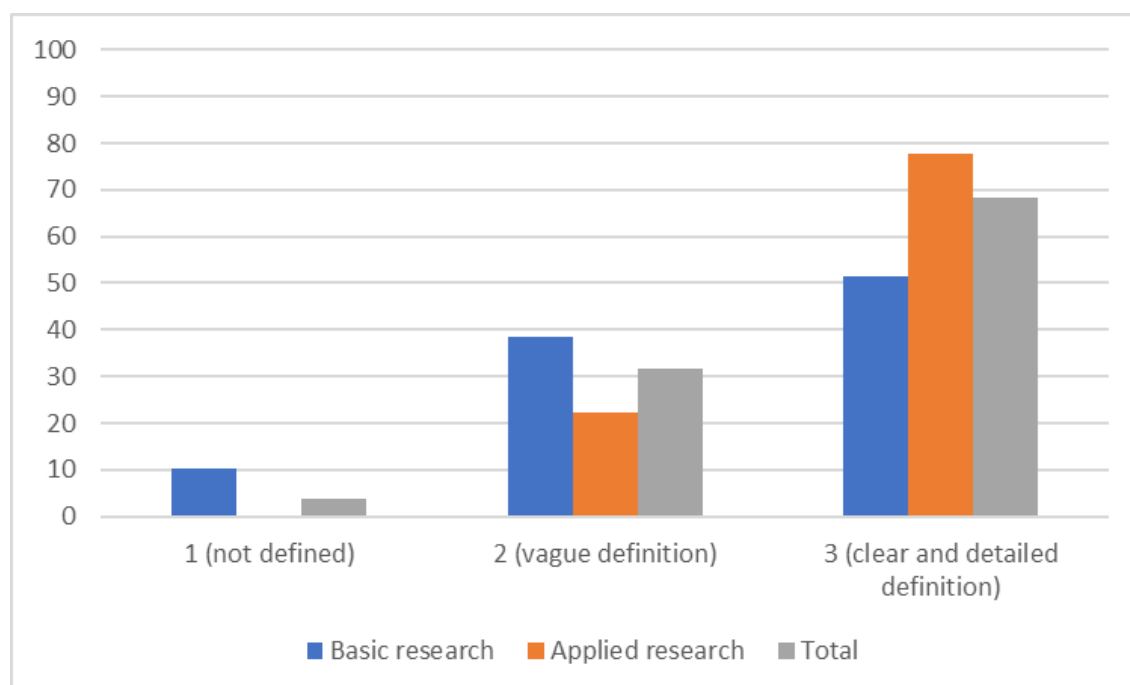
OP. Definition of the stakeholders

The research groups have a good definition of their stakeholders, being the Median, in all the cases, the top score (see Table 8 and Figure 2). Nevertheless, considering the detail of the percentages shown in table 9, it can be understood that this definition is wider spread in the applied research than in the basic one, where 10.3% of the groups have not even defined them.

Table 8. Percentage of groups per type of research, showing the different Levels of the definition of the stakeholders (OP)

Level (OP)	Basic research	Applied research	Total
1 (not defined)	10.3	0	3.7
2 (vague definition)	38.5	22.1	31.8
3 (clear and detailed definition)	51.3	77.9	68.2

Figure 2. Percentage of groups per type of research, showing the different Levels of definition of the stakeholders (0P)



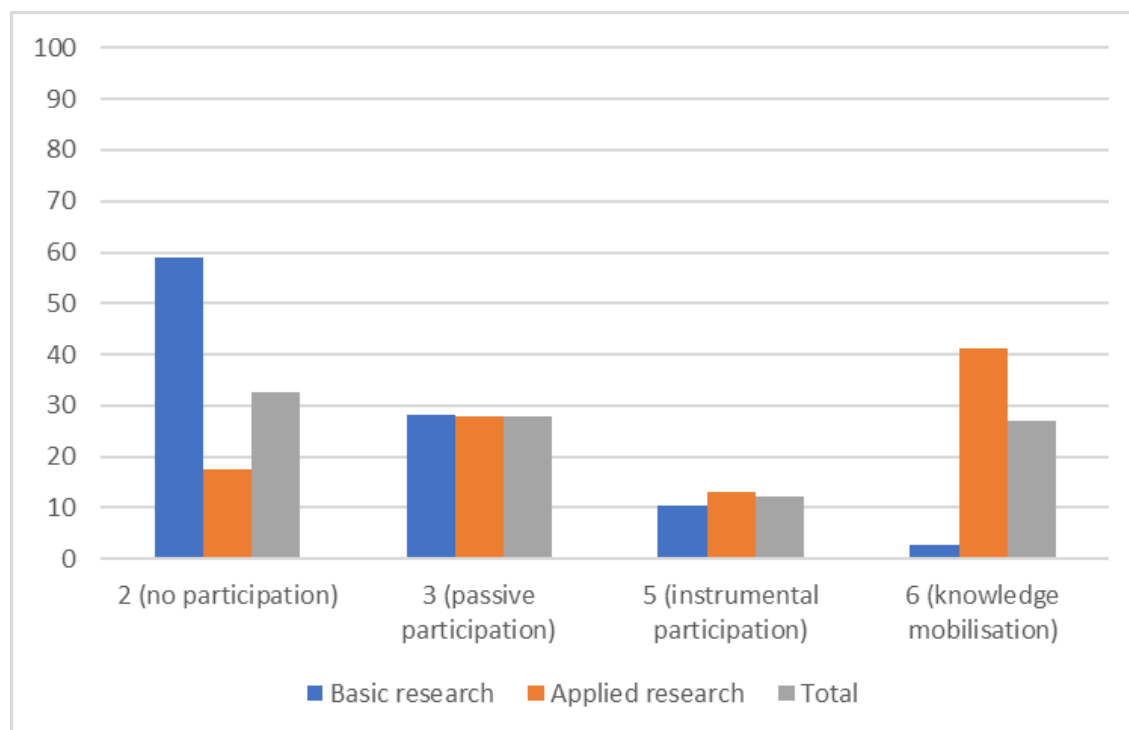
KM1. Identification of the research topic.

Table 9. Percentage of groups, considering the type of research, per level of stakeholders' participation in the identification of the research topic (KM1)

Level (KM1)	Basic research	Applied research	Total
2 (no participation)	59.0	17.6	32.7
3 (passive participation)	28.2	27.9	28.0
5 (instrumental participation)	10.3	13.2	12.1
6 (knowledge mobilisation)	2.6	41.2	27.1

It is unusual that stakeholders participate in the definition of the research problem, and when they take part it is often because the researcher needs it, that is, for example, because the research is about the stakeholders themselves or because the problem only can be addressed through them. Again, basic research groups show the lowest level of participation. Nevertheless, in one case, an important effort was made.

Figure 3. Percentage of groups, considering the type of research, per level of stakeholders' participation in the identification of the research topic (KM1)



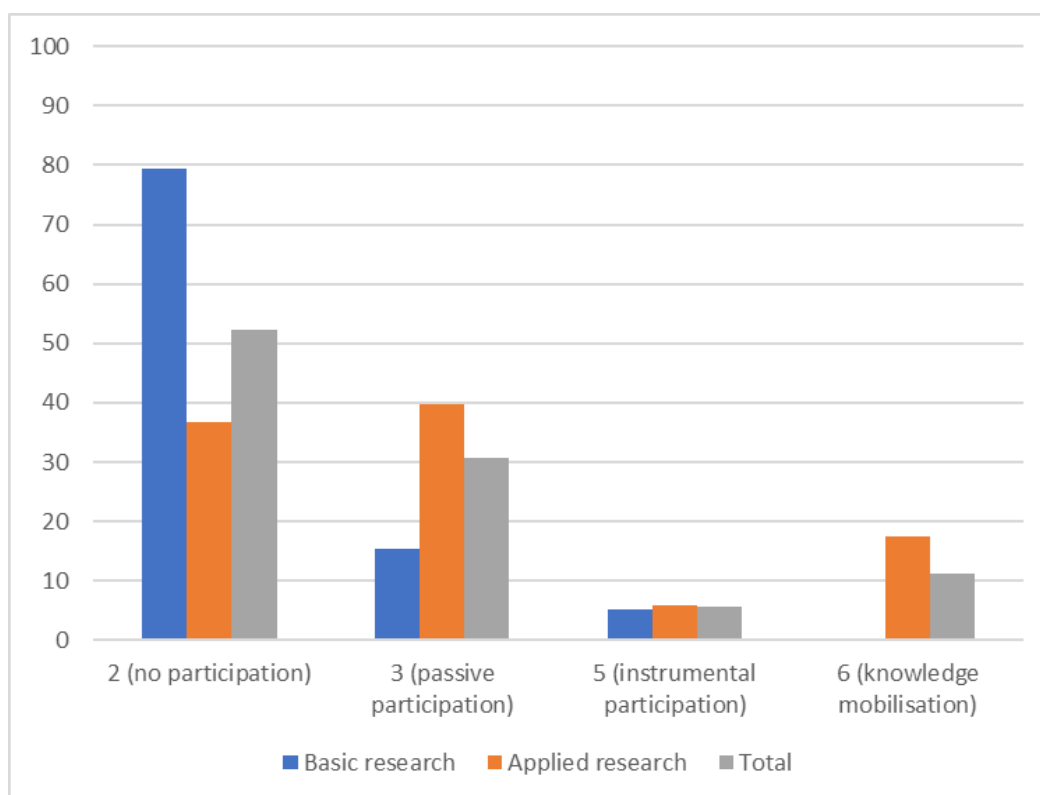
KM2. Methodological design.

Table 10. Percentage of groups, considering the type of research, per level of stakeholders' participation in the research design (KM2)

Level (KM2)	Basic research	Applied research	Total
2 (no participation)	79.5	36.8	52.3
3 (passive participation)	15.4	39.7	30.8
5 (instrumental participation)	5.1	5.9	5.6
6 (knowledge mobilisation)	0	17.6	11.2

The design of the research process seems to be under the clear domain of the research group. Only the 11.2% of the groups give stakeholders the opportunity to participate openly in the design of the research. But this stage of the research process is perceived by the researchers as part of their expertise.

Figure 4. Percentage of groups, considering the type of research, per level of stakeholders' participation in the research design (KM2)



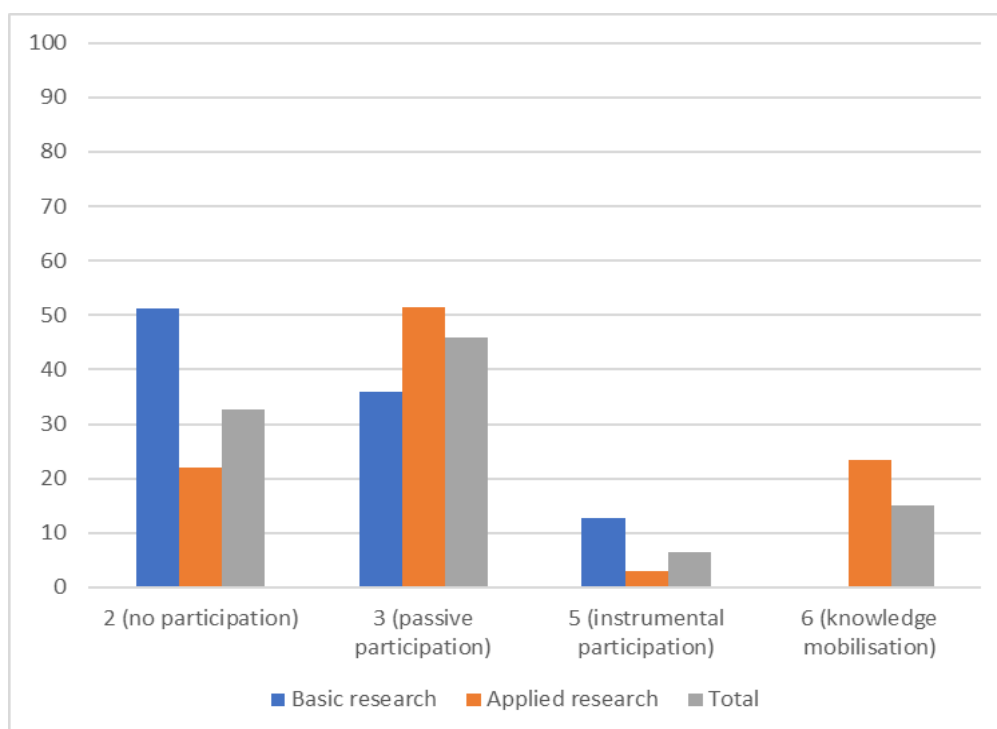
KM3. Data collection/gathering.

Table 11. Percentage of groups, considering the type of research, per level of stakeholders' participation in the data collection/gathering (KM3)

Level (KM3)	Basic research	Applied research	Total
2 (no participation)	51.3	22.1	32.7
3 (passive participation)	35.9	51.5	45.8
5 (instrumental participation)	12.8	2.9	6.5
6 (knowledge mobilisation)	0	23.5	15.0

This phase of the research project is a bit more participatory than the design phase, nevertheless, stakeholders develop a clear passive role whether they are the objects of the researcher or they are the only media to test a product. In fact, this is one of the indicators where no differences exist between basic and applied research.

Figure 5. Percentage of groups, considering the type of research, per level of stakeholders' participation in the data collection/gathering (KM3)



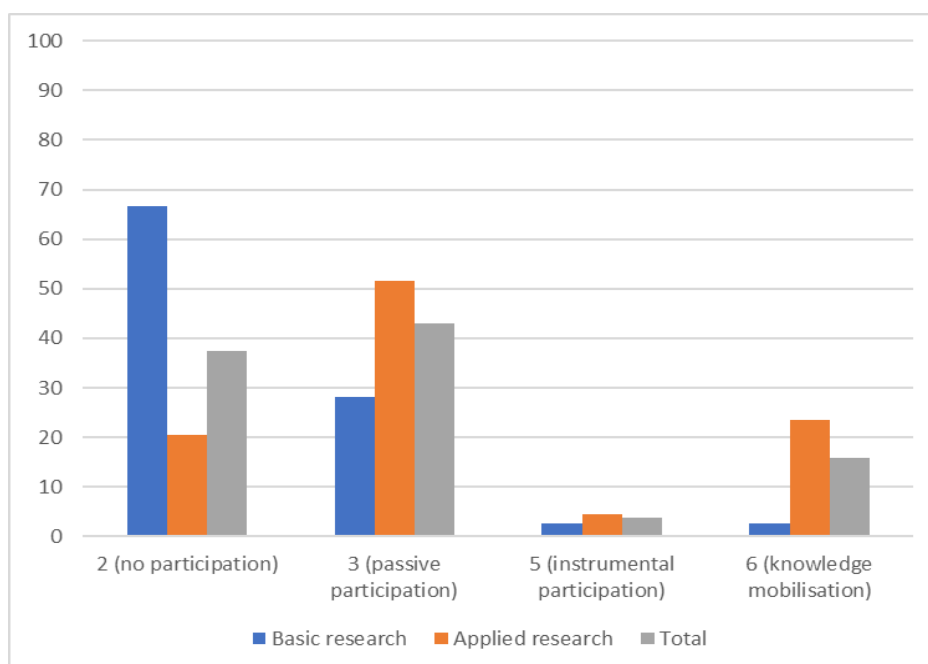
KM4. Data Analysis.

Table 12. Percentage of groups, considering the type of research, per level of stakeholders' participation in the data analysis (KM4)

Level (KM4)	Basic research	Applied research	Total
2 (no participation)	66.7	20.6	37.4
3 (passive participation)	28.2	51.5	43.0
5 (instrumental participation)	2.6	4.4	3.7
6 (knowledge mobilisation)	2.6	23.5	15.9

As in the previous case, no participation (in the basic research) or passive participation (in the applied research). These are also the most common activities of stakeholders in the data analysis. But in this case, one group of basic research shows a knowledge mobilisation strategy.

Figure 6. Percentage of groups, considering the type of research, per level of stakeholders' participation in the data analysis (KM4)



KM5. Dissemination.

Dissemination is one of the main goals of the research process. Research results don't exist unless they are disseminated.

At this stage of the research, two main questions related to the knowledge mobilisation arise: who disseminates (KM5A) and which channels are used for this dissemination (KM5B). The first question follows the same objective of the rest of indicators regardless of the stakeholders' participation in the research process. The second, searches how the research group diversifies the dissemination of information beyond academia in order to empower stakeholders, not only those taking part in the research, in the decision making.

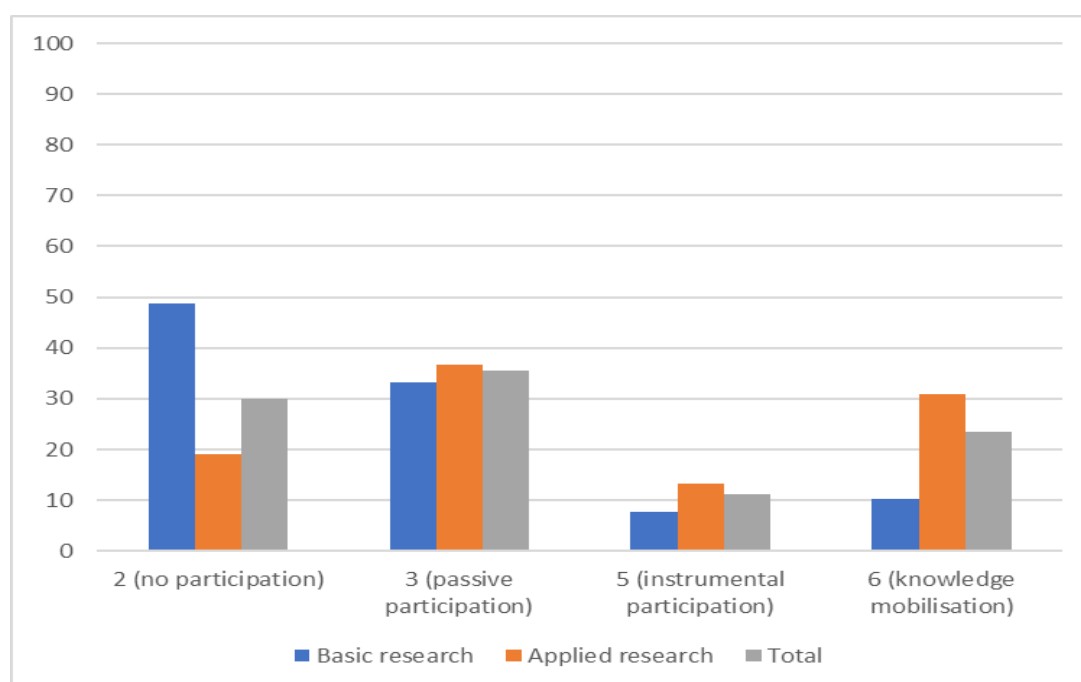
KM5A. Participation in the dissemination

Table 13. Percentage of groups, considering the type of research, per level of stakeholders' participation in the dissemination (KM5A)

Level (KM5A)	Basic research	Applied research	Total
2 (no participation)	48.7	19.1	29.9
3 (passive participation)	33.3	36.8	35.5
5 (instrumental participation)	7.7	13.2	11.2
6 (knowledge mobilisation)	10.3	30.9	23.4

Although, it is clear that basic research does not include stakeholders in the dissemination process, while applied research seems to somehow facilitate this participation. A key point of this stage is the ownership of the results. Thus, those results that come from a research project developed under a contract with a specific stakeholder (a company, for example), could be disseminated if this stakeholder was giving permission for that, and in many occasions, this permission includes the inclusion of the stakeholders as dissemination agents.

Figure 7. Percentage of groups, considering the type of research, per level of stakeholders' participation in the dissemination (KM5A)



KM5B. Dissemination channels

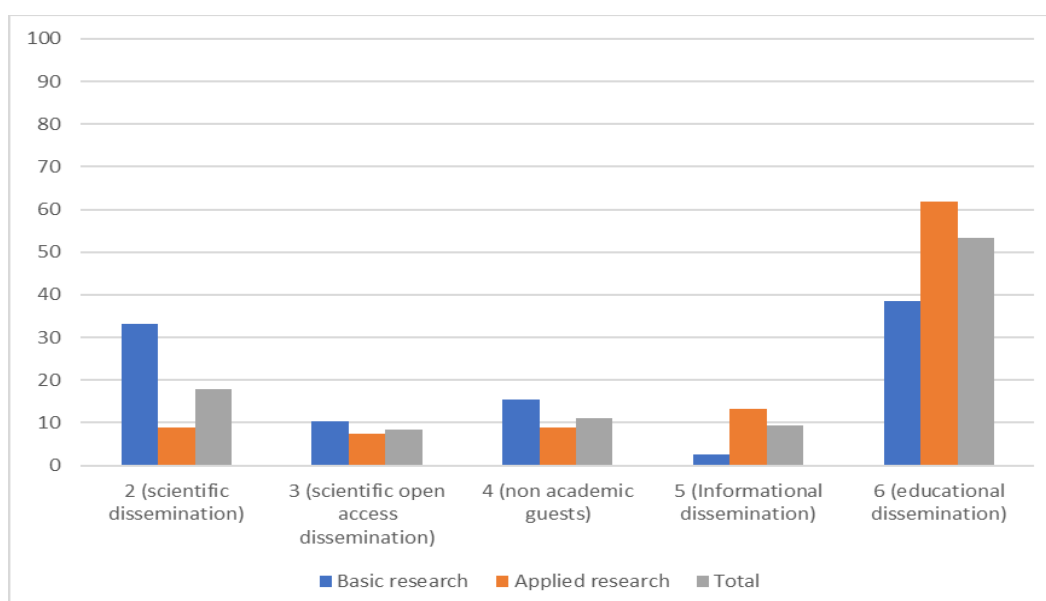
Table 14. Percentage of groups, considering the type of research, per type of dissemination channel used (KM5B)

Level (KM5B)	Basic research	Applied research	Total
2 (scientific dissemination)	33.3	8.8	17.8
3 (scientific open access dissemination)	10.3	7.4	8.4
4 (non-academic guests)	15.4	8.8	11.2
5 (Informational dissemination)	2.6	13.2	9.3
6 (educational dissemination)	38.5	61.8	53.3

These results show that the research groups are concerned about the need to reach stakeholders and to facilitate the use of the research results. Although the basic research shows a lower percentage it is anyway remarkable, being even higher than the scientific dissemination. In fact, there is no difference between basic and applied research in this indicator.

It is possible that some programmes carried out by universities are related to USR, but usually out of the research path; such as citizen science, or solidarity and development, are raising awareness among researchers. But, in any case, almost half of the interviewed groups do not use these alternative channels or only do it as propaganda.

Figure 8. Percentage of groups, considering the type of research, per type of dissemination channel used (KM5B)



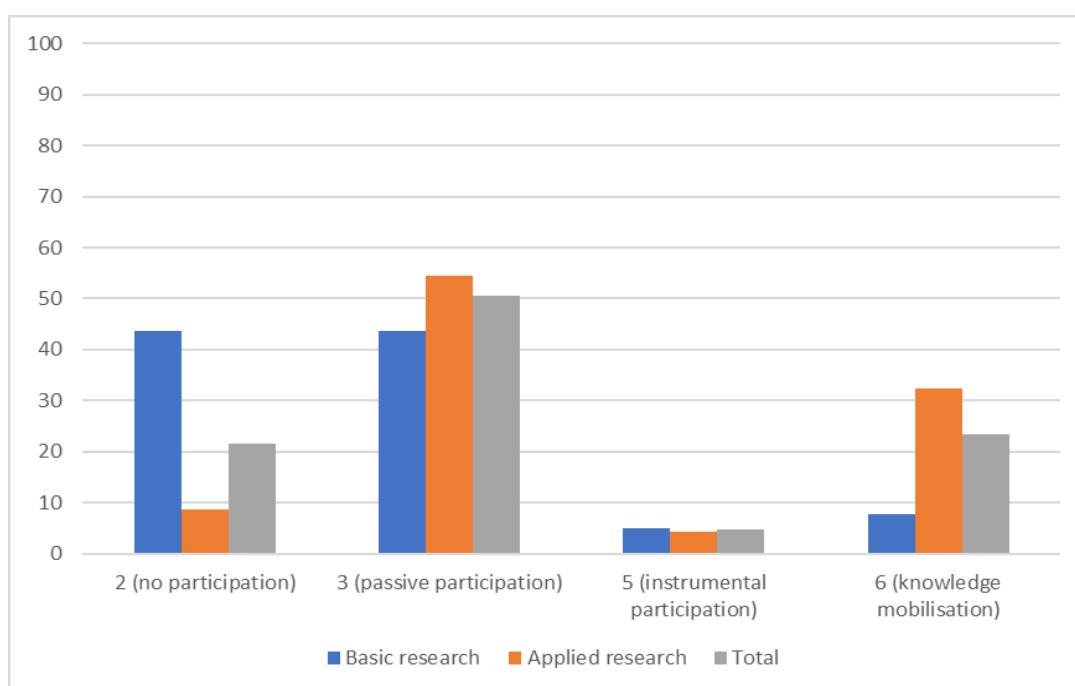
KM6. Sustainability.

Table 15. Percentage of groups, considering the type of research, per level of stakeholder participation in the sustainability plans (KM6)

Level (KM6)	Basic research	Applied research	Total
2 (no participation)	43.6	8.8	21.5
3 (passive participation)	43.6	54.4	50.5
5 (instrumental participation)	5.1	4.4	4.7
6 (knowledge mobilisation)	7.7	32.4	23.4

The most remarkable result at this stage is the generalised lack of sustainability plans. That is, it seems that researchers are only concerned about finding and disseminating results, what happens with these results after the project duration is not their responsibility. In fact, nearly 75% of the research groups interviewed do not develop any use of the results beyond the dissemination. And those who develop some plan are usually part of the contract signed with the company that funds the project. Thus, in that case, the point to highlight is not the lack of knowledge mobilisation strategies but the lack of sustainability plans themselves.

Figure 9. Percentage of groups, considering the type of research, per level of stakeholder participation in the sustainability plans (KM6)

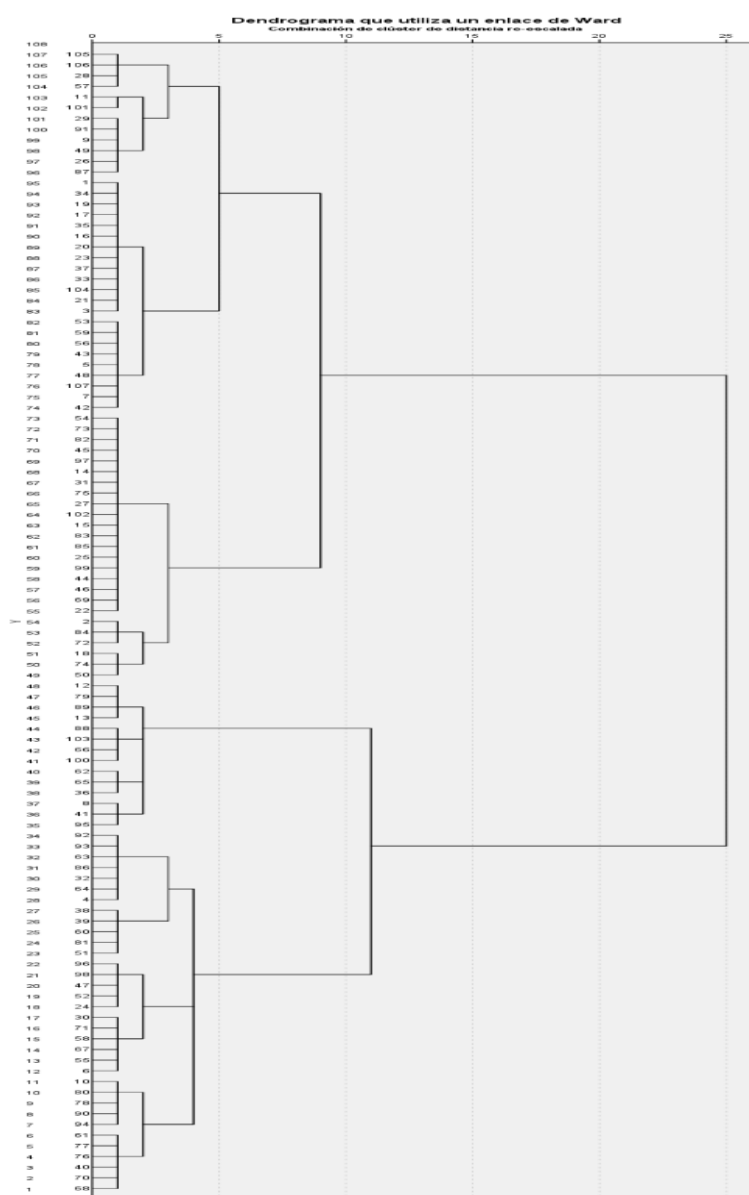


Research profiles

A second big objective of this report is to determine the existence of research profiles patterns with regards to knowledge mobilisation so that research groups can identify their position and reflect on how to move towards a more inclusive research.

Thus, after running various cluster tests to decide how many clusters to select for the hierarchical cluster analysis. The results indicated that the four-cluster solution was the most balanced and stable after ordering the cases in different ways, since this analysis can be sensitive to the case order (IBM, 2020). Figure 10 shows the resulting dendrogram.

Figure 10. Dendrogram of the hierarchical cluster analysis



These four clusters showed significant differences in all the indicators except KM6, about sustainability which confirms the existence of at least four different “research” traditions regarding the stakeholders’ role in the research process, and knowledge mobilisation.

After that, we classified these research profiles according to the independent variables used in the study: area and type of research, as well as the country of the research group. To do this we calculated contingency tables with the chi square tests and the likelihood ratio (which we considered when the observed frequencies were lower than 5) based on the research group’s classification or profile and the variable considered. The results show type of research (basic/applied) as the only independent variable associated significantly (99%) with the profiles. Thus, basic research is the

characteristic of the clusters 1 and 2, while applied research is characteristic of clusters 3 and 4.

The four clusters are therefore characterised as follows:

Cluster 1. *Disseminator groups.* 34 cases (31.8%). These are basic research groups. They have vague definition of their stakeholder groups, and take them into account only at the dissemination phase, using different channels to be sure that the stakeholders receive them. They could be described as groups that do research aware of the importance of the results for the society and disseminate them in different channels.

Cluster 2. *Isolated groups.* 25 cases (23.4%). These are basic research groups. They have not or just a vague definition of their stakeholder groups, and as a consequence, they are not considered at any moment in the research. They could be described as groups that do research with the scientific impact of their results in mind.

Cluster 3. *Transference groups.* This third cluster also includes 34 groups (31.8%), mainly carrying out applied research. They have well defined stakeholder groups and they participate in the definition of the problem as well as in the dissemination as co-authors. That is, these research groups want to answer specific problems from specific stakeholders, and count on them at the beginning of the research process. Once the problem is defined, the stakeholders disappear from the process until the dissemination stage, where they come up again as co-authors. Research groups in this cluster also disseminate their results through various channels with a clear intention to educate their stakeholders.

Cluster 4. *Inclusive groups.* This last group comprises 14 applied research groups (13.1%). Stakeholders are well defined and participate actively throughout the research process. This participation has a clearly emancipatory purpose. However, these research groups coincide with the other clusters in that they seem to be unconcerned about the sustainability and use of their results beyond the duration of the project.

The differences between the four profiles are seen clearly in Figure 11.

Finally, we ran a stepwise discriminant analysis to discover if the KM indicators are reliable predictors for classifying research groups by profile.

The results show that the indicators have very high discriminatory power, with 95.3% correct classification; the indicators that best discriminate between profiles are presented in Table 16, together with the Fisher classification functions.

Figure 11. Graphic depiction of the four research profiles according to the results of the cluster analysis



Table 16. Discriminant variables and function coefficients of the resulting classification (Fisher)

Classification function coefficients				
Indicator	cluster			
	1	2	3	4
KM1	2,203	2,219	5,931	5,948
KM2	1,318	2,246	,792	4,527
KM3	1,198	1,731	1,148	3,858
KM5A	,972	1,316	3,155	2,924
KM5B	5,886	1,679	5,264	4,903
KM6	-,024	-,070	-,982	-1,643
(Constant)	-24,807	-12,943	-38,790	-60,136
Fisher's linear discriminant functions				

Qualitative approach

The thematic analysis of the 107 interviews conducted with the research groups participating in the project makes it possible to describe the strategies implemented by the 14 groups that mobilise knowledge throughout their research with an inclusive ethical perspective. This analysis has also highlighted some of the barriers that these groups encounter when implementing these mobilisation strategies.

We have focused on those researchers who have a responsible conscience and inclusive sensitivity in their research and have focused on strategies to involve stakeholders in all stages of research, from the identification of beneficiaries to plans for the sustainable use of results. The results show that, throughout the research process, groups that mobilise knowledge through inclusive participation start from a situated knowledge that addresses the problems and needs of the context and recognises, integrates and involves different knowledge, in a continuum that goes from valuing their contributions to co-research. This involves not only a discussion of the content of projects, but also the creation of safe spaces of mutual trust, taking into account researcher-user relationships, context, types of knowledge and the evaluation of knowledge mobilisation.

The groups generate shared work and dissemination spaces, negotiate and make decisions in the process, write collaboratively and share authorship.

In terms of the sustainable use of the knowledge generated, it is all of the above strategies that lead to empowering and critical learning for both researchers and participants.

However, this inclusive and responsible approach to research is not without its tensions. Researchers recognise the difficulty of citizen participation in all types of projects and in certain phases of research, in which expert knowledge remains in the hands of academics and certain methodologies, data analysis or scientific publications are not conceived or value a type of research that is closer to society.

Research groups report tension between the principles of USR and research evaluation criteria. They feel the pressure of time and requirements to research and publish, against stakeholder engagement. The responsibility that research groups manifest in their mobilisation practices also strains the concept of science, the inclusive objective of research, as well as the sustainability of the results and their strategic use.

Conclusions

KM strategies are not a majority among the research groups interviewed, but they occur in all areas of knowledge, especially in applied research.

Regarding the Research Groups: More and more researchers are becoming aware of the need for responsible and inclusive research, but only few of them are introducing knowledge mobilisation strategies, particularly in applied research, where it seems easier to engage with society. It would be advisable to raise researchers' awareness of the concept of inclusive research and to share and generate new

mobilisation strategies. This training for researchers themselves would connect with university teaching and citizen science training, which would provide the means for citizens to participate in democratic decision-making on contemporary scientific-technological issues. This would generate networks between different institutions and researchers and give the possibility to create spaces for discussion between students, teachers and researchers on inclusive and responsible research (Levinson, 2017).

Regarding the Research Policy: the implication is not only the transformation of the research culture in research groups, but for knowledge mobilisation "to become a tool for democratisation and social inclusion, it is necessary to promote a transformation in individuals and organisations" (Perez et al., 2018, p. 108). This is a cultural change that is embodied in plans, programmes and public research policies, in which participation and inclusion are supported by public funds and the management and evaluation of research. The mobilisation strategies analysed in this study provide us with good examples of the viability of this coherent approach to USR and alert us to the need to continue deepening the reflective and critical discussion on inclusion in research (Burget et al., 2017), based on sustainable development objectives (Van't Land & Herzog, 2017).

The impact of this study on researchers, participants as administrators and funders focuses on making visible and critically analysing knowledge mobilisation strategies to promote improvement actions in university research contexts. Following the proposal of Holmes et al. (2017) the actions derived from our study are: the development of knowledge co-creation models and the establishment of shared evaluation systems; favouring and promoting distributed leadership and contributing to science as knowledge for situated action. Finally, it is necessary to generate a communicative culture and provide resources for transformation.

1. INTRODUCTION

1.1. DEFINING THE KEY CONCEPTS

This first introductory section presents a conceptual delimitation of the key elements of Inclusive and Responsible Research, based on a systematic review of the literature.

The review of the selected studies reveals that while some authors consider **USR** to be a **third university mission**, together with teaching and research (VanceLee and Kelly, 2017), others regard it as “**a cross-cutting theme** in the academic task of educating students to act in solidarity and be socially responsible, doing research that generates knowledge to serve society, and encouraging skills and actions that promote justice, human rights and the dignity of individuals” (López Velez, 2016, p.76.). It is considered as a way of institutionalising universities' social commitment initiatives by integrating them into these three pillars.

Miotto et al. (2018), however, suggests there is a lack of consensus on the definition of USR, in which similar terms are merged. One of these is **social commitment**. VanceLee and Kelly's (2017) study associates USR with the way in which universities contribute to solving major societal problems that require various types of innovation: social, economic and cultural. Likewise, Sánchez-Hernández and Minardes (2016) and Traver et al. (2017) point out that responsible universities are firmly committed to their communities.

Another associated term uncovered in the literature review is **sustainability**. In responsible universities, teaching, research and all activities are guided by a firm commitment to sustainability (López-Vélez, 2016; Sánchez-Hernández & Minardes, 2016).

It follows, therefore, that the **ethical component** is another vital element of USR. This refers to the need for higher education to show its commitment to the human, the personal and the social in order to better understand our world (Chen et al., 2015; Quintero et al., 2017; Ruiz-Corbella & Bautista-Cerro, 2016). Thus, according to Miotto et al. (2018, p. 42), “USR is a philosophy or a principle for universities to use an ethical approach to develop and engage with the local and global communities in order to sustain their social, ecological, environmental, technical, and economic development”. **Research** is undertaken with this **social and ethical commitment**, which according to Miotto et al. (2018), is responsible “for identifying internal and external stakeholders' needs, for adapting research to solving relevant issues, for sharing useful and important knowledge, not only towards the academic community, but with society” (p.66). Corretgé & Miret (2018) build on this idea by considering USR as an organisational model that demands prioritisation of **transparency** and **dialogue** with **stakeholders**.

López-Vélez (2016) introduced the concept of USR linked to university social responsibility and innovation (USRI) and provided a set of indicators to measure USRI through six dimensions: D1. Curriculum and pedagogy; D2. Organisation; D3. R&D&i (research, development and innovation); D4. Relationship with immediate

environment; D5. Environment; and D6. Internationalisation. The main focus of this work is on responsible research and innovation (RRI) in teaching.

In turn, Mejlgaard et al. (2019) understand the concept of **Responsible Research and Innovation** (RRI) as the alignment of research and innovation with societal values and needs. This aims to encourage researchers to “give care, in their praxis, to the needs and values of greater society, to the anticipated positive and negative consequences of their research, and thus reflect on their own work” (p. 603). Similarly, although on the topic of international genomics research projects, the study by Hetu et al. (2017) provides a “new set of more inclusive research performance indicators to help policymakers measure the impact of [such] projects” (315).

The European Union's position on the concept of **RRI** is outlined in the Report from the Expert Group on Policy Indicators for Responsible Research and Innovation, titled Indicators for promoting and monitoring responsible research and innovation (EU, 2015). The expert group concludes that “there is neither an authoritative definition nor a consensus on how to understand” RRI, but as a guiding principle it adopts the following proposed definition from Von Schomberg (2011): “a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products” (p. 11). It sets out six key areas: public engagement, gender equality, science education, open access, ethics and governance. As RRI is a dynamic ongoing political concept, according to the 2014 Rome Declaration on Responsible Research and Innovation in Europe, the expert group considered two further areas of importance for RRI: sustainability and social justice/inclusion.

What we have seen so far reveals a basic concept related to promoting ethically engaged university institutions (Salceda y Ibáñez, 2015). This vision of the more inclusive university ties in with the concept of **Inclusive research**. The literature review allows us to advance the conceptualisation of this term. According to Nind (2017), inclusive research establishes that research must be relevant to the people it affects; it must matter to them and benefit them; it must listen to their opinions and experiences and represent them, and treat them with respect. It emphasises its **participatory nature**, as it must involve the people being studied in the decision-making process and in doing the research, including project planning, research design, gathering and analysing the data and/or distributing and applying the research results. It is also **emancipatory**, as the research becomes part of the civil rights struggle and implies that people with disabilities must control the research process rather than simply participating in it.

Walmsley, Strnadová and Johnson (2018) continue this line by referring to a second generation of inclusive research that frames studies based on topics that matter to the group who participate in and inform the process and the results; that aim to contribute to social change; that recognise each group as knowledge producers; that provide information which these groups can use to propose improvements; and in which external participants work together with the people whose problems are being explored or studied. Their literature review of 52 articles led these authors to “conclude that inclusive research adds value when there is a

distinctive contribution which only co- researchers with intellectual disabilities can make, [...] and when it contributes to better lives for [these people]" (p.1). Alba and Nind (2020) make a fundamental contribution in stating that "the inclusive turn appears in research praxis under different labels: decolonising research, indigenous methods, feminist research, child-led research or inclusive research" (p.111, our translation). These traditions share a common pursuit of the participation and involvement of individuals, generating processes of reflection and change that result in improvements in people's lives and their empowerment or emancipation.

Similarly, Parrilla et al. (2016) understand inclusive research as a committed educational and social practice with **transformative** power, grounded in the **collaborative and shared construction of knowledge**. It is research committed to developing participative, fair and democratic ways of constructing knowledge, while at the same time seeking to generate a space that makes the **social mobilisation of knowledge** the foundation for innovation. These authors also highlight its emancipatory nature in that the subjects of the study control the research process, with the understanding that it "is only legitimate if it entails a process of liberation for the participants; and from a participative perspective, which emphasises the researchers' commitment to work with the study participants, maximising their participation through a **relationship of equality**, in a research process that must be clearly **dialectic**" (p. 2969).

In turn, Rojas et al. (2020) interpret inclusive research as comprising a set of approaches that "emphasise the democratisation of collaborative inquiry processes and, consequently, the type of relationships that can be established between participants from academic and non-academic sectors" (p. 292). The work of Chalachanová et al. (2020) examines the relationships established in co-research processes, since over time the personal dimension grows in importance and includes sharing an interest, mutual respect and fondness for the other.

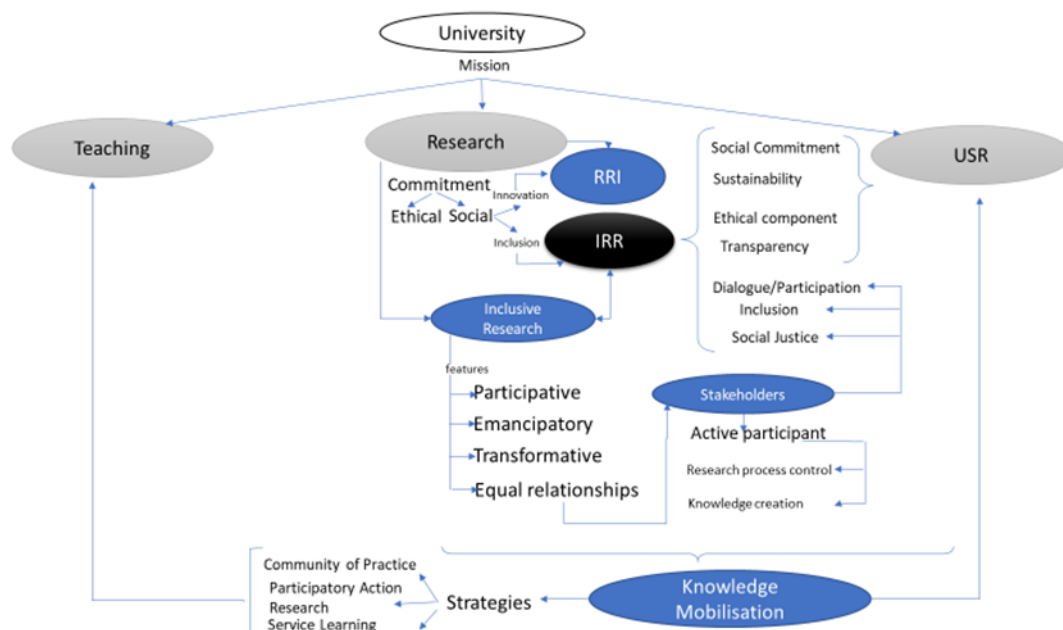
The studies reviewed describe different inclusive research methods or strategies. Among these, Traver et al. (2017) associate inclusive research with the processes of **participatory action research (PAR)**, since it encourages citizen participation, and Alba and Nind (2017) make the connection with processes of consultation, leadership and control, and collaborative groups. Thus, inclusive research covers a wide range of options for participation. Nind and Vinha (2016) explore the possibilities of methodological designs that intersperse dialogic and reflective spaces and use creative materials such as metaphors and I-poems to generate and analyse data. A common thread in the studies analysed is that inclusive research is developed with, by or for the stakeholders, but never about or on them.

This range of possibilities for interaction between the researchers and the stakeholders in the studies analysed brings the processes that affect **knowledge mobilisation (KMb)** into the centre of the debate. After analysing these selected texts, we coincide with Labbé et al. (2020) and Powell et al. (2018) that this is an umbrella term, used by social science researchers, to describe a broad category of strategies that cover the whole process of generation, access, exchange and use of information. VanceLee and Kelly (2017) associate the term with "engagement" and consider KMb as one of the factors that has led universities to take their stakeholders into account.

We found various studies that use the term in this sense (Abma et al., 2017; Flynn & Ford, 2020). KMb supports the bidirectional and multidirectional co-construction of knowledge, and values different types of knowledge: scientific research knowledge and the different types of knowledge people have, suggesting a Freirian conception of knowledge mobilisation, which occurs when individuals commit to learn with and from each other in daily practice, apply their knowledge to specific situations and transform knowledge into act on their own reality.

This idea is also reflected in the work of Skipper and Pepler (2020), who add that co-creative research and knowledge mobilisation depend on trust, respect and safety. This calls for broad, calm discussion between scholars and partners from the start of the project, not only about its content, but also about the best way of creating a safe space and mutual trust. This need to “foster and sustain relationships between researchers and research users over time” is one of the four key principles of KMb, according to Powell et al. (2018), together with “the need to pay attention to the research users’ context (Evans & Scarbrough 2014; Squires et al. 2015); the need to integrate different kinds of knowledge alongside knowledge from research; and the need to test and evaluate knowledge mobilization interventions in use” (p. 13).

Figure 12. Map of relationships between the main concepts and their defining elements



KMb **strategies** are varied and are grounded in the interaction between researchers and actors. The studies of Skipper and Pepler (2021) and Parrilla et al. (2016) refer to **communities of practice** as a mutual learning strategy in which multiple voices and perspectives can be incorporated. In addition, various works (Author,

Parrilla et al., 2016; Traver et al., 2017) identified several strategies for interaction between researchers and actors in the context of school inclusion to find joint solutions to problem situations; as well as PAR, **service learning (SL)**, joint presentation and organisation of events; and **co-analysis of practices**. Powell et al. (2018) refer to the following strategies: “facilitating networks, developing regular meetings of researchers and practitioners to discuss practice challenges, supporting peer to peer introductions and setting up fellowships and secondments” (p.14). Skipper and Pepler (2021) describe an experience of co-creating a toolkit with teachers as a way of achieving their research objectives and KMb.

The relationships established between the emerging concepts are summarised in the relationship map shown in Figure 12.

1.2. INCLUSIVE AND RESPONSIBLE RESEARCH

Having defined the key elements in each thematic category, we now move on to their cross-cutting analysis. The results lead us to shift from the responsible research and innovation (RRI) approach to that of inclusive and responsible research (IRR). Table 17 summarises the three categories with which we can conceptualise IRR: social commitment, ethical approach and participation.

Table 17. Defining categories and subcategories of IRR

Categories	Subcategories		
	USR	Inclusive Research	KMb
Social commitment	Universities' social mission Link with the territory (Traver et al., 2017) Knowledge that serves society Social, economic and cultural innovation Social value and transformation (VanceLee& Kelly, 2017) Responsible research (Sánchez-Hernández & Mainardes, 2016)	Engaged, transformative educational and social practice (Parrilla et al., 2016) Themes that matter: community problems and needs (VanceLee& Kelly, 2017) Use of and reflection on co-produced knowledge (Alba & Nind, 2020) Improve standards of living oriented to	Innovation with social value (Hetu, Joly & Koutouki, 2017). University mission and researchers' role: transform reality (Traver et al., 2017) Social impact of generated knowledge (Abma, et al., 2017)

		action (Walmsley, et al., 2018)	
Ethical approach	Commitment to society: university ethical approach (Miotto et al., 2018) Values of social justice, equity and sustainability (Sánchez-Hernández & Minardes, 2016) Citizens trained to contribute to the common good (López-Vélez, 2016) Responsible research and innovation (RRI): ethical values and critical reflection (Mejlgaard et al., 2019)	Empowerment and emancipation of vulnerable groups (Alba & Nind, 2020)	Reciprocity and equality in relationships (Parrilla et al., 2016). Researchers' responsibility for a real positive impact based on respect, trust and safety (Skipper & Pepler, 2021)
Participation	University social responsibility and innovation: Innovative responses to global social problems with actors' participation (López-Vélez, 2016) Communication, dialogue, transparency (Corretgé & Miret, 2018) Engagement as a university mission (VanceLee & Kelly, 2017)	Involve vulnerable groups in research (Nind, 2017) Control of the process in various degrees and models (consulting, leadership collaboration) (Alba & Nind, 2020) Democratisation of research processes (Rojas et al., 2020)	Access, use, exchange, collaborate in knowledge creation (Labbé et al., 2020) Different types of knowledge related and recognised to co-produce new knowledge. Participatory research (Parrilla et al., 2016) Teaching strategies: participatory action research, service learning, community of practice (Skipper & Pepler, 2020)

			Strategy for engagement in university: involve and connect with society (VanceLee& Kelly, 2017)
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The three categories, key elements of inclusive and responsible research, are defined as follows:

- Social commitment: the university's social mission to do research on topics that matter to the community and are linked to their territory, fostering responsible research and innovation and committed to transformation and improving society.
- Ethical approach: university function to promote, through responsible research and innovation, the training of citizens based on the values of justice, social equity and sustainability, grounded in relationships of equality, respect and safety, to empower and emancipate the most vulnerable groups.
- Participation: strategy for engaging and committing to social problems, which involves democratising training and research processes for the shared construction of knowledge between researchers and stakeholders.

Inclusive responsible research is therefore an emerging concept that defines a type of ethically and socially committed research, grounded in the values of justice, equity and sustainability, and that takes into the account the voices of individuals, their needs and interests, and involves them in the research process to co-create knowledge and contribute to their emancipation and to the transformation of their social reality.

This systematic analysis of the literature has provided the main conclusions:

- There is no consensus in the literature on the reviewed concepts: university social responsibility, inclusive research and knowledge mobilisation. The indicators established to measure each of these concepts differ from one context to another and according to each study's conceptual framework. The first of these, USR, has clearly been incorporated into every university's mission and it is interesting to see that their indicators refer to the ethical component and social inclusion. The studies link social responsibility with responsible research. Prominence is given to the ethical dimension and the values universities should promote through their research, teaching and extension activities. In research, this means highlighting the social value of the knowledge generated and responsibility on the part of the institution and its researchers for seeking a positive social impact.
- The inclusive turn in research prioritises this positive social impact and stresses the need to do research with and not on. This is therefore responsible research, aware of its commitment to the needs of more vulnerable groups, but also with a value added to the concept of responsible research and innovation, since it

advocates changing the relationships between citizens and researchers in order to recognise and generate agency in participants to bring about social change. Inclusion, social justice, equity and sustainability are core values in the development of university research, which entails critical reflection on the problems of research, the processes and methodologies used and the models of communication encouraged and evaluated in the university. This is one of the main findings of our study.

- This turn implies rethinking roles in research as a result of the democratisation of shared knowledge building processes and it brings to light the contradictions and incoherencies in research evaluation policies, which continue to reward transfer criteria (based on corporate research models) and raise barriers to more participatory and emancipatory research.

As a consequence of these implications, we need to generate new indicators, centred on knowledge mobilisation, as a model and interactive strategy that goes beyond the transfer model. Thus, one of the practical implications of our definition of RRI is that universities, and university policymakers, now have a concept that is better suited to an interactive model of knowledge mobilisation which can be transferred to indicators that will guide research teams in their decisions in line with this research approach.

Inclusive research opens up a new window to the democratisation of knowledge and its shared construction, offering stakeholders real participation in the co-creation of knowledge that goes beyond academic language and enriches, contextualises and mobilises them, while bringing back the meaning of responsible research to universities.

2. CONTEXT OF THE RESEARCH

A brief summary of the five contexts considered in this report may help the reader to understand that, on the whole, the 5 countries are on similar ground in terms of academic career progression, and the way in which research is assessed and rewarded. The Appendix B shows the results and contexts detailed by country.

Thus, a global overview shows us that the research is monitored at both national and institutional level in the five contexts by quantitative criteria based on published papers and results of scientific-research work. Different career paths for academic staff are recognised in each country, although they share some criteria to monitor their research activities as mentioned above (impact journals, etc.)

Although the MoRRI indicators (European Commission, 2018) are not directly related to the results here delivered, some of them have an indirect effect on Inclusive research and can provide us with a picture of the status of Responsible Research and Innovation in the different countries and institutions. They include measures such as the share of female scientific paper authorship, open access publications or research ethics committee. Results are shown per country (Table 18) and university (Appendix B).

In this sense, for instance, the gender measures are not equal for the five countries. Two countries stand out with 80%. The percentage of women researchers is also variable, although it is around 50% on average. Open access publications vary from 30 to 70%.

Table 18. MoRRI indicators per country

MoRRI indicators ⁴ (data from 2016)	AT	RO	RS	SI	SP
GE1 Share of research-performing organisations (HEI's) with gender equality plans <i>Data available for 2014, 2015, 2016. Indicator based on HEI and PRO surveys of MoRRI consortium, 2017.</i>	AT: 88%	RO: 12%	RS: Not available	SI: 25%	SP: 85%
GE2.4 Share of female researchers – higher education sector	AT: 28%	RO: 48%	RS: 49,61% (Percentage of total employment in	SI 2015: 42%	SP: 43%

⁴ EC (2018) *The evolution of Responsible Research and Innovation in Europe: The MoRRI indicators report publication. Monitoring Report.* <http://morri-project.eu/reports/2018-02-21-the-evolution-of-responsible-research-and-innovation-in-europe-the-morri-indicators-report-d4-3>

<i>Eurostat</i>			HE sector) - numerator in head count (HC)		
GE10.1 Share of female authors <i>Scopus, Patstat</i>	AT: 36%	RO: 51%	RS: 45% (Women to men ratio of authorships (when acting as corresponding author) in all fields of science, 2011–2013	SI: 36%	SP: 39%
SLSE4.1 the number of member organisations in the European Citizen Science Association (ECSA) <i>ECSA, Scopus</i>	AT: 2%	RO: 0%	RS: 0 %	SI: 1%	SP: 5 %
PE10 infrastructure for involvement of citizens and societal actors in research and innovation (Existence of infrastructure: Access, Representation and Availability for multiple channels for interaction <i>SIS survey</i>	AT: 0,55%	RO: 0%	RS: Yes	SI: 0,70%	SP: 0,35%
OA1.1 Share of Open Access publications <i>DOAJ list, PMC, the ROAD list, CrossRef, and OpenAIRE</i>	AT: 33%	RO: 15%	RS: 45,77% (2019), 45,06% (2018), 43,97% (2017), 40,07% (2016)	SI: 26%	SP: 28%
E1a Ethics at the level of research performing organisations (Share of higher education institutions having a research ethics committee & research integrity office) <i>HEI, PRO surveys</i>	AT: 15%	RO: 29%	RS: Exact percentage is not available, but all universities in Serbia, as educational and scientific- research organizations, have an Ethics Committee, in	SI 2016: 75%	SP: 38%

			accordance with Law on Higher Education and Law on Scientific- research Work		
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3. METHODOLOGY

The methodology used, essentially consist of semi-structured interviews, with various university research groups, complemented (Bericat, 1998) by a quantitative approach in which the responses from the interviews are classified in a series of ordinal level indicators. Both the interview and the indicators were validated theoretically and empirically at a national and international level. An expert panel of six national and eight international judges provided the theoretical validation and the empirical study was validated through a pilot test with 17 research groups (Ferrández-Berrueco et al. 2021).

3.1. SAMPLE

The quota non-probability sampling technique (Kalton, 1983) was used; area and type of research were considered as the classification variables. In principle, interviews should have been held with at least six groups from each area defined in Spanish Royal Decree RD1393/2007 (arts and humanities, sciences, social and legal sciences, engineering and architecture, and health), three corresponding to basic⁵ and three to applied⁶ research areas. However, although the quotas were met, as can be seen in Table 19, the research type was more complicated because of the research traditions in the different areas. For example, in the area of science, basic research is the dominant while in engineering it is the other way around. Nonetheless, every attempt was made to meet the quota per area and a total of 107 research groups were interviewed in five European countries (Austria, Romania, Slovenia, Serbia and Spain), representing 1055 researchers of whom 50.3% were men and 49.7% were women. Table 19 shows the sample distribution by Country.

⁵ Basic: we follow Calvert's (2006) definition from an intentional perspective: the one that "solving a general problem will potentially help solve a wide range of other problems" (p.204).

⁶ Applied: in contrast, the one that solves concrete problems, generally using the results derived from basic research.

Table 19. Sample distribution per area and research type

Area	Type		Total groups
	Basic	Applied	
Arts & humanities	3	6	9
Sciences	10	3	11
Social & legal sciences	14	18	32
Engineering & architecture	9	34	43
Health	3	7	10
Total	39	68	107

Table 20. Sample distribution by Country

Country	Type		Total groups
	Basic	Applied	
Austria (AT)	4	9	13
Romania (RO)	4	10	14
Serbia (RS)	6	24	30
Slovenia (SL)	6	9	15
Spain (SP)	19	16	35
Total	39	68	107

3.2. INSTRUMENTS

The interview consisted of three separate parts (see Appendix A). The first part concerned the contextualisation of the research the groups carried out in relation to the subject area, to whom it was addressed or the stakeholders, and its connection with university social responsibility (USR). The second part covered the whole research process from a participatory perspective. In this part, the interlocutor, usually the research group coordinator, was asked about the stakeholders' participation in each stage of the research process: identifying the problem, research design, data gathering, data analysis, dissemination and sustainability; each indicator was scored on an ordinal 3-point scale where 3 was the highest level of participation (see the document B for an overview and the full explanation in the Appendix A). The third and final part followed the same process stages but this time from an inclusive ethical perspective of participation, exploring the reasons behind the research groups' decisions to encourage stakeholder participation or not. In this case the questions varied according to the response given in the participatory stage, ranging from more reflexive types of question for less participatory groups, to more specific questions aimed at differentiating types of participation:

- knowledge transference, in which the stakeholder groups participate but their participation is instrumental and one directional; that is, participation takes place but it is controlled by the research group
- knowledge mobilisation, in which stakeholder participation has a clear emancipatory purpose and is therefore more inclusive.

Table 21. Summary of indicators

	PROBLEM	DESIGN	GATHERING	ANALYSIS	DISSEMINATION	USE
Participative perspective Stakeholder incorporation in the research Indicator 0P 1. The stakeholders are not	Indicator 1P 1. The research group defines this unilaterally 2. The direct interested party, as the only beneficiary, proposes the problem to the research group 3. The direct interested party and the	Indicator 2P 1. The stakeholders do not participate 2. They are informed, but they do not participate in decision making 3. It is designed jointly	Indicator 3P 1. Data gathering is only carried out by the research group with no stakeholder interaction 2. The research group interacts with the stakeholders to gather data	Indicator 4P 1. The stakeholders do not participate 2. The stakeholders do not participate in the analysis, but may provide information if the research group requests it	Indicator 5P.A 1. The stakeholders do not participate 2. The stakeholders play a supporting role in the process of dissemination initiated and applied by the research group 3. The stakeholders participate as co-authors in the	Indicator 6P 1. No use strategy 2. There is a general use plan, but it is vague and not specifically detailed 3. There is a well-defined strategy for

explicitly defined 2. The stakeholders are defined in a general way 3. Direct and indirect stakeholders are clearly and concisely defined	research group jointly define the problem, of which the direct interested party will not be the only beneficiary		3. The stakeholders share data gathering with the research group	3. The stakeholders analyse the data together with the research group	various dissemination strategies	the use of research results
					Indicator 5P.B 1. Scientific channels 2. Open access channels and non-scientific channels as guests 3. Various scientific and non-scientific formats as organisers	
Ethical perspective Justification for the participation and objective of the research	Indicator 1E 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 2E 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 3E 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 4E 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 5E.A and B 1. Not applied 2. Instrumental ethics 3. Inclusive ethics	Indicator 6E 1. Not applied 2. Instrumental use 3. Inclusive use
					Indicator 5E.B 1. Not applied 2. Instrumental dissemination 3. Inclusive dissemination	

3.3. DATA COLLECTION

The interviews took place between October 2020 and October 2021. From an initial list with the information for each group, a representative, usually the person who managed or coordinated the group, was contacted by telephone or email. Before the interview they were informed of the objectives and data treatment issues, after which they were asked to sign an informed consent document. In most cases two members of our project research group conducted the interviews so the information could be confirmed. The interviews were recorded and conducted in English or in the country language. Later, interviewers summarised them in English including literal quotas (also translated) when the interviewee made some interesting comment related to the topic. At the same time, the interviewers score the answers following the indicators described above.

Once the interviews were concluded, a report was sent to the research group interlocutor, who was asked to verify the information contained in it as well as their agreement with the indicator scores. This process is associated with research quality, integrity and veracity strategies as it matches some of the criteria for rigorous research proposed by Guba and Lincoln (1981).

4. RESULTS

4.1. QUANTITATIVE APPROACH

To analyse the results, we carried out two preliminary analyses.

On the one hand, we calculated a new variable of knowledge mobilisation aggregating, for each research stage, the participatory and the ethical indicator score. Thus, for each research stage considered in the interview we obtained five new values resulting from the addition of the two indicators that summarise the level of Knowledge Mobilisation in each research phase. Table 22 shows the general interpretation of each new value. Table 23 shows the interpretation of values for indicator 5B related to the dissemination channels, as its interpretation is different from the rest of indicators.

Table 22. Interpretation for the new aggregated indicators score

Value	Resulting from	Description
2 (no participation)	Scoring 1 in the participatory and in the ethical dimensions	The stakeholder does not participate. All initiatives and activities are exclusively carried out by the research group
3 (passive participation)	Scoring 2 in the participatory and 1 in the ethical dimensions	The stakeholder can participate, but only at the request of the research group and in a passive way.
5 (instrumental participation)	Scoring 3 in the participatory and 2 in the ethical dimensions	The stakeholders participate in an active way but they don't have any autonomy or decision-making power.
6 (Knowledge mobilisation)	Scoring 3 in the participatory and in the ethical dimensions.	The stakeholder and the research group are co-researchers. The relationship between researchers and stakeholders has the aim of improvement and transformation for equity and social justice. This is an emancipatory relationship.

Table 23. Interpretation for the new aggregated values of indicator 5B about the dissemination channels

Value	Resulting from	Description
2 (scientific dissemination)	Scoring 1 in 5PB and 5EB	The research group only disseminates through scientific channels. They prioritise dissemination inside the academia.
3 (scientific open access dissemination)	Scoring 2 in 5PB and 1 in 5EB	The research group only disseminates through scientific channels, but they prioritise open access media.
4 (non-academic guests)	Scoring 2 in 5PB and 2 in 5EB	Open access is prioritised. Research group can disseminate in some non-academic event, but not on their own initiative.
5 (Informational dissemination)	Scoring 3 in 5PB and 2 in the 5EB	In addition to scientific channels, non-scientific media are used on their own initiative but only for informational purposes not educational.
6 (educational dissemination)	Scoring 3 in 5PB and 5EB	Both scientific and non-scientific channels are used and in the latter case, the language is adapted to the audience. The purpose is educational rather than purely informative.

On the other hand, the other preliminary analysis consists of checking the absence of significant differences among the independent variables considered: countries, areas and types of research. This allows us to deal with the information collected in an aggregated way and, in case of detecting significant differences, include the significant variables in the analysis. For this objective we calculated the Median test (SPSS v.27) for all the new aggregated indicators (KM1 to KM6). As Table 24 shows, only the type of research (basic & applied) showed consistent differences in almost all the indicators. So, in the next analyses only the type of research will be considered as a relevant variable.

Table 24. Significant differences found among countries, areas and type of research

Indicator	Country	Area	Type of research
Stakeholder definition (OP)	No	No	No
Research problem (KM1)	No	No	99%
Research design (KM2)	SP-SL (99%)	No	99%
Information gathering (KM3)	No	No	No
Data analysis & conclusions (KM4)	No	No	99%
Dissemination (KM5A)	No	No	99%
Channels of dissemination (KM5B)	No	No	No
Sustainability (KM6)	No	No	95%

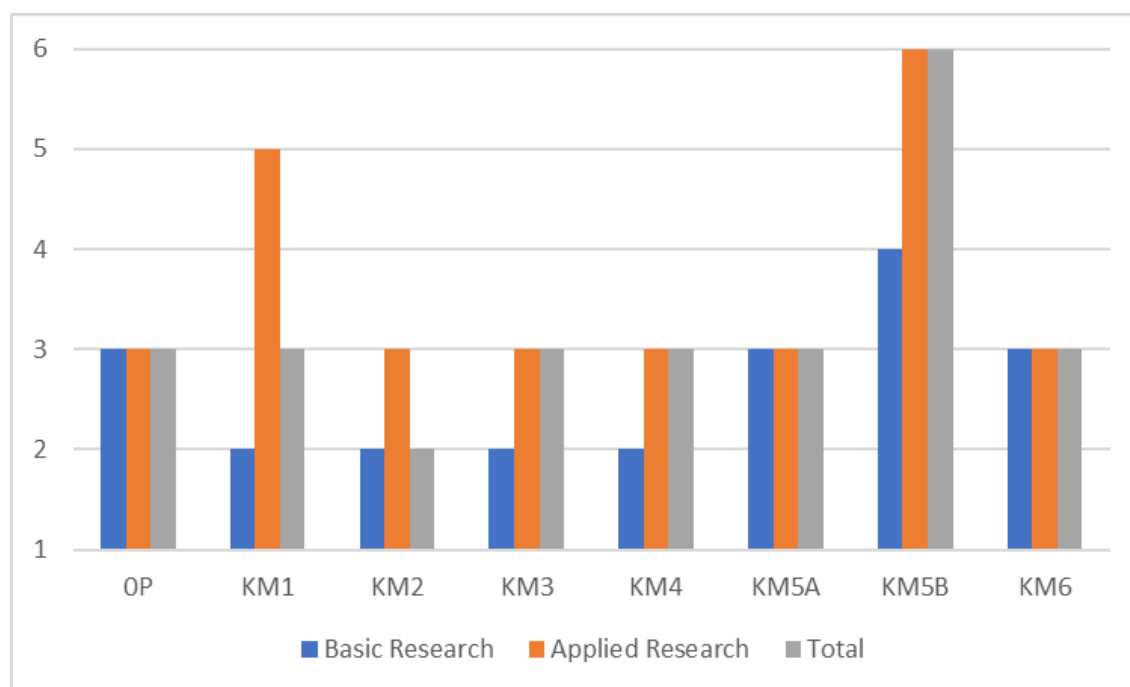
4.1.1. GLOBAL DESCRIPTIVES

Table 25. Median of the KM indicators

Indicator	Basic Research	Applied Research	Total
OP ⁷	3	3	3
KM1	2	5	3
KM2	2	3	2
KM3	2	3	3
KM4	2	3	3
KM5A	3	3	3
KM5B	4	6	6
KM6	3	3	3

⁷ This indicator is not aggregated and the measure is the original from 1 (stakeholders are not defined) to 3 (stakeholders are clearly defined)

Figure 13. Median of the KM indicators



OP. Definition of the stakeholders

The research groups have a good definition of their stakeholders, being the Median, in all the cases, the top score (see Table 26 and Figure 14). Nevertheless, considering the detail of the percentages shown on table 27, it can be appreciated that this definition is wider spread in the applied research than in the basic one, where 10.3% of the groups have not even defined them.

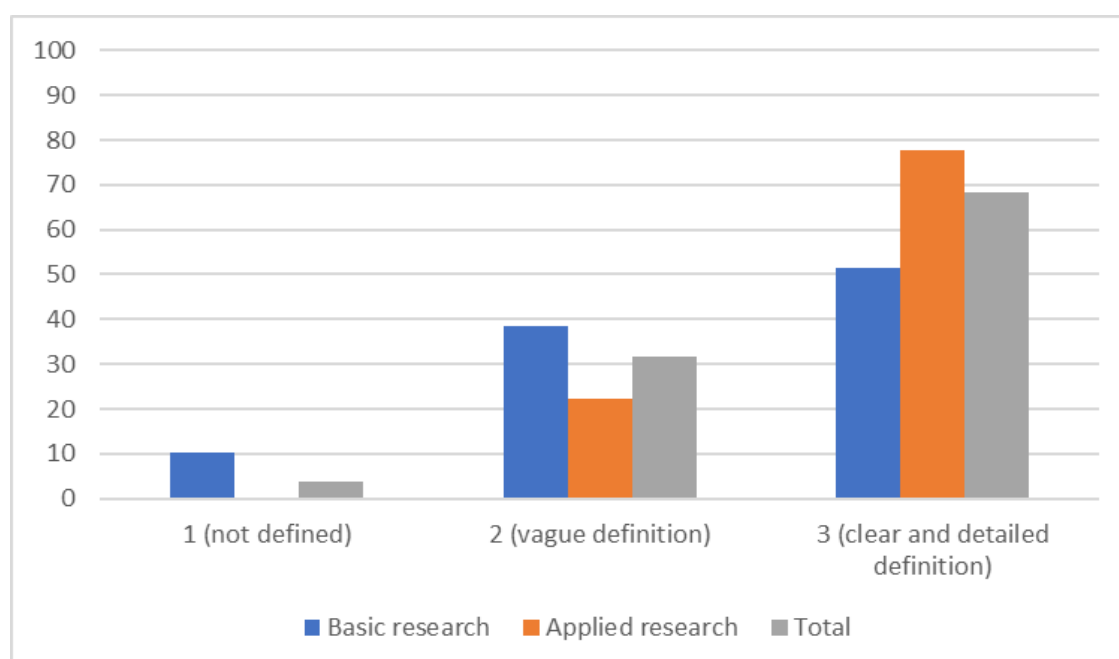
The research group SP10AB3, studies the transmission of knowledge that took place in the Middle Ages, mainly through translation. In particular, the latest research focuses on updating and disseminating translations of the mediaeval period.

When asked in the interview about the impact of their research, they respond that since it is basic research, the results of the research "may be of interest" to society in general. So they do not identify or define their stakeholders.

Table 26. Percentage of groups per type of research, showing the different Levels of definition of the stakeholders (0P)

Level (0P)	Basic research	Applied research	Total
1 (not defined)	10.3	0	3.7
2 (vague definition)	38.5	22.1	31.8
3 (clear and detailed definition)	51.3	77.9	68.2

Figure 14. Percentage of groups per type of research, showing the different Levels of definition of the stakeholders (0P)



KM1. Identification of the research topic

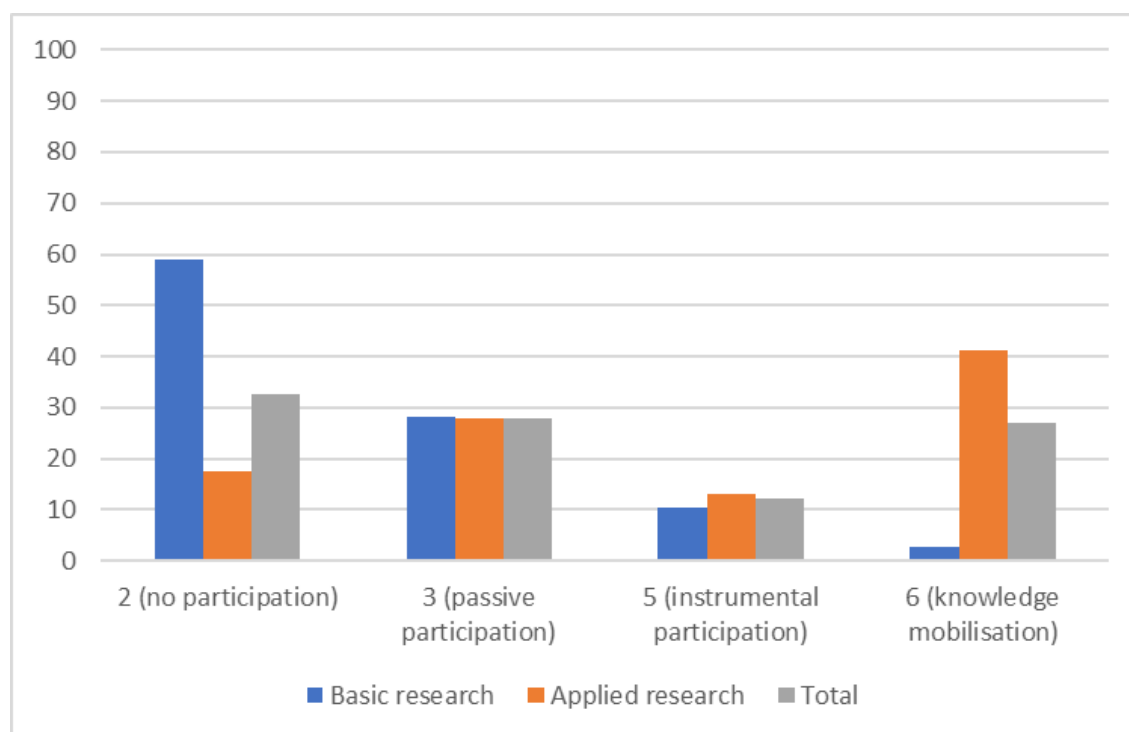
Table 27. Percentage of groups, considering the type of research, per level of stakeholders' participation in the identification of the research topic (KM1)

Level (KM1)	Basic research	Applied research	Total
2 (no participation)	59.0	17.6	32.7
3 (passive participation)	28.2	27.9	28.0
5 (instrumental participation)	10.3	13.2	12.1
6 (knowledge mobilisation)	2.6	41.2	27.1

It is not usual that stakeholders participate in the definition of the research problem, and when they take part it is often because the researcher needs it, that is, for example, because the research is about the stakeholders themselves or because the problem only can be addressed through them. Again, basic research groups show the lowest level of participation. Nevertheless, in one case, an important effort is made.

In this case RS03EB4, although it is a basic research group, stakeholders are involved in defining the problem. The stakeholders have a vision of the problem and are up to date on the regulatory requirements related to the group's research topic (noise measurement). For this reason, researchers have the opportunity to focus their research on the exact needs of stakeholders and society as a whole.

Figure 15. Percentage of groups, considering the type of research, per level of stakeholders' participation in the identification of the research topic (KM1)



KM2. Methodological design

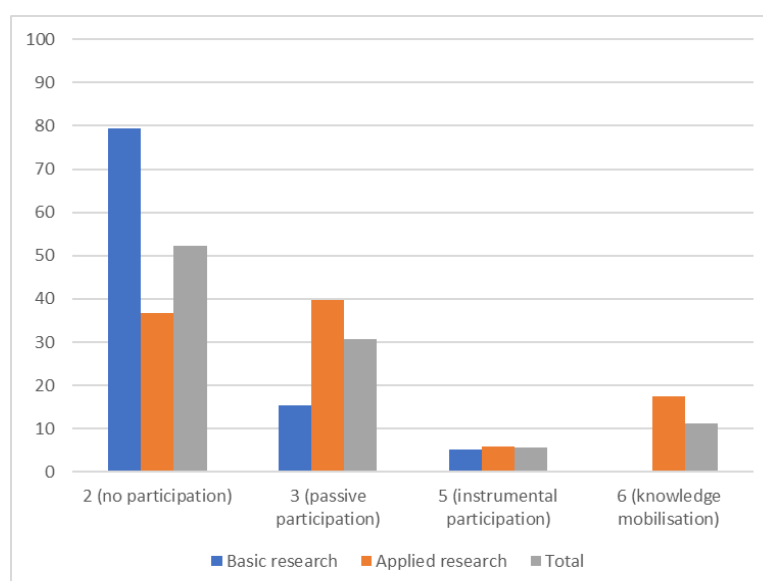
The design of the research process seems to be under the clear domain of the research group. Only the 11.2% of the groups give the stakeholders the opportunity to participate openly in the design of the research. But this stage of the research process is perceived by the researchers as part of their expertise.

In the SP12AA8 research group the lines of research are: research on inclusion, peer learning and affective-sexual diversity and research focused on community music. The research design is carried out by the researchers. Specifically, the researcher comments that she finds it difficult for the schools they work with to set the process and stages to be followed in the research as they don't have such a knowledge.

Table 28. Percentage of groups, considering the type of research, per level of stakeholders' participation in the research design (KM2)

Level (KM2)	Basic research	Applied research	Total
2 (no participation)	79.5	36.8	52.3
3 (passive participation)	15.4	39.7	30.8
5 (instrumental participation)	5.1	5.9	5.6
6 (knowledge mobilisation)	0	17.6	11.2

Figure 16. Percentage of groups, considering the type of research, per level of stakeholders' participation in the research design (KM2)



KM3. Data collection/gathering

This phase of the research project is a bit more participatory than the design phase, nevertheless, stakeholders develop a clear passive role whether they are the objects of the researcher or they are the only media to test a product. In fact, this is one of the indicators where no differences exist between basic and applied research.

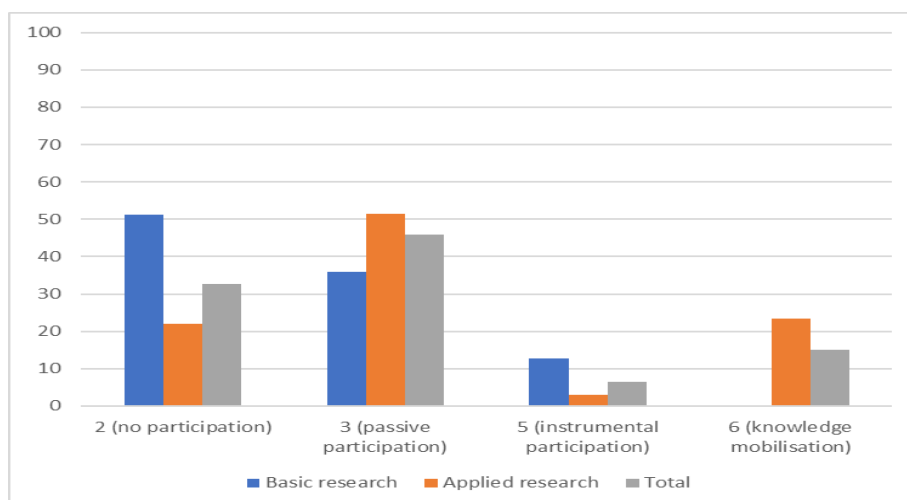
In the case SP08EA15 they main research in the biomechanics of the human hand. They have two branches: one aimed at establishing methods to evaluate the functionality of the human hand and on the other, design of artificial hands, for hand prostheses or robotics.

In this case, stakeholders are not included in the data collection because the researchers do not consider it. Stakeholders are limited to giving them feedback on the prototype as users of this product since researchers need that feedback for their purpose.

Table 29. Percentage of groups, considering the type of research, per level of stakeholders' participation in the data collection/gathering (KM3)

Level (KM3)	Basic research	Applied research	Total
2 (no participation)	51.3	22.1	32.7
3 (passive participation)	35.9	51.5	45.8
5 (instrumental participation)	12.8	2.9	6.5
6 (knowledge mobilisation)	0	23.5	15.0

Figure 17. Percentage of groups, considering the type of research, per level of stakeholders' participation in the data collection/gathering (KM3)



KM4. Data Analysis

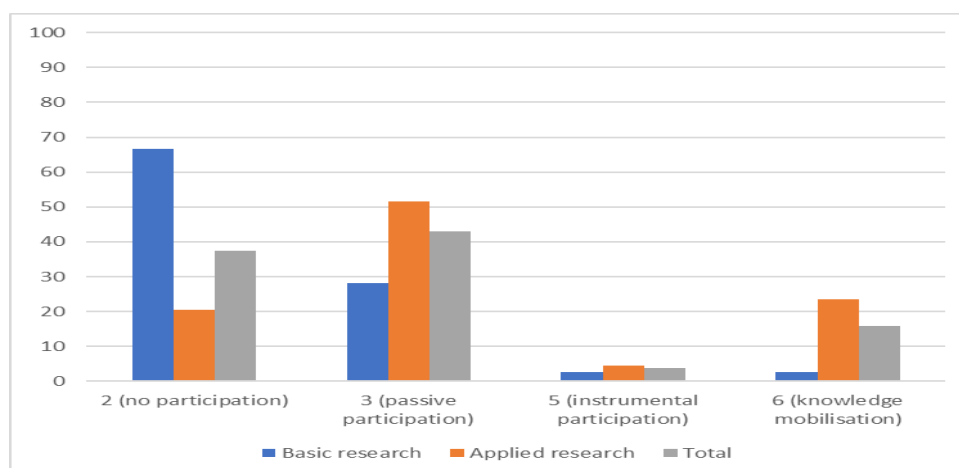
As in the previous case, no participation (in the basic research) or passive participation (in the applied research) are the most common activities of stakeholders in the data analysis. But in this case, one group of basic research shows a knowledge mobilisation strategy.

In this case RS03EB4, applied research is carried out at the request of economic organisations in several cities that have a problem with noise. The research group is engaged in the research of this issue in order to achieve a higher degree of protection against it. But, the situation is different if the project is intended for a local government or a company. The local self-government participates in the data analysis to a lesser extent, but they definitely follow the activities and together analyse the results, recommendations, conclusions of the research. Nevertheless, the research group has a clear leading role. When doing a research project with a company, their role is similar to the research group. Interpretation of research results requires their competencies from practice, when increased noise is detected on a particular device or machine, then they know better the causes and ways of intervention than researchers.

Table 30. Percentage of groups, considering the type of research, per level of stakeholders' participation in the data analysis (KM4)

Level (KM4)	Basic research	Applied research	Total
2 (no participation)	66.7	20.6	37.4
3 (passive participation)	28.2	51.5	43.0
5 (instrumental participation)	2.6	4.4	3.7
6 (knowledge mobilisation)	2.6	23.5	15.9

Figure 18. Percentage of groups, considering the type of research, per level of stakeholders' participation in the data analysis (KM4)



KM5. Dissemination

Dissemination is one of the main goals of the research process. Research results don't exist unless they are disseminated.

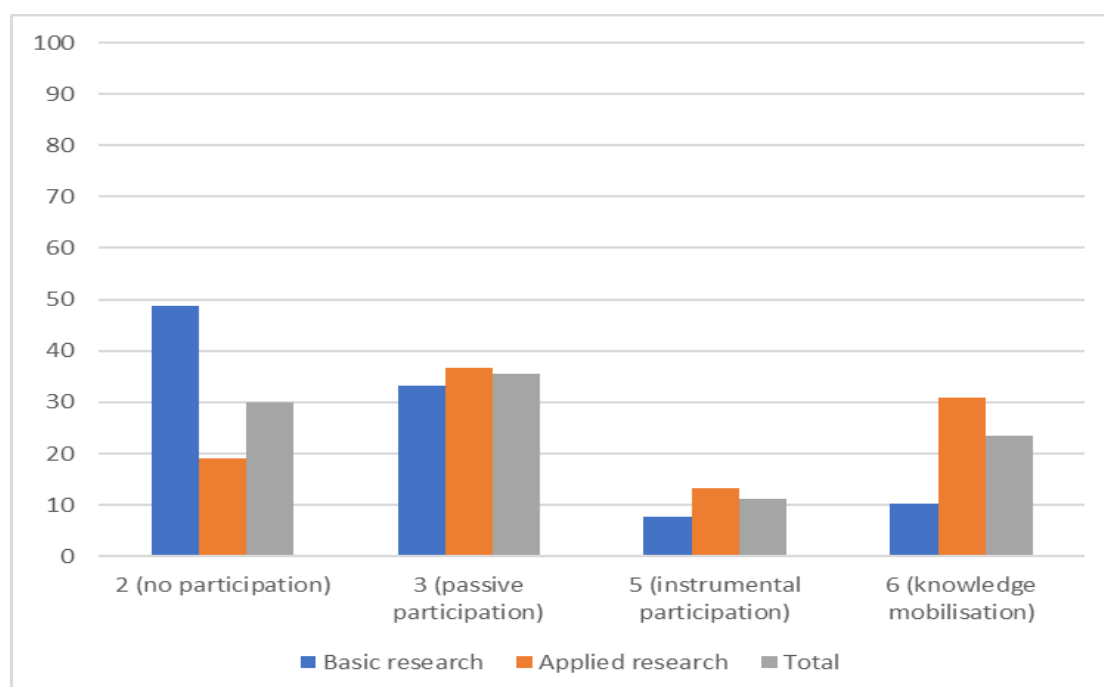
At this stage of the research, two main questions related to the knowledge mobilisation arise: who disseminates (KM5A) and which channels are used for this dissemination (KM5B). The first question follows the same objective of the rest of indicators regardless of the stakeholders' participation in the research process. The second, searches how the research group diversifies the dissemination of information beyond academia in order to empower stakeholders, not only those taking part in the research, in the decision making.

KM5A. Participation in the dissemination

Table 31. Percentage of groups, considering the type of research, per level of stakeholders' participation in the dissemination (KM5A)

Level (KM5A)	Basic research	Applied research	Total
2 (no participation)	48.7	19.1	29.9
3 (passive participation)	33.3	36.8	35.5
5 (instrumental participation)	7.7	13.2	11.2
6 (knowledge mobilisation)	10.3	30.9	23.4

Figure 19. Percentage of groups, considering the type of research, per level of stakeholders' participation in the dissemination (KM5A)



Although, it is clear that basic research does not include the stakeholders in the dissemination process, while applied research seems to facilitate somehow this participation. A key point of this stage is the ownership of the results. Thus, those results that come from a research project developed under a contract with a specific stakeholder (a company, for example), could be disseminated if this stakeholder was giving permission for that, and in many occasions, this permission included the inclusion of the stakeholders as dissemination agents.

In the case of RS10EA6, the research group is engaged in research on vehicles that emit pollutants. Dissemination is sometimes directly limited by a contract, which defines, among other things, who owns the results. If the company funds the research, then it is also the sole owner of the results (IP). Researchers can publish part of the results with the obtained consent. If it is a new product or technology, dissemination in any form is not allowed until it is placed on the market. When dissemination is possible, then it is realized jointly, by researchers and companies, by agreement.

KM5B. Dissemination channels

Table 32. Percentage of groups, considering the type of research, per type of dissemination channel used (KM5B)

Level (KM5B)	Basic research	Applied research	Total
2 (scientific dissemination)	33.3	8.8	17.8
3 (scientific open access dissemination)	10.3	7.4	8.4
4 (non-academic guests)	15.4	8.8	11.2
5 (Informational dissemination)	2.6	13.2	9.3
6 (educational dissemination)	38.5	61.8	53.3

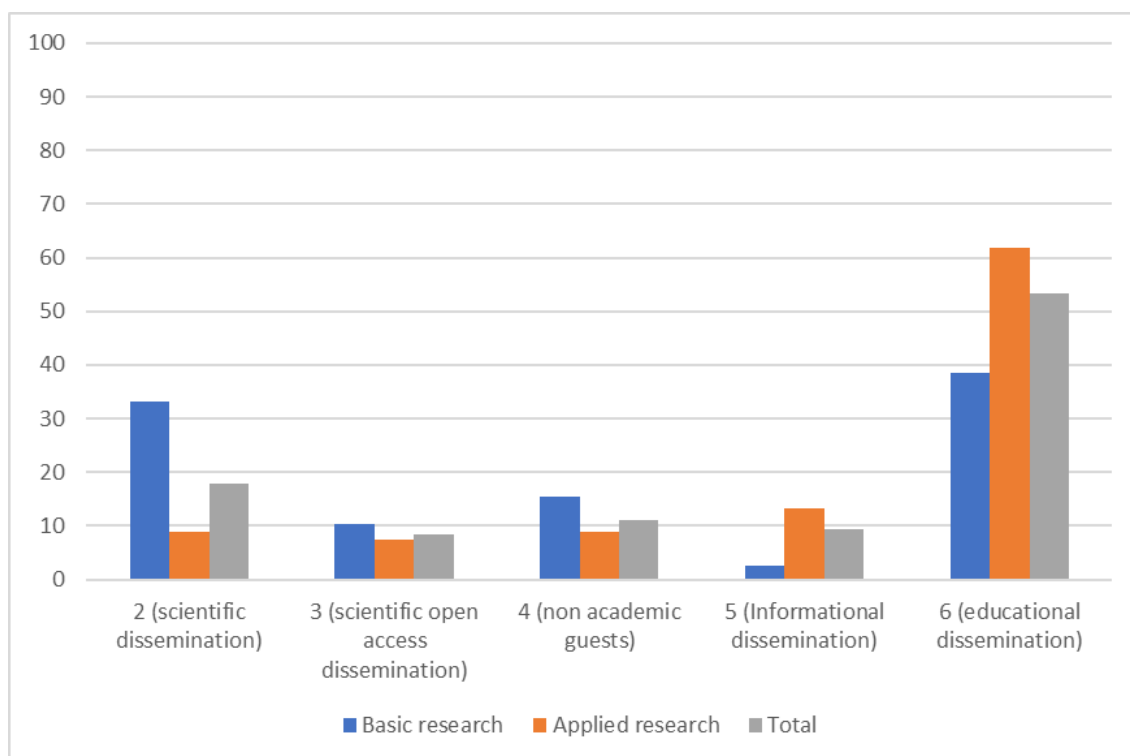
These results show that the research groups are clearly concerned about the need to reach stakeholders and to facilitate the use of the research results. Although the basic research shows a lower percentage it is anyway remarkable, being even higher than the scientific dissemination. In fact, there is no difference between basic and applied research in this indicator.

It is possible that some programmes carried out by universities related to USR, but usually out of the research path; such as citizen science, or solidarity and development, are raising awareness among researchers. But, in any case, almost half of the interviewed groups do not use these alternative channels or only do it as propaganda.

In the research group SP04AA7, their area of research focuses on harnessing the potential of the arts and humanities, and more specifically music, as backbone for transforming society, fighting for quality of life and social and inclusive education.

In relation to the diversity of dissemination channels, they disseminate one type of knowledge or another depending on the target audience, so the aim is to reach the widest possible audience. In non-specialised dissemination channels on the research topic, the results are written in non-scientific-technical vocabulary in order to reach society in general.

Figure 20. Percentage of groups, considering the type of research, per type of dissemination channel used (KM5B)



KM6. Sustainability

The most remarkable result at this stage is the generalised lack of sustainability plans. That is, it seems that researchers are only concerned about finding and disseminating results, what happens with these results after the project life is not their responsibility. In fact, nearly 75% of the research groups interviewed do not develop any use of the results beyond the dissemination. And those who develop some plan are usually part of the contract signed with the company that funds the project. Thus, in that case, the point to highlight is not the lack of knowledge mobilisation strategies but the lack of sustainability plans themselves.

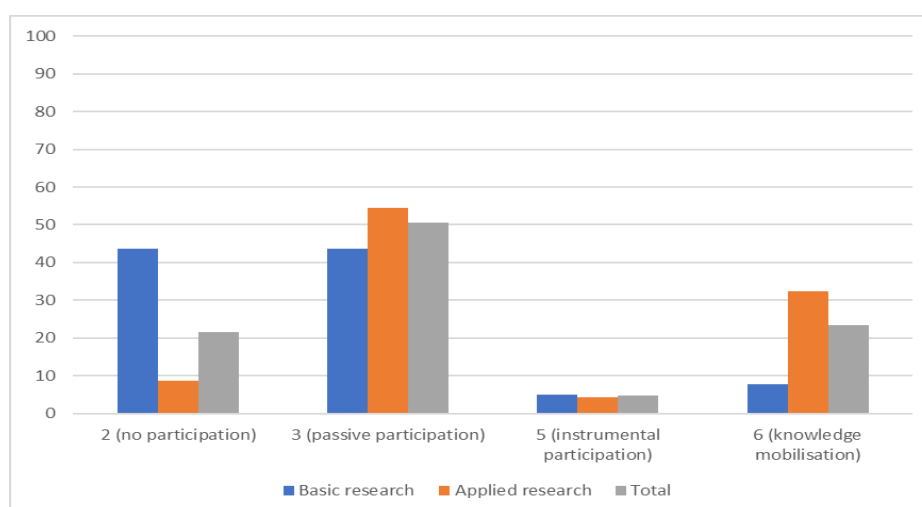
This group SL05LA60, focused the area of research in psychology, with emphasis on the psychology of work and organisations. Furthermore, the main focus of the current research is on the level of stress at workplace, what are the consequences, etc. Latest research was conducted on impact of COVID-19 on “work from home”

They consider that sustainability of the results is ensured by publishing in journals and open access platforms because of that they don't prepare any strategy beyond dissemination.

Table 33. Percentage of groups, considering the type of research, per level of stakeholder participation in the sustainability plans (KM6)

Level (KM6)	Basic research	Applied research	Total
2 (no participation)	43.6	8.8	21.5
3 (passive participation)	43.6	54.4	50.5
5 (instrumental participation)	5.1	4.4	4.7
6 (knowledge mobilisation)	7.7	32.4	23.4

Figure 21. Percentage of groups, considering the type of research, per level of stakeholder participation in the sustainability plans (KM6)

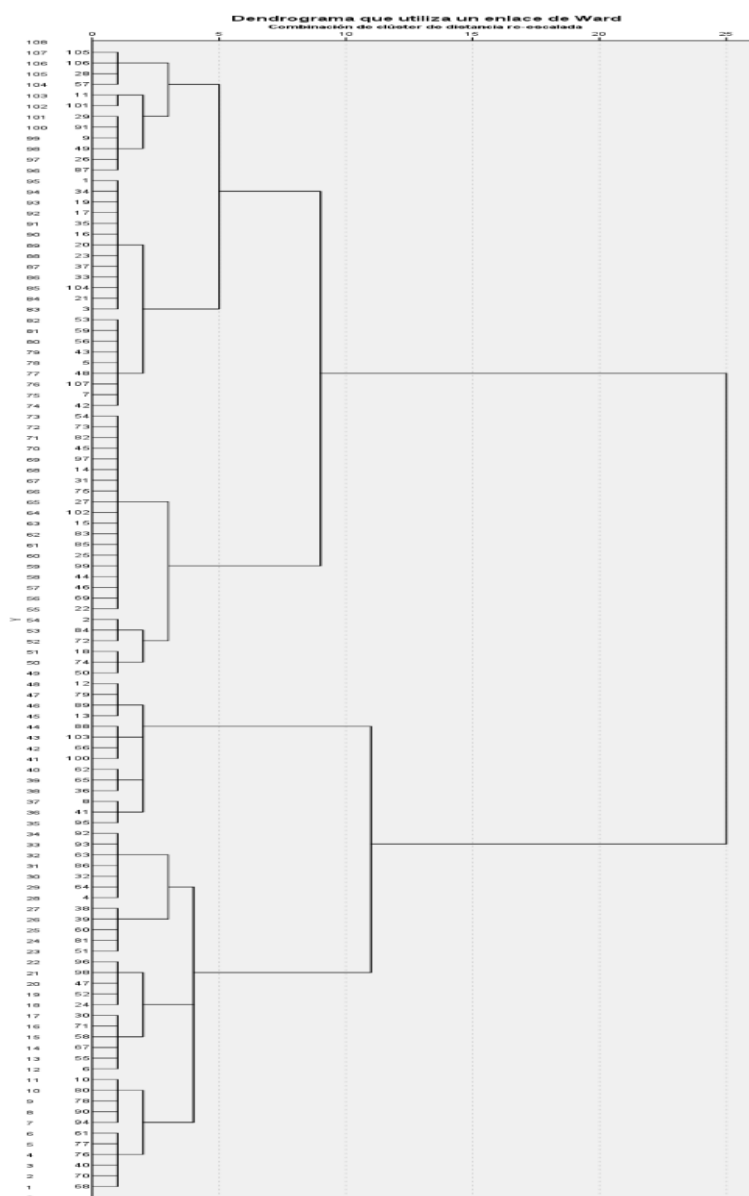


4.1.2. RESEARCH PROFILES

A second big objective of this report is to determine the existence of research profiles patterns with regards to knowledge mobilisation so that research groups can identify their position and reflect on how to move towards a more inclusive research.

Thus, after running various cluster tests to decide how many clusters to select for the hierarchical cluster analysis. The results indicated that the four-cluster solution was the most balanced and stable after ordering the cases in different ways, since this analysis can be sensitive to the case order (IBM, 2020). Figure 22 shows the resulting dendrogram.

Figure 22. Dendrogram of the hierarchical cluster analysis



These four clusters showed significant differences in all the indicators except KM6, about sustainability (see table 34) which confirms the existence of at least four different “research” traditions regarding the stakeholders’ role in the research process and knowledge mobilisation.

Table 34. Significant differences among the four research traditions regarding the Knowledge Mobilisation

Medians					Significance of differences between profiles						
	cluster				Kruskal-Wallis	Pairs comparison					
Indicator	CI1	CI2	CI3	CI4		1-2	1-3	1-4	2-3	2-4	3-4
OP	3	2	3	3	99%	95%	NO	NO	99%	99%	NO
KM1	2	2	5	6	99%	NO	99%	99%	99%	99%	NO
KM2	2	2	3	6	99%	NO	NO	99%	NO	99%	99%
KM3	3	2	3	6	99%	NO	NO	99%	NO	99%	99%
KM4	3	2	3	6	99%	NO	NO	99%	NO	99%	95%
KM5A	3	2	5	6	99%	NO	99%	99%	99%	99%	NO
KM5B	6	2	6	6	99%	99%	NO	NO	99%	99%	NO
KM6	3	3	3	3	NO	NO	NO	NO	NO	NO	NO

We then classified the research profiles according to the independent variables used in the study: area and type of research, as well as the country of the research group. To do this we calculated contingency tables with the chi square tests and the likelihood ratio (which we considered when the observed frequencies were lower than 5) based on the research group's classification or profile and the variable considered. The results show type of research (basic/applied) as the only independent variable associated significantly (99%) with the profiles. Thus, basic research is the characteristic of clusters 1 and 2, while applied research is characteristic of clusters 3 and 4.

The four clusters are therefore characterised as follows:

Cluster 1. Disseminator groups. 34 cases (31.8%). These are basic research groups. They have vague definition of their stakeholder groups, and take them into account only at the dissemination phase, using different channels to be sure that the stakeholders receive them. They could be described as groups that do research aware of the importance of the results for the society and disseminate them in different channels.

In the case of the SP21LB5 research group, the stakeholders are vaguely defined, and researchers take into account the stakeholders in two lines of the research. On the one hand, in the analysis of B Corps or B Corporations. In this case, they take into account the social and environmental impact they generate in order to generate a positive impact. On the other hand, in the direction of Doctoral thesis on banking risks. They study the impact of climate risk on banking risk.

In the analysis of B Corporations, the companies are direct stakeholders (about 200 in Spain) and administrations are indirect stakeholders.

In the direction of doctoral thesis on banking risks, stakeholders participate directly as supervisory entities of the banking system (European Central Bank or Bank of Spain), and stakeholders participate indirectly as banking entities and society in general.

Cluster 2. Isolated groups. 25 cases (23.4%). These are basic research groups. They have not or just a vague definition of their stakeholder groups, and as a consequence they are not considered at any moment in the research. They could be described as groups that do research with the scientific impact of their results in mind.

In the SP02EB4 research group, two main lines of research have been studied. On the one hand, for many years they have been studying computer-aided design. On the other hand, a second line of research, which the interviewee considered more important, is modelling from sketches (the computer being able to understand freehand drawings). In their research, stakeholders do not participate or, if they do, they play a passive role under the orders of the research group. They follow instructions. There is no interaction between researchers and participants. For example, conducting a mass survey or collecting samples and emailing them to the research group. For this reason, they do research thinking about the scientific impact of these results, and do not think about the impact of their research on their stakeholders.

Cluster 3. Transference groups. This third cluster also includes 34 groups (31.8%), mainly carrying out applied research. They have well defined stakeholder groups and they participate in the definition of the problem as well as in the dissemination as co-authors. That is, these research groups want to answer specific problems from specific stakeholders, and count on them at the beginning of the research process. Once the

problem is defined, the stakeholders disappear from the process until the dissemination stage, where they come up again as co-authors. Research groups in this cluster also disseminate their results through various channels with a clear intention to educate their stakeholders.

In this case SP12AA8, the central themes of the research are sexual diversity, community music and inclusion in schools. In this sense, the group is organised around two main axes. On the one hand, research on inclusion, peer learning and affective-sexual diversity.

The stakeholders participate in the definition of the problem and then they disappear from the process until the dissemination stage. Teachers, as stakeholders, take part in this phase, through the publication of articles and books. The stakeholders who have participated in the research are acknowledged in the publication. In the case that they have had a strong influence, they are co-authors. In addition, the results are disseminated indirectly through the creation of didactic material and new topics in the school curriculum.

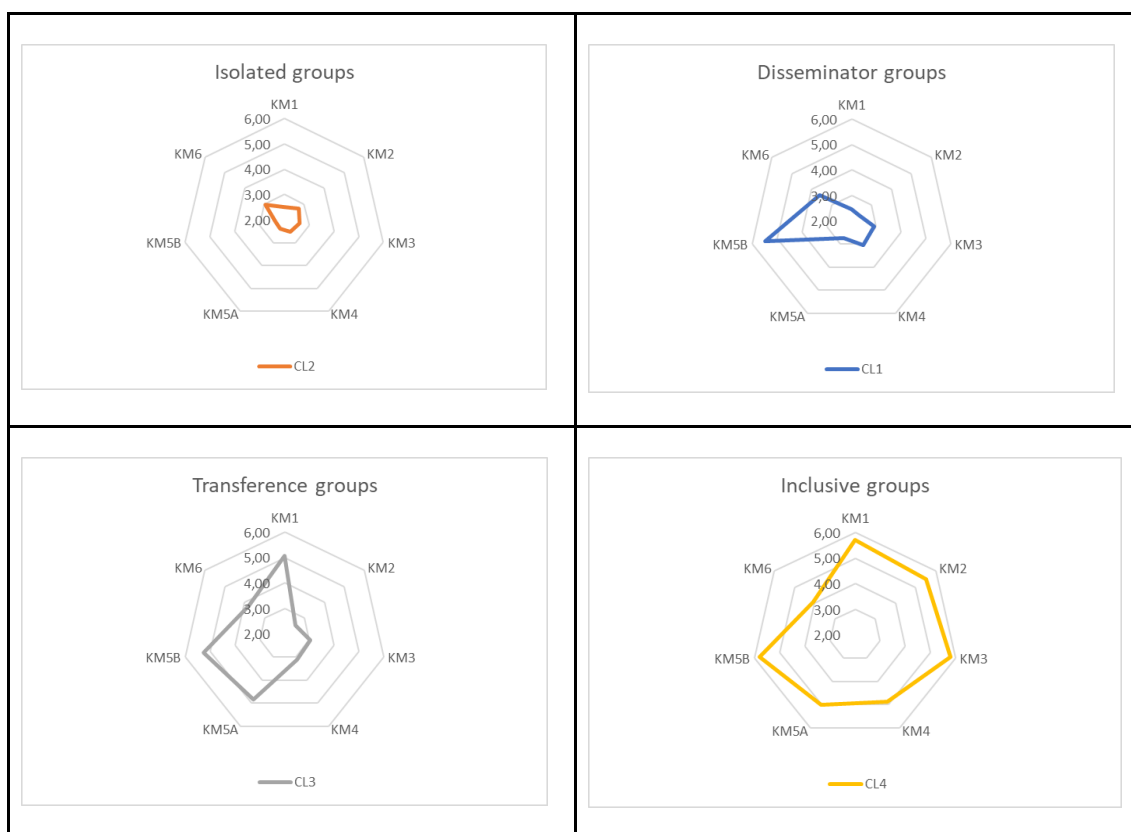
Cluster 4. *Inclusive groups.* This last group comprises 14 applied research groups (13.1%). Stakeholders are well defined and participate actively throughout the research process. This participation has a clearly emancipatory purpose. However, these research groups coincide with the other clusters in that they seem to be unconcerned about the sustainability and use of their results beyond the duration of the project.

The SP28LA8 research group focuses mainly on three lines: inclusive education, intercultural education, and the socio-community approach to education.

This research group involves the stakeholders in all phases of the research process. The problem is chosen through a participatory social diagnosis, the stakeholders are involved in carrying out the research methodology (IAP). Therefore, the stakeholders appropriate the tools provided by the research group and make decisions. The analysis of data is the most complex phase to share. However, the information collected is returned and also analysed jointly, so the stakeholders also participate in getting the results. Regarding dissemination, the researchers have the obligation to carry out scientific production both as part of the project and as part of their university career. However, they also disseminate at a more accessible level so that it can reach people interested in these topics, as well as being useful for the people involved in the process. Sometimes, in the dissemination part, the teachers of the schools or even the families participate in this phase through congresses, training and school networks. After this dissemination, there is no follow-up of the results or a sustainability plan, the research group considers that the research has finished.

The differences between the four profiles are seen clearly in Figure 23:

Figure 23. Graphic depiction of the four research profiles according to the results of the cluster analysis



Finally, we ran a stepwise discriminant analysis to discover if the KM indicators are good predictors for classifying research groups by profile.

The results show that the indicators have very high discriminatory power, with 95.3% correct classification (Table 34); the indicators that best discriminate between profiles are presented in Table 35, together with the Fisher classification functions.

Table 35. Percentage of correct classifications and total correctly classified cases determined by discriminant analysis

Cluster	Belong to predicted group				Total
	Disseminator	Isolated	Transference	Inclusive	
Disseminator	34 (100%)	0	0	0	34
Isolated	0	25 (100%)	0	0	25
Transference	2 (5.9%)	1 (2.9%)	30 (88.2%)	1 (2.9%)	34
Inclusive	0	0	1 (7.1%)	13 (92.9%)	14

Table 36. Discriminant variables and function coefficients of the resulting classification (Fisher)

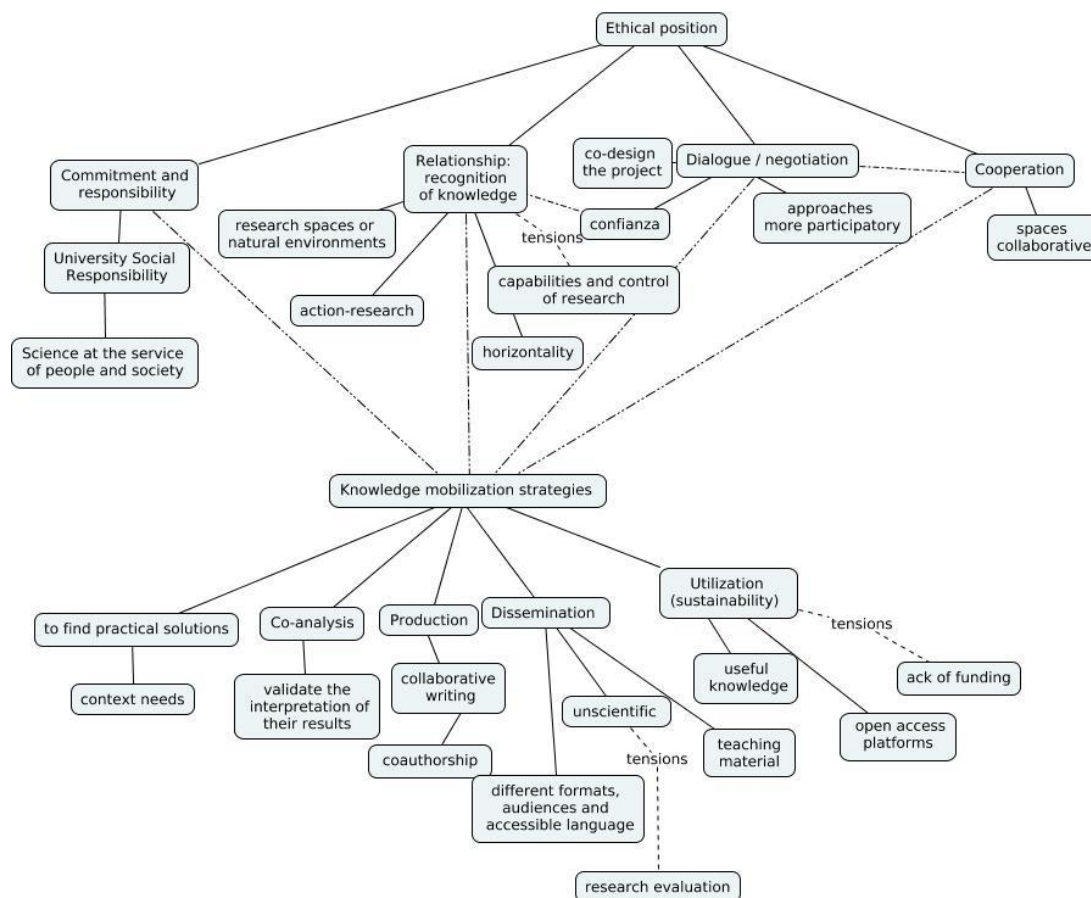
Classification function coefficients				
Indicator	cluster			
	1	2	3	4
KM1	2,203	2,219	5,931	5,948
KM2	1,318	2,246	,792	4,527
KM3	1,198	1,731	1,148	3,858
KM5A	,972	1,316	3,155	2,924
KM5B	5,886	1,679	5,264	4,903
KM6	-,024	-,070	-,982	-1,643
(Constant)	-24,807	-12,943	-38,790	-60,136
Fisher's linear discriminant functions				

4.2. QUALITATIVE APPROACH

The thematic analysis of the 107 interviews conducted with the research groups participating in the project makes it possible to describe the strategies implemented by the 14 groups that mobilise knowledge throughout their research with an inclusive ethical perspective. This analysis has also highlighted some of the barriers that these groups encounter when implementing these mobilisation strategies.

The following map shows the system of categories and the relationship between emerging themes.

Figure 24. Map of categories. Knowledge mobilisation strategies in research



Stakeholder identification: Who is the research for?

Inclusive research groups have clearly and concisely identified their direct and indirect stakeholders. The research groups make explicit who the beneficiaries of their projects are, from local, regional or national public administration, public and private companies that require R&D for their development and innovation of processes and products, specific social groups: teachers, dementia patients, students, LGBTI groups, communication professionals, jurists, abused minors, cultural entities and local associations, rural youth, educational communities.

These groups make their social responsibility explicit through research, when they consider which groups their research will serve and are aware of the ethical and social repercussions of their projects:

“The researcher argued that carrying out is a manifold process, oriented towards several perspectives. Choosing the research problem is the most important. They try to do relevant research, actual and visible at international level. They try somehow to align themselves with what exists at international level and somehow that would be the main reason why they choose our research topics. Discussing with various stakeholders is also pivotal. By doing so, the group is able to identify needs and make their research relevant. The third aspect they consider is the impact that the research topic they choose has. This is a

consequence of the first two because if a research topic relevant worldwide, then there are social and economic actors that are interested in that subject. Basically, it already embeds impact and relevance". (R007EA6)

Groups that mobilise knowledge in their research not only clearly identify who they are researching for, but also understand that they are targeting groups that are in a position of inequality in a range of services, for example the digital divide in rural areas, or address contemporary concerns such as recycling and microplastics.

Situated knowledge

Aware of their social and ethical responsibility in their research and having identified the beneficiaries of their research, the research groups approach their projects from their own social context. The research problem is posed jointly between researchers and stakeholders so that it can have a positive impact not only on the participant group, but also on other indirect groups with a wider social impact.

Starting from the context

The knowledge mobilisation strategy when formulating research problems and objectives is either to start from a practical problem or to start from the needs identified in the research context between the research group and the participating stakeholders:

"We do not only solve the specific problem that can be quite clear. We can draw some conclusions, lessons, being able to turn it into a more general problem that can be applied in other areas". (R007EA6)

Also, in the research design, the research tasks are brought closer to the everyday tasks of the participants, so that it makes sense within their professional profile:

"To get to know and have an indirect access to what was going on and what opinions there were the research group did interviews and focus groups in the previous project. During the project, there were some focus groups or interviews to obtain information they needed at a specific moment. When the mediators finished a mediation, they filled in a form with a series of more or less closed items and there was also a section where they described their experience. They were also at the meetings". (SP24LA3).

Recognition of diverse knowledge vs. expert knowledge

Inclusive stakeholder participation is based on an ethical view of their contributions: their knowledge and insights are recognised and their point of view is fundamental to the formulation of research problems. The reality is understood as complex and the impact it will have on its implementation is taken into account:

"As this is action research the stakeholders are a fundamental part of the process, where their role is to contribute their knowledge and views, as well as those of the research group."(SP24LA3)

From this recognition of knowledge, the mobilisation strategy is co-research, especially in participatory methodological designs in which they contribute practical

knowledge, are co-owners of the data or involve new stakeholders such as students or public administration:

"The handling of research data needs to be done in a participatory process. Different research groups and stakeholders groups are seen as "learners from each other's". (AT13EA04)

Thus, groups that share roles in this design phase with stakeholders try to balance the power relations between researchers and stakeholders.

Thus, in the data analysis phase, the groups mobilising knowledge validate the interpretation of their results from the stakeholders' point of view:

"The responsibilities are divided according to partners' skills and expertise. Some of them did the systematic literature review, others analysed the data collected through the questionnaires, others analysed the testing data." (RO10EA10)

However, it is in the phase of design, data collection and especially data analysis that researchers have the most dilemmas regarding expertise, technical skills and control of the research, with respect to stakeholder involvement:

"In practice, research usually leaves that part in the hands of the expert in that field, but of course in agreement with the whole research group. In the case of qualitative research, there may be more than one person doing the analysis, but in quantitative research, it is usually just one person." (SL01AA6)

"The rules of the game and the final decisions are made by researchers based on know-how and expertise, but in the whole process of analysis, through discussion, brainstorming, critical and useful opinions are obtained from stakeholders, which are incorporated into the final results and ways of applying the results." (RS17EA10)

This is one of the barriers perceived by the researchers themselves in the design of the research and which in many cases conditions the inclusive participation of stakeholders. Co-research does not always take place in this phase, which is considered more technical and reserved for academic researchers.

On the other hand, it is in the dissemination phase that the strategy of co-research is most prevalent, in the form of co-authorship of open-access materials:

"The mediators have been part of the elaboration of the book, co-authoring two of its chapters (reproductive health and mental health)." (SP24LA3)

"Stakeholders are well defined, they are not seen as respondents or passive participants in the research process, but as active individuals who act as co-creators of the research". (SL11AA80)

Collaborative work

Based on the recognition of the diverse knowledge for co-research, the groups that mobilise knowledge work together in the formulation of the problem, so that it can

have a positive impact not only on the participating interest group, but also on other indirect groups and with a wider social impact.

The strategy for joint problem formulation is to create collaborative spaces, where different participants contribute their ideas and decisions are made:

"Through the Centre's sustainable partnership with stakeholders, their full involvement in defining research problems, new ideas and opportunities for wider application of research results are identified". (RS14EA5)

In research design, inclusive groups co-design the research process, i.e. stakeholders are involved as co-researchers, in order to improve their initial situation by empowering them.

Negotiation is the strategy for co-designing the project, bringing different points of view and analysing the impact of the design in the real context of implementation.

"As a complement to the "main" research group, they discuss about the problem, propose new ideas, help to prepare the methodological framework, etc." (SL10LA9)

Methodological designs are moving towards more participatory approaches, in which negotiation is an inherent part of the method as a democratic and transparent process of doing science. The choice of certain methodologies also implies the possibility of extending this collaboration to the analysis itself, connecting with the interests of the participating group (AT08EA12).

The knowledge mobilisation strategy for this collaborative data analysis is to take part in the research team meetings, in which tasks are shared as a mixed group or spaces are created to give voice to the interest groups:

"They participated in the meetings by presenting the information collected and analysing it together with the research group. They had regular meetings and information was passed on to them, and sometimes they also met together with the health staff. In one of the hospitals, a joint committee was set up, called the intercultural health mediation committee, which works together".(SP24LA3)

"Questions and dialogue with all stakeholders bring new ideas on data collection and processing. Stakeholders had a specific space to create their own exchange, the research team only participated and did not lead." (AT12EA04)

In the research dissemination phase, the knowledge mobilisation strategy is the collaborative writing of dissemination articles, with accompaniment by the researchers: *"Usually, a business partner is needed to develop the product. In terms of publishing the results, we are all interested in co-authoring papers. This leads to increased visibility and impact". (RO10EA10)*

Each member contributes their expertise and this makes the dissemination strategy more effective.

Communication strategies

Communication has a specific weight in the mobilisation of knowledge. It is in the dissemination phase that they are best explained. The key strategy is to consider different formats, audiences and accessible language:

"This part of the research involves all researchers and stakeholders. They always try to create infographics that are then disseminated on social media platforms for the general public, at conferences, and then consider scientific articles." (SL10LA9)

In terms of research dissemination channels, scientific journals in open access format are cited as a priority channel. They also use non-scientific media such as interviews in the media (press and radio), social networks (Facebook, Twitter, YouTube), fairs, talks in associations, in schools, with families, congresses, specialised seminars, dissemination conferences, dissemination forums, websites of research groups or international organisations, open access publications, dissemination and training materials (reports, documentaries, teaching materials), university teaching, training spaces, etc.

The aim of these mobilisation strategies is not only to inform, but also to enable stakeholders and empower them to use the results to improve their initial situation. In fact, they consider that returning research results is not only a moral and social obligation, but also gives meaning to their projects

"Scientific journals are important, but you have to take into account that not everybody reads them". (SL10LA9)

Inclusive groups in the use of communication strategies are aware of the ethical obligation to bring research (especially basic research) closer to the public, but they encounter barriers to using alternative channels to disseminate research financed with public funds. There does not seem to be much time or communication culture for participatory dissemination. The research evaluation criteria put researchers in a dilemma:

"The timeframe of the project and a limited budget dedicated to dissemination activities". (RO10EA10)

Training strategies

Alongside communication strategies, a second group of mobilisation strategies link research with training, specifically in the dissemination and sustainability phases.

One of the strategies is the joint organisation of specialised seminars and other types of events:

"We do it mainly through articles in scientific journals, conferences, workshops, and other scientific events. It is related to the nature of the profession, to the way in which we are evaluated. We must publish in journals with high impact factors, with international visibility and we somehow disseminate this way. In the process of dissemination always appear data models that need to be simplified." (RO07EA6)

Another strategy is the creation of materials and courses based on the results, linking university training and teaching with research for the mobilisation of knowledge:

"Since the orthopedists with whom the researchers of the Centre conduct research, they are also engaged at the Faculty of Medicine as lecturers in medical studies and doctoral studies, and as researchers, they are involved in the joint dissemination of research results." (RS14EA5)

Create spaces for dissemination, training and sustainability of research, generate learning and bring society closer to science in order to raise awareness and sensitise citizens:

"The problems of energy, energy efficiency and environmental protection are the problems of the whole society and each individual, so that solving these problems and disseminating the results by stakeholders and researchers raises awareness in the wider community. In addition, the reputation of stakeholders and researchers as actors in solving social problems is raised." (RS17EA10)

Use of knowledge: towards empowerment

Both the collaborative work strategies and the recognition of diverse knowledge generate empowerment in the use of the methodological tools by the participants, who appropriate this knowledge to generate new knowledge:

"The interest group appropriates those tools that the research group provides and they have decision-making power. Sometimes the interest group raises certain aspects to collect information that had not been considered". (SP28JA8)

Participating in the research process, from the formulation of the problem to the dissemination and sustainability of the results, implies an impact and transformation in the lives of the people who have been involved in the research process:

"Sometimes the teaching staff of the schools in which they do the research, or even the families, participate through congresses, other training, through networks in which information is shared in other centres, because they consider that the dissemination also "belongs" to them". (SP28JA8)

In short, the groups that mobilise knowledge through inclusive participation are clear that dissemination takes place throughout the research process and that the aim is to empower stakeholders to transform their reality:

"Stakeholders actively participate because the research includes their training in the application of scientific results and standards (ADR, RID, UNEC, etc.). The design requirements, space and conditions of use, maintenance and repair of vehicles are adjusted." (RS18EA20)

Disseminating the projects by diversifying the channels aims to reach the maximum number of people, to generate culture and transform society:

"In biomedical and bioengineering research, the results of research can be more widely disseminated through joint dissemination, each through its own business and research network. The greatest benefits are for the patients themselves, but also for the

scientific community and medical institutions. Mutual and positive promotion of teams and results is applied.” (RS14EA5)

Sustainability of results is more difficult to envisage among research groups, even those with a more participatory and inclusive profile.

These groups contemplate sustainability plans, i.e. they design an exploitation strategy to use the results after the research, jointly or separately, as co-owners of the results. The utilisation of the research results is facilitated by the research group and the interest group, for end-users and vulnerable groups, with a positive impact on societal problems and environmental protection.

Examples of strategies for the sustainable use of results reported by the participating groups were jointly deciding on the strategic use of results and the scope of results beyond the direct interest group:

“In so-called transfer research an ethical use of research findings is a precondition, which is of central meaning in teacher education. It is important to take the teachers on board in research, they are more involved in research than in development. But in further education for teachers they gain profit from research findings. KPH itself established to specific competence centres to connect research findings with further education of teachers”. (AT13EA04)

To ensure the sustainability of the results, research groups have to apply for new funding, as monitoring of the use of the results after the end of the project is not usually provided for in all calls for proposals.

“The lack of financial resources for the procurement of new equipment and maintenance of existing ones, especially in bioengineering and medicine, is a problem for the sustainability of research, long-term implementation and monitoring of trends.” (RS14EA5)

“The lack of strategic planning in companies, public companies and sometimes public institutions, along with the lack of financial resources for launching projects and better implementation of research results are obstacles to better exploitation and sustainability of research results. The problem is also the discontinuity of policy makers, frequent election processes and changes in management in public institutions and companies.” (RS17EA10)

5. CONCLUSIONS

KMb strategies are not a majority among the research groups interviewed, but they occur in all areas of knowledge, especially in applied research.

5.1. REGARDING RESEARCH GROUPS

We have focused on those researchers who have a responsible conscience and inclusive sensitivity in their research and have focused on strategies to involve stakeholders in all stages of research, from the identification of beneficiaries to plans for the sustainable use of results. The results show that, throughout the research process, groups that mobilise knowledge through inclusive participation start from a situated knowledge that addresses the problems and needs of the context and recognises, integrates and involves different knowledge, in a continuum that goes from valuing their contributions to co-research. This involves not only a discussion of the content of projects, but also the creation of safe spaces of mutual trust (Skipper & Pepler, 2021), taking into account researcher-user relationships, context, types of knowledge and the evaluation of knowledge mobilisation (Powell et al., 2018, p. 13). The results of the study that value the recognition of knowledge, dialogue and cooperation are in line with the work of Borri-Anadon et al. (2020) who consider them to be characteristic of an emancipatory stance adopted by research groups that develop inclusive research. The groups generate shared work and dissemination spaces, negotiate and make decisions in the process, write collaboratively and share authorship. Therefore, from an inclusive perspective of knowledge mobilisation, the rebalancing of power in relationships towards greater horizontality and the co-creation of knowledge is not a technical issue but a political, cultural and ethical one (Ribeiro et al., 2018).

In relation to knowledge mobilisation strategies, collaboration between researchers and participants to find solutions to real problems is also defended in the works of Briscoe et al. (2015) and Holmes et al. (2017). Regarding the data co-analysis and joint dissemination strategies that appear in the results, they are strategies that Laundry et al. (2008) call interaction strategies, i.e. they involve personal and multidirectional relationships. In relation to joint and diversified dissemination strategies, Moliner et al. (2020) point out that these are strategies for the democratisation of knowledge that move away from a hierarchical way of understanding knowledge and advocate more accessible and committed to change. Diversifying formats and audiences, sharing events and developing joint products are active mobilisation strategies, which, according to the literature, have much more impact than passive ones, as stakeholders take the initiative (Cooper et al., 2018). In fact, these strategies have a fundamental educational component: educational materials and spaces are created from which to raise awareness, sensitise and generate participatory, scientific culture and transformation of reality. Thus, the study by Gunson et al. (2021) shows the change in attitudes of young people after a KMb programme on climate change and Baranek et al. (2021) show that knowledge mobilisation strategies connect social transformation with the improvement of research and professional practices.

In terms of the sustainable use of the knowledge generated, it is all of the above strategies that lead to empowering and critical learning for both researchers and participants. According to Naidorf & Alonso (2018) it is a process of acquisition, interpretation, appropriation and effective use, which mobilises and transforms the people who participate, their communities and can have a social impact in other contexts.

However, this inclusive and responsible approach to research is not without its tensions. Researchers recognise the difficulty of citizen participation in all types of projects and in certain phases of research, in which expert knowledge remains in the hands of academics and certain methodologies, data analysis or scientific publications are not conceived or value a type of research that is closer to society. In Cooper et al.'s (2018) study in Canada, researchers also acknowledge that they do not invest much time in creating connections with their audiences because of the need to intensively produce high-quality research. Hence, in order to make research more accountable and accessible, the emphasis is not only on expert knowledge but also on democratic decision-making on issues considered highly technical. This strains the ethical and epistemological positioning of researchers (Lundström et al, 2017).

5.1.1. RECOMMENDATIONS

More and more researchers are becoming aware of the need for responsible and inclusive research, but few are introducing knowledge mobilisation strategies, particularly in applied research, where it seems easier to engage with society. It would be advisable to raise researchers' awareness of the concept of inclusive research and to share and generate new mobilisation strategies. This training for researchers themselves would connect with university teaching and citizen science training, which would provide the means for citizens to participate in democratic decision-making on contemporary scientific-technological issues. This would generate networks between different institutions and researchers and give the possibility to create spaces for discussion between students, teachers and researchers on inclusive and responsible research (Levinson, 2017). It could be advisable to identify the direct stakeholders in order to take them into account in the research process as active and responsible participants.

5.2. REGARDING RESEARCH POLICY

Research groups report tension between the principles of USR and research evaluation criteria. They feel the pressure of time and requirements to research and publish, against stakeholder engagement. Naidorf & Alonso (2018) alert us to the difficulty of changing knowledge mobilisation practices if the conditions under which knowledge production processes take place are not made visible. The responsibility that research groups manifest in their mobilisation practices also strains the concept of science, the inclusive objective of research, as well as the sustainability of the results and their

strategic use. Criticism of European research and innovation policies focuses on questioning the priority objective of offering more products and services to markets and economic growth as the only goal (Burget et al., 2017). Therefore, it is necessary to analyse the capacity of public policies in scientific research to mobilise knowledge in terms of agendas, the evaluation of research (and the industrialisation of scientific work) and the use and usefulness of knowledge in complex societies (Naidorf & Alonso, 2018).

5.2.1. RECOMMENDATIONS

Therefore, the implication is not only the transformation of the research culture in research groups, but for knowledge mobilisation "to become a tool for democratisation and social inclusion, it is necessary to promote a transformation in individuals and organisations" (Perez et al., 2018, p. 108). This is a cultural change that is embodied in plans, programmes and public research policies, in which participation and inclusion are supported by public funds and the management and evaluation of research. The mobilisation strategies analysed in this study provide us with good examples of the viability of this coherent approach to USR and alert us to the need to continue deepening the reflective and critical discussion on inclusion in research (Burget et al., 2017), based on sustainable development objectives (Van't Land & Herzog, 2017).

The impact of this study on researchers, participants as administrators and funders focuses on making visible and critically analysing knowledge mobilisation strategies to promote improvement actions in university research contexts. Following the proposal of Holmes et al. (2017) the actions derived from our study are: the development of knowledge co-creation models and the establishment of shared evaluation systems; favouring and promoting distributed leadership and contributing to science as knowledge for situated action. Finally, it is necessary to generate a communicative culture and provide resources for transformation.

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7. APPENDIX A

7.1. DOCUMENT A. INTERVIEW TEMPLATE

INTERVIEW FORM



**Inclusive Responsible Research. Knowledge Mobilisation and University Social
Responsibility
2020-1-ES01-KA203-081978**

O1. KnowledgeMobilisation Reports

INTERVIEW FORM

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1. Introduction

From an ethical perspective, **University Social Responsibility** in the field of research implies analysing the way in which the university manages the impact of its research, considering its mission of service to society, both from the choice of the problem to be researched and the final knowledge produced and its distribution.

In this sense, university research has an **inclusive component**, which means proposing the democratisation of the research process and understanding the researcher committed in collaboration with other community agents to identifying, analysing and solving the problems of their environment, from methodological approaches that are accessible and open to different perspectives and voices. It is committed to the fight against inequalities and social transformation for equity and social justice, and therefore mobilises knowledge, promoting parochial and emancipatory citizen participation, based on a shared construction of knowledge in the research process.

Therefore, one of the inclusive research strategies is the **Knowledge Mobilisation**, understood as a wide range of activities related to the production and use of research results, which is multidimensional and multidirectional. It includes the synthesis, dissemination, transfer, exchange and co-production of knowledge between researchers and users of knowledge. It combines the sources of knowledge and the beneficiaries of that knowledge to move interactively in a common direction.

Aim of the project: The main aim of this project is to describe the strategies and roles used by the research groups to mobilise the knowledge generated in their projects and to contrast it in the national and international university environment. Its aim is to generate diagnostic instruments and guidelines for improvement under an inclusive approach, within the framework of University Social Responsibility.

Objective of the interview: To learn how the research groups carry out their research process (from a participatory and ethical perspective), to identify (indicators) and describe the strategies for mobilising knowledge developed by the groups in their research projects.

The **Focus of the interview** is the last research project developed by the interviewee. If this project is out of range of their usual projects, he/she should choose another more representative of the group.

Informed consent: the interviewee will sign the informed consent before starting the interview. He/she will be informed also that the interview will be audio-recorded

2. Identification variables

In order to identify correctly the different interviews, as well as consider the relevant variables that can highlight different profiles, we need collecting the following information:

CODE	N-AREA-TYPE-NUMBER OF RESEARCHERS
N. of interview (N)^[1]	COUNTRY-NUMBER
Group name	
Interviewee	
Interviewer	
Date, time of interview & duration	

GROUP INFORMATION:

Area of research ^[2] :	
Type of research ^[3] :	
Number of researchers:	
Number of men:	
Number of women:	
Years of activity in research	

3. Factors

Interview form is built following the key elements from the Inclusive Research: the **participatory and the ethical perspectives**. Both factors help us to develop the questions that will allow us to establish the score in the indicator.

The **participatory factor** refers to facilitate the **participation of interest groups in the different stages of research**, generating spaces for dialogue and distribution of responsibilities and leaderships, building a common language and giving value to knowledge that is different from scientific knowledge.

With the **ethical factor** the research group and/or its stakeholders generate internal mechanisms for reflection and review of the ethical implications of each of the stages and decisions developed in the research. Explanation of the ethical implications of why, for what/what is being researched, and what type of relationships are established in the research process between researchers and participants.

The **ethical perspective of participation in inclusive research** aims at social transformation for equity and social justice. Therefore, the mobilization of knowledge favours parochial and emancipatory citizen participation, from a shared construction of knowledge in the research process.

4. Summary of Factors and Indicators

	PROBLEM	DESIGN	COLLECTED	ANALYSIS	DISSEMINATION	EXPLOITATION
Participatory perspective Incorporation of stakeholders in research Indicator 0P 1. Does not explicitly define stakeholders 2. Define the groups in a generic way 3. Direct and indirect stakeholders are clearly and concisely defined	Indicator 1P 1. The research group defines it unilaterally 2. The direct stakeholder, as the only beneficiary, poses the problem to the research group 3. The direct stakeholder and research group together pose a problem from which not only the direct stakeholder benefits	Indicator 2P 1. Stakeholders do not participate 2. They are informed but not able to make decisions 3. It is designed jointly	3P indicator 1. Data collection is only carried out by the research group without interaction with the stakeholders 2. The research group collects the data by interacting with the stakeholders 3. The stakeholders share data collection with research group	4P indicator 1. The stakeholders do not participate 2. The stakeholders do not participate in the analysis, but can provide feedback at the request of the research group 3. The stakeholders analyse collected data together with the research group	Indicator 5P.A 1. The stakeholders do not participate 2. The stakeholders support dissemination process initiated and implemented by the research group 3. The stakeholders participate as co-authors in the different dissemination strategies Indicator 5P.B 1. Scientific channels 2. Open access and non-scientific channels on an ad hoc basis 3. Various scientific and non-scientific formats	Indicator 6P 1. There is no exploitation strategy 2. There is a general plan for exploitation, but it is vague and not specifically detailed 3. There is a well-defined strategy for exploitation of results

Ethical perspective	Indicator 1E	Indicator 2E	Indicator 3E	Indicator 4E	Indicator 5E.A	Indicator 6E
Justification for participation and purpose of research	1. Not applicable 2. Instrumental ethics 3. Inclusive ethics	1. Not applicable 2. Instrumental ethics 3. Inclusive ethics	1. Not applicable 2. Instrumental ethics 3. Inclusive ethics	1. Not applicable 2. Instrumental ethics 3. Inclusive ethics	1. Not applicable 2. Instrumental ethics 3. Inclusive ethics	1. Not applicable 2. Instrumental exploitation 3. Inclusive exploitation
					Indicator 5E.B 1. Not applicable 2. Instrumental Dissemination 3. Inclusive Dissemination	

5. Interview questions

Context of research

Interview questions	1. Tell us about your research. What does it involve? Which are the topics, lines of research, projects... in order to understand it and contextualise the interview questions. 2. How do you think your research is linked to the concept of University Social Responsibility? 3. Now, focus on the current project you are carrying out, or if it is not representative of your research lines, choose one that could be a good representative. 4. What is it about?
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Section 0. Stakeholders[4]

Indicator Levels	Level 1. Stakeholders are not explicitly defined and identified. The researcher group investigates only what they are interested in, without worrying about the recipients of its results. This can seriously affect the ethical implications of the research. Level 2. Diffuse definition of stakeholders, such a society, companies, professionals and similar, without delimiting specific groups in these fields. It does not distinguish between direct and indirect stakeholders, beneficiaries or participants. In these cases, the research group investigates what they are interested in, and makes explicit who can benefit but their personal interest prevails over the repercussion. When asked who their stakeholders are, their answers would start with: "for example...". Level 3. The stakeholders' role is well defined and corresponds to explicitly specified groups. They clearly distinguish between direct stakeholders (those who order or receive the outcome of the research immediately) and indirect stakeholders (those who can receive the outcome of the research if the necessary conditions are met).
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Interview questions	OP:	1. Who are your direct and indirect stakeholders? 2. Do they participate in your research? 3. Do you have other participants in your research other than stakeholders?
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Section 1. Research Problem

1P. Participatory Perspective

Indicator Levels	Level 1. The stakeholder does not participate. The research only responds to the interest of the research group (due to fashion, scientific relevance, etc.). Level 2. It is the stakeholder that poses the problem to the research group and contracts their services. It is also about the transfer, but the latter must be distinguished from the mere transfer of research results since. In this situation the stakeholder requests the development of a new product, method, etc., which involves a complete research process, not just the application of existing knowledge.
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	Level 3. The research group, in collaboration with the stakeholder, poses a problem that is part of a broader area of social relevance, which has a greater social impact on other groups that can benefit (indirect stakeholders). For example: local development projects or projects for vulnerable groups, which are commissioned by an association (direct stakeholders) but whose result transcends the group itself (indirect stakeholders).
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Interview questions	1P:	1. When a research project is proposed, how does the research problem arise? 2. Who defines the problem? 3. How do you do it?
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1E. Ethical Perspective

Indicator Levels	Level 1. This level will be marked when indicator 1P of the participatory perspective has been at 1 or 2. Level 2. The research group agrees on the problem with the stakeholder for an interested or utilitarian purpose. For example, in educational research, to reach a consensus with the teachers of a school on the research topic to investigate in order to obtain permission to access the centre. In this case, the problem is established by the research group, but they need to agree on some conditions with the school, otherwise, they will not gain them with access to the institution. Level 3. The research group agrees on the research topic with the stakeholder to improve the initial situation with a clear emancipatory intention. For example, in educational research, teachers and the research group will (together) investigate which topics to cover. The outcome will be an agreement between these two parties and will include what is best for the school.
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Interview questions	1E:	When 1P=1 1. Have you considered involving stakeholders? Why not? What barriers have you encountered? When 1P=2 2. Do you consider when defining the problem that it does not only benefit the interest group, but that it may have an impact on other indirect groups? 3. Which stakeholder engagement strategies are developed to define the problem? When 1P=3 4. When the problem is defined, how do you consider the social consequences? 5. could it be a problem that generates social controversy? 6. Do you consider the social acceptability? 7. What is the purpose of involving stakeholders in the definition of the problem and why are they involved in this phase of the research? 8. Which stakeholder engagement strategies are developed to define the problem? 9. What is the co-responsibility of the co-investigator in the definition of the problem and the desired situation?
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Section 2. Research Process

This section has 3 subsections, concerning design, collection and analysis. The questions in the participatory factor are different but, in the ethical factor, the questions are the same for all three subsections. Interviewers should take into account whether the answers in 2P, 3P and 4P are of a different level in order to ask the relevant 2E, 3E, or 4E questions in each case.

2P. Participatory perspective in the Methodological Design

Indicator Levels	Level 1: The stakeholders do not participate. Level 2: The research group, when designing the research methodology, counts on the stakeholders as advisors but without decision-making capacity (e.g. having an Advisory Council made up of user associations, which are consulted on different aspects of the design). Level 3: When designing the research methodology, the research group counts on the stakeholders as co-researchers who make consensual design decisions (e.g. in biological research on pollution, researchers and stakeholders select methodological tools for sample collection and analysis that are accessible and understandable to all).
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Interview questions	2P:	1. When defining the stages and methods of the research, who is involved? 2. In what way?
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3P. Participatory perspective in the Data collection

Indicator Levels	Level 1: Stakeholders do not participate or if they do, they play a passive role under orders of the research group. They follow instructions. There is no interaction between researchers and participants. For example, undergoing a mass survey or collecting samples and sending them by email to the research group. Level 2: Stakeholders and the research group interact at the time of data collection. For example, an interview is conducted instead of a questionnaire, or in addition to collecting a sample, the researcher asks the person who has collected the sample for some kind of feedback. However, in either case, the “power” remains with the research group. Level 3: Stakeholders and research group participate in collecting the data, sharing roles. The power relations between researchers and stakeholders are discussed and balanced (for example: interviewing each other or making observations as co-researchers).
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Interview questions	3P:	1. Who is involved in the data collection? 2. Is there active participation beyond informed consent? 3. How?
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4P. Participatory perspective in the Data analysis

Indicator Levels	Level 1: Stakeholders do not participate in the analysis, they can only access the data like the rest of the society. Level 2: Stakeholders do not analyse, but the research group may require some form of review on their part. For example, when reporting on an interview they ask the interviewee to review the summary for any errors. The power remains with the researcher. Level 3: Research group and stakeholders analyse the collection of data on an equal footing jointly or separately. Both parties share the ownership of the data.
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Interview questions	4P:	1. Who participates in the analysis of results? 2. How do they do it? 3. If different actors are involved, which mechanisms do you use to coordinate or plan the analysis?
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2E-3E-4E. Ethical perspective in the Research Process

Indicator Levels	Level 1. This level will be marked when indicators 2P, 3P or 4P of the participatory perspective have been 1 or 2. Level 2. The research group counts on and interacts with the stakeholders for questions of research need. For example, in the information collection phase, use the stakeholders itself to collect information as co-investigators with the intention of obtaining more data or saving on staff costs. Level 3. The research group counts on the stakeholders as co-investigators, to improve their initial situation and even empowering them. For example, in the information collection phase, while conducting interview, they will encourage interviewees to reflect about the content of the interview. Another example, could be to participate in the collection of environmental samples to raise awareness of environmental preservation.
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Interview questions	2E: 3E: 4E:	When 2P, 3P or 4P = 1 1. Have you considered involving stakeholders? 2. Why haven't you done (yet)? 3. Which barriers have you found? When 2P, 3P or 4P = 2 4. In the participation of stakeholders, do you think it would be possible to increase the degree of participation? For example, collaborating in the decision-making process in the collection or analysis of data? When 2P, 3P or 4P = 3 5. What are the reasons for involving stakeholders in the research process and what is the purpose of doing so? 6. Is the relationship between researchers and participants one of parity and reciprocity? 7. Who determines the rules of the game in research? 8. Who makes the decisions? 9. Why? 10. How do the people involved in the research process feel? 11. How have you considered their feelings? 12. Do you consider the non-discrimination and the prioritisation of values according to power in the research process? In what way? 13. Who owns the knowledge generated in the research and why? 14. Does participation in the research process generate empowerment and agency for change in the participants? In what way? 15. Do you provide the participants with tools and training to enable them to participate in the process as co-investigators? 16. Can the impact of research help to counteract mechanisms of exclusion in interest groups?
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Section 3. Dissemination

5P.A. Participatory perspective

Indicator Levels	Level 1: Stakeholders do not participate in dissemination strategy. Level 2: Stakeholders agree that the research group disseminates the results and assist them in their initiatives, but they are not proposers. Level 3: Researchers and stakeholders disseminate generated knowledge in different ways in line with defined dissemination strategy, as they are co-owners, therefore, they can disseminate jointly or separately. Even stakeholders could provide their reflections on the process and empower researchers to learn and conduct more inclusive research in the future.
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Interview questions	5P.A	1. Who is involved in the dissemination of research results? 2. How do they participate? How is the authorship of research products distributed? 3. How can stakeholders apply the results of the research? 4. Which parts of the process do you disseminate? Only the results or also different phases of the process? 5. Are the results offered already elaborated or do they offer spaces and strategies for stakeholders to "appropriate" the generated knowledge? 6. Do you create common communication spaces and languages to share the research with the different interest groups? 7. How do you ensure that these results are sustainable over time?
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5E.A. Ethical perspective on dissemination

Indicator Levels	Level 1: This level will be marked when indicator 5P.A. of the participatory perspective has been 1 or 2. Level 2: Dissemination is carried out jointly because it is a condition for publication, or because the research group has more visibility of their research outcomes. In any case, other interests prevail that are not related to the conviction of co-ownership of the results or the process. Level 3: Dissemination is carried out jointly because researchers and stakeholders are co-owners of the entire research process and therefore co-responsible for dissemination or outreach.
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Interview questions	5E.A:	When 5P.A=1 1. Have you considered involving stakeholders? 2. Why not? 3. Which barriers have you found? When 5P.A=2 4. Have you considered disseminating the results together? 5. If not, why not? 6. Which are the barriers? When 5P.A=3 7. Why do you choose to share the dissemination with stakeholders? 8. What is the reason or objective? 9. Which benefits do you find? 10. Which problems do you find in this shared dissemination?
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5P.B. Participatory perspective on the dissemination channels.

Indicator Levels	Level 1: Dissemination in High-impact scientific journals. The highest prestige is sought within the scientific community. Level 2: Dissemination in Scientific journals in open access format. Open access is prioritised. There can be some dissemination in social events, but as guests not as hosts. Level 3: The same as on the 2nd level, but adding hosting non-scientific media: interviews, social networks, fairs, etc.
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Interview questions	5P.B:	1. Who are the targets when you disseminate the results? Only the direct groups or also the indirect ones? Which ones? 2. What channels/media are used to disseminate the results? 3. How are responsibilities and tasks in dissemination distributed?
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5E.B. Ethical perspective on the dissemination channels.

Indicator Levels	Level 1: This level will be marked when indicator 5P.B. of the participatory perspective has been 1 or 2. It is disseminated only to expert groups in scientific channels. There are no approaches or reflections on the usefulness of these results for other groups and how to make them available. Level 2: There are informative activities that go beyond the scientific field, but the objective is closer to publicizing the activity of the research group than to making the results accessible to the Stakeholders: news in the press or social networks, radio interviews, the group's website. The objective is informative, not educational. Level 3: The research group disseminates the results in different channels and formats, accommodating their language to the different audiences with a real objective, not only to inform, but to train the stakeholders and empower them in the use of the results to improve their initial situation. For example, exhibitions, workshops, demonstrations, etc.
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Interview questions	5E.B: When 5P.B=1 1. Have you considered publishing on channels other than just scientific ones? Why/why not? 2. Which barriers have you found? When 5P.B=2 3. Why don't you take the initiative to disseminate in non-scientific channels or to prioritize open access? When 5P.B=3 4. Which are the objectives of non-scientific dissemination? 5. Which are the benefits and difficulties of non-scientific dissemination?
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Section 4. Sustainability

6P. Participatory perspective

Indicator Levels	Level 1: Research group does not care about the use of results, they are only interested in the research process and its dissemination. Level 2: The research group does not have a specific strategy, but only a general plan for the exploitation of results without defined intellectual property rights and their exploitation modalities. If there is a strategy for exploiting the results at the level of the institution/research group, the stakeholder does not participate in its implementation. Level 3: Research group and the stakeholder have designed an exploitation strategy to use the selected and agreed results after the research, jointly or separately. In this case, the intellectual
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	property rights between the parties and the ways of exploiting intellectual property are clearly defined. In any case, both parties (researchers and stakeholder) can use the results as co-owners
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Interview questions	6P:	1. Is there a results exploitation strategy? Is a sustainability strategy? 2. Who is involved in the exploitation of research results? 3. What strategies do you develop to exploit the results? How do stakeholders participate in this exploitation strategy?
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6E. Ethical perspective

Indicator Levels	Level 1: This level will be marked when indicator 6P of the participatory perspective has been 1. Level 2: The exploitation of results has only economic or commercial purposes. The use of research results belongs exclusively to the research group, and to stakeholders only on a commercial basis and does not include the needs of wider target groups and the society, as well as end users who would use part of the results for free. Still it is not contrary to ethical standards in research. Level 3: The exploitation of results has a social or environmental improvement purpose. The use of research results is enabled by the research group and stakeholder for end users and vulnerable groups, with a positive impact on the problems of society and environmental protection.
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Interview questions	6E:	When $\delta P = 1$ 1. Have you considered the sustainability of the research results? Why/why not? 2. If there is a sustainability strategy, why do not stakeholders participate? Which barriers have you found? When $\delta P = 2$ If there is no sustainability plan, 3. ¿Why haven't you defined a sustainability plan? 4. ¿Which barriers have you found? If there is sustainability plan, 6. ¿Why stakeholders do not participate? 7. ¿Which barriers have you found? When $\delta P = 3$ 5. How do you understand the sustainability of your research? 6. Why do you think is relevant that stakeholders participate in the exploitation? 7. What are the benefits for stakeholders? And for other groups or society as a whole?
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[1] The interviews in each country will be numbered consecutively.

AT: Austria

RO: Romania

RS: Serbia

SL: Slovenia

SP: Spain

[2]

A: Arts or Humanities

S: Hard Sciences

E: Engineering and Architecture

H: Health

L: Social Sciences and Law

[3]

B: Basic

A: Applied

[4] **Stakeholders:** beneficiaries of the research. This refers to who will benefit from the outcome of the research. They will be direct or indirect. They may or may not participate in the research, so their degree of participation will be measured in the participatory perspective and the purpose and type of participation will be measured in the ethical perspective.

Participants: they can be interest groups or not. Their participation can have different degrees: from passive participation (as a research object), interaction (informative, user, testator), to inclusive participation (as co-researcher).

7.2. DOCUMENT B. CATALOGUE OF INDICATORS

CATALOGUE OF INDICATORS



Inclusive Responsible Research. Knowledge Mobilisation and University Social Responsibility

**Grant Agreement Number:
2020-1-ES01-KA203-081978**

O1. Knowledge Mobilisation Reports

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Introduction

From an ethical perspective, University Social Responsibility (USR) in the field of research implies analysing the way in which the university manages the impact of its research, considering its mission of service to society. Therefore, its purpose is to investigate how the final knowledge is produced and its dissemination.

In this sense, it is essential that the university incorporates, among its strategies for approaching society, the Knowledge Mobilisation (KM), which is understood as a series of activities related to the production and use of knowledge that include strategies for interaction between researchers and stakeholders, ranging from the exchange and co-production of knowledge to its development and shared dissemination.

Furthermore, university research should be inclusive in its approach, process and dissemination, which implies the democratisation of the research process and understanding a researcher as a committed person in collaboration with other community agents who identify, analyse and solve problems of their environment, with methodological approaches that are accessible and open to different perspectives and voices. The use KM is committed to fight against inequalities and social transformation and stands for equity and social justice. KM mobilises Knowledge

emancipatory citizen participation from a shared construction of knowledge in the research process.

2. Objective of the catalogue

The catalogue presented below aims to help universities and research groups to reflect on their research actions, providing indicators that help to establish the strengths and areas for improvement in an attempt to carry out more inclusive research through the mobilisation of the knowledge they generate.

3. Presentation of the indicators

The indicators presented are grouped around two basic factors that define the KM. On the one hand, the Participatory Perspective implies the involvement of stakeholders, both direct and indirect, in the entire research process. On the other hand, the Ethical Perspective, does not only serve the fulfilment of criteria of ethical and deontological approach, but also serves in terms of analysis and reflection on the transformative and emancipatory purpose of research and establishes relationships between researchers and other participants in the research process.

For each of these two factors, a series of indicators are included and run through the entire research process.

For the Participatory perspective the indicators included are presented in an ordinal scale, where the level of participation goes from less to more in each of the stages of the research process. Therefore, we follow the approach to the problem, and the definition of the stakeholders to the communication and dissemination of the results.

For the Ethical perspective, the indicators included refer to the purpose of the research and the justification for participation. The latter is presented on a nominal scale and identifies whether participation is inclusive or merely instrumental.

Each indicator is accompanied by its definition, interpretation criteria and measurement levels as well as illustrative examples where the concept may be confusing.

3.1. Factor 1. Participatory Perspective

To facilitate the participation of stakeholders in different stages of research, we have to consider different perspectives and voices, which are generating spaces for dialogue and distribution of responsibilities and leaderships, building a common language and giving value to knowledge that is different from scientific knowledge. The indicators are developed on an ordinal scale on three levels, which generally correspond to the following values:

Level 1. The stakeholder does not participate. All initiatives and activities are exclusively carried out by the research group.

Level 2. The stakeholder can participate, but only at the request of the research group. The stakeholder has no autonomy or decision-making power. Control of the research is maintained by the research group.

Level 3. The stakeholder and the research group are co-researchers.

3.1.0. Indicator 0. How stakeholders are defined in research.

Definition: Level of stakeholder definition.

Criterion: Ordinal level: The higher score means the better definition

1. The research group does not explicitly define the stakeholder
2. The research group defines the groups in a generic way
3. The research group clearly and concisely defines its direct and indirect stakeholder

Examples:

Level 1. Stakeholders are not explicitly defined and identified. The researcher group investigates only what they are interested in, without worrying about the recipients of its results. This can seriously affect the ethical implications of the research.

Level 2. Diffuse definition of stakeholders, such a society, companies, professionals and similar, without delimiting specific groups in these fields. It does not distinguish between direct and indirect stakeholders, beneficiaries or participants. In these cases, the research group investigates what they are interested in, and makes explicit who can benefit but their personal interest prevails over the repercussion. When asked who their stakeholders are, their answers would start with: "for example...".

Level 3. The stakeholders role is well defined and corresponds to explicitly specified groups. They clearly distinguish between direct stakeholders (those who order or receive the outcome of the research immediately) and indirect stakeholders (those who can receive the outcome of the research if the necessary conditions are met).

3.1.1. Indicator 1P. Research Topic identification/Definition

Definition: Who participates in the definition of the research problem

Criterion: Ordinal level: The higher the score, the higher the participation

1. The research group defines it unilaterally.
2. The stakeholder, as the only beneficiary, poses the problem to the research group.
3. The stakeholder and the research group together pose a problem from which not only the stakeholder benefits.

Examples:

Level 1. The stakeholder does not participate. The research only responds to the interest of the research group (due to fashion, scientific relevance, etc.).

Level 2. It is the stakeholder that poses the problem to the research group and contracts their services. It is also about the transfer, but the latter must be distinguished

from the mere transfer of research results since. In this situation the stakeholder requests the development of a new product, method, etc., which involves a complete research process, not just the application of existing knowledge.

Level 3. The research group, in collaboration with the stakeholder, poses a problem that is part of a broader area of social relevance, which has a greater social impact on other groups that can benefit (indirect stakeholders). For example: local development projects or projects for vulnerable groups, which are commissioned by an association (direct stakeholders) but whose result transcends the group itself (indirect stakeholders).

3.1.2. Indicator 2P. Participatory perspective in the methodological design of the research

Definition: How different stakeholders are involved and how they contribute in the methodological design of the whole research process

Criterion: Ordinal level: The higher the score, the higher the participation

1. They do not participate.
2. The stakeholders are informed, but have no decision-making power.
3. It is designed jointly.

Examples

Level 1: The stakeholders do not participate.

Level 2: The research group, when designing the research methodology, counts on the stakeholders as advisors but without decision-making capacity (e.g. having an Advisory Council made up of user associations, which are consulted on different aspects of the design).

Level 3: When designing the research methodology, the research group counts on the stakeholders as co-researchers who make consensual design decisions (e.g. in biological research on pollution, researchers and stakeholders select methodological tools for sample collection and analysis that are accessible and understandable to all).

3.1.3. Indicator 3P. Participatory perspective in data collection.

Definition: How different stakeholders participate in research data collection

Criterion: Ordinal level: The higher the score, the higher the participation

1. Data collection is only carried out by the research group without interaction with the stakeholders.
2. The research group collects the data by interacting with the stakeholder.
3. The stakeholders share the collection of data with the research group.

Examples

Level 1: Stakeholders do not participate or if they do, they play a passive role under orders of the research group. They follow instructions. There is no interaction between researchers and participants. For example, undergoing a mass survey or collecting samples and sending them by email to the research group.

Level 2: Stakeholders and the research group interact at the time of data collection. For example, an interview is conducted instead of a questionnaire, or in addition to collecting a sample, the researcher asks the person who has collected the sample for some kind of feedback. However, in either case, the "power" remains with the research group.

Level 3: Stakeholders and research group participate in collecting the data, sharing roles. The power relations between researchers and stakeholders are discussed and balanced (for example: interviewing each other or making observations as co-researchers).

3.1.4. Indicator 4P. Participatory perspective in data analysis

Definition: How different stakeholders participate in the analysis of the data.

Criterion: Ordinal level: The higher the score, the higher the participation

1. The stakeholders do not participate.
2. The stakeholders do not participate in the analysis, but can provide feedback at the request of the research group.
3. The stakeholders analyse collected data together with the research group.

Examples

Level 1: Stakeholders do not participate in the analysis, they can only access the data like the rest of the society.

Level 2: Stakeholders do not analyse, but the research group may require some form of review on their part. For example, when reporting on an interview they ask the interviewee to review the summary for any errors. The power remains with the researcher.

Level 3: Research group and stakeholders analyse the collection of data on an equal footing jointly or separately. Both parties share the ownership of the data.

3.1.5. Indicator 5P.A. Participatory perspective in dissemination.

Definition: How different stakeholders participate in the dissemination of the knowledge generated in the research.

Criterion: Ordinal level: The higher the level, the higher the participation

1. The stakeholder does not participate.
2. The stakeholder supports dissemination process initiated and implemented by the research group.
3. The stakeholder participates as co-author in the different dissemination strategies.

Examples

Level 1: Stakeholders do not participate in dissemination strategy.

Level 2: Stakeholders agree that the research group disseminates the results and assist them in their initiatives, but they are not proposers.

Level 3: Researchers and stakeholders disseminate generated knowledge in different ways in line with defined dissemination strategy, as they are co-owners, therefore, they can disseminate jointly or separately. Even stakeholders could provide their reflections on the process and empower researchers to learn and conduct more inclusive research in the future.

3.1.6. Indicator 5P.B. Participatory perspective in types of dissemination channels used.

Definition: How research knowledge is disseminated and made available to the widest possible audience.

Criterion: Ordinal level. The higher the level, the higher the mobilisation.

1. Scientific Channels

2. Open access and non-scientific channels by invitation
3. Various scientific and non-scientific formats

Examples:

Level 1: Dissemination in High-impact scientific journals. The highest prestige is sought within the scientific community.

Level 2: Dissemination in Scientific journals in open access format. Open access is prioritised. There can be some dissemination in social events, but as guests not as hosts.

Level 3: The same as on the 2nd level, but adding hosting non-scientific media: interviews, social networks, fairs, etc.

3.1.6. Indicator 6P. Participatory perspective in exploitation of results

Definition: How different stakeholders participate in the exploitation of the results generated in the research?

Criterion: Ordinal level. The higher the level, the higher the participation in exploitation.

1. There is no strategy for exploitation of the research results.
2. There is some exploitation plan, but it is vague and not specifically detailed. If it is detailed only the research group participates in its implementation.
3. There is a well-defined strategy for exploitation of agreed research results, where both stakeholder and researchers participate.

Examples:

Level 1: Research group does not care about the use of results, they are only interested in the research process and its dissemination.

Level 2: The research group does not have a specific strategy, but only a general plan for the exploitation of results without defined intellectual property rights and their exploitation modalities. If there is a strategy for exploiting the results at the level of the institution/research group, the stakeholder does not participate in its implementation.

Level 3: Research group and the stakeholder have designed an exploitation strategy to use the selected and agreed results after the research, jointly or separately. In this case, the intellectual property rights between the parties and the ways of exploiting intellectual property are clearly defined. In any case, both parties (researchers and stakeholder) can use the results as co-owners

3.2. Factor 2: Ethical perspective

The research group and/or its stakeholders generate internal mechanisms for reflection and review of the ethical implications of each of the research stages and decisions made during research. Explanation of the ethical implications provide us with an answer of why or what/who is being researched and what type of relationships are established in the research process between researchers and participants.

The definition of the levels, in general, is as follows:

Level 1. Not applicable: This will be marked when the stakeholder participation is at level 1 or level 2 (from a participatory perspective).

Level 2. Instrumental Ethics: It will be marked when the relationship between researchers and stakeholders do not take place on an equal footing. Stakeholders or participants participate in the research for researchers' utilitarian reasons. There is neither an emancipatory motivation or an aim of equity and social justice.

Level 3. Inclusive Ethics: It will be marked when the relationship between researchers and stakeholders has the aim of improvement and transformation for equity and social justice. This is an emancipatory relationship.

3.2.1. Indicator 1E. Ethical Perspective on Research Topic identification/Definition

Definition: Why and for what purpose the research group includes stakeholder in the research topic identification

Criterion: Nominal dichotomous level: inclusive/non-inclusive relationship

1. Not applicable.
2. Instrumental ethics
3. Inclusive ethics

Examples:

Level 1. This level will be marked when indicator 1P of the participatory perspective has been at 1 or 2.

Level 2. The research group agrees on the problem with the stakeholder for an interested or utilitarian purpose. For example, in educational research, to reach a consensus with the teachers of a school on the research topic to investigate in order to obtain permission to access the centre. In this case, the problem is established by the research group, but they need to agree on some conditions with the school, otherwise, they will not gain them with access to the institution.

Level 3. The research group agrees on the research topic with the stakeholder to improve the initial situation with a clear emancipatory intention. For example, in educational research, teachers and the research group will (together) investigate which topics to cover. The outcome will be an agreement between these two parties and will include what is best for the school.

3.2.2. Indicators 2-3-4E. Ethical Perspective in the Research Process.

Definition: Why and for what purpose the research group includes stakeholders or beneficiary in the research process (design, data collection, analysis of results and drawing of conclusions)

Criterion: Nominal dichotomous level: inclusive/non-inclusive relationship

1. Not applicable.
2. Instrumental ethics
3. Inclusive ethics

Examples:

Level 1. This level will be marked when indicators 2P, 3P or 4P of the participatory perspective have been 1 or 2.

Level 2. The research group counts on and interacts with the stakeholders for questions of research need. For example, in the information collection phase, use the stakeholders itself to collect information as co-investigators with the intention of obtaining more data or saving on staff costs.

Level 3. The research group counts on the stakeholders as co-investigators, to improve their initial situation and even empowering them. For example, in the information collection phase, while conducting interview, they will encourage interviewees to reflect about the content of the interview. Another example, could be to participate

in the collection of environmental samples to raise awareness of environmental preservation.

3.2.3. Indicator 5E.A. Ethical perspective of participation in dissemination

Definition: Why and for what purpose the research group includes the stakeholders or beneficiary in the dissemination process

Criterion: Nominal dichotomous level: inclusive/non-inclusive relationship

1. Not applicable
2. Instrumental ethics
3. Inclusive ethics

Examples:

Level 1: This level will be marked when indicator 5P.A. of the participatory perspective has been 1 or 2.

Level 2: Dissemination is carried out jointly because it is a condition for publication, or because the research group has more visibility of their research outcomes. In any case, other interests prevail that are not related to the conviction of co-ownership of the results or the process.

Level 3: Dissemination is carried out jointly because researchers and stakeholders are co-owners of the entire research process and therefore co-responsible for dissemination or outreach.

3.2.4. Indicator 5E.B. Ethical perspective of the channels of dissemination of results

Definition: Why and for what purpose are the results disseminated and disclosed

Criterion: Nominal dichotomous level: inclusive/non-inclusive dissemination

1. Academic dissemination
2. Instrumental dissemination
3. Inclusive dissemination

Examples:

Level 1: This level will be marked when indicator 5P.B. of the participatory perspective has been 1 or 2. It is disseminated only to expert groups in scientific channels. There are no approaches or reflections on the usefulness of these results for other groups and how to make them available.

Level 2: There are informative activities that go beyond the scientific field, but the objective is closer to publicizing the activity of the research group than to making the results accessible to the Stakeholders: news in the press or social networks, radio interviews, the group's website. The objective is informative, not educational.

Level 3: The research group disseminates the results in different channels and formats, accommodating their language to the different audiences with a real objective, not only to inform, but to train the stakeholders and empower them in the use of the results to improve their initial situation. For example, exhibitions, workshops, demonstrations, etc.

3.2.5. Indicator 6E. Ethical perspective in the exploitation of results

Definition: Why and for what purpose are the results exploited

Criterion: Nominal dichotomous level: inclusive/non-inclusive exploitation

1. Not applicable
2. Instrumental exploitation
3. Inclusive exploitation

Examples:

Level 1: This level will be marked when indicator 6P of the participatory perspective has been 1.

Level 2: The exploitation of results has only economic or commercial purposes. The use of research results belongs exclusively to the research group, and to stakeholders only on a commercial basis and does not include the needs of wider target groups and the society, as well as end users who would use part of the results for free. Still it is not contrary to ethical standards in research.

Level 3: The exploitation of results has a social or environmental improvement purpose. The use of research results is enabled by the research group and stakeholder for end users and vulnerable groups, with a positive impact on the problems of society and environmental protection.

3.3. Summary of indicators

	PROBLEM	DESIGN	COLLECTED	ANALYSIS	DISSEMINATION	EXPLOITATION
Participatory perspective Incorporation of stakeholders in research Indicator 0P 1. Does not explicitly define stakeholders 2. Define the groups in a generic way 3. Direct and indirect stakeholders are clearly and concisely defined	Indicator 1P 1. The research group defines it unilaterally 2. The direct stakeholder, as the only beneficiary, poses the problem to the research group 3. The direct stakeholder and research group together pose a problem from which not only the direct stakeholder benefits	Indicator 2P 1. Stakeholders do not participate 2. They are informed but not able to make decisions 3. It is designed jointly	3P indicator 1. Data collection is only carried out by the research group without interaction with the stakeholders 2. The research group collects the data by interacting with the stakeholders 3. The stakeholders share data collection with research group	4P indicator 1. The stakeholders do not participate 2. The stakeholders do not participate in the analysis, but can provide feedback at the request of the research group 3. The stakeholders analyse collected data together with the research group	Indicator 5P.A 1. The stakeholders do not participate 2. The stakeholders support dissemination process initiated and implemented by the research group 3. The stakeholders participate as co-authors in the different dissemination strategies Indicator 5P.B 1. Scientific channels 2. Open access and non-scientific channels on an ad hoc basis 3. Various scientific and non-scientific formats	Indicator 6P 1. There is no exploitation strategy 2. There is a general plan for exploitation, but it is vague and not specifically detailed 3. There is a well defined strategy for exploitation of results
Ethical perspective Justification for	Indicator 1E 1. Not applicable	Indicator 2E 1. Not applicable	Indicator 3E 1. Not applicable	Indicator 4E 1. Not applicable	Indicator 5E.A & B 1. Not applicable	Indicator 6E 1. Not applicable

participation and purpose of research	2. Instrumental ethics 3. Inclusive ethics	2. Instrumental ethics 3. Inclusive ethics	2. Instrumental ethics 3. Inclusive ethics	2. Instrumental ethics 3. Inclusive ethics	2. Instrumental ethics 3. Inclusive ethics	2. Instrumental exploitation 3. Inclusive exploitation
					Indicator 5E.B 1. Not applicable 2. Instrumental Dissemination 3. Inclusive Dissemination	

7.3. DOCUMENT C. DATA BASE

CO DE	CO UNT RY	A R E A	T Y P E	N. RESE ARCH ERS	N. MA LES	N.FE MAL ES	O P	1 P	1 E	2 P	2 E	3 P	3 E	4 P	4 E	5 P A	5 E A	5 P B	5 E B	6 P	6 E	K M 1	K M 2	K M 3	K M 4	K M 5 A	K M 5 B	K M 6
ATO 1SB 12	AT	S	B	12	5	7	2	1	1	1	1	1	1	1	1	1	1	3	3	1	1	2	2	2	2	2	6	2
ATO 2EA 6	AT	E	A	6	3	3	2	2	1	3	2	1	1	3	2	1	1	2	1	1	1	3	5	2	5	2	3	2
ATO 3EA 11	AT	E	A	11	5	6	2	1	1	1	1	2	1	2	1	1	1	2	2	2	1	2	2	3	3	2	4	3
ATO 4EA 10	AT	E	A	10	6	4	3	3	3	1	1	2	1	2	1	3	3	3	3	3	3	6	2	3	3	6	6	6
ATO 5EB 8	AT	E	B	8	2	6	3	1	1	2	1	2	1	2	1	2	1	3	3	2	1	2	3	3	3	3	6	3
ATO 6SB 14	AT	S	B	14	8	6	2	2	1	1	1	1	1	1	1	3	2	2	2	2	1	3	2	2	2	5	4	3
ATO 7SB 13	AT	S	B	13	9	4	2	2	1	1	1	3	2	1	1	1	1	3	3	2	1	3	2	5	2	2	6	3
ATO 8EA 12	AT	E	A	12	4	8	3	3	3	3	2	3	3	2	1	3	2	3	3	2	1	6	5	6	3	5	6	3
ATO 9LA 12	AT	L	A	12	4	8	3	2	1	2	1	1	1	2	1	2	1	3	2	3	3	3	3	2	3	3	5	6
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AT1 2EA 04	AT	E	A	4	2	2	3	3	3	3	3	3	3	3	3	2	1	2	2	2	1	6	6	6	6	3	4	3
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SPO 4AA 7	SP	A	A	7	3	4	3	1	1	1	1	1	1	1	1	1	1	3	2	2	1	2	2	2	2	5	3	

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SP0 6SB 20	SP	S	B	20	12	8	3	1	1	3	2	3	2	1	1	1	1	1	3	2	2	5	5	2	2	2	5	
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SL02 EA3 0	SI	E	A	30	28	2	3	3	3	2	1	2	1	2	1	3	2	1	1	2	2	6	3	3	3	5	4
SL03 LA1 1	SI	L	A	11	6	5	3	3	3	2	1	2	1	3	3	3	2	3	3	3	3	6	3	3	6	5	6
SL04 ES9	SI	E	B	9	5	4	3	1	1	1	1	2	1	2	1	2	1	1	1	1	1	2	2	3	3	2	2
SL05 LA6 0	SI	L	B	60	48	12	1	2	1	2	1	2	1	1	1	2	1	1	1	2	1	3	3	3	2	3	3
SL06 LA6	SI	L	A	6	5	1	2	1	1	3	2	2	1	2	1	2	1	2	2	2	1	2	5	3	3	4	3
SL07 EB4 0	SI	E	B	40	28	12	1	2	1	2	1	2	1	1	1	2	1	1	1	2	1	3	3	3	2	3	3
SL08 EA1 8	SI	E	A	18	14	4	3	3	3	2	1	2	1	2	1	3	3	3	3	3	3	6	3	3	3	6	6
SL09 LB1 1	SI	L	B	11	6	5	2	2	1	3	2	3	2	2	1	2	1	3	3	3	2	3	5	5	3	3	5
SL10 LA9	SI	L	A	9	2	7	3	3	3	3	3	3	3	2	1	3	3	3	3	3	3	6	6	6	3	6	6
SL11 AA8 0	SI	A	A	80	16	64	3	3	3	2	1	3	3	3	3	2	1	3	3	3	2	6	3	6	6	3	5
SL12 SA5	SI	S	A	10	5	5	2	3	2	2	1	2	1	1	1	2	1	2	1	2	1	5	3	3	2	3	3
SL13 AB1 1	SI	L	B	11	2	9	3	2	1	2	1	2	1	2	1	2	1	3	3	3	3	3	3	3	3	6	6
SL14 LB3	SI	L	B	3	2	1	3	3	2	2	1	2	1	2	1	3	3	3	3	3	3	5	3	3	3	6	6

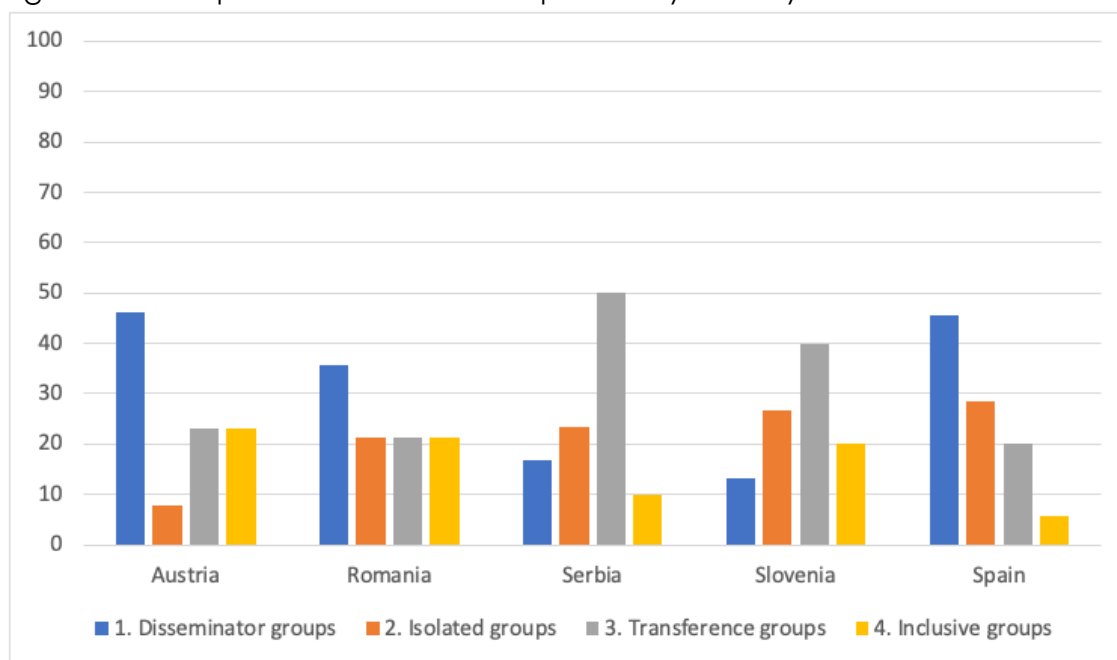
SL15 AA3	SI	L	A	3	2	1	3	3	2	2	1	2	1	2	1	3	3	3	3	3	3	5	3	3	3	6	6	6
RO0 1LB 5	RO	L	B	5	3	2	3	3	2	1	1	1	1	1	1	2	1	1	1	1	1	5	2	2	2	3	2	2
RO0 2LA 24	RO	L	A	24	6	18	3	3	2	3	3	2	1	1	1	3	2	3	3	2	1	5	6	3	2	5	6	3
RO0 3LB 14	RO	L	B	14	7	7	3	3	2	1	1	2	1	2	1	3	2	3	3	1	1	5	2	3	3	5	6	2
RO0 4LA 8	RO	L	A	8	2	6	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
RO0 5LA 7	RO	L	A	7	7	0	2	3	2	2	2	2	1	2	1	3	2	3	3	2	1	5	4	3	3	5	6	3
RO0 6LB 9	RO	L	B	9	2	7	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
RO0 7EA 6	RO	E	A	6	4	2	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	6	6	6	6	6	5	6
RO0 8EA 6	RO	E	A	6	3	3	3	1	1	1	1	2	1	3	3	3	3	3	2	3	3	2	2	3	6	6	5	6
RO0 9EA 6	RO	E	A	6	4	2	2	2	2	1	1	1	1	2	1	2	1	1	1	2	1	4	2	2	3	3	2	3
RO1 0EA 10	RO	E	A	10	6	4	3	3	3	3	3	3	3	2	1	3	3	3	3	3	3	6	6	6	3	6	6	6
RO1 1LB 10	RO	L	B	10	1	9	3	1	1	1	1	1	1	1	1	2	1	2	2	1	1	2	2	2	2	3	4	2
RO1 2LA 3	RO	L	A	3	0	3	3	1	1	1	1	3	3	3	3	1	1	3	3	2	1	2	2	6	6	2	6	3
RO1 3LA 20	RO	L	A	20	0	20	3	1	1	1	1	3	3	3	3	1	1	3	3	2	1	2	2	6	6	2	6	3
RO1 4HA 6	RO	H	A	6	2	4	3	2	2	2	1	1	1	1	1	2	1	3	3	2	1	4	3	2	2	3	6	3

8. APPENDIX B

PROFILE ANALYSIS

The descriptive results of the participating groups from each country, as well as the profile of the groups, are shown below. A comparative view of these profiles by country can be seen in the following figure.

Figure 25. Comparative view of these profiles by country



8.1. AUSTRIA

National level:

Austria currently has 22 public universities, with about 1,259 research entities. Currently there are 2,690 professors employed in Austria (699 female and 1,991 males in 2019). The main tasks of a university professor in Austria are: research in his/her subject, autonomously carry out lectures, courses and exams, supervise students, administration and organisations tasks as well as the further advancement of the academic research staff. In 2017, research was conducted in various sectors; the main sector was the business enterprise sector (almost 70% of Research and Development). Every public university in Austria has to present an intellectual capital report at least every three years (most universities do it every year, but with less details) and public their previous developments and their future direction. Within the performance agreement the university is obliged to advance several fields (social permeability, percentage of women in managing positions, support of female junior researchers, expansion of social responsibility and knowledge and technology transfer,

internationalisation and mobility of students and academic staff). In the Austrian HEIs context, a distinction must be made between public universities, universities of applied sciences and private institutions, and third parties that conduct research. There are no fixed criteria for research at national level for all those stakeholders and actors involved. The main legal regulations regarding university research staff can be found in the Universitätsgesetz 2002 (University's Law 2002) and in the Wissensbilanzverordnung 2016 (intellectual capital report regulation 2016). These regulations, however, only apply to public universities, not to universities of applied sciences or other private institutions. There are different types of academic staff with different legal relationships with the university, such as academic staff, university assistant, senior researcher, senior lecturer, assistant professor, associate professor, and university professor. Moreover, academic staff can not only work for the university itself, but also conclude research contracts with third parties. This type of research is also counted as university research and development. Most employment contracts are fixed term, with a maximum duration of six years. If the fixed-term employment relationship is extended to an open-ended employment relationship, a quality check is carried out by the rector. The assessment focuses on both academic performance and academic teaching over the past five years. Such an assessment must meet international criteria. Nevertheless, The Austrian law do not state any specific preconditions for a given position, for instance an exact number of publications or lectures conducted by the researcher. Therefore, there are no formal requirements, especially no quantitative requirements for researchers to obtain a position at the universities. The provision procedures are developed by the universities itself and can therefore vary from case to case. Additionally, the provision procedures can also be different at the universities of applied sciences, where research itself plays a less important role (but can also be a trigger for individual academic careers).

Institutional level (TUV):

The Technical University has eight faculties, 51 institutes with about 4,000 scientific staff members working in teaching and research in six faculties: Architecture and Planning, Civil Engineering, Electrical Engineering and Information Technology, Informatics, Mechanical and Industrial Engineering, Mathematics and Geoinformation, Physics, and Technical Chemistry. The provision of scientific staff at the Vienna University of Technology is the same as at the national level. All university staff is affected by the intellectual capital report in some way. Nevertheless, such a report does not affect the staff directly, as it is seen more like a strategy to be followed and not direct measures for some researchers. The intellectual capital report of the public universities is interlinked with the performance agreement and funding of the federal government. Due to the fact that universities are financed by the federal state, it could have consequences on the funding. None of the indicators mentioned before focus exclusively on research activities. There is always an interlinkage to the personnel development, administrative staff and research staff. Those indicators are always linked to the teaching activity and not only research activity only. About open access publications, the TU Vienna has had an open access policy since 2018. Regarding ethics at the research organization level, there is a commission for the advancement of women and a commission for gender equality. Social impacts and implications of research results are often examined by institutions or departments of the university, for instance the ethics commission at the Technical University of Vienna.

Table 37. MoRRI indicators: TUV

MoRRI indicators (data from 2016)	TUV
GE1 Share of research-performing organisations (HEI's) with gender equality plans	<i>Has your institution a gender quality plan?</i> The TU Wien follows a comprehensive strategy to promote equality and diversity including an Equal Opportunities Plan and a Career Advancement Plan for Women at TU Wien. The overall organizational goals are stated in the Development Plan 2025+ of the university.
GE2.4 Share of female researchers – higher education sector	22% of researchers are female ⁸ .
GE10.1 Share of female authors	Only 2020
SLSE4.1 the number of member organisations in the European Citizen Science Association (ECSA)	<i>Is your institution member of ECSA?</i> The TU is not a Member of ECSA but is planning to intensify contact to ECSA in the context of an upcoming citizen science-related project.
PE10 infrastructure for involvement of citizens and societal actors in research and innovation (Existence of infrastructure: Access, Representation and Availability for multiple channels for interaction)	<i>Has your institution infrastructure for involvement of citizens in research and innovation? (to ask the research manager).</i> Yes. The TU future lab is a research platform for citizen science in the area of city development. There is no further university-wide infrastructure for involvement of citizens. ⁹
OA1.1 Share of Open Access publications	The specific data for 2020 is still in processing. Reviewing the

⁸ Numbers from TU Gender-Report p. 5
https://www.tuwien.at/fileadmin/Assets/dienstleister/abteilung_genderkompetenz/gender_ressourcen/Zahlen_und_Fakten/Frauenbericht/Gender_Monitoring_VIII.pdf

⁹ <https://futurelab.tuwien.ac.at/research-center/new-social-housing/werkstatt-neu-leopoldau/citizen-Science>

	leiden ranking, the TU Wien has had a share of 66.5 % of Open Access Publications in the time period of 2017-2020 (size independent) ¹⁰ .
E1a Ethics at the level of research performing organisations (Share of higher education institutions having a research ethics committee & research integrity office)	<i>Has your institution research ethics committee & research integrity office?</i> Yes The TU Service Unit of Responsible Research Practices in the Vice Rectorate for Research and Innovation supports researchers and lecturers at TU Wien in questions regarding research ethics and research integrity. In addition, the Service Unit also advises the Rectorate, the faculties and institutes on their strategic orientation in the area of research ethics and research integrity. Since 2020 TU Wien has been piloting an innovative concept of a Research Ethics Committee (the "Pilot REC") based on peer review.

Descriptives and profiles

Table 38 shows the distribution of groups in Austria, most of them were in the area of engineering and architecture (53.8%). Table 39 also shows that, in this country, most of the participating groups were applied research groups (69.2%).

Table 38. Sample distribution per area in Austria

Area	Frequency	Percentage
Engineering & architecture	7	53.8
Social & legal sciences	3	23.1
Sciences	3	23.1

Table 39. Sample distribution per type of research in Austria

Type	Frequency	Percentage
Basic	4	30.8
Applied	9	69.2

¹⁰https://www.leidenranking.com/Ranking/University2022?universityId=19&fieldId=1&periodId=12&fractionalCounting=1&performanceDimension=0&rankingIndicator=pp_top10&minNPubs=100

Table 40 shows the descriptive results, with the KM5B indicator obtaining the highest mean and median score.

Table 40. Mean, median and standard deviation of the KM indicators in Austria

Indicator	Mean	Median	SD
OP	2.46	2	0.519
KM1	3.62	3	1.557
KM2	3.31	4	1.601
KM3	3.54	4	1.613
KM4	3.38	4	1.387
KM5A	3.62	4	1.557
KM5B	5.08	6	1.115
KM6	3.54	3	1.450

According to the results in Table 41, most of the groups in Austria have a vague level of stakeholder definition.

Table 41. Frequency and percentage of groups in Austria showing the different Levels of definition of the stakeholders (OP)

Level (OP)	Frequency	Percentage
2 (vague definition)	7	53.8
3 (clear and detailed definition)	6	46.2

Most of the groups in Austria have a passive participation or stakeholders do not participate in the identification of the research topic (Table 42).

Table 42. Frequency and percentage of groups in Austria per level of stakeholders' participation in the identification of the research topic (KM1)

Level (KM1)	Frequency	Percentage
2 (no participation)	3	23.1
3 (passive participation)	6	46.2
5 (instrumental participation)	1	7.7
6 (knowledge mobilisation)	3	23.1

Similarly, most groups in this country do not involve stakeholders in the design of the research (46.2%), and only 15.4% give them the opportunity to participate fully (Table 43).

Table 43. Frequency and percentage of groups in Austria per level of stakeholders' participation in the research design (KM2)

Level (KM2)	Frequency	Percentage
2 (no participation)	6	46.2
3 (passive participation)	3	23.1
5 (instrumental participation)	2	15.4
6 (knowledge mobilisation)	2	15.4

Likewise, in Austria, most groups do not give stakeholders the possibility to participate in the data collection phase, or give them a passive role (Table 44).

Table 44. Frequency and percentage of groups in Austria per level of stakeholders' participation in the data collection/gathering (KM3)

Level (KM3)	Frequency	Percentage
2 (no participation)	4	30.8
3 (passive participation)	5	38.5
5 (instrumental participation)	1	7.7
6 (knowledge mobilisation)	3	23.1

In the case of stakeholder participation in data analysis, most groups in Austria give them a passive role (Table 45).

Table 45. Frequency and percentage of groups in Austria per level of stakeholders' participation in the data analysis (KM4)

Level (KM4)	Frequency	Percentage
2 (no participation)	3	23.1
3 (passive participation)	7	53.8
5 (instrumental participation)	1	7.7
6 (knowledge mobilisation)	2	15.4

In the following, the results on who disseminates and their participation (Table 46) and which channels were used for dissemination to empower stakeholders (Table 47) in Austria can be seen.

Table 46. Frequency and percentage of groups in Austria per level of stakeholders' participation in the dissemination (KM5A)

Level (KM5A)	Frequency	Percentage
2 (no participation)	4	30.8
3 (passive participation)	4	30.8
5 (instrumental participation)	3	23.1
6 (knowledge mobilisation)	2	15.4

Table 47. Frequency and percentage of groups in Austria per type of dissemination channel used (KM5B)

Level (KM5B)	Frequency	Percentage
3 (scientific open access dissemination)	1	7.7
4 (non academic guests)	4	30.8
5 (Informational dissemination)	1	7.7
6 (educational dissemination)	7	53.8

Finally, Table 48 shows the results of stakeholder participation in the sustainability plans, which is mostly passive.

Table 48. Frequency and percentage of groups in Austria per level of stakeholder participation in the sustainability plans (KM6)

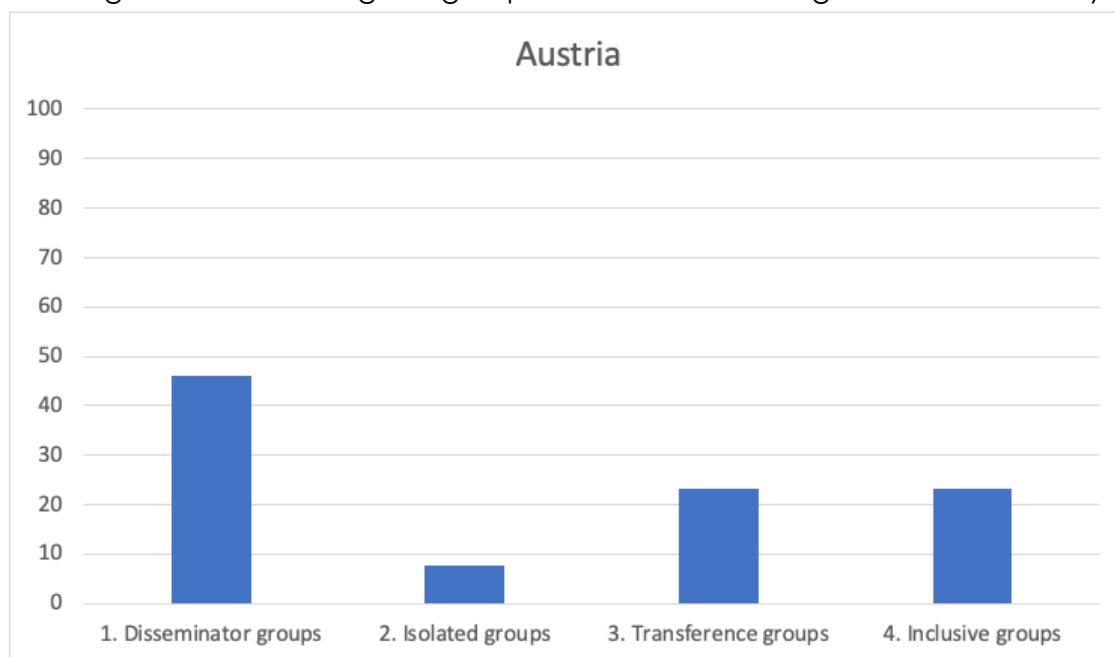
Level (KM6)	Frequency	Percentage
2 (no participation)	2	15.4
3 (passive participation)	8	61.5
6 (knowledge mobilisation)	3	23.1

Below we can observe the research profile of the groups in Austria (Table 49).

Table 49. Frequency and percentage of groups in Austria according to the cluster analysis

Cluster	Frequency	Percentage
1. Disseminator groups	6	46.2
2. Isolated groups	1	7.7
3. Transference groups	3	23.1
4. Inclusive groups	3	23.1

Figure 26. Percentage of groups in Austria according to the cluster analysis



8. 2. ROMANIA

National level: According to the national legislation (which stipulates the autonomy of the faculties in the HR policy), the management actions at the central level of the university are limited, but they are partially offset by managerial and methodological measures. All vacant positions are filled through competition procedures, applying the institutional internal regulations. The criteria that need to be met for accessing any position as academic staff, eg assistant, lecturer, associate professor and professor and associated research positions (assistant – junior researcher, lecturer – senior researcher level III, associate professor - senior researcher level II and professor - senior researcher level I) are regulated and managed by CNATDCU (National Council for Titles, Diplomas and Certificates). The associate and full professorship positions candidates need to pass the habilitation process that is coordinated by CNATDCU (National Council for Titles, Diplomas and Certificates) that also includes PhD supervision. There are 35 committees related to the main academic and research fields that have specific sets of criteria and indicators. The criteria for evaluating the performance of researchers depends on the field of activity. There are minimal requirements that must be met to get the vacant position. Various indicators (education, research, scientific recognition) and the associated categories are used to assess performance. CNATDCU evaluates the application dossiers for an academic / research position for Professor (Senior Researcher I) and Associate Professor (Senior Researcher II), while the rest of the categories are evaluated at the institutional level. For example, in Electronics, Telecommunications and Nanotechnologies Committee the requirements are based on: books/books chapters published in recognized publishing houses, academic content, Papers in ISI journals or conference proceedings Q1&Q2, Research grants /contracts - Manager, Citations ISI and BDI and cumulative impact factor. The minimal requirements are distinguished per professional category. The assessment of the mentioned criteria is done in two cases: One time for the submission of the candidature for an academic or research vacancy and Annual assessment for permanent staff.

Institutional level (UPB):

UPB is a public funded higher education institution founded in 1818 being the oldest and the largest technical university in Romania. UPB's foremost mission is engineering training at all levels (B.SC, M.SC, Ph.D.). At the same time, UPB is not only a transmitter but also a creator of science and technology. UPB consists in: 15 Faculties, 2 Departments, 43 R&D Centers, 2.738 academic and 1.261 non-academic staff, 22.771 undergraduate and 4.643 postgraduate students.

The annual staff appraisal reports prepared at the faculty level are integrated into the annual quality report at UPB level by the Quality Assurance Office.

The following self-assessment and performance reporting tools are used: The self-assessment report, with common template elaborated at UPB level based on the minimum-standards compliance checklist approved by Ministerial Order Nr. 6129/2016, corresponding to the respective scientific field (the corresponding CNATDCU committee); the individual list of publications and patents (template of CNFIS reporting); the individual annual job description (FIAP). National legislation: the

Labor Code, Art. 17 paragraph (3) letter e) and paragraph (4); order no. 6143/2011 on the approval of the methodology for the annual evaluation of teaching and auxiliary teaching activities, updated; the Law on National Education (LEN) No. 1/2011, Art. 213, item (12); HG 789/2011 regarding the approval of the Evaluation Methodology for the purpose of classifying universities and ranking of study programs, art 3. and art 6, in conjunction with art. 193, paragraph (4) of LEN no. 1/2011. Internal regulations: rector's decisions on employment requirements; university Charter; PO-05-DIRU-27 Internal process for evaluating employee performance. The UPB methodology for vacant teaching and research positions states according to Art. 5, Paragraph (3) that there may be no discriminatory provisions against candidates based on gender, ethnic or social origin, citizenship, religion or belief, disabilities, political opinions, social or economic situation. Failure to meet minimum research requirements for a particular position increases the academic burden based on a particular algorithm.

The management positions in the organization chart at both university and faculty level are predominantly held by men, but after the last university elections (2020) the situation has improved. The number of managerial positions held by women increased by 30%. The proportion of female researchers consists of 42.30% (in terms of absolute numbers this is 549 out of 1298 researchers) and 38.88% of them are PhD students (i.e., 843 out of 2168).

The Innovation and Technology Transfer Office (SITT) offers the faculties, research centres and individual researchers' supervision / advice on the valorisation of research results in the socio-economic environment. The marketing department with its own marketing and branding services, Sigma television (now Euronews Romania), the public / communications office, the international relations department ensure that the scientific activities and the academic offer are made known.

The share of open access publications is 27.88%. At the UPB, the researchers respect the recognized ethical practices and principles that correspond to the areas in which the research activity is carried out, in accordance with the code of ethics and university professional teaching. Its implementation is monitored by the Ethics and Academic Integrity Commission (CEIA), an internal advisory structure.

Table 50. MoRRI indicators: UPB

MoRRI indicators (data from 2016)	UPB
GE1 Share of research-performing organisations (HEI's) with gender equality plans	<i>Has your institution a gender quality plan?</i> Yes The UPB methodology regarding vacant teaching and research positions states at art. 5, paragraph (3): there are no discriminatory provisions regarding candidates according to gender, ethnic or social origin, citizenship, religion or belief, disabilities, political opinions, social or economic condition. The leadership positions in the organizational chart at both university and faculty levels are mostly occupied by men, but after the last university elections (2020) the situation has improved. The number of

	management positions held by women increased by 30%.
GE2.4 Share of female researchers – higher education sector	Only 2020 42.30% researchers (549 out of 1.298) + 38.88% PhD Students (843 out of 2.168)
GE10.1 Share of female authors	Only 2020 NA
SLSE4.1 the number of member organisations in the European Citizen Science Association (ECSA)	Is your institution member of ECSA? No

PE10 infrastructure for involvement of citizens and societal actors in research and innovation (Existence of infrastructure: Access, Representation and Availability for multiple channels for interaction)	Has your institution infrastructure for involvement of citizens in research and innovation? (to ask the research manager) Yes The UPB Strategy and the Rector's Management Plan for the period 2020-2024 provides specific objectives and measures for the dissemination and communication of research, innovation and education provision towards the socio-economic environment as well as community engagement in designing the education and research activities There is a continuous interaction with different society' stakeholders starting from relevant economic bodies to public authorities and NGOs – besides cooperating in development of common scientific projects and master programmes, many MSc and PhD thesis are developed in dual coordination responding to actual industrial needs. The Innovation and Technological Transfer Office (SITT) offers supervision / guidance to the faculties, research centres and individual researchers regarding the valorisation of the research results in the socio-economic environment. The Marketing Department, with its own marketing and branding services, the Sigma television (now Euronews Romania), Public Relations Service / Communication Office, International Relations Department ensure the popularization of scientific activities and academic provision.
OA1.1 Share of Open Access publications	Only 2020 27.88%

E1a	Has your institution research ethics committee & research integrity office?
Ethics at the level of research performing organisations (Share of higher education institutions having a research ethics committee & research integrity office)	Yes At UPB, researchers show proper respect to the acknowledged ethical practices and principles corresponding to the fields in which the research activity is performed, in accordance with the Code of ethics and university professional deontology. Their implementation is supervised by the Ethics and Academic Integrity Commission (CEIA), which is an internal advisory structure. National legislation: · Law no. 206/2004 (updated) on good conduct in scientific research, technological development and innovation; · GO no. 57/2002 regarding scientific research and technological development, art. 5, paragraph (3); · Law no. 477/2004 regarding the Code of conduct of contract staff from public authorities and institutions. Internal regulations: · The University Charter and the Code of ethics and university professional deontology; · The regulation of organization and functioning of CEIA

Descriptives and profiles

Table 51 shows the distribution of groups in Romania, most of them were in the area of social & legal sciences (64.3%). Table 52 also shows that, in this country, most of the participating groups were applied research groups (71.4%).

Table 51. Sample distribution per area in Romania

Area	Frequency	Percentage
Engineering & architecture	4	28.6
Health	1	7.1
Social & legal sciences	9	64.3

Table 52. Sample distribution per type of research in Romania

Type	Frequency	Percentage
Basic	4	28.6
Applied	10	71.4

Table 53 shows the descriptive results, where the KM5B indicator also has a higher mean and median score.

Table 53. Mean, median and standard deviation of the KM indicators in Romania

Indicator	Mean	Median	SD
OP	2.79	3	0.426
KM1	3.57	3	1.651
KM2	3.00	2	1.664
KM3	3.43	3	1.742
KM4	3.43	3	1.742
KM5A	3.79	3	1.626
KM5B	4.57	5.5	1.785
KM6	3.29	3	1.541

According to the results in Table 54, most of the groups in Romania have a clear and detailed level of stakeholder definition.

Table 54. Frequency and percentage of groups in Romania showing the different Levels of definition of the stakeholders (OP)

Level (OP)	Frequency	Percentage
2 (vague definition)	3	21.4
3 (clear and detailed definition)	11	78.6

As in the previous case, most of the groups in Romania have a passive participation or do not participate in the identification of the research topic (Table 55).

Table 55. Frequency and percentage of groups in Romania per level of stakeholders' participation in the identification of the research topic (KM1)

Level (KM1)	Frequency	Percentage
2 (no participation)	6	42.9
3 (passive participation)	2	14.3
5 (instrumental participation)	4	28.6
6 (knowledge mobilisation)	2	14.3

Similarly, most groups in this country do not involve stakeholders in the design of the research (64.3%), and only 21.4% give them the opportunity to participate fully (Table 56).

Table 56. Frequency and percentage of groups in Romania per level of stakeholders' participation in the research design (KM2)

Level (KM2)	Frequency	Percentage
2 (no participation)	9	64.3
3 (passive participation)	2	14.3
6 (knowledge mobilisation)	3	21.4

Also, in Romania, most groups do not give stakeholders the possibility to participate in the data collection phase, or give them a passive role (Table 57).

Table 57. Frequency and percentage of groups in Romania per level of stakeholders' participation in the data collection/gathering (KM3)

Level (KM3)	Frequency	Percentage
2 (no participation)	6	42.9
3 (passive participation)	4	28.6
6 (knowledge mobilisation)	4	28.6

In the case of stakeholder participation in data analysis, most groups in Romania do not include them or attribute a passive role (Table 58).

Table 58. Frequency and percentage of groups in Romania per level of stakeholders' participation in the data analysis (KM4)

Level (KM4)	Frequency	Percentage
2 (no participation)	6	42.9
3 (passive participation)	4	28.6
6 (knowledge mobilisation)	4	28.6

In the following, the results on who disseminates and their participation (Table 59) and which channels were used for dissemination to empower stakeholders (Table 60) in Romania can be seen.

Table 59. Frequency and percentage of groups in Romania per level of stakeholders' participation in the dissemination (KM5A)

Level (KM5A)	Frequency	Percentage
2 (no participation)	4	28.6
3 (passive participation)	4	28.6
5 (instrumental participation)	3	21.4
6 (knowledge mobilisation)	3	21.4

Table 60. Frequency and percentage of groups in Romania per type of dissemination channel used (KM5B)

Level (KM5B)	Frequency	Percentage
3 (scientific open access dissemination)	4	28.6
4 (non academic guests)	1	7.1
5 (Informational dissemination)	2	14.3
6 (educational dissemination)	7	50.0

Finally, Table 61 shows the results of stakeholder participation in the sustainability plans, which is mostly passive or no participation.

Table 61. Frequency and percentage of groups in Romania per level of stakeholder participation in the sustainability plans (KM6)

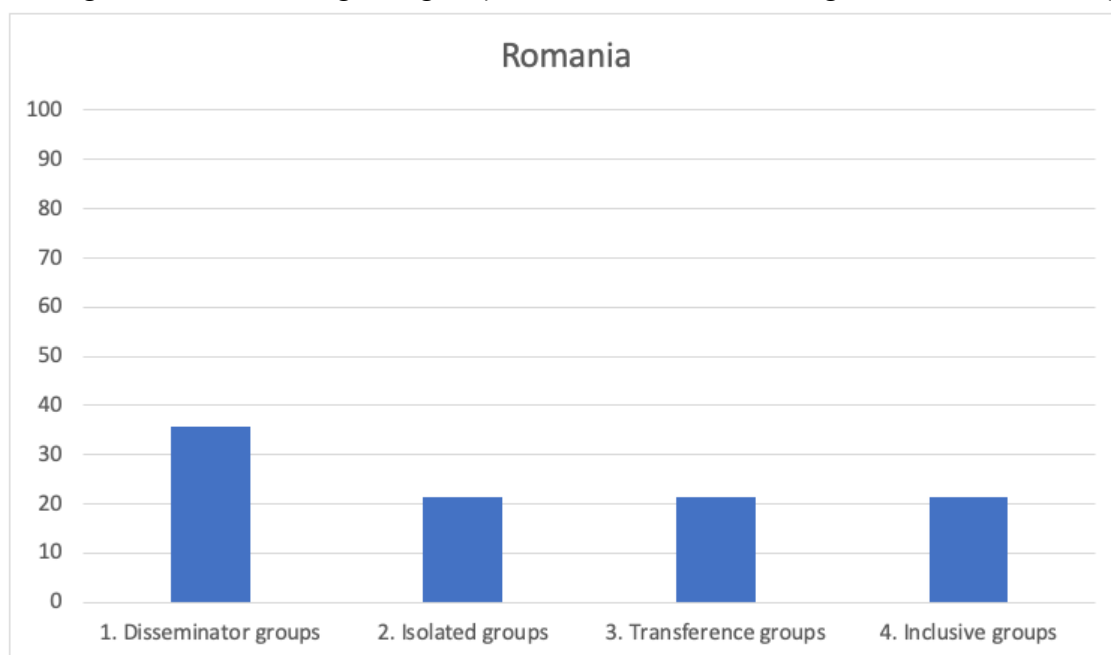
Level (KM6)	Frequency	Percentage
2 (no participation)	5	35.7
3 (passive participation)	6	42.9
6 (knowledge mobilisation)	3	21.4

Below we can observe the research profile of the groups in Romania (Table 62).

Table 62. Frequency and percentage of groups in Romania according to the cluster analysis

Cluster	Frequency	Percentage
1. Disseminator groups	5	35.7
2. Isolated groups	3	21.4
3. Transference groups	3	21.4
4. Inclusive groups	3	21.4

Figure 27. Percentage of groups in Romania according to the cluster analysis



8. 3. SERBIA

National level: Provision of research staff at universities in Serbia is regulated through two laws: Law on Higher Education (ZoVO) and Law on Scientific-Research Work (ZNIR). The academic staff at the university includes teachers (assistant professor, associate professor and full professor) and associates (assistant and doctoral assistant). The Serbian Ministry of Education, Science and Technological Development has established a set of rules on the procedure, evaluation method and quantitative expression of scientific research results by researchers, how scientific titles and research titles are acquired. All persons who meet the conditions prescribed by the ZNIR and this set of rules, as well as lecturers and members of universities, have the right to acquire scientific or scientific research titles and to re-elect the title. The evaluation of research results is carried out for five scientific areas, whereby the same criteria apply to the areas S (hard science) and H (health). For all researchers in Serbia different criteria and indicators are applied depending on their position and employment at the university. Criteria for selecting academic staff are the number of papers published in scientific journals of international relevance, proceedings of international scientific conferences, journals of national relevance and proceedings of national scientific conferences and looked at. All researchers with a scientific title (scientific advisor, senior research associate, research associate), teaching title (professor, associate professor, assistant professor) and Doctoral researchers who do not have a scientific or teaching title are subject to categorization. To monitor research activities in Serbia, a central research register was set up and is available on the E-CRIS.SR13 portal. However, more detailed conditions for election to the title of teacher and employment at the university, i.e. the faculties within it, are defined by the university. As part of the selection of candidate to the title of teacher and further employment, the university and the faculty value the following elements:

Assessment of the results of educational, scientific and research work, the engagement in the development of teaching and development of other activities, the results of pedagogical work and the results achieved in providing scientific and teaching youth. The procedure for associate titles lasts on average 3 months, and for teacher titles on average 6 months. The Commission evaluates the following elements: 1) Quality of scientific results (scientific level and significance of results, influence, positive citation of results, parameters of journal quality, concrete scientific contribution of candidates in the realisation of results, etc.). Engagement in the formation of scientific staff. 2) Standardisation of the number of co-authored works, patents and technical solutions. 3) Management of projects, subprojects and project tasks. 4) Activity in scientific and scientific-professional societies. 5) The impact of scientific results - is expressed by the total number of citations without self-citations. 6) Concrete contribution to the realization of works in scientific centres in the country and abroad. For the staying and holding a position, the evaluation of the researchers takes place every five years. Since the highest positions (full professor, scientific advisor) are permanent, they are not evaluated for this period. At some universities, however, according to the stricter conditions of their regulations, evaluations of researchers with these highest positions are carried out for five years with the same criteria. If the candidate does not meet the minimum requirements for the election to the next higher position, then the criteria and the fulfilment of the conditions for re-election with the same position for a period of five years are examined.

Institutional level (UKG): The University of Kragujevac is a modern education and research centre embracing almost all major areas of teaching and research, with a student population of 20,000 and 1,200 academic staff. The University was established and developed based on the concept of dispersed university, comprising 12 faculties in six towns of the Central Serbia region. However, the University managed to turn this into one of its most distinctive advantages which allows it to use economic and geographical potentials and human resources from the territory which spreads over an area of 5000 square kilometres and has about 2.5 million citizens.

The faculties have departments in their organizational structure in which all researchers are grouped according to scientific areas, so that practically no records exist about the number and size of smaller research groups, although they exist within laboratories and centres. Five areas of science (A - humanities, S - hard sciences, E - engineering, H - health, L - social sciences and law) can be used to make statements and provide an overview of the number of researchers. For the evaluation of the academic research (or artistic work of teachers), the set of rules defines the minimum criteria for the acquisition of individual teaching titles, depending on the scientific field. When evaluating individual performances, published papers and results of scientific-research work as well as papers that are in the publication phase are considered. The number of research results is multiplied by weighting factors (points) that are specified in the ministry's regulations. To acquire a particular position and employment opportunities, the minimum criteria must be met, but the candidate with the highest number of points after the commission can acquire this right through the public competition. The selection to teaching positions and employment are for five years, with the exception of a permanent position as a full professor. The selection to associate (assistant, assistant with doctorate) and the employment takes place for a period of three years with one re-election.

Table 63. MoRRI indicators: UKG

MoRRI indicators (data from 2016)	UKG
GE1 Share of research-performing organisations (HEI's) with gender equality plans	<i>Has your institution a gender quality plan?</i> No
GE2.4 Share of female researchers – higher education sector	<i>Only 2020</i> 51%
GE10.1 Share of female authors	<i>Only 2020 (Data available at 13/01/21)</i> 53%

SLSE4.1 the number of member organisations in the European Citizen Science Association (ECSA)	Is your institution member of ECSA? No Access to member list
PE10 infrastructure for involvement of citizens and societal actors in research and innovation (Existence of infrastructure: Access, Representation and Availability for multiple channels for interaction)	Has your institution infrastructure for involvement of citizens in research and innovation? (to ask the research manager) Yes 1. Centre for Technology Transfer 2. Center for Career Development and Student Counselling 3. Center for Scientific Research of Serbian Academy of Sciences and Arts and the University of Kragujevac 4. Collaborative Training Centre 5. Business Support Office 6. Knowledge Transfer Centre 7. Creativity Centre
OA1.1 Share of Open Access publications	Only 2020 (Data available at 13/01/21) 70%
E1a Ethics at the level of research performing organisations (Share of higher education institutions having a research ethics committee & research integrity office)	Has your institution research ethics committee & research integrity office? Yes, Board for Professional Ethics of the University of Kragujevac See https://kg.ac.rs/odbor_za_profesionalnu_etiku.php

Descriptives and profiles

Table 64 shows the distribution of groups in Serbia, most of them were in the area of engineering & architecture (70.0%). Table 65 also shows that, in this country, most of the participating groups were applied research groups (80.0%).

Table 64. Sample distribution per area in Serbia

Area	Frequency	Percentage
Engineering & architecture	21	70.0
Health	3	10.0
Social & legal sciences	3	10.0
Sciences	3	10.0

Table 65. Sample distribution per type of research in Serbia

Type	Frequency	Percentage
Basic	6	20.0
Applied	24	80.0

Table 66 shows the descriptive results, where the KM5B indicator also has a higher mean and median score, followed closely by KM1.

Table 66. Mean, median and standard deviation of the KM indicators in Serbia

Indicator	Mean	Median	SD
OP	2.70	3	0.466
KM1	4.27	4	1.680
KM2	2.83	3	1.085
KM3	3.30	3	1.119
KM4	3.47	3	1.408
KM5A	3.93	3	1.639
KM5B	4.83	6	1.487
KM6	3.77	3	1.382

According to the results in Table 67, most of the groups in Serbia have a clear and detailed level of stakeholder definition.

Table 67. Frequency and percentage of groups in Serbia showing the different Levels of definition of the stakeholders (OP)

Level (OP)	Frequency	Percentage
2 (vague definition)	9	30.0
3 (clear and detailed definition)	21	70.0

In the case of Serbia, a large percentage of groups have a high level of knowledge mobilization about stakeholder involvement in the identification of the research topic (Table 68).

Table 68. Frequency and percentage of groups in Serbia per level of stakeholders' participation in the identification of the research topic (KM1)

Level (KM1)	Frequency	Percentage
2 (no participation)	5	16.7
3 (passive participation)	10	33.3
5 (instrumental participation)	2	6.7
6 (knowledge mobilisation)	13	43.3

Most groups in this country do not involve stakeholders in the design of the research (43.3%) or have a passive role (46.7%) (Table 69).

Table 69. Frequency and percentage of groups in Serbia per level of stakeholders' participation in the research design (KM2)

Level (KM2)	Frequency	Percentage
2 (no participation)	13	43.3
3 (passive participation)	14	46.7
5 (instrumental participation)	1	3.3
6 (knowledge mobilisation)	2	6.7

In this case, in Serbia, a large majority of groups (70.0%) assign a passive role to the stakeholders in the participation in the data collection (Table 70).

Table 70. Frequency and percentage of groups in Serbia per level of stakeholders' participation in the data collection/gathering (KM3)

Level (KM3)	Frequency	Percentage
2 (no participation)	4	13.3
3 (passive participation)	21	70.0
5 (instrumental participation)	2	6.7
6 (knowledge mobilisation)	3	10.0

In the case of stakeholder participation in data analysis, most groups in Serbia do not include them or attribute a passive role (Table 71). However, it should be noted that

10% of the groups fully support their participation as a knowledge mobilisation strategy.

Table 71. Frequency and percentage of groups in Serbia per level of stakeholders' participation in the data analysis (KM4)

Level (KM4)	Frequency	Percentage
2 (no participation)	6	20.0
3 (passive participation)	17	56.7
5 (instrumental participation)	1	3.3
6 (knowledge mobilisation)	6	20.0

In the following, the results on who disseminates and their participation (Table 72) and which channels were used for dissemination to empower stakeholders (Table 73) in Serbia can be seen.

Table 72. Frequency and percentage of groups in Serbia per level of stakeholders' participation in the dissemination (KM5A)

Level (KM5A)	Frequency	Percentage
2 (no participation)	6	20.0
3 (passive participation)	12	40.0
5 (instrumental participation)	2	6.7
6 (knowledge mobilisation)	10	33.3

Table 73. Frequency and percentage of groups in Serbia per type of dissemination channel used (KM5B)

Level (KM5B)	Frequency	Percentage
2 (scientific dissemination)	3	10.0
3 (scientific open access dissemination)	5	16.7
4 (non academic guests)	2	6.7
5 (Informational dissemination)	4	13.3
6 (educational dissemination)	16	53.3

Finally, Table 74 shows the results of stakeholder participation in the sustainability plans, which is mostly passive.

Table 74. Frequency and percentage of groups in Serbia per level of stakeholder participation in the sustainability plans (KM6)

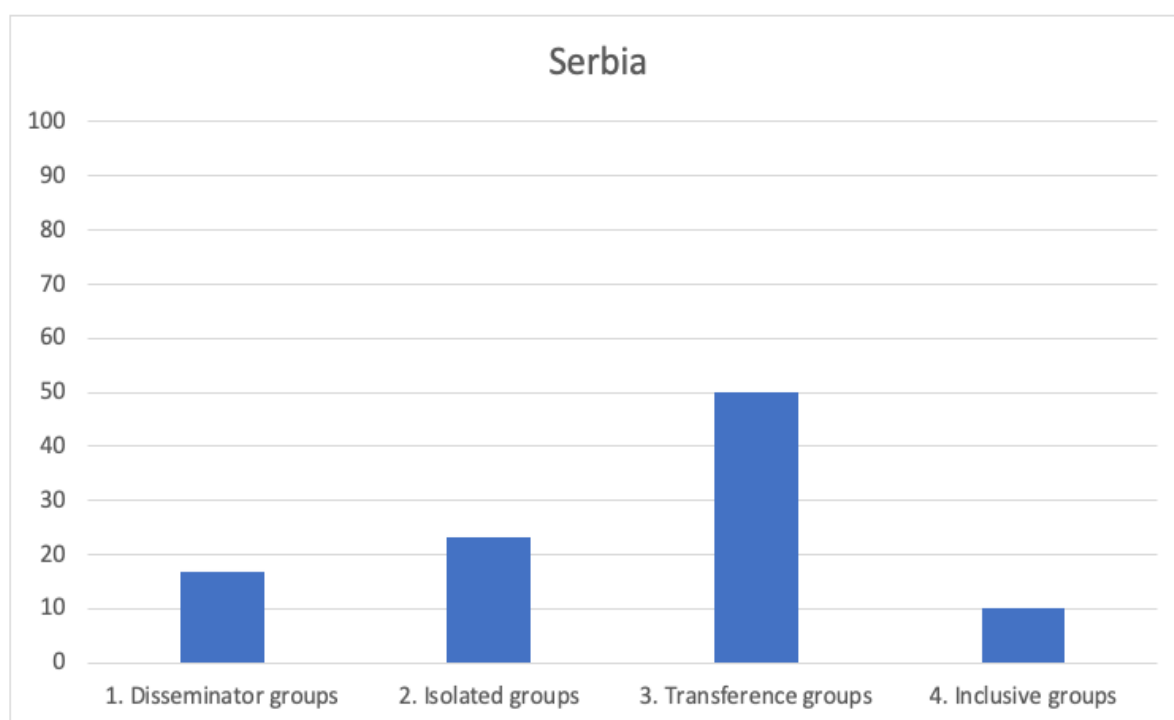
Level (KM6)	Frequency	Percentage
2 (no participation)	1	3.3
3 (passive participation)	21	70.0
6 (knowledge mobilisation)	8	26.7

Below we can observe the research profile of the groups in Serbia (Table 75).

Table 75. Frequency and percentage of groups in Serbia according to the cluster analysis

Cluster	Frequency	Percentage
1. Disseminator groups	5	16.7
2. Isolated groups	7	23.3
3. Transference groups	15	50.0
4. Inclusive groups	3	10.0

Figure 28. Percentage of groups in Serbia according to the cluster analysis



8. 4. SLOVENIA

National level: Provision of research staff at universities in Slovenia is regulated through two laws: Higher education act (ZVis) and Research and Development Activity Act (ZRRD).

Academic staff at the university includes teachers (assistant professor, associate professor and full professor) and associates (assistant and doctoral assistant). A researcher performing research or development activity in a research organization must have at least a university degree and must meet other prescribed conditions. The following criteria are defined for the selection to associate and teaching titles: 1) Anyone with a doctorate of science and proven pedagogical skills may be elected to the title of assistant professor, associate professor and full professor. 2) Anyone with a doctorate of science can be elected to the title of scientific worker. A researcher may also be elected to the title of higher education teacher if he / she has proven pedagogical skills. 3) Anyone who has completed at least a second-cycle study program, has recognized works of art and proven pedagogical skills may be elected to the title of higher education teacher of art disciplines. 4) Anyone who has completed at least a second-cycle study program and has proven pedagogical skills may be elected to the title of senior lecturer. 5) A person who has completed at least a second-cycle study program and has proven pedagogical skills may be elected to the title of lecturer or lecturer. Quantitative indicators of a researcher's professional and scientific success are determined by the category, which include: published works in the field of activities (published documented scientific research works, active participation in international professional meetings), recognition in the domestic and international professional public, eligibility for a research project leader, research work at relevant foreign universities or scientific institutions, mentoring: leading young researchers and leading or participating in the management of diploma, master's, specialist and doctoral theses... More detailed conditions for election to the title of teacher and employment at the university, ie the faculties within it, are defined by the university, but in accordance with the Minimum conditions for election to the title of teacher at the university, which is proposed and approved by the National Council for Higher Education (SVŠ). As part of the selection of candidate to the title of teacher and further employment, the university and the faculty value the same elements than Serbia.

Institutional level (LUP): University of Maribor is an autonomous scientific research facility and the highest educational institution with a special position. There are currently 17 faculties that are a part of the UM, and two additional institutes. When electing a teacher, the Commission evaluates the following elements of the candidate: 1. Mandatory elements: 1.1. Scientific-research, ie artistic work, 1.2. Teaching work and engagement in the development of teaching, 1.3. Providing scientific and teaching youth; 2. Elective elements: 2.1. Professional contribution, 2.2. Contribution to academia and the wider community, and 2.3. Cooperation with other higher education, scientific-research, ie institutions of culture or art, in the country and abroad. For the evaluation of scientific-research or artistic work of teachers, the rulebook defines the minimum criteria for acquiring individual teacher titles. When scoring individual merits, published papers and results of scientific-research work, as well as papers that are in the publishing phase, provided that they have an active DOI number, are taken into account. The number of research results is multiplied by the

weighting factors (points). University of Maribor typical career path is: Lecturer ► Assistant professor ► Associate professor ► Full professor. The indicators and the procedure for selection for titles and employment at the University of Maribor apply to teachers (Assistant professor, Associate professor, Full professor). For the election to the associate titles (Assistant, Assistant with doctorate), each Faculty within the University applies the rules defined in its Regulations. Election to teaching positions and employment is realized for a certain period of time for 5 years, except for the title of Full Professor, which is permanent.

Table 76. MoRRI indicators: LUP

MoRRI indicators (data from 2016)	LUP
GE1 Share of research-performing organisations (HEI's) with gender equality plans	<i>Has your institution a gender quality plan?</i> No
GE2.4 Share of female researchers – higher education sector	<i>Only 2020</i> 51%
GE10.1 Share of female authors	<i>Only 2020 (Data available at 13/01/21)</i> 53%
SLSE4.1 the number of member organisations in the European Citizen Science Association (ECSA)	<i>Is your institution member of ECSA?</i> No Access to member list
PE10 infrastructure for involvement of citizens and societal actors in research and innovation (Existence of infrastructure: Access, Representation and Availability for multiple channels for interaction)	<i>Has your institution infrastructure for involvement of citizens in research and innovation? (to ask the research manager)</i>
OA1.1 Share of Open Access publications	<i>Only 2020 (Data available at 13/01/21)</i>
E1a Ethics at the level of research performing organisations (Share of higher education institutions having a research ethics committee & research integrity office)	<i>Has your institution research ethics committee & research integrity office?</i>

Descriptives and profiles

Table 77 shows the distribution of groups in Slovenia, most of them were in the area of social & legal sciences (53.3%). Table 78 also shows that, in this country, most of the participating groups were applied research groups (60.0%).

Table 77. Sample distribution per area in Slovenia

Area	Frequency	Percentage
Arts & humanities	2	13.3
Engineering & architecture	4	26.7
Social & legal sciences	8	53.3
Sciences	1	6.7

Table 78. Sample distribution per type of research in Slovenia

Type	Frequency	Percentage
Basic	6	40.0
Applied	9	60.0

Table 79 shows the descriptive results, where the KM5B indicator also has a higher mean and median score, followed closely by KM6 and KM1.

Table 79. Mean, median and standard deviation of the KM indicators in Slovenia

Indicator	Mean	Median	SD
OP	2.53	3	0.743
KM1	4.47	5	1.598
KM2	3.60	3	1.242
KM3	3.73	3	1.280
KM4	3.40	3	1.404
KM5A	4.07	3	1.387
KM5B	4.60	6	1.844
KM6	4.53	5	1.506

According to the results in Table 80, most of the groups in Slovenia have a clear and detailed level of stakeholder definition.

Table 80. Frequency and percentage of groups in Slovenia showing the different Levels of definition of the stakeholders (0P)

Level (0P)	Frequency	Percentage
1 (not defined)	2	13.3
2 (vague definition)	3	20.0
3 (clear and detailed definition)	10	66.7

Also in the case of Slovenia, a large percentage of groups have a high level of knowledge mobilization about stakeholder involvement in the identification of the research topic (Table 81).

Table 81. Frequency and percentage of groups in Slovenia per level of stakeholders' participation in the identification of the research topic (KM1)

Level (KM1)	Frequency	Percentage
2 (no participation)	2	13.3
3 (passive participation)	4	26.7
5 (instrumental participation)	3	20.0
6 (knowledge mobilisation)	6	40.0

Similarly, most groups in this country give stakeholders a passive role (66.7%) in the research design and only 13.3% give them the opportunity to participate fully (Table 82).

Table 82. Frequency and percentage of groups in Slovenia per level of stakeholders' participation in the research design (KM2)

Level (KM2)	Frequency	Percentage
2 (no participation)	1	6.7
3 (passive participation)	10	66.7
5 (instrumental participation)	2	13.3
6 (knowledge mobilisation)	2	13.3

Also, a large majority of groups (73.3%) assign a passive role to stakeholders in the participation in the data collection phase (Table 83).

Table 83. Frequency and percentage of groups in Slovenia per level of stakeholders' participation in the data collection/gathering (KM3)

Level (KM3)	Frequency	Percentage
3 (passive participation)	11	73.3
5 (instrumental participation)	1	6.7
6 (knowledge mobilisation)	3	20.0

In the case of stakeholder participation in data analysis, most groups in Slovenia give them a passive role (Table 84).

Table 84. Frequency and percentage of groups in Slovenia per level of stakeholders' participation in the data analysis (KM4)

Level (KM4)	Frequency	Percentage
2 (no participation)	3	20.0
3 (passive participation)	9	60.0
6 (knowledge mobilisation)	3	20.0

In the following, the results on who disseminates and their participation (Table 85) and which channels were used for dissemination to empower stakeholders (Table 86) in Slovenia can be seen.

Table 85. Frequency and percentage of groups in Slovenia per level of stakeholders' participation in the dissemination (KM5A)

Level (KM5A)	Frequency	Percentage
3 (passive participation)	9	60.0
5 (instrumental participation)	2	13.3
6 (knowledge mobilisation)	4	26.7

Table 86. Frequency and percentage of groups in Slovenia per type of dissemination channel used (KM5B)

Level (KM5B)	Frequency	Percentage
2 (scientific dissemination)	4	26.7
3 (scientific open access dissemination)	1	6.7
4 (non academic guests)	1	6.7
6 (educational dissemination)	9	60.0

Finally, Table 87 shows the results of stakeholder participation in the sustainability plans, which is distributed between passive and knowledge mobilisation.

Table 87. Frequency and percentage of groups in Slovenia per level of stakeholder participation in the sustainability plans (KM6)

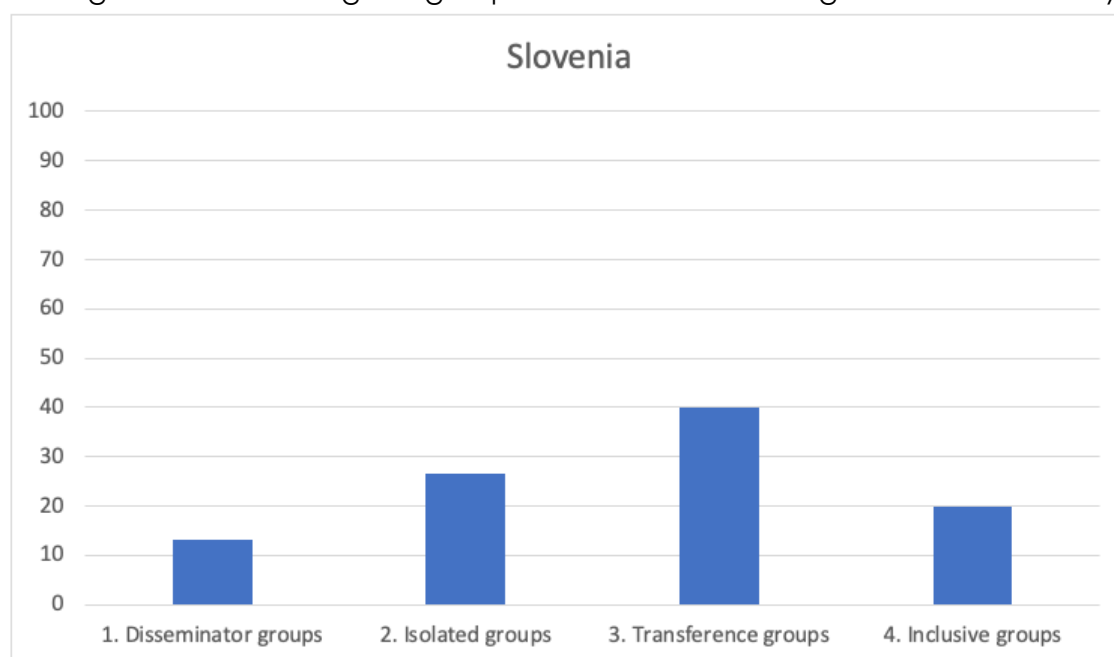
Level (KM6)	Frequency	Percentage
2 (no participation)	1	6.7
3 (passive participation)	5	33.3
5 (instrumental participation)	3	20.0
6 (knowledge mobilisation)	6	40.0

Below we can observe the research profile of the groups in Slovenia (Table 88).

Table 88. Frequency and percentage of groups in Slovenia according to the cluster analysis

Cluster	Frequency	Percentage
1. Disseminator groups	2	13.3
2. Isolated groups	4	26.7
3. Transference groups	6	40.0
4. Inclusive groups	3	20.0

Figure 29. Percentage of groups in Slovenia according to the cluster analysis



8. 5. SPAIN

National level: The Spanish University System (SUE) was made up of a total of 83 universities, 50 public and 33 private (2018-2019 academic year), 148.974 academic and research staff. The most common recruitment method involves a selection process of candidates responding to a vacancy. In Spain making vacancies public is a requirement (open competition). Some positions (associate, assistant and contract lecturers) are recruited through a selection process based on a public vacancy and merit-based competition, while university professors through a mix of merit-based competition and public examination. All full-time categories are affected by the assessment indicators, which include: 1) Research experience: scientific publications, books and book chapters, research projects and contracts, congresses and conferences; 2) Academic background (teaching and professional experience) and 3) Other merits. There are some differences according to the area. There is a periodical Six-year assessment, academic staff has to submit five contributions (quality of the contributions is measured by the impact of the journal. Prevailing JCR above the other index). If the candidate obtains a positive assessment, there are consequences such as a salary increase, reduction of credits for teaching or becoming civil servant (in the case of accreditation of university senior professor). Incentive plan for the quality of academic staff and the recognition of the work of full-time teaching and research staff, in accordance with the Organic Law on Universities (Law 6/2001, of 21 December), and the development regulations, both the application for the UJI incentives (own system) and the application for the UJI incentives with regional criteria (regional system) are applied (the latter is outside the scope of this research). In the event of a negative accreditation, the candidate must wait for a time to reapply, depending on the position and agency. The doctorate is legally required for the

appointment to some academic staff¹¹ categories or positions at university. The habilitation or a centrally coordinated accreditation are legally required for accessing intermediate or senior positions in academia. In Spain, we find the National Agency for Quality Assessment and Accreditation (ANECA) and ten regional agencies.

Institutional level (UJI):

The Universitat Jaume I (UJI) is a young university whose mission is to further knowledge by conducting high-quality research that is capable of reaching society, as well as attracting research talent and external funding. Since 1991, the UJI has earned a reputation for serious and relevant scientific work which has allowed it to be included in tier 601-700 of the top universities in the world according to the Shanghai Ranking of 2021 and among the exclusive group of the best young universities in the world according to the Times Higher Education (THE) Young University Ranking 2021. In addition, the UJI Science, Technology and Business Park provides a singular environment allowing for companies and research groups to interact and for the creation of knowledge transfer, innovation and entrepreneurship programmes. The university has 184 research groups. Every department and/or area has developed its own scale to regulate staff provision, according to different positions (associate, assistant, contract professor...) and based on the university official scale. In all cases, the calls for applications must include: the type of contract, its duration and the type of commitment, the department and the area of knowledge to which the vacancy is assigned, the teaching profile, the research profile, the remuneration, the indispensable requirements for occupying the position according to the contractual category, the scale for scoring the merits, the composition of the selection committee, the application form, deadlines and the schedule of teaching activity to be carried out, if necessary. The typical career path is: Assistant professor ► PhD assistant professor ► PhD contract professor ► University senior lecturer ► University senior professor. The general criteria for assessment comprises: 1) Academic and professional training; 2) Research experience and research project; 3) Teaching experience and teaching project; 4) Valencian knowledge (own regional language); 5) English knowledge; 6) For higher positions, Experience in management and administration. Performance indicators are used at institutional level for monitoring researchers' research quality: a) Publications; b) Patents; c) Artistic creation activities; d) Training; e) R&D Project; f) R&D Agreement and contracts; g) Research stays in other national or foreign centres; h) Other research.

¹¹ Rather as the word 'teacher' immediately invokes a picture of staff in school education, the notion of academic staff in higher education is also ubiquitous and likely to convey a clear image of higher education teachers and researchers (EC, 2017, p. 17)

Table 89. MoRRI indicators: UJI

MoRRI indicators (data from 2016)	UJI
GE1 Share of research-performing organisations (HEI's) with gender equality plans	<i>Has your institution a gender quality plan?</i> Yes First Plan 2010-2014 Second Plan 2016-2020 Because the elaboration of equality plans is mandatory in all organisations with more than 250 employees in Spain (Article 45 of Organic Law 3/2007, of 22 March, for effective equality between women and men)
GE2.4 Share of female researchers – higher education sector	<i>Only 2020</i> 50,0% (40,20% Researcher group coordinator)
GE10.1 Share of female authors	<i>Only 2020 (Data available at 11/11/20)</i> <i>% female researchers with at least 1 article (journal): 43.71%</i> <i>% female researchers with at least 1 book: 27.78%</i> <i>% female researchers with at least 1 book's chapter: 54.55%</i> <i>% female researchers with at least 1 conference paper: 44.35%</i>
SLSE4.1 the number of member organisations in the European Citizen Science Association (ECSA)	<i>Is your institution member of ECSA?</i> No Access to member list

PE10 infrastructure for involvement of citizens and societal actors in research and innovation (Existence of infrastructure: Access, Representation and Availability for multiple channels for interaction)	Has your institution infrastructure for involvement of citizens in research and innovation? (to ask the research manager) Yes The Scientific Culture and Innovation Unit (UCC + i) is a working group set up in September 2011. Its mission is to channel and enhance the actions of communication and dissemination of science, technology and innovation at the Universitat Jaume I, as well as encourage the transfer of progress to society, thus reinforcing the work of other university services. The UCC+i is attached to the Communication and Publications Service at the UJI. It also belongs to the UCC+i Network of the Spanish Foundation for Science and Technology (FECYT).
OA1.1 Share of Open Access publications	Only 2020 (Data available at 14/09/20) 76.16% of the contents of the UJI Repository are open access documents (thesis, 1049; journals, 22; articles and communications, 5527; Bachelor's Thesis, 3638; Master's Thesis, 1632; books, 177; teaching resources, 748; patrimonial documents, 14280 documents, 654).
E1a Ethics at the level of research performing organisations (Share of higher education institutions having a research ethics committee & research integrity office)	Has your institution research ethics committee & research integrity office? Yes, just an Ethics Committee See Ethics Committee and Animal Welfare Ethics Committee

Descriptives and profiles

Table 90 shows the distribution of groups in Slovenia, most of them were in the area of social & legal sciences (25.7%), followed closely by arts & humanities (20.0%) and engineering & architecture (20.0%). Contrary to previous cases, table 91 also shows that, in this country, most of the participating groups were basic research groups (54.3%).

Table 90. Sample distribution per area in Spain

Area	Frequency	Percentage
Arts & humanities	7	20.0
Engineering & architecture	7	20.0
Health	6	17.1
Social & legal sciences	9	25.7
Sciences	6	17.1

Table 91. Sample distribution per type of research in Spain

Type	Frequency	Percentage
Basic	19	54.3
Applied	16	45.7

Table 92 shows the descriptive results, where the KM5B indicator also has a higher mean and median score.

Table 92. Mean, median and standard deviation of the KM indicators in Spain

Indicator	Mean	Median	SD
OP	2.66	3	0.591
KM1	3.06	2	1.494
KM2	2.54	2	1.221
KM3	2.83	2	1.317
KM4	2.66	2	1.136
KM5A	3.11	2	1.530
KM5B	4.60	6	1.684
KM6	3.14	3	1.396

According to the results in Table 93, most of the groups in Spain have a clear and detailed level of stakeholder definition.

Table 93. Frequency and percentage of groups in Spain showing the different Levels of definition of the stakeholders (0P)

Level (0P)	Frequency	Percentage
1 (not defined)	2	5.7
2 (vague definition)	8	22.9
3 (clear and detailed definition)	25	71.4

Most of the groups in Spain have a passive participation or do not participate in the identification of the research topic (Table 94).

Table 94. Frequency and percentage of groups in Spain per level of stakeholders' participation in the identification of the research topic (KM1)

Level (KM1)	Frequency	Percentage
2 (no participation)	19	54.3
3 (passive participation)	8	22.9
5 (instrumental participation)	3	8.6
6 (knowledge mobilisation)	5	14.3

Similarly, most groups in this country do not involve stakeholders in the design of the research (77.1%), and only 8.6% give them the opportunity to participate fully (Table 95).

Table 95. Frequency and percentage of groups in Spain per level of stakeholders' participation in the research design (KM2)

Level (KM2)	Frequency	Percentage
2 (no participation)	27	77.1
3 (passive participation)	4	11.4
5 (instrumental participation)	1	2.9
6 (knowledge mobilisation)	3	8.6

With regard to stakeholder participation in the data collection, most groups in Spain (60.0%) do not give it any consideration and only 8.3% fully include them as knowledge mobilisation (Table 96).

Table 96. Frequency and percentage of groups in Spain per level of stakeholders' participation in the data collection/gathering (KM3)

Level (KM3)	Frequency	Percentage
2 (no participation)	21	60.0
3 (passive participation)	8	22.9
5 (instrumental participation)	3	8.6
6 (knowledge mobilisation)	3	8.6

In the case of stakeholder participation in data analysis, most groups in Spain do not include them or attribute a passive role (Table 97).

Table 97. Frequency and percentage of groups in Spain per level of stakeholders' participation in the data analysis (KM4)

Level (KM4)	Frequency	Percentage
2 (no participation)	22	62.9
3 (passive participation)	9	25.7
5 (instrumental participation)	2	5.7
6 (knowledge mobilisation)	2	5.7

In the following, the results on who disseminates and their participation (Table 98) and which channels were used for dissemination to empower stakeholders (Table 99) in Spain can be seen.

Table 98. Frequency and percentage of groups in Spain per level of stakeholders' participation in the dissemination (KM5A)

Level (KM5A)	Frequency	Percentage
2 (no participation)	18	51.4
3 (passive participation)	9	25.7
5 (instrumental participation)	2	5.7
6 (knowledge mobilisation)	6	17.1

Table 99. Frequency and percentage of groups in Spain per type of dissemination channel used (KM5B)

Level (KM5B)	Frequency	Percentage
2 (scientific dissemination)	8	22.9
3 (scientific open access dissemination)	2	5.7
4 (non academic guests)	4	11.4
5 (Informational dissemination)	3	8.6
6 (educational dissemination)	18	51.4

Finally, Table 100 shows the results of stakeholder participation in the sustainability plans, which is mostly passive or no participation.

Table 100. Frequency and percentage of groups in Spain per level of stakeholder participation in the sustainability plans (KM6)

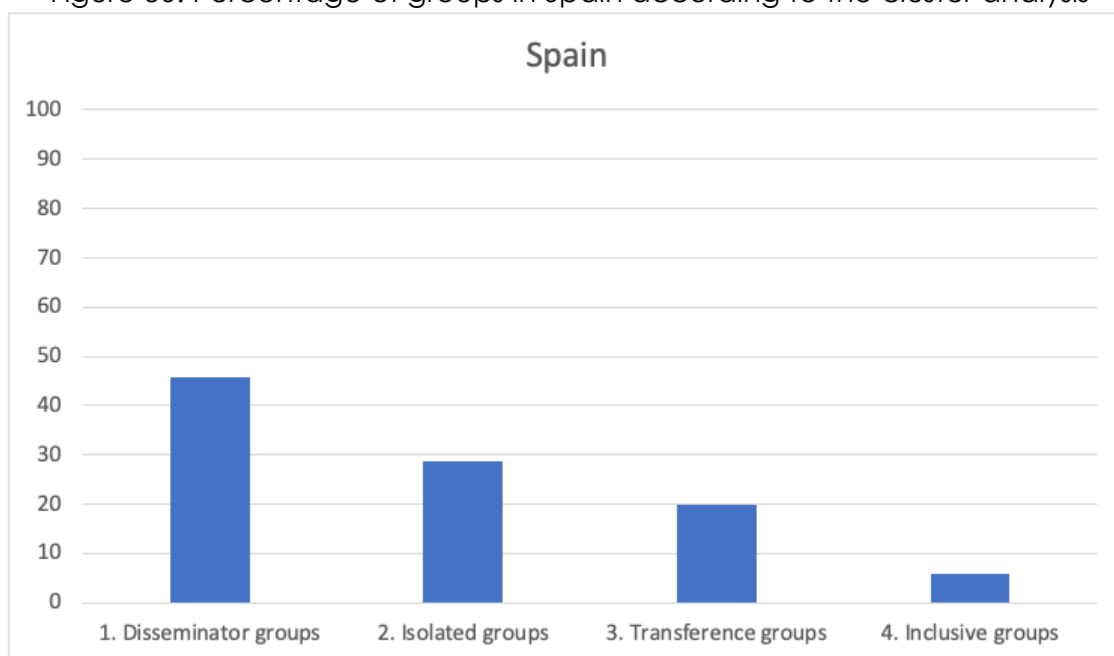
Level (KM6)	Frequency	Percentage
2 (no participation)	14	40.0
3 (passive participation)	14	40.0
5 (instrumental participation)	2	5.7
6 (knowledge mobilisation)	5	14.3

Below we can observe the research profile of the groups in Spain (Table 101).

Table 101. Frequency and percentage of groups in Spain according to the cluster analysis

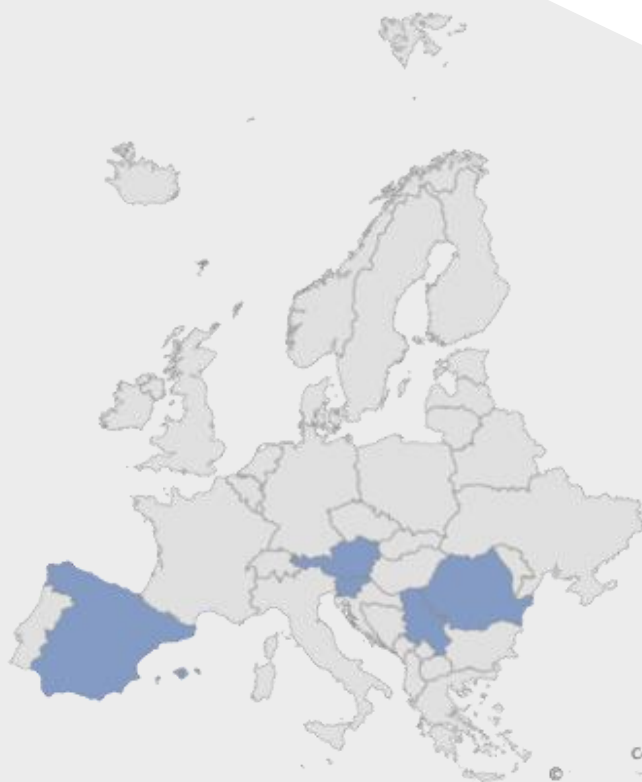
Cluster	Frequency	Percentage
1. Disseminator groups	16	45.7
2. Isolated groups	10	28.6
3. Transference groups	7	20.0
4. Inclusive groups	2	5.7

Figure 30. Percentage of groups in Spain according to the cluster analysis





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