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# A snapshot of university research through the lens of university social responsibility

## Fotografía de la investigación universitaria a través de la lente de la responsabilidad social universitaria

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**Abstract**

*University research in the framework of university social responsibility implies a commitment to society, which means that maximum stakeholder participation should be encouraged, mainly for emancipatory purposes. In this study we describe the state of the art in university research from an inclusive point of view according to the level of stakeholder participation in the research process. To this end, 80 interviews were held with research groups in five European countries. Results show that, in general, there is no inclusive participation, and that information about research outcomes is only shared with stakeholders through media channels. In addition, no differences were found between areas of research, and although applied research seems to be more participatory than basic research, in general the participation is self-interested on the part of the researcher. These results reveal a need to re-examine research quality evaluation policies that are centred on academic impact, but which do not take the social relevance of research into account.*

*Keywords:* social responsibility; participatory research; applied research, basic research; cluster analysis.

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**Resumen**

*La Investigación universitaria, en el marco de la Responsabilidad social universitaria, implica un compromiso con la Sociedad, lo que significa que debe potenciarse al máximo la participación de los grupos de interés sobre todo con un propósito emancipador. Este trabajo describe el estado de la cuestión en la investigación universitaria desde una perspectiva inclusiva de acuerdo al nivel de participación de los grupos de interés en el proceso de investigación. Con este fin, se llevaron a cabo 80 entrevistas a grupos de investigación de cinco países europeos. Los resultados muestran que, en general, no hay una participación inclusiva y que la información sobre los resultados de la investigación solo se comparte con los grupos de interés a través de los medios. Además, no se han encontrado diferencias entre áreas de investigación y, aunque la investigación aplicada parece ser más participativa que la investigación básica, en general, se trata de una participación instrumental o interesada por parte del investigador. Estos resultados revelan la necesidad de reexaminar las políticas de evaluación de la calidad de la investigación, centradas en el impacto académico, pero que no consideran la relevancia social de esta.*

*Keywords:* responsabilidad social; investigación participativa; investigación aplicada, investigación básica; análisis clúster.

## Introduction and objectives

University social responsibility (USR) is a university mission designed to bring the institution closer to its communities. Where research is concerned, it is related to the way universities manage the impact of research output (Domínguez Pachón, 2009) from an ethical perspective (Vallaeys, 2007), which implies an approach that serves society (Navas Ríos & Romero González, 2016) and that covers the whole research process, from the motivation behind the choice of research problem to the final output of knowledge and its dissemination (Martí et al., 2014).

For centuries, universities have existed to create and disseminate knowledge. Now that knowledge has become the force driving societal development, the role of academia and its efforts to disseminate knowledge are even more important (Latif, 2018). Indeed, European education policy recognises higher education institutions as "central actors in the 'knowledge square': education, research, innovation and service to society" (EC, 2020a). In addition, if we look at university research through the USR lens, both the institutions themselves and the national and international guidelines (EC, 2011; ISO, 2010; ME, 2011; ONU, 2009;) allude to the link between research and inclusion, referring to ethics in research processes, the gender perspective in research management, open access to results, citizen participation in reporting these results, and the university community's engagement with methodological approaches that are accessible and open to diverse perspectives and voices (Dima, 2015; Ribeiro et al., 2018). Furthermore, continuous dialogue with stakeholders must be prioritised when universities incorporate social responsibility as a strategy (EU, 2014) as well as teachers and academic researchers training in this regard as the only way to ensure a sustainable development (Adler, 2023; Ayala et al., 2022). This vision of university research has been strengthened through the European Research Area, which prioritises actions

such as open access publishing, and helping to shape research and innovation through participatory or citizen science (EC, 2020b).

This new research approach, in which stakeholders are actively involved in the whole research process (Vallaeys, 2014), is known as inclusive research (Nind, 2017). This means that the research must be relevant to the people it affects, it must take into account their opinions and experiences, and it must treat them with respect so they benefit from it. At the same time, it emphasises research as a participatory and emancipatory experience for stakeholders, which is the idea that becomes the ethical profile of inclusive investigation. Therefore, in light of the above, within the USR framework university research should be inclusive research.

In this vein, knowledge mobilisation is one of the most widely recognised and accepted principles (SSHRCC, 2014). Knowledge mobilisation can be defined as an iterative social process (Abma et al., 2017; Labbé et al., 2020) to create and give meaning to knowledge (Van de Ven & Johnson, 2006), which is shared between researchers and 'the researched' (Traver et al., 2017) in such a way that they work together to co-create knowledge throughout the research process (not only in its concluding stages) (Abma et al, 2017; Skipper & Peppler, 2020), which helps to close the gap between empirical and practical knowledge (Labbé et al., 2020; Moliner García et al., 2020; SSHRC, 2014) and move from research to action (Parrilla Latas et al., 2016). The purpose of knowledge mobilisation is, therefore, to expand the scope of research (Parrilla Latas et al., 2016) and create a social impact (Abma et al., 2017; Skipper & Peppler, 2020). That is, responses to global and social problems are constructed with the participation of their main players (stakeholders), which means that the research has a greater impact and added value (Doyle, 2018) and becomes a vehicle for social transformation.

Hence, in order to analyse how university research activity mobilises knowledge and is therefore inclusive (EU, 2014), we pose the following questions: Do research groups take their stakeholders into account in the research process? To what extent do the traditions associated with areas and types of research also mark the differences in their stakeholders' participation?

Thus, the objectives of this paper are to describe university research in relation to stakeholder participation.

(1) To analyse possible differences related to area and type of research
(2) To establish research profiles according to type of stakeholder participation

## Methodology

This study is part of a larger international project[2] that applies qualitative research methodology, essentially semi-structured interviews, with various university research groups (Bericat, 1998), complemented by a quantitative approach in which the responses from the interviews are classified in a series of ordinal level indicators that considered both, the participatory and the ethical perspective in the answers (see Table 2). Both the

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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).

## Sample

The unit of analysis was the research group, understood as a group of researchers, from the same or different universities, who usually worked on a joint research project. The quota non-probability sampling technique (Kalton, 1983) was used; area and type of research were considered as the classification variables. The area levels were those established in Spanish Royal Decree RD1393/2007 (BOE, 2007) (arts and humanities, sciences, social and legal sciences, engineering and architecture, and health). Regarding the type of research, two levels were considered: basic: understood from an intentional perspective as research that "solving a general problem will potentially help solve a wide range of other problems" (Calvert, 2006, p.204) and applied: in contrast, as research that solves specific problems, generally using the results derived from basic research.

In principle, interviews should have been held with at least six groups from each area, three corresponding to basic and three to applied research types. However, as can be seen in Table 1, the quotas for research type could not always be met because of the research traditions in those areas. For example, in the area of science we were only able to find two applied research groups. Nonetheless, every attempt was made to meet the quota per area and a total of 80 research groups were interviewed in five European countries (Austria, Romania, Slovenia, Serbia and Spain), representing 791 researchers of whom 52.9% were men and 47.1% were women.

Table 1

*Sample distribution*

| Area | Type | | Total groups |
|---|---|---|---|
| | Basic | Applied | |
| Arts and humanities | 3 | 6 | 9 |
| Sciences | 9 | 2 | 11 |
| Social and legal sciences | 12 | 15 | 27 |
| Engineering and architecture | 8 | 19 | 27 |
| Health | 3 | 3 | 6 |
| Total | 35 | 45 | 80 |

## Instruments

The interview consisted of three separate parts (see Annex 1). 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. 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.

The answers were later classified in the indicators. Each indicator was scored on an ordinal 3-point scale where 3 was the highest level of participation or the most inclusive ethics (see the definition of the indicators in table 2).

Table 2

*Indicators*

| **Research phase** | **Participative perspective** (Stakeholder incorporation in the research) | **Ethical perspective** (Justification for the participation and objective of the research) |
|---|---|---|
| Stakeholder (SH) definition | *Indicator 0P*<br>1. The SH are not explicitly defined<br>2. The SH are defined in a general way<br>3. Direct and indirect SH are clearly and concisely defined | |
| Problem | *Indicator 1P*<br>1. The research group defines this unilaterally<br>2. The SH, as the only beneficiary, proposes the problem to the research group<br>3. The SH and the research group jointly define the problem, of which the direct interested party will not be the only beneficiary | *Indicator 1E*<br>1. Not applied<br>2. Instrumental ethics<br>3. Inclusive ethics |

| **Research phase** | **Participative perspective** (Stakeholder incorporation in the research) | **Ethical perspective** (Justification for the participation and objective of the research) |
|---|---|---|
| Design | *Indicator 2P*<br>1. The SH do not participate<br>2. They are informed, but they do not participate in decision making<br>3. It is designed jointly | *Indicator 2E*<br>1. Not applied<br>2. Instrumental ethics<br>3. Inclusive ethics |
| Gathering | *Indicator 3P*<br>1. Data gathering is only carried out by the research group with no SH interaction<br>2. The research group interacts with the SH to gather data<br>3. The SH share data gathering with the research group | *Indicator 3E*<br>1. Not applied<br>2. Instrumental ethics<br>3. Inclusive ethics |
| Analysis | *Indicator 4P*<br>1. The SH do not participate<br>2. The SH do not participate in the analysis, but may provide information if the research group requests it<br>3. The SH analyse the data together with the research group | *Indicator 4E*<br>1. Not applied<br>2. Instrumental ethics<br>3. Inclusive ethics |
| Dissemination | *Indicator 5P.A*<br>1. The SH do not participate<br>2. The SH play a supporting role in the process of dissemination initiated and applied by the research group<br>3. The SH participate as co-authors in the various dissemination strategies<br>*Indicator 5P.B*<br>1. Scientific channels<br>2. Open access channels and non-scientific channels as guests<br>3. Various scientific and non-scientific formats as organisers | *Indicator 5E.A*<br>1. Not applied<br>2. Instrumental ethics<br>3. Inclusive ethics<br>*Indicator 5E.B*<br>1. Not applied<br>2. Instrumental dissemination<br>3. Inclusive dissemination |
| Use | *Indicator 6P*<br>1. No use strategy<br>2. There is a general use plan, but it is vague and not specifically detailed<br>3. There is a well-defined strategy for the use of research results | *Indicator 6E*<br>1. Not applied<br>2. Instrumental use<br>3. Inclusive use |

## Data gathering process and analysis of results

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

To analyse the results, after confirming that there are no significant differences between countries, for the first objective we calculated the median for each indicator in each area and type of research, given the ordinal level of measurement of the data collected. Second, we ran the Kruskal-Wallis H test for ordinal variables to determine whether there were significant differences between areas and types of research with regard to the participatory and ethical dimensions of the indicators.

For the second objective we performed a hierarchical cluster analysis, given the ordinal nature of the data, to identify any differentiating patterns in stakeholder participation. We used SPSS v.27 with the Ward method to maximise intragroup homogeneity (Vilà-Baños et al., 2014), taking the indicator scores as grouping variables. We then analysed the discriminatory power of the model through discriminatory analysis.

Regarding ethical requirements, this research has been developed in accordance with the principles of the Declaration of Helsinki for research involving human subjects. All participants were informed of the aim and characteristics of the research and the conditions were agreed. They signed the informed consent aligned with the guidelines of the Ethics and University and Social Responsibility Committee of University Jaume I. The ethical issues of confidentiality and anonymity were taken into account and the results were returned and discussed in two moments, the first one after the interview and the second with the final results. The conditions for their dissemination were also agreed to the participants. Finally, all the results and reports are available open access in the Erasmus Results Platform as well as in Zenodo, a general purpose open access repository developed under the European programme OpenAIRE.

## Results and discussion

### Objective 1. To analyse possible differences related to area and type of research

Table 3 shows that, in general terms, the research groups have a clear definition of their stakeholders from the participatory perspective, although they seem to participate very little throughout the whole research process in basic research carried out in any of the areas. Only the areas of arts and humanities, and social

and legal studies stand out as disseminating their results through various scientific and non-scientific channels (5P.B)

This participation is higher in the case of applied research, which might be expected if we bear in mind that stakeholders are affected much more directly by applied research and their participation may therefore be more necessary and easier to rely on. In particular, the use of non-academic dissemination channels is widespread in applied research (5P.B), with the exception of sciences, which seems not to have followed this path.

Table 3

*Basic descriptive statistics (Median) in Participatory Perspective indicators according to area and type of research.*

| Type | Indic. | Arts & human. | Sciences | Social Sciences & Law | Engi. & Arch. | Health | Total |
|---|---|---|---|---|---|---|---|
| Basic | 0P | 2 | 2 | 3 | 3 | 3 | 3 |
| | 1P | 1 | 1 | 2 | 1 | 1 | 1 |
| | 2P | 1 | 1 | 1 | 1 | 1 | 1 |
| | 3P | 1 | 1 | 2 | 2 | 1 | 1 |
| | 4P | 1 | 1 | 2 | 1.5 | 1 | 1 |
| | 5PA | 1 | 1 | 2 | 2 | 1 | 2 |
| | 5PB | 3 | 1 | 3 | 1 | 2 | 2 |
| | 6P | 2 | 1 | 2 | 2 | 1 | 2 |
| Applied | 0P | 3 | 2.5 | 3 | 3 | 3 | 3 |
| | 1P | 3 | 3 | 3 | 2 | 2 | 3 |
| | 2P | 1 | 2.5 | 3 | 3 | 3 | 3 |
| | 3P | 2.5 | 2 | 2 | 2 | 1 | 2 |
| | 4P | 1.5 | 1.5 | 2 | 2 | 2 | 2 |
| | 5P.A | 2 | 2 | 3 | 2 | 2 | 2 |
| | 5P.B | 3 | 1.5 | 3 | 3 | 3 | 3 |
| | 6P | 3 | 2.5 | 2 | 2 | 3 | 2 |

In the analysis of the ethical aspect of participation (Table 4), it was clearly futile to apply these indicators in cases in which the stakeholders did not participate; hence, given the general low level of participation, the minimum scores are displayed in these

cases. The exception is indicator 5B, which reflects a broad interest to disseminate the research for information purposes, as in the case of dissemination of basic research, compared to a more educational attitude towards stakeholders apparently shown by applied research groups.

Table 4

*Basic descriptive statistics (Median) in Ethical Perspective indicators according to area and type of research.*

| Type | Indic. | Arts & human. | Sciences | Social Sciences & Law | Engi. & Arch. | Health | Total |
|---|---|---|---|---|---|---|---|
| Basic | 1E | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2E | 1 | 1 | 1 | 1 | 1 | 1 |
| | 3E | 1 | 1 | 1 | 1 | 1 | 1 |
| | 4E | 1 | 1 | 1 | 1 | 1 | 1 |
| | 5E.A | 1 | 1 | 1 | 1 | 1 | 1 |
| | 5E.B | 3 | 1 | 3 | 1 | 2 | 2 |
| | 6E | 1 | 1 | 1 | 1 | 1 | 1 |
| Applied | 1E | 2.5 | 2.5 | 2 | 1 | 1 | 2 |
| | 2E | 1 | 1.5 | 1 | 1 | 1 | 1 |
| | 3E | 1.5 | 1 | 1 | 1 | 1 | 1 |
| | 4E | 1 | 1 | 1 | 1 | 1 | 1 |
| | 5E.A | 1 | 1 | 3 | 1 | 2 | 1 |
| | 5E.B | 3 | 1 | 3 | 2 | 3 | 3 |
| | 6E | 2 | 2 | 1 | 1 | 3 | 1 |

In what follows we compare the indicator scores to uncover any significant differences in the levels of stakeholder participation between areas and types of research (see Table 5), using the Kruskal-Wallis test. Overall, the only clear differences in the results are between basic and applied research. In the comparison by areas, higher participation is only observed in the data analysis (4P) and joint dissemination with stakeholders (5P.A) in social and legal sciences, and in diversity of dissemination channels (5P.B) with an educational purpose (5E.B) in the area of arts and humanities. Finally, very few differences are observed between research type in each area, which might confirm that the "participatory" tradition of the area remains more or less constant, regardless of the type of research. When differences do exist, they are always favourable to applied research and with a 95% confidence level.

Table 5

*Comparison of indicators between type of research and area (Kruskal-Wallis).*

| | Ind | Arts & hum. (AH) | Scie. (SC) | Social Sci. & Law (SL) | Engi. & Arch. (EA) | Health (HE) | Dif. area | Dif. type |
|---|---|---|---|---|---|---|---|---|
| Participatory perspective | 0P | | | | | | | A** |
| | 1P | A* | A* | | | | | A** |
| | 2P | | | A* | | | | A** |
| | 3P | | | | | | | A** |
| | 4P | | | | | | SL** | A** |
| | 5PA | | | A* | | | SL** | A** |
| | 5PB | | | | | | AH* | A** |
| | 6P | | | | | | | A** |
| Ethical perspective | 1E | | A* | | | | | A** |
| | 2E | | | | | | | A* |
| | 3E | | | | | | | |
| | 4E | | | | | | | A* |
| | 5EA | | | A* | | | | A** |
| | 5EB | | | | | | AH** | A* |
| | 6E | | | | | | | A* |

Cells with significant differences are marked with a B or an A to denote whether the difference favours basic (B) or applied (A) research within each area. Asterisks denote a confidence level of 95% (*) or 99% (**). The last two rows indicate the significance of the between-area difference (and the area with the highest range) and between types of research

## Objective 2. To establish research profiles according to type of stakeholder participation

Once confirmed that multicollinearity level was acceptable (tolerance never higher than 0.1 and VIF always lower than 10) (Montero Granados, 2016; Pérez & Medrano, 2010), we ran several tests with two, three and four clusters to decide how many to select for the hierarchical cluster analysis. The results indicated that the three-cluster solution was the most stable after ordering the cases in different ways, since this analysis can be sensitive to the case order (IBM, 2020), the one that best marked the differences between groups as well as the one that provide us with the most relevant information. Figure 1 shows the resulting dendrogram.

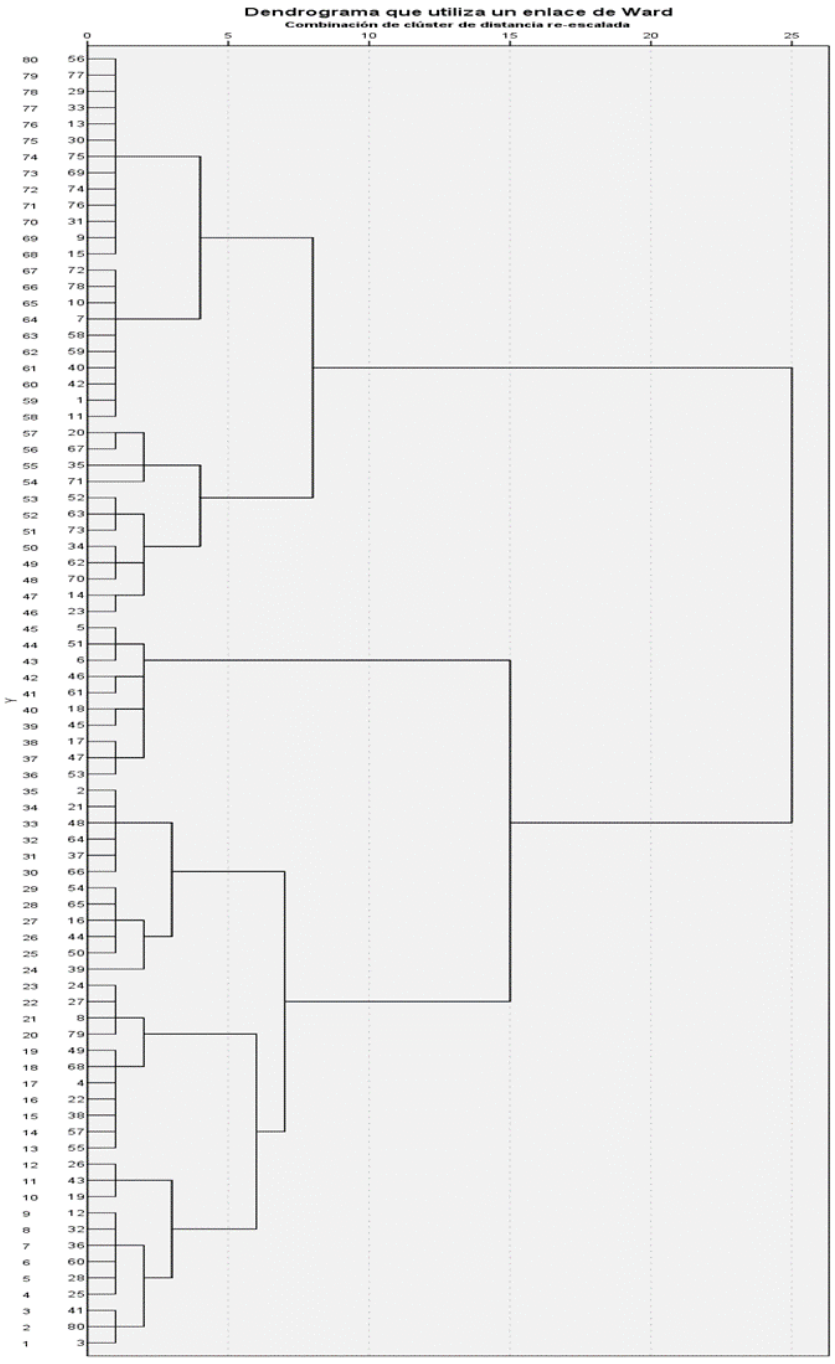


*Figure 1. Dendrogram of the hierarchical cluster analysis*

Below, we calculate the medians and analyse the significant differences among all the clusters using Kruskal-Wallis tests, and between pairs using the median test (Table 6).

Table 6

*Medians of the resulting clusters and differences between profiles.*

| Indicator | Medians | | | Significance of differences between profiles | | | |
|---|---|---|---|---|---|---|---|
| | Cluster | | | Kruscal-Wallis | Median for k samples | | |
| | Isolated | Transf. | Inclus. | | Iso-Tran | Iso-Inc | Tran-Inc |
| 0P | 3.00 | 3.00 | 3.00 | 99% | 95% | 99% | no |
| 1P | 1.00 | 2.00 | 3.00 | 99% | 99% | 99% | 95% |
| 1E | 1.00 | 1.00 | 3.00 | 99% | no | 99% | 99% |
| 2P | 1.00 | 1.00 | 3.00 | 99% | no | 99% | 99% |
| 2E | 1.00 | 1.00 | 3.00 | 99% | no | 99% | 99% |
| 3P | 1.00 | 2.00 | 3.00 | 99% | 95% | 99% | 99% |
| 3E | 1.00 | 1.00 | 3.00 | 99% | no | 99% | 99% |
| 4P | 1.00 | 2.00 | 3.00 | 99% | 95% | 99% | 99% |
| 4E | 1.00 | 1.00 | 2.50 | 99% | no | 99% | 99% |
| 5P.A | 1.00 | 2.00 | 3.00 | 99% | 99% | 99% | no |
| 5E.A | 1.00 | 1.00 | 2.50 | 99% | 99% | 99% | 95% |
| 5P.B | 1.00 | 3.00 | 3.00 | 99% | 99% | 99% | no |
| 5E.B | 1.00 | 3.00 | 3.00 | 99% | 99% | 99% | no |
| 6P | 2.00 | 2.00 | 2.00 | 99% | no | 99% | no |
| 6E | 1.00 | 1.00 | 1.00 | 99% | no | 99% | 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 the isolated cluster, while applied research is characteristic of transference and inclusive groups.

The three clusters are therefore characterised as follows:

*Cluster 1*. Isolated research. 35 cases (43.8%). These are basic research groups. They have well defined stakeholder groups, but they do not take them into account at any stage in the research process. Although they think about the sustainability of their results, they do not seem to draw up any sustainability plans. They could be described as groups that do research with the scientific impact of their results in mind.

*Cluster 2*. Research focused on transference. This second cluster also includes 35 groups (43.8%), mainly carrying out applied research. They also have well defined stakeholder groups and there is some participation, although it is essentially self-inter-

ested because it is necessary for the research. They disseminate their results through various channels with a clear intention to educate their stakeholders. Their intention is to make use of the results beyond the duration of the project and they manifest this more clearly than the other clusters, although they do not seem to specify this intention in concrete plans.

*Cluster 3*. Research focused on inclusive participation This last group comprises ten applied research groups (12.5%). 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 two 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 three profiles are seen clearly in Figure 2:

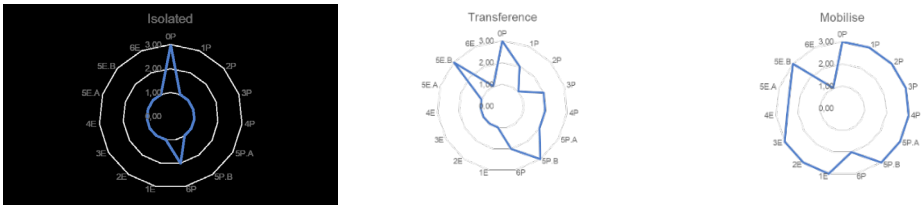


*Figure 2. Graphic depiction of the three research profiles according to the results of the cluster analysis.*

Finally, once confirmed the adequacy with Box's M and Wilks' Lambda (both $p<0.001$), we ran a stepwise discriminant analysis to discover if the indicators are good predictors for classifying research groups by profile.

The results show that the indicators have very high discriminatory power, with 95% correct classification (Table 7); the indicators that best discriminate between profiles are presented in Table 8, together with the Fisher classification functions.

Table 7

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

| | Belong to predicted group | | | |
|---|---|---|---|---|
| **Cluster** | **Isolated** | **Transference** | **Inclusive** | **Total** |
| Isolated | 32 (91.4%) | 3 (8.6%) | 0 | 35 |
| Transference | 1 (2.9%) | 34(97.1%) | 0 | 35 |
| Inclusive | 0 | 0 | 10 (100%) | 10 |
| 95.0% of original clustered cases classified correctly | | | | |

Table 8

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

| Classification function coefficients | | | |
|---|---|---|---|
| | Cluster | | |
| Indicator | Isolated | Transference | Inclusive |
| 3P | -2.596 | -1.393 | -9.494 |
| 3E | 25.579 | 24.382 | 76.470 |
| 4P | 6.174 | 7.207 | 15.838 |
| 5P.A | 6.364 | 8.992 | 14.593 |
| 5E.B | 5.480 | 10.311 | 10.338 |
| 6P | -.560 | -.027 | -6.508 |
| (Constant) | -25.349 | -44.137 | -147.454 |
| Fisher's linear discriminant functions | | | |

## Conclusions

Social responsibility should permeate all activities carried out and promoted by universities, whether in teaching, research or management (Aldeanueva Fernández & Arrabal Sánchez, 2018; Muñoz-Martín, 2013). Our focus in this study was on research and how research groups maintain dialogue with society and engage stakeholders in their work (Corretgé Bergua & Miret Martí, 2018).

In addition, we posed two specific questions about how university researchers take stakeholders into account, and whether there are any differences associated with the various research traditions in different areas and types of research. The indicators and our analysis provide a map and an evaluation of the situation of research groups today. The model resulting from the discriminant analysis reveals a very high percentage of correct classifications, thus confirming that the model is robust and reliable. Interestingly, moreover, the indicators that marked the difference are not only those related to participation; indicators from the ethical perspective were also evident, showing that what is important is not just what is done, but why it is done. This is directly connected to the need to encourage truly inclusive research as the only way for it to be really and effectively connected to USR.

Responding to the first question, our results show that in general, even if stakeholders are taken into account, they are not involved in the research process. That is, there is no evidence of two-way communication, only of information about the results through various channels of communication. Specifically, the results of the cluster analysis show that only ten of the 80 groups interviewed go further and establish effective communication with their stakeholders. At the other extreme is a result that may be considered alarming: 35 groups do not go beyond the academic context and have no relationship with their stakeholders.

The inclusive involvement and participation of citizens in research is therefore still very scarce, and when it does occur it is predominant instrumental. This calls into question two central issues in the concept of inclusive research from an ethical perspective of university social responsibility (Alba & Nind, 2020; Skipper & Peppler, 2020): for whom knowledge is produced and who benefits from it. The mobilisation of knowledge as an inclusive strategy enables us to strengthen this responsibility by integrating stakeholders throughout the whole research process, making research a more engaged and participatory process (Graham et al., 2018).

Regarding the second question, the results provide evidence that basic and applied research have different stakeholder participation traditions. This result may not be surprising if we bear in mind that applied research is more likely to require stakeholders. On the other hand, the researchers seem to have greater trust in sources that come from academia, which may have repercussions for the perceived usefulness of knowledge mobilisation (Powell et al., 2017). Whatever the case, we find no evidence of any two-directional movement in communication and engagement between researchers and stakeholders in line with the tenets of USR.

These results alert us to the need for greater coherence between the principles advocated by USR and the policies for promoting and evaluating research, in which scientific impact still overshadows social impact (Dima, 2015).

A specific strategic plan is needed to bring the processes of research closer to citizens, not only in terms of communication and dissemination (Budtz Pedersen et al., 2020), but also to involve stakeholders and give them agency (Kelly et al., 2020); education for stakeholders and the wider community that generates concepts of citizen science and hybrid spaces for research, innovation and social transformation. In this sense, it is also necessary to improve teachers' and researchers' training in order to strengthen their commitment to more participatory research, favouring a pluralistic view, and where the social and environmental responsibility of decisions for the different actors involved are considered in favour of sustainable development (UNESCO, 2015).

However, the management and evaluation carried out by universities and quality control agencies associated with research are based on scientific, not social or environmental impact and for this reason it seems that researchers, because they are evaluated according to scientific impact indicators, limit their research, projects and dissemination to scholarly contexts (Williams, 2020), and ignore the need to link their research to USR.

In fact, this apparent contradiction between the premises of social responsibility and universities' real actions is not limited to academia; in other spheres, such as the business context, new terms have been coined to replace corporate social responsibility (CSR), such as shared value creation (Porter & Kramer, 2002, 2006, 2011) or corporate sustainability (Polanco et al., 2016), in an attempt to restore meaning to this social and sustainable added value in business activity. This is shift is a response to the fact that more often than not, the actions undertaken in the name of CSR are purely cosmetic, or are philanthropic actions carried out on the margins of a firm's real business that have little to do with an ethical conception of the firm, namely that it carries out its activities prudently and fairly, and at the same time, accepts full responsibility for them (Muñoz-Martín, 2013).

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## Appendix I Interview questions

### PART 1. Contextualisation

1. Tell us about your research. What is it about? What are its topics, research lines, projects, so we can 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, think about the current project you are working on. If is is not representative of your research lines, choose another one that reflects your usual type of research. What is it about?
4. Who are your direct and indirect stakeholders?
5. Do they participate in the research?
6. Do you have other participants in your research apart from the stakeholders?

### PART 2. Participative Perspective

**1P. Defining the problem**

1. When you propose a research project, how does the research problem arise?
2. Who defines the problem?
3. How do they do that?

**2P. Research design**

1. Who participates in defining the stages and methods of the research?
2. In what way?

**3P. Data gathering**

1. Who participates in gathering the data?
2. Is there any active participation beyond informed consent? In what way?

**4P. Data analysis**

1. Who participates in analysing the results?
2. How do they do that?
3. If various actors participate, what mechanisms do you use to coordinate or plan the analysis?

**5P. Dissemination**

***Authorship***

1. Who participates in disseminating the research results?
2. How do they participate? How is authorship of the research outcomes distributed?
3. How can the stakeholders apply the results of the research?
4. Which parts of the process are disseminated? Only the results, or the different stages of the process as well?
5. Are the results provided already written up or do you offer spaces and strategies for the stakeholders to "take ownership" of the knowledge resulting from the research?
6. Do you create spaces for communication and shared languages to share the research with the different stakeholders?
7. How do you ensure that the results are sustainable over time?

***Channels***

8. When disseminating the results, who are they addressed to?
9. Only direct or also indirect stakeholders?
10. Which ones?
11. Which channels/communication media do you use to disseminate the results?
12. How are dissemination responsibilities and tasks distributed?

**6P. Sustainability**

1. Do you have a strategy for maximising use of the results? Is there a sustainability strategy?
2. Who participates in using the research results?
3. What strategies do you develop to use the results? How do the stakeholders participate in this use strategy?

## PART 3. Ethical Perspective

**1E. Defining the problem**

*1P=1*

1. Have you considered the possibility of engaging stakeholders in participation? If not, Why not?
2. What barriers have you come up against?

*1P=2*

3. When defining the problem, do you consider that it could benefit not only the direct stakeholders, but that it could have an impact on other indirect stakeholders?
4. What strategies for stakeholder participation are drawn up to define the problem?

*1P=3*

5. When defining the problem, how do you consider the social consequences?
6. Could it be a problem that causes social controversy?
7. Do you consider social acceptability?
8. What is the purpose of having stakeholders participate in defining the problem and why do they participate in this stage of the research?
9. What strategies for stakeholder participation are drawn up to define the problem?
10. What is the co-responsibility of the co-researcher in defining the problem and the desired situation?

**2E-3E-4E. Research process**

*2-3-4P=1*

1. Have you considered the possibility of having stakeholders participate?
2. Why have you not done this (yet)?
3. What barriers have you come up against?

*2-3-4P=2*

4. Do you think the level of stakeholder participation could be increased? For example, by collaborating in decision making or gathering data?

*2-3-4P=3*

5. What are the reasons for making stakeholders participate in the research process and what is the purpose of doing so?
6. Is the relationship between the researchers and the participants one of parity and reciprocity?
7. Who sets the rules of the game for the research? Who takes the decisions? Why?
8. How do the people involved feel during the research process?
9. How have their feelings been taken into consideration?
10. Who does the knowledge produced in the research belong to and why?
11. Does participation in the research process generate empowerment and agency for change in the participants? How?
12. Are participants given the tools and training so they can participate in the process as co-researchers?
13. Can the impact of the research help to redress the mechanisms of exclusion the stakeholders face?
14. What barriers have you come up against?

**5E. Dissemination**

***Authorship***

*5PA=1*

1. Have you considered the possibility of having stakeholders participate?
2. Why not?
15. What barriers have you come up against?

*5PA=2*

3. Have you considered the possibility of disseminating the results together?
4. If not, why not?
5. What are the barriers?

*5PA=3*

6. Why do you decide to share dissemination with the stakeholders?
7. What is the reason or the aim?
8. What benefits have you found?
9. What problems did you encounter in this shared dissemination?

***Channels***

*5PB=1*

1. Have you considered publishing in channels other than scientific ones? Why not?
2. What barriers have you come up against?

*5PB=2*

3. Why don't you take the initiative to disseminate in non-scientific channels or prioritise open access?

*5PB=3*

4. What are the objectives of non-scientific dissemination?
5. What are the benefits and difficulties of non-scientific dissemination?

**6E. Sustainability**

*6P=1*

1. Have you considered the sustainability of the research results? Why not?
2. What barriers have you come up against?

*6P=2*

1. If there is no sustainability strategy in place, why have you not designed one? What barriers have you come up against?
2. If there is a sustainability strategy in place, why don't the stakeholders participate? What barriers have you come up against?

*6P=3*

3. How do you understand the sustainability of your research?
4. Why do you think it is relevant that the stakeholders participate in using the research?
5. What are the benefits for the stakeholders? And for other groups, or society as a whole?