Research in communication in R&D projects in Spain from 2007 to 2018

La investigación en comunicación en proyectos I+D en España de 2007 a 2018

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ABSTRACT
Introduction: The historical path from 2007 to 2018 of academic research in Spanish universities with undergraduate and postgraduate degrees in Communication fields is analyzed, focusing on the objects of study and the methods used when developing R&D Projects (PI + D) financed by state calls. Methodology: The preparation and recording of data have been made from the analysis of the texts that the State Administration has provided us through the corresponding Ministry, offering the summary that the Principal Investigators of the Projects have provided in the reports they give account for its processing. The universe of IP + D analyzed reached a total of 249 during the selected period and for the analysis of these texts with the summaries of the funded project, a protocol was prepared to record data referring to the beneficiary university and its research team, thus as well as the objects of study, their field of location, their objectives and, finally, the techniques of registration and data processing on which the projects have been based. Conclusions: Among the conclusions of this study, there is a sustained tendency to privilege media discourses as objects of study, and the use of appropriate techniques for document analysis.

KEYWORDS: R + D + i projects; meta-research; Spanish universities; Communication fields

RESUMEN
Introducción: Se analiza el trayecto histórico de 2007 a 2018 de investigación académica en universidades españolas con titulaciones de grado y posgrado en campos de la Comunicación,
fijando la atención en los objetos de estudio y los métodos empleados al desarrollar los Proyectos I+D (PI+D) financiados por convocatorias estatales. **Metodología:** La elaboración y registro de datos se ha hecho a partir del análisis de los textos que la Administración del Estado nos ha facilitado a través del Ministerio correspondiente, ofreciendo el resumen que los propios Investigadores Principales de los Proyectos han facilitado en las memorias que dan cuenta de su tramitación. El universo de los PI+D analizados alcanza un total de 249 durante el periodo seleccionado y para el análisis de estos textos con los resúmenes del proyecto financiado, se elaboró un protocolo para registrar datos referidos a la universidad beneficiaria y a su equipo de investigación, así como a los objetos de estudio, su campo de localización, sus objetivos y, finalmente, a las técnicas de registro y de procesamiento de los datos en los que se han basado los proyectos. **Conclusiones:** Entre las conclusiones de este estudio destaca la tendencia sostenida a privilegiar como objetos de estudio los discursos mediáticos, y al empleo de técnicas apropiadas para el análisis de documentos.

**PALABRAS CLAVE:** Proyectos I+D+i; metainvestigación; universidades españolas; campos de la Comunicación.

**CONTENT**
1. Introduction. 2. Background and dimension of the universe. 3. Methodology. 4. Discussion and Results. 5. Conclusions. 6. Bibliography. 7. Annexes

Translation by **Paula González** (Universidad Católica Andrés Bello, Venezuela)

1. Introduction

Meta-research in communication is currently a fundamental object of study because it allows us to know where the interest of researchers is directed to explain an uncertain and very changing future in Communication and its relationship with Society. The first time we find studies of this type is as a consequence of the commemoration of the 20 years of the first Faculties of Information and/or Communication Sciences (Madrid, Barcelona, and Navarra) and sponsored by the newly created Association of Communication Researchers (AICE by its acronym in Spanish). These first studies made it possible to know about which objects, with what methods and techniques, and with what objectives this new university field was researched, works such as those of Jones (1994, 1998), Caffarel, Domínguez, and Romano (1989), and Cáceres and Caffarel (1993) are, thus, pioneers. In the following decade, the studies by Rodrigo-Alsina and García-Jiménez (2010), Arcila-Calderón, Piñuel-Raigada, and Calderín Cruz (2013) should be highlighted. If we take into account meta-research studies on specific objects, we see that the bibliometric dimension of doctoral theses in Spain deserves special mention the works of Delgado López-Cózar et al. (2006), Castillo and Xifra (2006), Fuentes Pujol and Argúimbau-Vivó (2010), Repiso et al. (2011), and more recently, Blázquez Ochando (2015). Regarding research in scientific publications, it is worth highlighting the works of Fernández Quijada and Masip (2013), Martínez Nicolás and Saperas (2009, 2011), López Rabadán and Vicente-Mariño (2011), and Piñuel-Raigada, Lozano-Ascencio, and García-Jiménez (eds.) (2011).

2. Background and dimension of the universe

In the Spanish state call for PI+D in 2013, four coordinated teams, one as a coordinating team based at the Complutense University (UCM) and the other three at the University of the Basque Country (EHU), the Jaume I University (UJI) in Castellón, and the University of Malaga (UMA) submitted a request to carry out a study entitled “The research system in Spain on social practices of

Subsequently, in 2018, another research team, this time, based at the Rey Juan Carlos University in Madrid, has continued the MapCom project, this time adding to the repository and analysis of PI+D and DT, the projects and doctoral theses of the following years until 2018, and the universe of scientific articles derived from PI+D, and published by the source journals in the field of Communication\(^\text{1}\). In this display, the data offered and discussed are exclusively referred to PI+D. And the scientific reports related to the Communication of all those PI+D approved and financed between 2007 and 2018 by state calls are analyzed; the number of documents analyzed is 249.

The PI+D are the expression of the research excellence that the State, through the corresponding Ministry (either Science and Innovation or Economy, Industry, and Competitiveness) grants through temporary funding following very strict requirements and a very rigorous evaluation. Thus, we ask MINECO (Ministry of Economy and Competitiveness) for a copy of the reports included in the applications for the positively evaluated Projects, and we ask the Vice-Rectors for Research of the Universities to contact the MR of those funded projects. The compilation of the reports included in the applications of the Projects was almost impossible, but with much delay and difficulty the Ministry provided a document where for each project the following information was recorded: reference code, beneficiary organization or center, the amount granted, start and end date, name and surname of the MR, title, and summary of the project.

The advantages of having analyzed the described documents have to do with the perspectives offered by competitive research projects at the state level. The reasons for having put aside competitive research projects at the regional, municipal, and university levels are motivated by the disparity of conditions imposed by the calls that prevent comparable contrasts.

\(^{1}\) Those first in a ranking of scientific journals better indexed for the impact represented by the number of citations in scientific publications are usually called source journals. In our field were considered, according to their order of importance, Comunicar, Revista Latina, Comunicación y Sociedad, Estudios del Mensaje periodístico, Telos, Zer, Triéodos, El Profesional de la información, Historia y Comunicación Social. These journals appear among the first 10 of the two index H of the period to be analyzed.
3. Methodology

The main analysis instrument that has served us in this research is the design of a Protocol that would allow us to record in the documents the variables chosen to be taken into consideration in the analysis. The protocol has several levels of analysis. In the most immediate and generic are the identification variables where basic information on the PI+D is recorded, see Table 1. At the next level of analysis, the epistemological profile of the research is recorded, that is, it is interested in its objectives, the object of study, and the environment where the said object of study is located. The inquiries about the methodology have to do with the third level of analysis, where we ask about the dominant techniques for the elaboration of data, the samples, and the nature of those data, etc.

In this display, we are going to focus on the analysis of some of the data from the identification, such as the year of application to see trends in the evolution of PI+D, the sexual gender of MR, universities and Autonomous Communities, and, above all, from the data derived from both the epistemological profile and the methodology. To access the database of the repository of analyzed PI+D, see https://2.mapcom.es/investigacion/etapa-1

Table 1. Levels of analysis, variables, and categories of the analysis protocol

<table>
<thead>
<tr>
<th>Levels of analysis</th>
<th>Variables and Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>Registration No., Document, Code, Year of application, University, Acronym, Autonomy, MR</td>
</tr>
<tr>
<td>Epistemological profile</td>
<td>The objective of the research, Material object of study, the nature of the field from</td>
</tr>
<tr>
<td></td>
<td>which the material object of study comes, Setting or environment where the object of</td>
</tr>
<tr>
<td></td>
<td>study is located, Formal object of study.</td>
</tr>
<tr>
<td>Methodology</td>
<td>Type of sample selected, the nature of the data prepared and recorded in the research,</td>
</tr>
<tr>
<td></td>
<td>the techniques specifically used and types of triangulation used to establish conclusions</td>
</tr>
</tbody>
</table>

To approach the elaboration of data in line with the analysis of the texts of the summaries that make up the corpus of our study, and focusing the interest on the epistemological profiles of the PI+D, the variables guide and protocol categories are summarized in Table 2. To address, for its part, the elaboration of data in line with the analysis of the texts of the summaries that make up the corpus of our study, and focusing the interest on the methodological profiles of the PI+D, the variables guide and protocol categories are summarized in Table 3.

It should be noted that the epistemological profile whose variables and categories are specified in Table 2, as already mentioned, will be constituted, first of all, by the choice of alternatives to represent the objects of study to be examined according to the objectives of the project, whether to Describe, or Explain, Evaluate, Intervene, or are not formulated or hidden. Secondly, the epistemological profile will be completed by the selection of alternatives to represent the objects of study to be examined according to which is the predominant field from which the project's research starts, specifically to carry out the elaboration and recording of data. And it is proposed that these fields can be consigned according to the access situations or approach experience to the objects of study according to whether they are of Non-programmed / Natural access, or Programmed/Experimental, or Documentary, that is, access to documents, or it is a question of having a Research/Action approach, if this approach to the object of study is recorded. Third, the epistemological profile will also be completed by the selection of alternatives to represent the Material Object of study according to the general frameworks of the practice of social communication under examination, specifically if it is framed in the field of mass, Organizational, Interpersonal, or Group communication, or in the case of previous or ongoing research, that is,
Meta-research. Now, whatever this framework, the epistemological profile will also be completed by the selection of alternatives to focus on the material object of study, depending on the aspect of the Object to be studied that is of interest to know. In other words, depending on the formal object of study.

Table 2. Variables of the epistemological profile of PI+D

<table>
<thead>
<tr>
<th>Objectives:</th>
<th>Material object of study:</th>
<th>Scenario or Environment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Explain</td>
<td>2. Organizational</td>
<td>2. Organizational</td>
</tr>
<tr>
<td>3. Evaluate</td>
<td>3. Interpersonal</td>
<td>3. Interpersonal</td>
</tr>
<tr>
<td>5. Are not formulated</td>
<td>5. Meta-research</td>
<td>5. Meta-research</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predominant field:</th>
<th>Formal object of study:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Non-programmed / Natural</td>
<td>1. Socio-economic infrastructure</td>
</tr>
<tr>
<td>2. Programmed / Experimental</td>
<td>2. Discursive structure</td>
</tr>
<tr>
<td>3. Documentary</td>
<td>3. Normative superstructure</td>
</tr>
<tr>
<td>4. Research/Action</td>
<td>4. Historical evolution</td>
</tr>
<tr>
<td>5. Not known</td>
<td></td>
</tr>
</tbody>
</table>

According to the tradition of dialectical materialism (Marx, K, 1968), the socio-economic infrastructure contains the relationships of production, based on which a power structure and a justifying discourse of it, called superstructure, develop. And considering the social practices of communication, the material conditions of production, distribution, and consumption of communicative goods and services lead to a discursive structure (containing signals, messages, texts, and discourses), for whose circulation and interpretation domination and submission are generated in social relationships, which is either sustained by physical force, or by the circulation and interpretation of discourses that accompany it or that frequently substitute it in social relations thanks to the superstructure of the ideological and normative discourse that justifies it. For this reason, whether it is having chosen the material objects of study in the framework of mass communication, organizational communication, interpersonal communication, or group communication, the focus or formal object of study that can guide the interest of being known can be the socioeconomic infrastructure, the discursive structure, the normative superstructure, or the contemplation of its historical evolution. Finally, the configuration of the epistemological profile will also be completed, in fourth place, by the selection of alternatives to access the Scenario or scenarios where the communicative practice that is considered as a formal object of study is located. For its part, the methodological profile of the PI+D can be configured by detailing the Variables and categories that are specified in Table 3. The first thing is to catalog the type of sample that is used, collecting data from the study objects: if it is a Probabilistic, Intentional, Significant population, Structural sample, or if there is no sample, or not known / not applicable. The second thing is to know the nature of the data that is produced: if they are Quantitative or Parametric, Qualitative or of the attribute, Mixed or of variation, Logical or argumentative, or if, on the contrary, it is not known / not applicable to record this nature. The third thing is to write down which are the Techniques for preparing and recording primary data: if through Observations, or Conversations, Surveys, Experiments, or Documents. And, having chosen one of these, which one in particular is in each case, following the repertoires consigned and indicated in Table 3. Finally, the configuration of the methodological profiles is finished, noting if there is any type of Triangulation, so that, even admitting multi-choice, the triangulation carried out has been from documentary sources, from Discourses by observers or experts, from theoretical models, from methods, that cover more than one research technique, or if, on the contrary, there is either no triangulation or Not known / Not applicable.
Table 3. Variables of the methodological profile of the PI+D

<table>
<thead>
<tr>
<th>Samples</th>
<th>Type of Observation Techniques most used through Observations</th>
<th>Techniques most used through experiments:</th>
</tr>
</thead>
</table>
| 1. Probabilistic  
2. Intentional  
3. Significant population  
4. Structural  
5. No sample  
6. Not known / Not applicable | 1. Self-observation  
2. Systematic observation  
3. Participant observation  
4. Various  
5. Not known | 1. Subject experiments  
2. Group experiments  
3. Field experiments  
4. Various  
5. Not known |

| Data: 1. Quantitative or Parametric  
2. Qualitative or of attribute  
3. Mixed or of variation  
4. Logical or argumentative  
5. Not known / Not applicable | Techniques most used through conversations  
1. Interviews  
2. Group discussion  
3. Discussion group  
4. Group dynamics of intervention  
5. Phillips 66  
6. Delphi  
7. Various  
8. Not known | Techniques most used through document analysis:  
1. Content analysis  
2. Discourse analysis  
3. Documentation analysis  
4. Various  
5. Not known |

| Techniques for preparing and recording primary data 1. Observations  
2. Conversations  
3. Surveys  
4. Experiments  
5. Documents | Techniques most used through surveys  
1. Opinion survey  
2. Attitude survey  
3. Various  
4. Not known | Triangulation (multi-choice is allowed):  
1. Documentary sources  
2. Discourses by observers or experts  
3. Theoretical models  
4. Methods, which cover more than one research technique  
5. No triangulation  
6. Not known / Not applicable |

4. Discussion and results

Applying the described protocol to the analysis of the texts of the summaries delivered by the MRs in the processing of their reports, the first thing worth highlighting is the frequency curve of funded PI+D, as it appears in Table 4. According to these data, there is a growing trend in the number of PI+D from 2008 to 2013, and a decreasing trend in subsequent years until 2016, going back up later. It does not seem that this frequency curve is caused by the economic evolution of financing conditions derived from the economic crisis that occurred since 2008, but rather from political instability and government changes, so that from 2008 to 2011, the growing trend coincides with the majority of Zapatero and the PSOE’s time in the Government, to start a progressive decrease from 2013 until 2016, the trend subsequently going back up in 2017 and 2018 coinciding with the crisis of the PP and the return of the PSOE.
If we now aspire to contemplate the evolution by years of the gender by sex of the MRs who earn PI+D, Table 5 shows the curve of the respective frequency data.

### Table 5. PI+D frequencies by year and gender of MRs

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>173</td>
<td>69.5</td>
</tr>
<tr>
<td>Female</td>
<td>76</td>
<td>30.5</td>
</tr>
<tr>
<td>Total</td>
<td>249</td>
<td>100.0</td>
</tr>
</tbody>
</table>

According to these data on PI+D Frequencies by year and gender of MRs, from 2008 to 2018 male MRs always outnumber female MRs. But since that year, this trend is reversed, with the sole exception of 2014. However, regardless of historical evolution, inequality is very relevant: 69.5% of PI+D have a male MR, compared to 30.5% of women MR.

Considering how the Autonomous Communities (A.C.) and the universities are distributed, between 2007 and 2018, there are 249 PI+D research financed exclusively in those Universities that have undergraduate and postgraduate degrees in the areas of Communication. If we look at the distribution by Autonomous Communities, (Table 6) we will see that Catalonia, with eight universities, is the region that contributes the most PI+D: (76/30.5%), followed by Madrid, with four universities (67/26.9%). Consequently, it can be stated that two out of every three funded projects related to Communication have been carried out in Catalonia or Madrid. The Valencian Community ranks third in carrying out projects (25/10%), followed by Andalusia (22/8.8%), and Navarra stands out in fifth place (16/6.4%). For its part, Table 7 lists those universities that receive more than 90% of the PI+D.

### Table 6. PI+D frequencies by Autonomous Communities
After paying attention to the PI+D by universities, the UCM (Table 7) is the university that has carried out the most PI+D in the analyzed period (31/12.4%). The second and third places correspond to the Catalan public universities UPF (27/10.8%) and UAB (24/9.6%). The fourth place is for the URJC, the youngest public university in Madrid (19/7.6%) and the fifth-place corresponds to the UNAV (15/6%). It is worth emphasizing that this private university alone, has more PI+D in Communication than about thirty public and private universities spread throughout the country.

Table 7. PI+D frequencies by Universities

<table>
<thead>
<tr>
<th>Region</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalonia</td>
<td>76</td>
<td>30.5</td>
</tr>
<tr>
<td>Madrid</td>
<td>67</td>
<td>26.9</td>
</tr>
<tr>
<td>Valencian Community</td>
<td>25</td>
<td>10.0</td>
</tr>
<tr>
<td>Andalusia</td>
<td>22</td>
<td>8.8</td>
</tr>
<tr>
<td>Navarra</td>
<td>16</td>
<td>6.4</td>
</tr>
<tr>
<td>Basque Country</td>
<td>14</td>
<td>5.6</td>
</tr>
<tr>
<td>Galicia</td>
<td>11</td>
<td>4.4</td>
</tr>
<tr>
<td>Castile and Leon</td>
<td>9</td>
<td>3.6</td>
</tr>
<tr>
<td>Castilla-La Mancha</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Extremadura</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Murcia</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Aragon</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Balearic Islands</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>La Rioja</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>249</td>
<td>100.0</td>
</tr>
</tbody>
</table>

If the epistemological and methodological profiles that have been indicated in the previous section dedicated to the methodology are consulted, the data of their frequencies have shown us that among the objectives assumed by the PI+D, the objective to describe stands out with a percentage of 55.8%.
The typology of study objects that also stand out for being the majority, with 54.2% of appearance, is concentrated in the field of Mass Communication, as well as, with 55.4%, the majority scenario is mass media. Now, if attention is paid to which is the formal object from whose interest such types of objects and scenarios are approached, what can be seen is that the formal object defined as a discursive structure is also the majority, but in a percentage of 36.9%, and that another third of the PI+D whose formal object reaches a similar proportion, with 30.9%, is the formal object whose interest is the normative superstructure. The interest in socio-economic infrastructure barely reaches a fifth of the PI+D and that of history hardly 12.4%.

If we relate these frequencies with their respective combinations depending on which are the research objectives and their formal object, the following data appears, which we comment on below: When the objective is to Describe (Graph 1), the priority material object belongs to the typology of mass communication and its formal object, also a priority, is the analysis of its discursive structure. On the contrary, when the objective is to describe and the material objects are organizational, interpersonal, and group communication, the dominant formal object is that of the normative superstructure.

If the objective of the PI+D is to evaluate (Graph 2), the mainly addressed material object also belongs to mass communication and the predominant formal objects are, in the first place, the discursive structure and the economic infrastructure. And on the other hand, the normative superstructure is the least chosen one when the material object of study belongs to mass communication.
communication, but it is the major focus of interest when the material object of study belongs to organizations or interpersonal communication, but in a minor proportion.

When the objective of the R&D Project is to explain (Graph 3), if the material object of study belongs to the typology of mass communication, the discursive structure, as a formal object, is also predominant, but it is followed at a very short distance by the interest in attending to the normative superstructure followed by examining the socioeconomic infrastructure. But if the material object belongs to communication in organizations, the most prominent formal object is the study of its economic infrastructure followed by studying the normative superstructure. Finally, interpersonal communication, when the objective is also to evaluate, the attention paid to its formal object is first the discursive structure and then the normative superstructure.

![Graph 3: Objective to explain. Object of study. Formal object.](image)

Finally (Graph 4), when the objective is to intervene, and whatever the material object of study is, the normative superstructure always dominates as a formal object.

![Graph 4: Objective to intervene. Object of study. Formal object.](image)

Taking into consideration the methodological profile of the PI+D, we pay attention to how each of the predominant techniques is related to the material and formal objects of study. If we look first at the use of empirical observation (Graph 5) as the predominant technique if the material object of study belongs to mass communication or communication of organizations, the formal object that first stands out for its frequency is the analysis of its discursive structure. But in the case that the material
object belongs to mass communication, the socioeconomic infrastructure is the formal object that shares the same frequency of appearance as the attention paid to the discursive structure, whereas, if the material object belongs to communication of organizations, the formal object that appears second is that of the normative superstructure, a formal object that is also dominant when the material object is group communication.

Graph 5: Observation Technique. Object of study. Formal object.

Graph 6: Conversation Technique. Object of study. Formal object

If the predominant technique in an R&D project is conversations (Graph 6), whatever the typology of the material object of study may also be, the dominant formal object is to address the normative superstructure and secondly the discursive structure.

If the predominant technique is the use of surveys (Graph 7), the interest that, as a formal object, is given to the socio-economic infrastructure, is dominant again, regardless of the type of material object, followed by normative superstructure which is the formal object that is secondary whatever the typology of the material object of study.
The use of *experiments* as the predominant technique in PI+D (Graph 8) is very limited, as has been verified in the simple frequencies. All types of material objects share this feature except for the typology of *interpersonal* communication that predominates for the use of *experiments*, and this from the interest in examining the *normative superstructure* as a formal object.

For its part, the predominant technique of using *documents* to carry out communication process analysis (Graph 9) is used regardless of the type of material object of study, although this technique stands out in the preparation and recording of data when the type of material object of study belongs to *mass communication* first and *organizations* second. But if the material object belongs to the typology of *mass communication*, the formal object that stands out most for its frequency is the examination of the *structure of its discourses*, but if the material object belongs to *organizations*, the dominant formal object applies to the *normative superstructure*. 

**Graph 7: Survey Technique. Object of study. Formal object.**

**Graph 8: Experiments technique. Object of study. Formal object.**
Between 2007-2018, more than half (54%) of the research topics are linked to Mass Communication as a material object of study. Much less frequented (19%), but, in second place, Communication in Organizations is chosen, over Interpersonal (8%) or Group Communication (5%), and, lastly, meta-research (3%).

Trying to contemplate the profile of the group of PI+D (Graph 10 and Graph 11), the PI+D that adopt a study perspective focused on the analysis of discourse that is embedded in professional practices and routines have predominated. The analysis of the structure of production and reception, but the analysis of the contents that are conveyed through media communication has also predominated (37%). Secondly, the dominant perspective in the approach to material objects of study has focused on the study of the normative superstructure (31%), which fundamentally brings together the regulatory dimensions of the objects of study and theoretical and methodological reflection. The socioeconomic aspects of communication phenomena occupy a third place (20%), while the historical perspective is relegated to the last (12%). As a whole, these graphs show how the presence of the different objectives and techniques is distributed among the different material and formal objects of study.

The table shows how the material objects of Mass Communication and Communication in Organizations predominate for their presence. Regarding Mass Communication, it is appreciated that description and explanation are the predominant objectives and that different techniques are used for the research, among which the analysis of documents and the survey prevail, before conversations and observations. Regarding Organizational Communication, the dominant presence of observational techniques can be highlighted, which here are placed before document analysis as a type of priority technique. On the other hand, both for the study of Group Communication and for the study of Interpersonal Communication, the presence of experimental and conversational techniques is unique. Likewise, due to its peculiarity, it can be emphasized that in meta-research, the objectives are evaluative and/or of intervention rather than descriptive or explanatory and that the testing and meta-analysis of documents and the consultation of experts through a survey are applied.
Graph 10: Objectives. Material objects. Predominant techniques

The table highlights the discursive structure and the theoretical and normative superstructure as the main approaches of the objects of study. In the first instance, the discursive structure, description and explanation predominate, in the second, the superstructural one, evaluation and intervention predominate as research objectives. There is a non-exclusive but dominant link between the infrastructural approach and the survey, between the structural approach and document analysis techniques and experiments, and between the superstructural approach and conversational techniques. Finally, the historical view offers a predilection for documentary analysis techniques and observational techniques.
Graph 11: Objectives. Formal objects. Predominant techniques

5. Conclusions

So far, data and insights that we have considered the most relevant of the historical journey from 2008 to 2018 of academic research in Spanish universities with undergraduate and postgraduate degrees in communication fields have been exposed, paying attention to the objects of study and the methods used when developing the PI+D financed by state calls, having deemed it appropriate to set aside competitive research projects at the regional, municipal, and university levels, taking into account the disparity of conditions imposed by the calls, which prevent comparable contrasts. It has also been exposed how the preparation and registration of these data have been carried out from the analysis of the texts that the State Administration has provided us through the corresponding Ministry, offering the summary that the Main Researchers of the PI+D have themselves provided in the reports that account for their processing. And it must be recognized that this is a limitation that must be stated, since the ideal would be to have carried out the analysis by examining the final reports of the PI+D, which is inaccessible not only because the final PI+D are still ongoing, but also because of respect for data protection, given that the convening entities and the beneficiary entities of the funding calls, understandably do not provide them.

It has also been described what has been the repertoire of variables and categories that have included the analysis protocol and the guide for its interpretation by the four analysts, who have distributed the 249 summaries that make up the analyzed corpus, a work whose convergence has been rigorously reviewed. And after the analysis of these summaries by funded project, data referring, firstly, to the historical evolution from 2007 to 2018, and also considering the sexual gender of the MRs who have led them, have been exposed and commented. The ranking of the PI+D achieved by Autonomous Communities and by universities was then presented and commented on, later highlighting frequencies of the objects of study, their field of location, their objectives, and, finally, the recording and processing techniques of the data on which the projects have been based.
Among the most relevant conclusions of these data stands out, in the first place, a growing trend in the number of PI+D from 2008 to 2013, and a decreasing trend in the following years until 2016, going back up later, which could be a reflection of the political events during the analyzed period. The sustained tendency to privilege media discourses as objects of study and the use of appropriate techniques for document analysis. On the other hand, the evolution by years between 2008 and 2012 of the gender by sex of the MRs shows that the male MRs outnumbered female MRs in the amount of PI+D. But since that year, this trend is reversed, with the sole exception of 2014. However, regardless of historical evolution, inequality is very relevant: 69.5% of PI+D have a male MR, compared to 30.5% of women MR.

If one considers how the PI+D are distributed between the Autonomous Communities (A.C.) and the universities from 2007 to 2018, the distribution by Autonomous Communities shows that Catalonia, with eight universities, is the region that contributes the most PI+D: (76/30.5%), followed by Madrid, with four universities (67/26.9%). Consequently, it can be stated that two out of every three funded projects related to Communication have been carried out in Catalonia or Madrid. The Valencian Community ranks third in conducting PI+D (25/10%), followed by Andalusia (22/8.8%), and Navarra stands out in fifth place (16/6.4%). And after paying attention to the PI+D by universities, the UCM appears as the university that has carried out the most PI+D in the analyzed period (31/12.4%). The second and third places correspond to the Catalan public universities UPF (27/10.8%) and UAB (24/9.6%). The fourth place is for the URJC, the youngest public university in Madrid (19/7.6%) and the fifth-place corresponds to the UNAV (15/6%). It is worth mentioning that this private university alone, has more PI+D in Communication than about thirty public and private universities spread throughout the country.

Then we have examined the frequencies in the choice of research objectives, but relating it to the selection of material and formal objects of study. And in this sense, it appears that when the objective is to Describe, the priority material object belongs to the typology of mass communication, and its formal object, also a priority, is the analysis of its discursive structure. On the contrary, when the objective is to Describe and the material objects are organizational, interpersonal, and group communication, the dominant formal object is that of the normative superstructure. Now, when the objective of the R&D Project is to Evaluate, if the material object of study belongs to the typology of mass communication, the discursive structure, as a formal object, is also predominant. But if the material object belongs to communication in organizations, the formal object that stands out the most is the study of its economic infrastructure, followed by the interest in studying the normative superstructure. Finally, in interpersonal communication, when the objective is also to Evaluate, the attention paid to its formal object is first the discursive structure and then the normative superstructure. Finally, when the objective is to Intervene, and whatever the material object of study is, the normative superstructure always dominates as a formal object.

Taking into consideration the methodological profile of the PI+D of these years, and if we pay attention to how each of the predominant techniques is related to the material and formal objects of study, the use of empirical observation appears in the first place as a predominant technique when the material object of study belongs to mass communication or the communication of organizations, while the formal object that first stands out for its frequency is the analysis of its discursive structure. But in the case that the material object belongs to mass communication, the socioeconomic infrastructure is the formal object that shares the same frequency of appearance as the attention paid to the discursive structure, whereas, if the material object belongs to communication of organizations, the formal object that appears second is that of the normative superstructure, a formal object that is also dominant when the material object is group communication. But in the case that the predominant technique in an R&D project is Conversations, whatever the typology of the
material object of study may also be, the dominant formal object is to address the normative superstructure and secondly the discursive structure. And if the predominant technique is the use of Surveys, for whatever the typology of the material object is, the interest that, as a formal object, is lent to the socioeconomic infrastructure becomes dominant again, followed by the normative superstructure that is the formal object that is secondary, whatever the typology of the material object of study. Finally, the use of Experiments as the predominant technique in PI+D is very meager, as indicated in the simple frequencies. All types of material objects share this trait except for the typology of interpersonal communication that stands out for the use of experiments, and this from the interest in examining the normative superstructure as a formal object.

When contemplating later the profile of the group of PI+D, it has been shown, first, that the PI+D who adopt a study perspective focused on the analysis of the discourse that is embedded in professional practices and routines have predominated. Secondly, the dominant perspective in the approach to material objects of study has focused on the study of the normative superstructure (31%), which fundamentally brings together the regulatory dimensions of the objects of study and theoretical and methodological reflection. The socioeconomic aspects of communication phenomena occupy a third place (20%), while the historical perspective is relegated to the last place (12%). Regarding Mass Communication, it is appreciated that description and explanation are the predominant objectives and that different techniques are used for the research, among which the analysis of documents and the survey prevail, before conversations and observations. Concerning Organizational Communication, the dominant presence of observational techniques can be highlighted, which here are placed before document analysis as the type of priority technique. On the other hand, both for the study of Group Communication and Interpersonal Communication, the presence of experimental and conversational techniques is unique. Likewise, due to its peculiarity, it can be emphasized that in meta-research the objectives are evaluative and/or of intervention rather than descriptive or explanatory and that the testing and meta-analysis of documents and the consultation of experts through a survey are applied. And we have also shown how the discursive structure and the theoretical and normative superstructure stand out as the main approaches of the objects of study. Thus, for the interest of the discursive structure, description and explanation predominate, and for the interest of examining the normative superstructure, evaluation and intervention predominate as research objectives. There is thus a non-exclusive but dominant link between the infrastructural approach and the survey, as well as between the structural approach and the document analysis techniques and experiments, and finally between the superstructural approach and the conversational techniques. The historical vision ultimately offers a predilection for the techniques of documentary analysis and observational techniques.

If finally, when describing these years of research, we ask ourselves how the set of exposed profiles can be explained, the most plausible interpretations would be summarized in confirming the hypothesis that the highest-ranking research funded at universities with undergraduate and graduate degrees in professional fields of Communication is one that privileges paying attention to material objects of media communication and communication in organizations in whose fields the employment expectations of their graduates are concentrated; and that the dominant interest in choosing these objects of study is aimed at examining the discursive structure of their market products - communication goods and services- which makes it possible to pursue their quality control (circulation of signals, messages, texts, and discourses), but to the detriment of questioning the normative superstructure of its exercise (which is in second place of preferences) and the socioeconomic infrastructure of production, distribution, and consumption (which is in third place). But when the material objects of study are concentrated in the field of interpersonal and group communication, the interest of their study turns more on the normative superstructure (good/bad, sanctioned/allowed, etc.) than on its discursive structure (circulation of signals, messages, texts, and
discourses) or its economic infrastructure of production, distribution, and consumption. And this issue deserves to be addressed in later studies of academic Meta-research in Communication.

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7. Annexes.

Annex 1. Categories of the epistemological profile of the Projects (continuation of Table 2)

<table>
<thead>
<tr>
<th>Objectives: What does the research carried out pursue?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If it is to describe, the research will serve to register, explore, classify, present, and/or define communication practices, f. e., measure audiences, quantify results, etc.</td>
</tr>
<tr>
<td>2. If it is to explain, the research will establish relationships between features of the object of study offering models of representation to propose causes, effects, correlations, and evolution of the object of study, using, f. e., known theories, or raising a new one.</td>
</tr>
<tr>
<td>3. If it is to evaluate, the research will seek to test, contrast, or validate theoretical and/or methodological models. Thus, f. e., refute or confirm the reduction of cognitive dissonances when studying changes in attitudes, or evaluate the theory or methodology used.</td>
</tr>
<tr>
<td>4. If it is to intervene, the research will resort to using known models to change behaviors or social processes. Thus, f. e., it is done in applied research or research-action, as happens if group dynamics are carried out for behavior modification.</td>
</tr>
<tr>
<td>5. If objectives are not formulated or are not clear, it is because the goals to be pursued are not explicit.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predominant field: what is the predominant field in the analyzed research? It is necessary to identify the field with the greatest presence, according to the elaboration and the data recording.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The field where the object of study is located is established by the social agenda, not the research team; f. e., an electoral campaign.</td>
</tr>
<tr>
<td>2. The field where the object of study is located is established by the research team; f. e., setting the time and place of an interview, a survey, a test, etc.</td>
</tr>
<tr>
<td>3. The area where the object of study is located is documentary, as a result of a social practice of communication. For example, texts for content analysis or archives for library cataloging.</td>
</tr>
<tr>
<td>4. The field where the action research is situated combines the agendas of the team and the social agendas, adjusting one to the other.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material object of study:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mass if it is about social communication practices through mass media, whatever its medium and genre (informative, educational, or entertainment)</td>
</tr>
<tr>
<td>2. Organizational if it is about social communication practices by which an organization or Institution relates to its internal and external public, whatever the medium used</td>
</tr>
<tr>
<td>3. Interpersonal if it is about social communication practices by which particular individuals relate to others, whether through mass media or not, whatever their medium and genre.</td>
</tr>
<tr>
<td>4. Group if it is about social communication practices conditioned by the existence of groups of individuals who interact with others, either through mass media or not, whatever their medium and genre.</td>
</tr>
<tr>
<td>5. Meta-research: The object of study is a research activity on Communication, which is described, explained, or evaluated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formal object of study:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Socioeconomic infrastructure if a practice of social communication is approached from its conditions of production, distribution, or consumption of goods</td>
</tr>
<tr>
<td>2. Discursive structure if a social communication practice is approached paying attention to the discourses that circulate to reveal the conditions of its communicative, informative, or symbolic use</td>
</tr>
<tr>
<td>3. Normative superstructure if it is a matter of contemplating regulations concerning social communication practices compromising conditions to carry them out, whether through mass media or not, whatever their medium and genre.</td>
</tr>
<tr>
<td>4. Historical evolution if it is a question of studying historical transformations of social communication</td>
</tr>
</tbody>
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communication practices, whether they occurred through mass media, or not, whatever their medium and genre.

**Scenario or environment** where the communicative practice that is considered as the material object of study is located (Multi-choice)

**Example 1:**
- **Object of study:** Use of WhatsApp by company employees
- **Classification formal object of study:** online interpersonal discursive structure
- **Environment:** organizational face-to-face

**Example 2:**
- **Object of study:** characteristic gender relations in an advertising agency, analyzing the characters of the series Mad Men
- **Classification formal object of study:** organizational discursive structure
- **Environment:** conventional mass

Annex 2. Categories of the methodological profile of the Projects (continuation of Table 3)

**Samples:**

1. **Probabilistic**, if the sample is random and calculated by establishing the margin of error, the level of trust, etc., in relation to the universe studied.
2. **Intentional**, if the sample is selected based on criteria established and justified only by the researcher.
3. **Significant population**, if the sample is selected by the segmentation of the universe according to relevant variables typical of the population in relation to the object of study.
4. **Structural** if the sample is chosen considering some organization of variables or categories derived from their relationships and positions within the universe.
5. **There is no sample** because you are working with the entire universe, or it is only a case study.

**Data:** On what type of data is the information that the researcher relies on for the conclusions of the work elaborated?

1. **Parametric or quantitative data** (Frequencies, indices, measurements, ratings, etc.; for example, providing graphs and tables of simple and crossed frequencies, measures of central tendency and dispersion, correlations, etc.)
2. **Of attribute or qualitative data** (expressed by categories, statements, and value judgments, as opposed to quantitative data)
3. **Mixed or Mix** of 1 and 2
4. **Logical or argumentative:** research data on the forms of discourse treatment (e.g. propositions, arguments)

**Techniques:** The answer that best refers to the type of practice most used for the preparation and recording of primary research data should be chosen next. (Multi-choice). Note: From the questions that appear below, choose "Not known" if this type of technique has not been used.

**Once the Observation Technique has been chosen,** the analyst must select whether the author of the research bases the information on data that comes from observations in which:

1. The researched subjects observe themselves.
2. The researcher himself elaborates data of the observation that he carries out, from the status of ultimate judge, as an observing system external to the field of observation (etic perspective), to elaborate the descriptions and record the data in a standardized way.
3. The researcher himself is part of the field of observation or has some connection with the subjects observed.
Once the Conversation Technique has been chosen, the analyst must select whether the author of the research bases the information on data that comes from conversations:
1. Open, in-depth and semi-structured applied to individuals
2. Debate that occurs in previously existing groups of people (natural groups).
3. Debate that takes place in groups of people expressly constituted for discussion (Conversational Analysis Partner, Focus Group).
4. Activity that is designed to modify behaviors of individuals taking advantage of the influence exerted by pressure from the same group, for therapeutic, learning, and creativity purposes (Brainstorming).
5. Technique for large groups that, divided into 6 subgroups of 6 people (hence the name), discuss a specific problem with successive discussions and subsequent debates in the general group.
6. Successive rounds of written interviews, held with experts who criticize and contribute their opinions without knowing the identity of the rest of the participants.

Once the Survey Technique has been chosen, the analyst must select whether the author of the research bases the information on data that comes from surveys based on:
1. Personal interviews, closed, reproduced in series with many subjects to know their points of view on certain topics.
2. Personal interviews, closed, reproduced in series with many subjects to know their attitudes and predispositions on certain topics.

Once the Experiment Technique has been chosen, the analyst must select whether the author of the research bases the information on data that comes from experiments based on situations where:
1. A subject is placed before a reagent (words, incomplete sentences or stories, drawings, facts, behaviors, tasks) or stimulus variables.
2. A group of subjects is placed before a reagent (words, incomplete sentences or stories, drawings, facts, behaviors, tasks) or stimulus variables.
3. A subject or group is placed in a controllable and observable situation or context: e.g. a week without television.

Once the Document Technique has been chosen, the analyst must select whether the author of the research bases the information on data that comes from analysis based on communicative products on which are applied:
1. Research techniques for the objective, systematic, and quantitative description of the supposedly manifest content of the analyzed documents
2. Study of the interaction involved in communicative discourses according to cognitive, social, political, historical, cultural contexts, etc.
3. Study of communicative products that is intended for cataloging, archiving, and document management to facilitate their identification, retrieval, and subsequent use.

Triangulation: The elaboration of the conclusions is based on the articulation and contrast of different:
1. Origins or sources from which the data comes
2. Published contributions or discourses by other authors or specialists in the field of study
3. Theoretical models or representation schemes of a study object, proposed by previous researchers, which may or may not be confirmed by the research.
4. With complementary, simultaneous, or alternative techniques that include the articulation of more than one research technique.