

## **Study of the productivity and working partnerships of the Catalan and Madrilean clusters based on their output in the top Spanish communication journals**

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Translated from Catalan by Mary Black

### **Abstract**

*This study consists of an analysis of scholarly papers published in the seven highest-quality Spanish-language communication journals throughout the period 2007-2011. The study analyses the productivity and the collaborative models among the authors of these papers, and it draws an accurate, detailed map of activity in the Catalan and Madrilean clusters. The two clusters' production levels are similar, and together they account for most of Spain's output. The data also show the Catalan cluster's greater internal connectivity and a lower output in partnerships with the rest of Spain compared to the Madrilean cluster. Finally, the results show that international co-authorship is at a very early stage, and the joint output from Catalonia – Madrid is virtually non-existent.*

**Key words:** Catalonia, Madrid, communication journals, authorship, papers

### **1. Introduction and objectives**

The publication of papers in communication journals is a phenomenon that arose in the early 1980s, when this field of knowledge, adopting the model of the experimental sciences, began to use publication in scholarly journals as an essential way of disseminating the results of studies (Hicks, 2004). This led to a trend among authors to choose the journals according to the benefits they will bring to their CVs (Giménez & Alcain, 2006). On the other hand, agencies appeared with the goal of classifying journals in terms of quality, which promoted a small group of journals over others, giving rise to a competitive process among the journals to attract high-quality papers. This latter phenomenon had a key effect in non-English-speaking countries, since the Social Sciences Citation Index (SSCI-ISI) and SciVerse Scopus – both of which

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use English as their main language – became the international benchmarks in quality evaluation. In Spain, the reaction to this situation led the country to create its own evaluation systems with the goal of conferring prominence on high-quality Spanish-language publications. Despite this, the journals watched with concern as they were increasingly distant from the international productive epicentres and a slow series of efforts got underway to situate these publications in the most important international databases. At the same time, there were attempts to leave the hallmark of Spanish communication journals, which contained papers in Spanish, to evolve towards international quality standards dissociated with the regional origin of the papers. Notable examples of this are the fact that *El Profesional de la Información* in 2006, *Comunicar* in 2007 and *Comunicación y Sociedad* and *Estudios sobre el Mensaje Periodístico*, both in 2009, were added to the ISI database.

This new working paradigm has aroused interest among researchers in communication to evaluate the state of the art of Spanish publications. Noteworthy studies include the ones by Soriano (2008) on the consequences of the effect of National Agency for Quality Assessment and Accreditation of Spain (ANECA) on Spain in terms of language, authorship and citations (Fernández - Quijada, 2010; 2011), the methodological flaws in papers published between 1998 and 2007 (Martínez-Nicolás & Saperas, 2011), the internationalisation of the impact factor (Lauf, 2005) and analyses of the internationalisation and co-authorships of very extensive samples of scholarly papers on communication (Escribà & Cortiñas, 2013; Fernández & Masip, 2013). The studies unanimously express a concern over the deficient status of Spanish matrix publications in their records of international publications, even though they do provide a ray of hope, especially in studies after 2008, which dovetails with the entry onto the scene of the Spanish communication journals.

In order to bring more factors to interpret the situation, we believe it is worthwhile to focus on aspects involving the internal distribution of the output. For this reason, in this paper we perform a study of the leading Spanish communication journals with the goal of specifying the work patterns and productive records of the two main regions of scholarly output in the field of communication in Spain: Catalonia and the Community of Madrid. Our goal is to go beyond the outline offered by Escribà and Cortiñas (2013), which traces a few master lines of productive activity and partnerships among universities based on an analysis of the most frequent ties among universities. Therefore, the study below meticulously quantifies all the productive and collaborative activities that take place in Catalonia and the Community of Madrid and analyses the ways in which each cluster collaborates abroad.

Thus, our study pursues the following objectives:

- To measure the total and relative productive activity of researchers at the different universities in the Catalonia cluster and the Community of Madrid cluster based on the presence of papers in the leading communication journals in Spain.
- To analyse the structures of partnerships at the leading universities in each cluster in terms of the number of publications signed by a sole author and co-authorships, either within the same university, within the cluster, with the rest of Spain and with co-authors from abroad.

## 2. Method and materials

The leading communication journals were selected strictly according to objective quality and validity criteria during the period 2007-2011. Using the complete DICE<sup>1</sup> database, we analysed each publication to check its activity during 2007-2011, and we ascertained high-quality track records based on the journals' inclusion in ISI, Scopus, Latindex, ISOC-CSIC, *the journal-source* category in IN-RECS<sup>2</sup> and external reviews. We added *El Profesional de la Información* (EPI) to this classification, a journal which has openly expressed its aim of publishing research in the field of communication, even though it is included in the Library and Documentation databases.

The journals chosen for our study are:

- *Comunicar. Revista Científica Iberoamericana de Comunicación y Educación* Created in 1993 with the name of *Comunica. Revista de Medios de Comunicación y Enseñanza*, it adopted its current name in 1994. It is the most visible element in the activity of a group of Andalusian journalists and professors working under the name of *Grupo Comunicar* whose goal is to perform research in the field of communication. It has been an ISI member since 2007, and it also appears in Scopus. It is the Spanish matrix publication with the top position internationally. It comes out twice yearly.
- *Comunicación y Sociedad*. This is the quarterly (since 2013) publication issued by the Faculty of Communication at the University of Navarra which has been active since 1988. It has been present in both ISI and Scopus since 2009. Unlike other publications which choose to translate their issues into English, this publication has some papers in Spanish and others in English within the same issue. We should note that its desire for an international presence has been its main mission from the start.
- *Estudios sobre el Mensaje Periodístico* is the journal of the Department of Journalism I of the Complutense University of Madrid. Twice a year since 1994, it has published papers in Spanish (primarily), French and English. It and *Comunicación y Sociedad* are the only two university-based journals listed in ISI and Scopus.
- *El Profesional de la Información* is a publication on information, documentation librarianship and communication which was founded in 1992 with the name of *IWE (Information World en Español)*. It had English and Dutch owners until it moved to Barcelona in 1997 and adopted the name of *IWE – EPI*, even though it was run out of Holland. After many changes, in 2005 it became a fully Spanish

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<sup>1</sup> DICE is the acronym of Editorial Dissemination and Quality (*Difusión y Calidad Editorial*) of Spanish humanities, social sciences and legal journals, the database maintained by the Spanish National Research Council (CSIC) which contains all the communication journals regardless of their activity and quality.

<sup>2</sup> IN-RECS is the database run by the EC3 group at the University of Granada which organises communication journals according to their number of citations. IN-RECS assigns the *journal-source* category to a publication not only because it receives a high number of national and international citations, also because it has high marks on an evaluation of the editorial process as well as a qualitative evaluation by researchers.

publication headquartered in Barcelona, although it was printed in Granada. Finally, everything moved to Barcelona, and this came with a surge in its international projection, which is reflected in its addition to the ISI and Scopus databases in 2006.

- *Revista Latina de Comunicacion Social*. This is an annual electronic journal founded in 1998 and issued by the Faculty of Information Sciences at the University of La Laguna. It is one of the longest-standing journals published on the Internet and has gone through three phases of growth and internationalisation, which has allowed it to be added to Scopus while also gaining outstanding marks in Spanish quality classifications.
- *Zer. Revista de Estudios de Comunicación* is the journal issued twice yearly by the Department of Communication and Social Sciences at the University of the Basque Country since 1996. It earns high marks in the Spanish classifications but is not present in international databases like ISI or Scopus.
- *Anàlisi* is a trimestral publication issued by the Autonomous University of Barcelona and the Open University of Catalonia that publishes scholarly papers in the field of the Communication Sciences. It got its start in 1980, and although it is one of the publications with the highest marks in Spain, it is not present in international databases.

After choosing the journals, the next step was to determine which papers to include in the study. Of the total sample, we eliminated those papers which did not fit the pattern of scholarly study. Specifically, this included book reviews, personal reflections and papers expressly excluded by their own publications, which were not considered in this study. Thus, the corpus of this study was 1,182 papers.

Each paper was individually studied by describing its author(s) in terms of geographic origin and institutional affiliation with the goal of precisely outlining the productivity and work alliances. The tallying process was supported by statistical analysis carried out with the help of the Microsoft® statistical package and the UCINET6 programme, complemented by the text by Bogartti, Everett and Freeman (2002).

### 3. Analysis

#### 3.1. Total productivity

##### 3.1.1. Catalonia

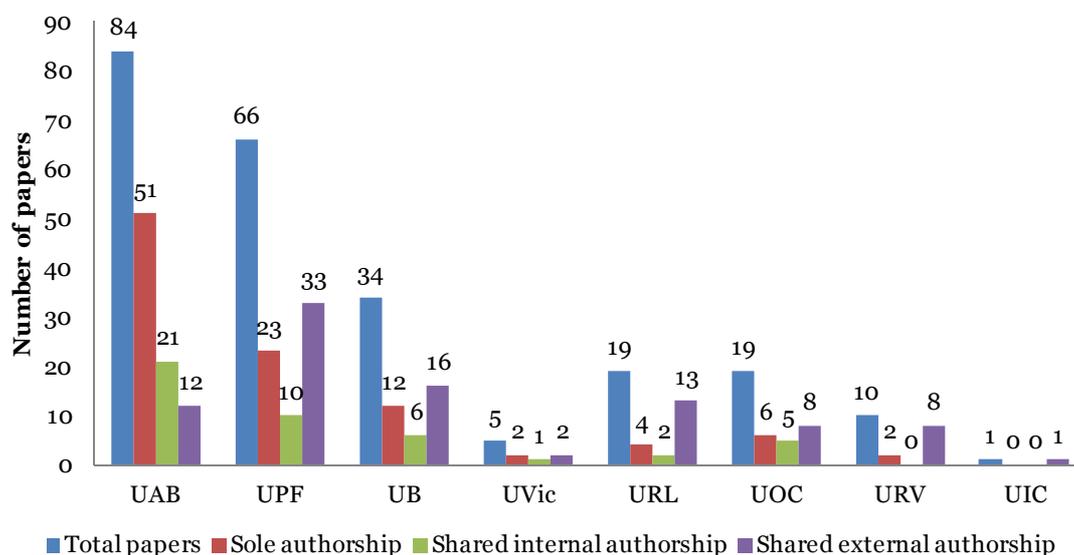
The results of the analysis of the data on total productivity show how the output is distributed in the different universities. Figure 1 shows how the three most productive Catalan universities are the UAB,<sup>3</sup> the UPF and the UAB, which appear in a total of 150 of the 176 papers which were signed exclusively in Catalonia during the period 2007-2011. The remaining 26 papers had authors

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<sup>3</sup> Table of acronyms of the universities included in this study which are not explicitly specified in this text.

either exclusively from the URL, the UVic, the URV, the UOC or the UIC, or were co-authored by professors within the same university or from these universities. Thirty-one more papers were authored by Catalans with alliances outside the Catalonia cluster, making a total of 207 papers in which at least one author is from Catalonia.

**Figure 1. Productivity of the Catalonia cluster**



This analysis enables us to sketch the working patterns which reveal the desire to seek openness, regardless of productivity. Even though its productivity is not very high, the URL does show a high output of papers signed jointly with other universities. All told there are 13 papers signed in this way, while 6 are signed either individually or with other authors from the URL. These 13 papers are distributed unevenly. Six are the outcome of joint efforts with the UPF, 2 with the URV and 5 comes from sole partnerships with the UIC, the UB, the UNAV, the UNEX (University of Extremadura) and the UOC. This interpretation could also extend to the UOC, although in a less obvious way, since it has a total of 8 papers with other universities compared to 11 authored within the UOC itself.

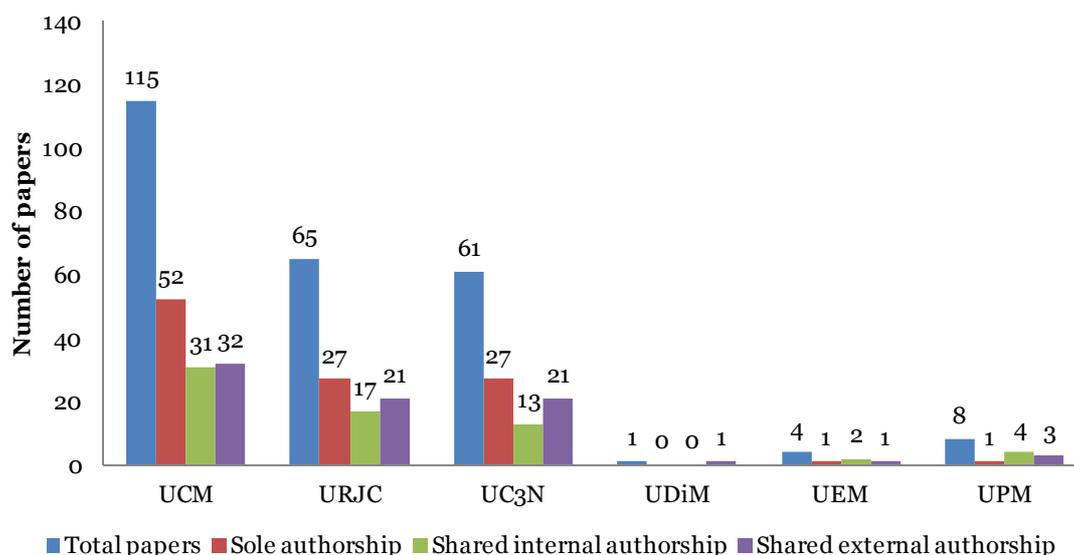
The analysis of universities with the highest volume of output shows how the UPF, the second-ranked Catalan university in terms of the number of papers published, has 33 papers co-authored with other universities, compared to 23 signed individually and only 10 with internal co-authors. Regarding the UB, it has numbers that concur with the hypothesis that the Catalonia cluster focuses on studies open to other universities compared to internal studies; however, the UAB's results do not seem to match this trend and show a total predominance of individual output compared to papers with external partners.

### 3.1.2. C. Madrid

The Community of Madrid cluster shows a similar structure to the Catalonia cluster in terms of productivity, as practically all its output comes from three universities, the UCM, the URJC and the UC3. In overall terms, the Madrid core

signed a total of 189 papers, and 8 of them come from studies performed by the UDM, UEM and UPOLM, either individually or with co-authors from the same university. We should note that we found no joint publications among the three least productive universities in this cluster. The overall interpretation of the Community of Madrid cluster yields a total of 239 papers in which at least one author is affiliated with a university in the Autonomous Community of Madrid.

**Figure 2. Productivity of the Community of Madrid cluster**



According to Figure 2, individual and internal work within the university is more common than openness to partnerships with other universities. In none of the universities, regardless of their overall productivity level, do external co-authorships exceed internal output. One noteworthy feature is that in the three leading universities, individual papers come first, following by external partnerships and finally internally co-authored papers.

### 3.2. Relative productivity

In order to complete the study on institutional productivity, we analysed the number of papers written at a given university – in sole authorship or shared internal or external authorship – in relation to the number of research staff members with permanent ties to the university.<sup>4</sup> This ratio (number of papers/number of tenured researchers) has the highest value at the UPF, at 1.74, followed by the UB at 1.48. It is interesting to note that the universities with the largest faculties (UAB and UCM) showed values of 1.01 and .097, respectively, that is, one paper per professor.

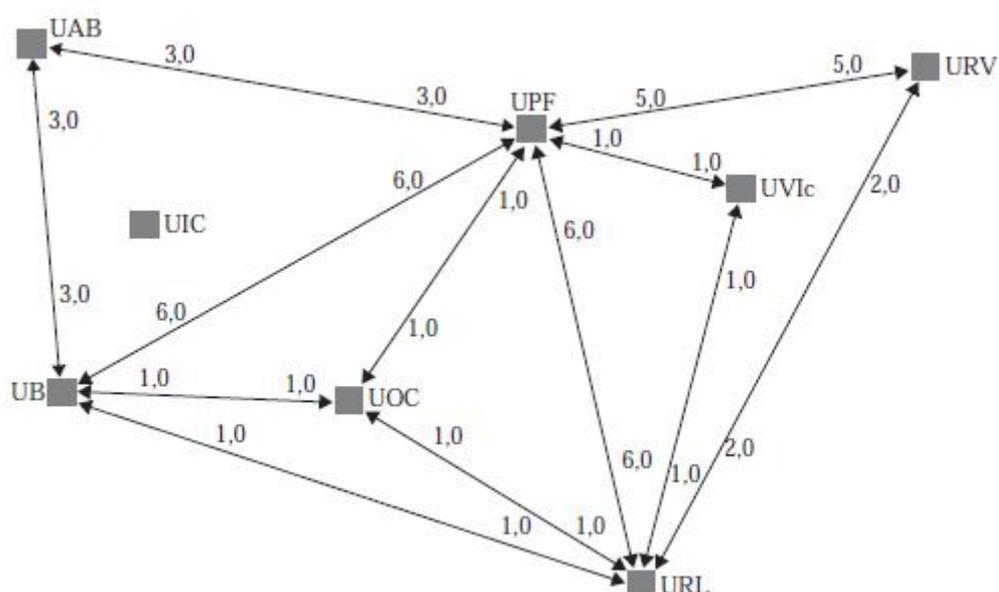
<sup>4</sup> To tally this, we considered the categories of career civil servant, tenured PhD professor and assistant professor, which is equivalent to a tenured PhD professor in Catalonia and the Basque country.

### 3.3. Regions associations within the clusters

#### 3.3.1. Catalonia

Figure 3 allows us to analyse all the collaborative interactions which have taken place during the period of the study within the Catalonia cluster. The activity represented provides a very clear picture of the policy of exchanges among universities. With the exception of the UIC, which has no papers co-authored within the cluster, as its only case of co-authorship is with Switzerland – the remaining universities clearly interact with each other. In this sense, the UPF has issued publications in conjunction with 6 other Catalan universities, followed by the URL with 5 other universities. The UAB has poorer results with the two kinds of partnerships. This corroborates the results of the volumes of productivity in co-authorship abroad.

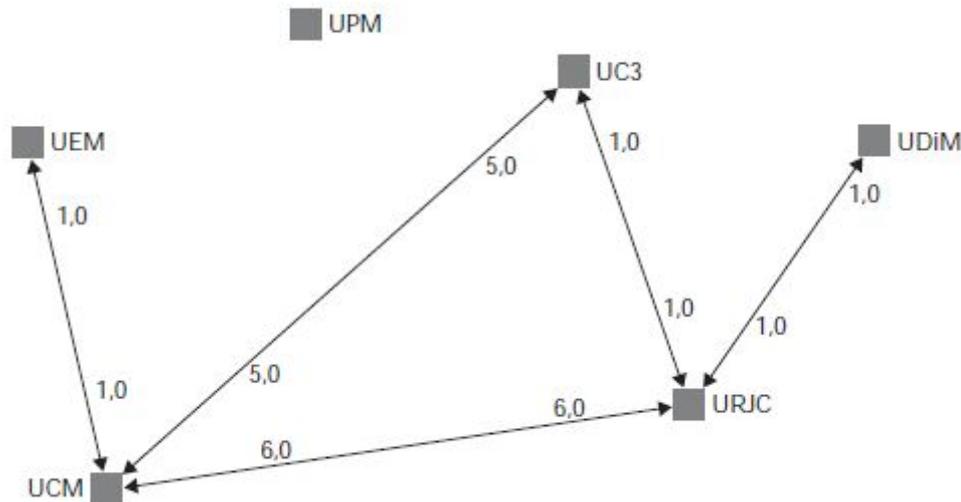
**Figure 3. Description of institutional affinities within the Catalonia cluster**



#### 3.3.2. C. Madrid

Figure 4 shows the nodal distribution of all the partnerships among the universities in the Community of Madrid cluster during the period 2007-2011. The diagram shows that the number of partnerships was never higher than 3, while it also shows that the UCM served as a core, particularly fed by partnerships with the UC 3 and the URJC, which, in turn, only cooperated on one occasion. Regarding the UPOLM, none of its co-authored papers were signed in partnership with researchers from the same autonomous community.

**Figure 4. Nodal description of institutional affinities within the Community of Madrid cluster**

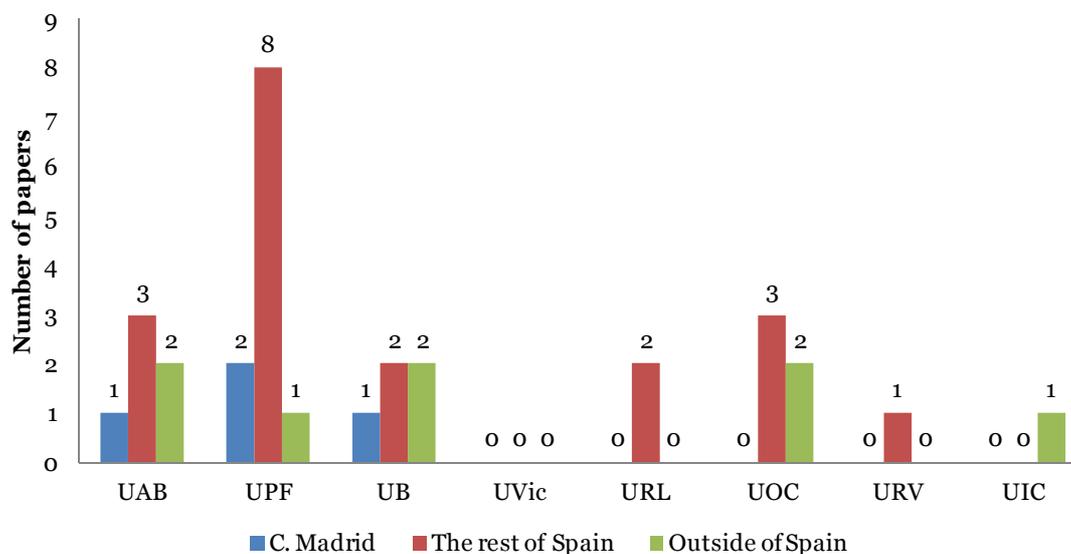


#### 3.4. Regions associations external to the clusters

The information collected shows the collaborative dynamics of the universities in both clusters in terms of their affinities beyond their corresponding autonomous communities.

##### 3.4.1. Catalonia

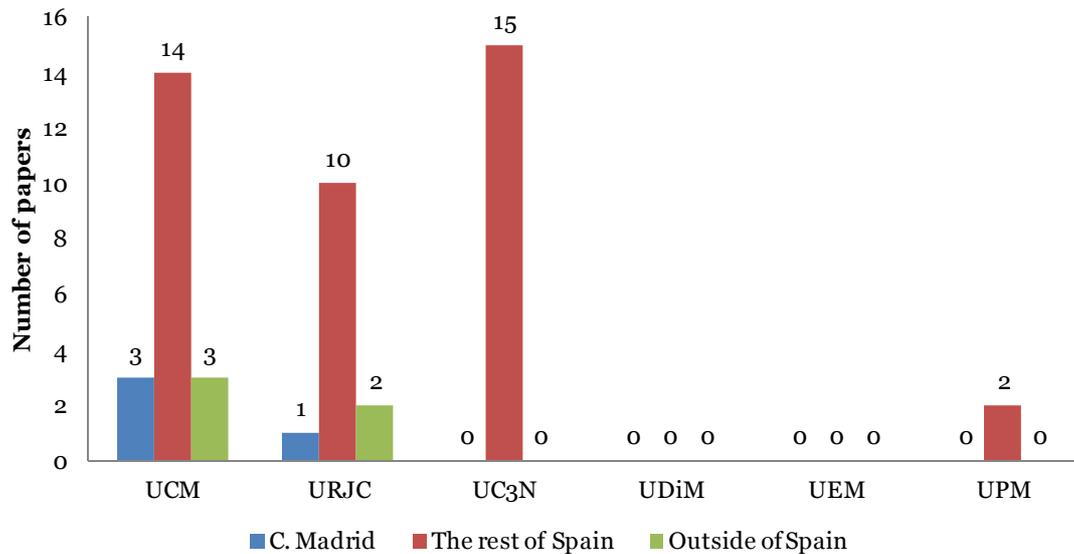
Catalan universities yielded the results shown in Figure 5. The figures reveal first a very low presence of papers coming from alliances between the Catalonia and Madrid clusters, and secondly the fact that in the universities with lower levels of co-authored scholarly output this output is not exclusively with other universities in Catalonia and instead there is a significant percentage that extends beyond the geographic boundaries of the Catalan cluster. In this sphere of analysis, the institutional dispersion factor is important when establishing alliances, that is, the number of different universities with which research projects have been signed. In this tally, the UPF is the institution that has co-authored papers with the highest number of different universities outside of Catalonia (10), followed by the UAB, the UB and the UOC, with 5 each.

**Figure 5. Regional distribution of external co-authorships in the Catalonia cluster**

#### 3.4.2. C. Madrid

The external co-authorships of the universities in the Madrid cluster are primarily with the rest of Spain. The UCM, the leader in terms of output, combines 3 co-authorships with Catalonia and 3 with countries outside of Spain, with a predominant presence of papers with the rest of Spain. It is interesting to note the figures for the UC3, which has no papers that were co-authored with the Catalonia cluster and no papers with international co-authors. Regarding institutional dispersion, the Madrid-based universities got high scores. The UCM, with 17 different institutions outside of its own autonomous community, is the university with the most alliances in Spain. The URJC and the UC3, with 11 and 10, respectively, follow it with figures similar to those obtained by the UPF in Catalonia.

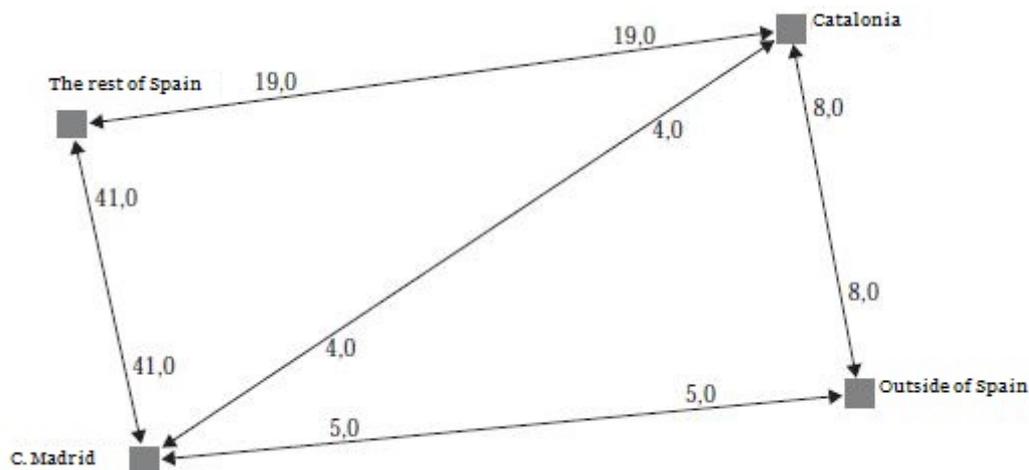
**Figure 6. Regional distribution of external co-authorships in the Community of Madrid cluster**



### 3.5. General schema

An examination of the internal and external productivity of the clusters allows us to sketch a highly precise regional and institutional picture of the output of scholarly papers published in major communication journals. On the one hand, we should stress that in five years there were four papers between the two most productive clusters in Spain. These four papers correspond to the following partnerships: UPF and UCM, UPF and URJC, UCM and UB, and UCM and UAB. On the other hand, the Catalan cluster co-authored 19 papers with the rest of Spain, which account for fewer than half of the 41 that the cluster co-authored with the Autonomous Community of Madrid. Regarding the presence of papers with authors from outside of Spain, the Catalonia cluster co-authored a total of 8 papers, compared to 5 for the Madrid cluster. Figure 7 shows the information organised in a nodal fashion.

**Figure 7. Distribution of external co-authorships in the clusters**



#### 4. Conclusions and discussion

In absolute terms, the productivity between the two clusters is similar. The Catalan cluster published a total of 176 internal papers and 31 more with partnerships from outside its autonomous community. The Madrid cluster, which had 189 internal papers and 50 with external co-authors, ranked ahead of Catalonia in terms of overall productivity. The percentage analysis situates the Catalan cluster far from the Madrid cluster in terms of papers with partnerships from outside the cluster (14.9% compared to 20.9%). This fact, motivated in part by the higher population of universities within the Catalan cluster, should not blind us from a reflection on the need to forge even more international alliances.

In terms of the analysis of overall productivity, too, both clusters showed a high concentration in three universities: the UAB, the UPF and the UB in Catalonia, and the UCM, the URJC and the UC3 in the Community of Madrid. Despite this, this study has pointed to a difference in the way the two clusters work. The Catalan cluster shows a clear focus on working within the network, while the Community of Madrid cluster works more centred around the UCM. In any event, the influence of the distribution of universities, the geographic scope of each autonomous community and the number of universities should be taken into consideration before drawing any conclusions.

A third aspect shown by the figures refers to the relative productivity values. In this sense, the UPF's tally is notable (1.79 papers/researcher on a tenured contract) compared to that of the two largest universities in Spain, based on their tradition and volume of output. The UCM and the UAB show an approximate ratio of 1 paper/researcher. In order to truly see what this means, it is important to bear in mind that the study was performed over a 60-month period. This means that on average, a researcher with a tenured contract publishes one paper every 5 years, while at the UPF they do so every 2 years and 9 months. It is clear that the study does not consider publications in non-Spanish communication journals, yet nonetheless, the results do not show a high level of productivity if we bear in mind, for example, that a doctoral candidate who chooses to do their thesis as a compendium is required to publish 4 papers in 36 months (9 months per paper).

In terms of connections, we have already discussed that Catalonia shows a configuration more given to networking within its own cluster than the Community of Madrid. The overall internal analysis of this cluster in terms of the ratio between the number of different universities and the number of papers with external co-authorship shows that the URJC (0.67), the UCM (0.63) and the UAB (0.58) are the universities with the greatest collaborative variety, while the UC3 (0.57), the UB (0.56) and the UPF (0.49) and are the ones with the lowest variety. It is interesting to note that both the UPF and the UB are the universities that create the most connections within the Catalan cluster, which leads to the conclusion that both show high connectivity within Catalonia but a lack of collaborative variety outside of this autonomous community.

Without leaving this collaborative aspect behind, we should also note the considerable difference in the two clusters' connections with the rest of Spain. While the Catalonia cluster signed 19 papers with universities in the rest of

Spain – not counting the Community of Madrid – the Madrid cluster signed 41. This considerable difference could be attributed to a language issue, but this hypothesis does not make much sense if we look at the journals analysed. With the exception of *Anàlisi*, they are all in Spanish. Regarding authorships with universities from outside of Spain, the tendency is considerably lower, since the Catalonia cluster shows only 8 papers and the Community of Madrid cluster has just 5.

Finally, it is also important that only four papers were signed jointly by universities from the two clusters analysed: that is, Catalonia signed 1.9% of its papers with the Community of Madrid and the Community of Madrid signed 1.7% of its papers with Catalonia. This means that one of these papers was published every 15 months – on average – and reveals the fact that even though the two clusters are the home to the most productive universities in Spain, they are resistant to joining forces and instead prefer to seek other alliances.

Therefore, the Catalonia cluster seems to display nodal activity and internal connections that are clearly more active than the Community of Madrid cluster, while the Community of Madrid shows the same working paradigm when it is analysed within the framework of Spain as a whole. Outside the state borders, however, both of the most important production nuclei in Spain are at the very early stages of international alliances, which is further aggravated by the duplicated efforts generated by the weak and almost non-existent cooperation in the Catalonia-Madrid axis.

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