Chapter 53
Academic Social Networks and Communication Researchers from Universities in the North of Portugal: An Analysis of Academia.edu and ResearchGate

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Abstract Academic social networks emerge as an opportunity for researchers to improve their work and to potentially increase both the dissemination of their research and their collaboration with other scholars. However, there are still many gaps, uncertainties and reluctance surrounding academic social networks. This is not surprising, as they are a new phenomenon and are still not en a par with traditional media in terms of prestige and recognition. Considering such platforms as objects of study may contribute to their consolidation as valid tools for academic research. This study analyzes the presence of communication scholars and researchers from Universities in the North of Portugal in the two major academic social networks, Academia.edu and ResearchGate. Our work is in line with recent incipient studies in other geographical areas, such as Galicia, Spain. This article not only offers and overview, but also detailed insights into the presence or absence of researchers on these platforms, number of documents uploaded, followers, visits; analysed by gender, university or department.

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53.1 Theoretical Framework

The academic world has become one of the realms where the expansion of Web 2.0 tools has had a greater impact. This space offers new possibilities for the development of two of science's core elements: communication and collaboration (Codina 2009). Discussions around Science 2.0 have evolved in recent years. This is defined as "using social web technologies in the scientific process" (Merlo et al. 2010) as a way of understanding science in a less uptight fashion, imbued with the values of free access to information, free collaboration and the overcoming of physical distances as barriers to research. This model of "open science" (Merlo et al. 2010) is mainly understood in three ways: sharing research, resources and results.

The potential of Web 2.0 technologies is particularly explored in social networks. Thus, generalist social networks (Facebook, Twitter, Linkedin…), as professors Mercedes Caridad and Xosé López (Campos Freire et al. 2014) claim, can be used from an academic perspective, offering researchers the possibility to disseminate their studies fast to a wide audience. Despite the possibility of using generalist social networks, the need for more specific tools, with more reduced and specialised audiences, allowing for networking with researchers of similar backgrounds, led to the creation and development of so-called academic social networks.

Campos et al. (2014) have defined them as "ecosystems of software services, repositories and open on-line communication platforms" offering academics the possibility of easily accessing millions of scientific studies, contacting academics in their areas of interest, fostering cooperation and sharing knowledge, managing reputation or "scientific social capital" of researchers and institutions, or opening up many possibilities of working with metadata.

They are, for (Martorell Fernández and Canet Centellas 2013) a "meeting point for researchers from all over the world" with three working principles: "communication, cooperation and sharing knowledge in a virtual and democratic environment, perfectly suited for the dissemination of research, as long as participation and loyalty to academic rigour are observed".

The fact that these networks allow users to have easy and fast access to the contributions of other researchers in their areas of interest, multiplies the visibility of their research. This, in turn, increases the possibilities of a certain publication being quoted (a relevant indicator for scientific journals, as it contributes to increasing their impact index and therefore their interest for the scientific community).

Despite their constant growth, academic networks such as Academia.edu or ResearchGate still show some limitations (Martorell Fernández and Canet Centellas 2013; Cabezas-Clavijo et al. 2009). They are used mainly by younger researchers, rather than by those with established careers, and in many cases they are only used as repositories of knowledge previously published in conventional media or research uploaded without any quality filters to support the results published.

In any case, with their pros and cons, challenges and opportunities—such as for example ending redundancy and duplicity in research, as Ijad Madisch, founder of ResearchGate, claims (Becerra 2013), academic social networks are currently booming. It is the task of researchers to define this space, improve it and bring it into their daily activities, making the best of the opportunities it offers for scientific development.

With this background, this study analyses the use of academic social networks for a specific field, that of communication sciences, as this is an area where researchers are expected to be particularly aware of the need to disseminate their results, and they are also expected to be familiar with social networks (Túñez and Sixto 2012; Mendiguren et al. 2012; Subires and Olmedo 2013).

Thus, in the framework of the Galician project XESCOM, International Network for Research in Communication Management, and as a continuation of previous research on the way Galician communication scholars used Academia.edu and ResearchGate (Dafonte-Gómez et al. 2015), this study tries to understand how academic social networks are used by communication researchers in the North of Portugal.

53.2   Methodology

The networks selected for this research were Academia.edu and ReserachGate as they were both the oldest (founded in 2008) and those with the highest user figures: at the beginning of 2015 Academia.edu had over 17 million registered users and ResearchGate over 6 million. Besides, both networks ranked first and second in the benchmark of academic social networks developed by Martorell Fernández and Canet Centellas (2013); ResearchGate matched 84 % of their criteria for the ideal academic social network, while Academia.edu was around 75 %, the same value assigned to Mendeley.

In total, we analysed the presence of 78 scholars in the field of communication (42 women and 36 men) of three public universities in the North of Portugal: 18 from the University of Porto (UPorto), 30 from the University of Minho (UMinho) and 31 from the University of Trás-os-Montes e Alto Douro (UTAD), according to the data published by each of these universities' websites. The geographical focus responds to the strategic interest of the area for the European Cooperation Partnership Galicia-North of Portugal (GNP-AECT).

The record-card used registered the presence or absence of each researcher in the networks, the number of documents uploaded (papers, book chapters, etc.), the number of followers and following, the number of views and the use of the available documents. These indicators helped assess the usefulness of these networks for the researcher in terms of visibility and dissemination of their work. The data regarding the researcher's following and the documents uploaded offered some insights into the level of activity that the researcher showed on the network, while

views and followers showed their success level on the platform (against the activity levels of other researchers).

The data were gathered during the first week of November 2015.

53.3 Results

59 % of communication researchers in the North of Portugal are present in at least one of the two academic social networks. The most widely used network is ResearchGate, 4 points ahead of Academia.edu, although half the scholars in the sample have profiles on both networks. The percentage goes down to 29 % at UTAD, which is the university with the highest percentage of researchers without a profile in any academic network (55 %).

The percentage of women in some of the networks is far higher than that of men (64 % vs. 53 %), with a clearly marked difference in the case of ResearchGate. Likewise, the percentage of women having a profile in both networks is relatively higher than that of men (56 % vs. 42 %). The data are consistent in the three universities in the study, although at UTAD, the gap between women and men is less significant (Table 53.1).

Regarding the documents uploaded by researchers onto the networks, the average in ResearchGate is higher than that of Academia.edu (18 vs. 11 documents per person), although the data varies depending on the institution. Researchers of UMinho share more documents than the rest, and they prefer to do so through ResearchGate. After them comes the average of documents shared by the lecturers of UMinho, who use both networks in a similar fashion. Researchers at UTAD are those who disseminate their works less, and they do so mainly on Academia.edu.

Likewise, seven of the 46 researchers (15 %) who have a profile on any of these academic social networks (four of them have profiles on both) have never uploaded any documents onto the network, which could initially mean that their presence is merely symbolic and lacks any repercussion in the dissemination of their work. Out of these seven researchers, five are women.

Table 53.1 Percentage of researchers with a profile on academic social networks (against the total researchers of each university and the total of researchers in the sample)

	UPorto (%)			UMinho (%)			UTAD (%)			Total (%)		
	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
Profile in any other network	56	75	65	62	76	70	43	47	45	53	64	59
Profile in Academia.edu	44	50	47	54	53	53	29	29	29	42	43	42
Profile in ResearchGate	44	75	59	38	71	57	21	35	29	33	57	46
Profile in both networks	33	50	64	50	62	57	17	38	29	42	56	50

Source Prepared by the authors

In fact, a gender-wise analysis of the sample shows that the average upload of documents is higher by men than by women in both networks. Only in UMinho and in ResearchGate women have a higher upload average than men (Table 53.2).

Regarding the remaining indicators (Table 53.3), in the sample we see how the average views, followers and following are considerably lower for ResearchGate than for Academia.edu. Thus, although researchers are slightly more present and upload more documents onto ReserachGate than onto Academia.edu, their activity level in the former is lower than in the latter. These data help understand that the visibility of a researcher in academic networks depends more on the dynamics of the network than on the content introduced by the author.

The university-wise analysis of the data tends to be consistent with the general data. All universities perform better in terms of views, followers and following in Academia.edu than in ResearchGate. UTAD is the one with the lowest average views in ResearchGate and lower-than-average followers and following in both networks, despite the fact that, paradoxically, it is the university with the highest views on Academia.edu.

Despite the fact that women are more present in the networks, the three activity indicators show better results for men. The difference is especially significant in the average views in Academia.edu, with figures of 1656 for men and only 403 for women. There are no significant differences in the breakout of data per gender in each of the analysed universities.

Table 53.2 Average of documents uploaded by researchers on academic social networks (against the number of researchers present on social networks, by universities and total)

	UPorto			UMinho			UTAD			TOTAL		
	M	F	Tot	M	F	Tot	M	F	Tot	Male	Female	Tot
Academia	17	12	14	15	7	10	18	2	9	16	7	11
ResearchGate	29	6	15	22	29	27	4	3	3	20	16	18

Source Prepared by the authors

Table 53.3 Average views, followers and following by researchers (against the number of researchers present on social networks, by universities and total)

	Academia.edu			ResearchGate		
	Views	Followers	Following	Views	Followers	Following
UPorto	896	188	117	109	35	18
UMinho	941	188	116	94	52	44
UTAD	1.098	120	80	28	15	24
GLOBAL	973	169	106	82	38	31
Male	1656	289	168	111	54	33
Female	403	70	55	67	30	31

Source Prepared by the authors

53.4 Discussion and Conclusions

Almost 60 % of researchers in the field of communication in the North of Portugal are present in academic social networks and exactly in half of the cases, those who use these networks are present in both.

Despite the fact that Academia.edu has more users at world level, their penetration in the sample is slightly lower than that of ResearchGate. Besides, ResearchGate shows higher success in becoming the repository of publications, with a higher average of uploaded documents. However, Academia.edu is a more active network in terms of average views, followers and following.

A similar contradiction can be found in gender-wise data analysis. Women are more present in academic social networks, especially in ResearchGate, and the presence of women in both networks is also higher. Nevertheless, their activity rates are lower: they upload fewer documents than men and follow fewer researchers. Maybe as a consequence of this lower level of activity, their visibility levels are also lower, both in terms of the average views per profile as well as the average number of followers.

In fact, most of the users in the sample who have a profile on these networks, but have never uploaded a document, are women. These profiles have a low level of views and followers, therefore their usefulness in terms of increasing the visibility of research results or increasing citations is low. In any case, only one sixth of researchers have created profiles that are then filled-in with data.

Regarding the number of documents uploaded onto both networks, except for the University of Porto, the average uploads are diverging. This seems to show an unplanned on-line presence of researchers, or at least not an optimised use.

The online dissemination of academic works does not only depend on their quality, but also on accessibility and being positioned in a numerous and active peer community. Therefore, researchers have to become aware of the need to strategically plan the dissemination of their scientific work as part of their regular professional routines. In this sense, the differences revealed by this study in terms of the way communication researchers in the North of Portugal use Academia.edu and ResearchGate, as well as an analysis of these network's internal operations, leave the door open for future research into other geographical or knowledge areas.

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