Technological Ecosystems for Enhancing Multiculturality
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Open access repositories as channel of publication scientific grey literature

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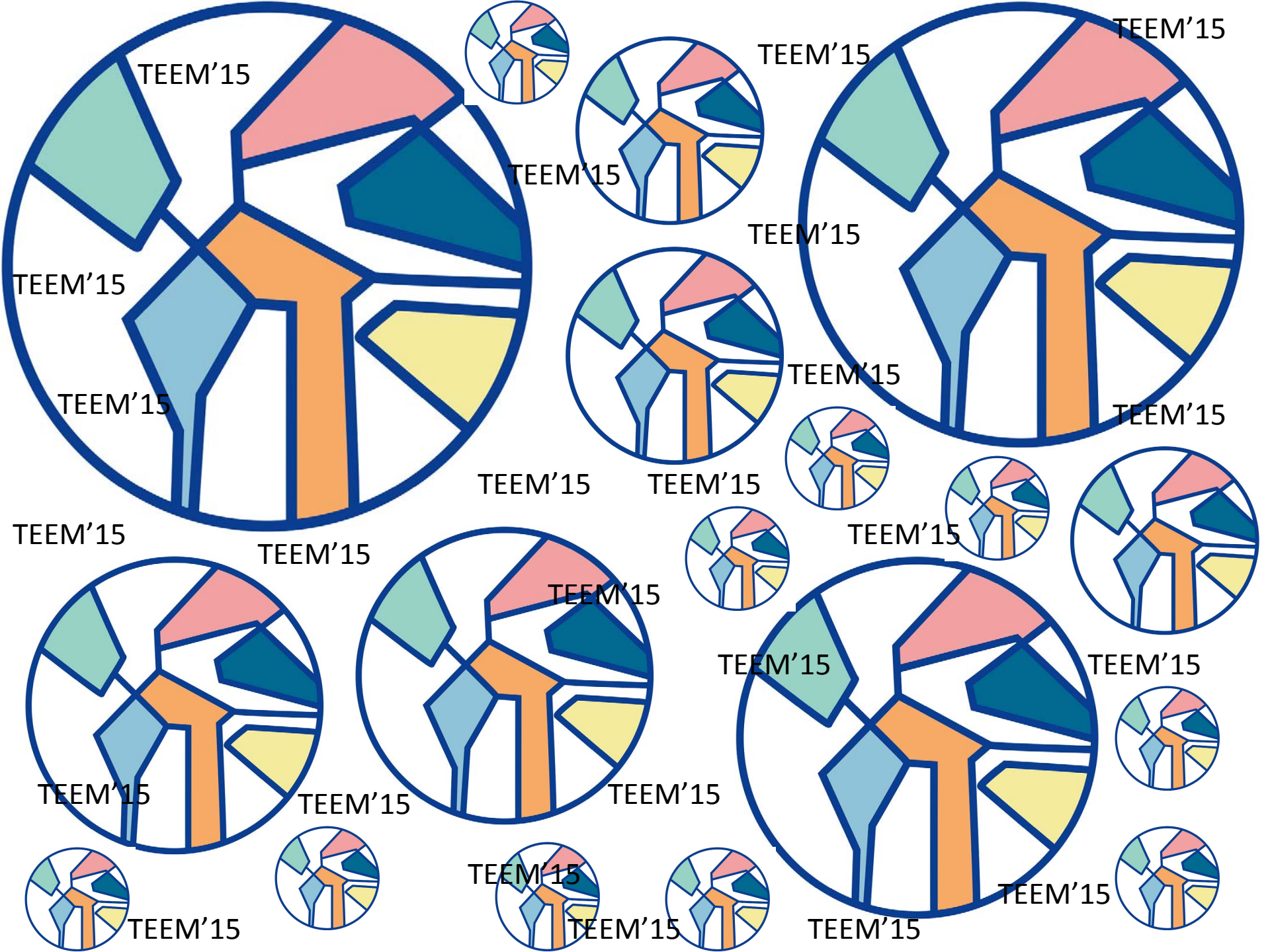
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"Theses and dissertations are the most useful kinds of invisible scholarship and the most invisible kinds of useful scholarship. Because of their high quality and low visibility, the access problem is worth solving"

(Peter Suber, 2012)

Our Goals

- Reporting the benefits of scientific communication model through open access repositories

- Reporting the benefits for scientific grey literature: deposited and disseminated theses through GREDOS repository

- Presenting the fundamentals, the state of the art, trends and benefits of open access, understood as a radical change in the system of scientific communication

Scientific communication

- Technological development facilitates the communication of scientific knowledge, allowing expand distribution channels and significantly reducing transmission costs of the investigation
- New paradigms in the process of scientific communication
- Internet as a powerful tool to disseminating knowledge
- Open Scientific production world is available to the Society

Open Access movement

- The Open Access movement was launched to improve access to publicly funded research and help libraries dealing with rampant inflation in journal subscription prices

- According to Peter Suber the Open Access movement is dependent on Internet technologies and the consent of the author or copyright holder

Institutional Repositories (IRS)

- Institutional repositories are a product of OA movement

- Repositories capture the scientific research of the faculty, staff, and students of universities or academic disciplines, and assure perpetual and free access to it

- The most Institutional repositories (IRS) disseminate electronic unpublished theses and dissertations (ETD)

IRS and Grey literature

- So far this lack of dissemination of this unpublished research works made be considered as **grey literature**, understanding as the literature what is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers

- The repositories are a tool for the dissemination of research in universities through the dissemination **theses and dissertations**

IRS and Theses

- The practice of making digital versions of theses and dissertations available online is growing internationally
- Repositories of Electronic Theses and Dissertations (ETDs) are now becoming common in universities across the world
- Data from these repositories suggest a dramatic increase in the use and citation of doctoral theses in current research activity, and this is related to the enhanced resource discovery and access that the digital surrogate confers

IRS and Theses

- For researchers and institutions is essential to achieving **visibility**, **citation** and **impact** of their work

- Therefore it is very important that repositories ensure **interoperability** and **digital preservation** in order to ensure visibility, accessibility and long-term use of their digital content

- The **interoperability of repositories and mandate** policies positively affect visibility, citations and impact of research works deposited in institutional repositories

IRS and Theses

University of Salamanca deposits its theses in its open access repository

- Mandate 2008
- Real Decreto 99/2011, art. 14

IRS and Theses

- Open Access is **easier for Theses** (ETDs) than for any other kind of research literature
  - Authors have not yet transferred rights to a publisher
  - Theses and dissertations are now born digital

- **Visibility:** By giving authors a foreseeable, real audience beyond the dissertation committee an OA policy strengthens existing incentives to do rigorous, original work

- **Sharing theses** and dissertations that meet the school's high standard reflects well on the institution and benefits other researchers in the field

Open Access and citation

- Some researchers made a study based on a huge dataset of over one million papers published in the period of 1992-2003 in ten academic fields

- They concluded that Open Access papers have consistently received more citations than non-Open Access papers

Open Access Theses: visibility and citation

- And What's the matter with theses? Do Open Access Theses have a citation advantage?

- Larivière, Zuccala and Archambault (2007) studied the impact of theses and the results of their study were paradoxical because while theses are becoming increasingly accessible to scholars in electronic format, their overall scientific impact seems to be declining

Open Access Theses: visibility and citation

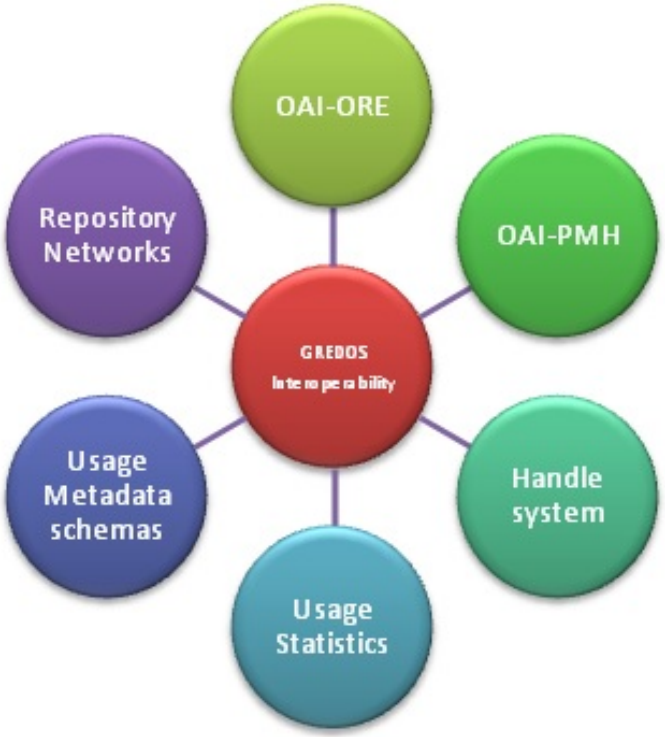
- Our aim is to prove through a simple analysis how e-theses have a high degree of use and visibility, and also a small but significant citation rate
- The results prove that the open access repositories are a valid way to disseminate scientific grey literature of institutions
- The OA repositories are a valid channel of publication scientific grey literature

INTEROPERABILITY, DISSEMINATION AND VISIBILITY

Interoperabilty

- OA repositories have been increasing and have become an important component of the infrastructure of **e-research** (COAR, 2012)
- The degree of **visibility** the repositories are closely related to **interoperability** of them
- All repositories need to support interoperability in order for their repository contents to be part of the global aggregate of OA knowledge
- COAR (2015). *Roadmap Future Directions for Repository Interoperability*

INTEROPERABILITY, DISSEMINATION AND VISIBILITY



Areas of GREDOS interoperability

INTEROPERABILITY, DISSEMINATION AND VISIBILITY

Dissemination

- To increase discoverability and availability of electronic doctoral theses (ETDs) repositories should network and interconnect. This interconnection can be on different levels, like regional or state-wide, national or international (Schöpfel, 2013)

INTEROPERABILITY, DISSEMINATION AND VISIBILITY

Dissemination

- The collection of doctoral theses of the University of Salamanca, disseminated through GREDOS, is consulted from many places on the Web, thus increasing the number of visits and downloads of its contents
- Metadata of community doctoral theses of GREDOS is collected by thematic harvesters: TDR, DART-Europe and OATD
- Metadata are also disseminated through other service providers

INTEROPERABILITY, DISSEMINATION AND VISIBILITY

Theses GREDOS dissemination

INTEROPERABILITY, DISSEMINATION AND VISIBILITY

Visibility

- The visibility results of the GREDOS Repository
  - Use of interoperability tools
  - Use of description schemas that are compatible with
    - The Repository Networks
    - The harvesters
    - Google Scholar and the reliability of web indicators (search engines)

INTEROPERABILITY, DISSEMINATION AND VISIBILITY

Visibility

- The GREDOS Repository has a high level of visibility at Internet according the Ranking Web of Repositories

World Rank	Portal	Country	Size	Visibility	Files Rich	scholar
71	Gredos Repositorio Documental Universidad de Salamanca		118	95	36	183

In the 17th edition of the Ranking Web (July 2015), GREDOS is ranked 71th position into the institutional repositories of the world (2.193 repositories)

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Methods of analysis

- Tracking of the Open Access theses
  - Analysis of use statistics of open access theses in GREDOS to measure the visits and downloads module University of Tasmania. Through data visits and data downloads of theses we can analyzing their visibility on the Internet
  - Citation analysis of Open Access theses using the data provided by Google Scholar Citation. It provides a simple way to track of citations of works

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Resumen estadísticas Año/Mes

Fecha	Visitas	Descargas
2015-07	118599	222689
2015-06	194920	396284
2015-05	200415	414031
2015-04	196995	324389
2015-03	157215	319093
2015-02	121778	237990
2015-01	168106	199819
2014-12	226892	333595
2014-11	150104	247027
2014-10	161795	288863
2014-09	166783	209466
2014-08	119861	192124
2014-07	156860	252773
2014-06	156684	325422
2014-05	157055	567665
2014-04	130961	329413
2014-03	145598	235676
2014-02	142830	171425
2014-01	133186	158100

Statistics provided by the Statistics module University of Tasmania

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Data collection and sample selection of theses

- Theses defended at the University of Salamanca in the period 2006-2007 / 2010-2011

- Data on the theses defended at the University of Salamanca: TESEO database

- Data to know if the theses are Open Access: GREDOS

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Theses USAL 2006-2007 / 2010-2011	No OA Theses	OA Theses
1064	461	603

Test sample

CATEGORIES	OA	No OA	Total
Life Sciences	176	126	302
Experimental Sciences	85	63	148
Social Sciences	210	178	388
Technological Sciences	23	16	39
Humanities	109	178	287

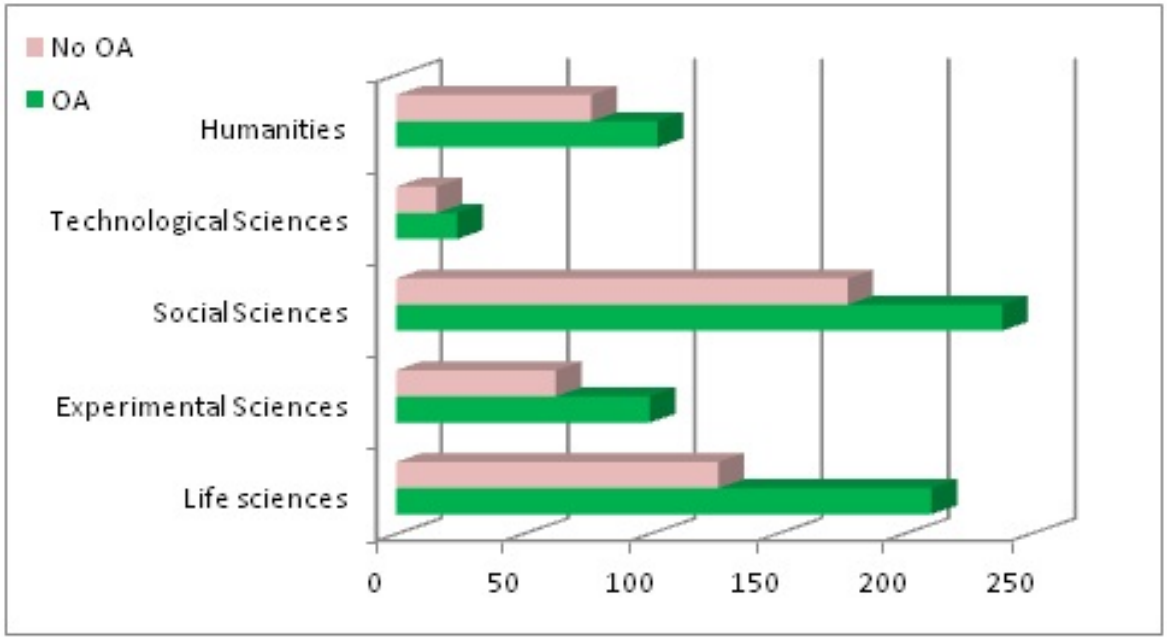
Fields of knowledge classification

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

- For this research we analyzed **125 theses** from the 1064 theses defended in the indicated time period

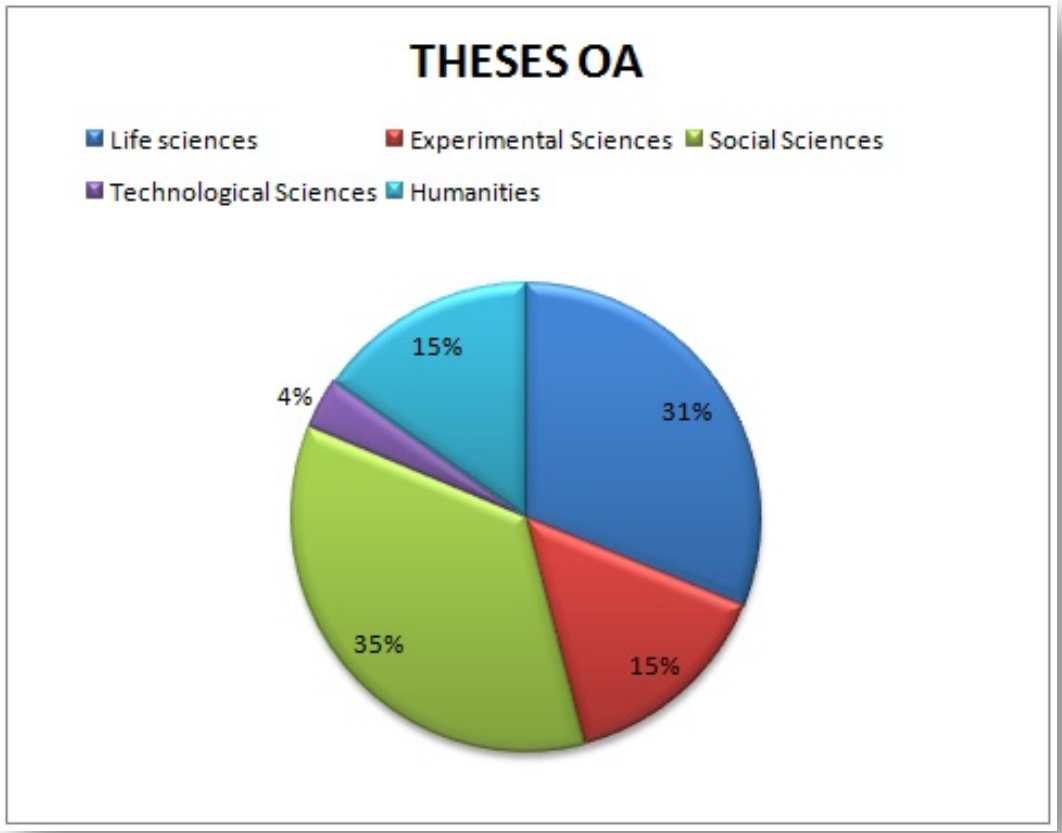
- In this article we selected **25 OA** theses for each of the knowledge area. The sample was randomly drawn from the total number of OA theses

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION



OA/No OA Theses by Knowledge areas

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

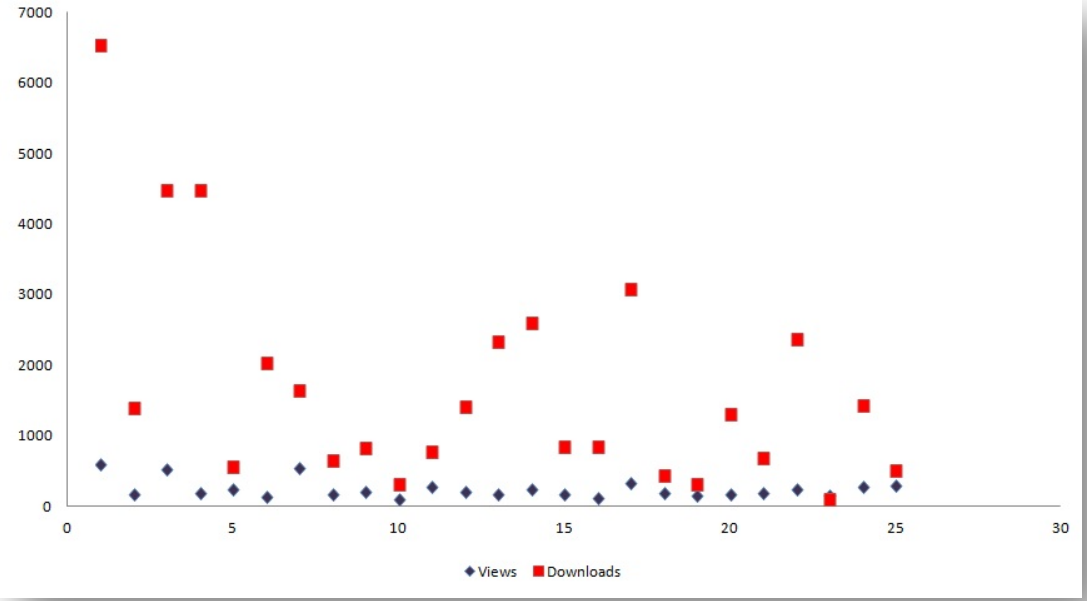


Percentage OA Theses per Knowledge areas

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Analysis

- Life Sciences theses
  - Total views: 5938
  - Total downloads: 42057
  - Media views: 194
  - Media downloads: 689
  - Presence Google Scholar: 100%
  - Citations: 16%

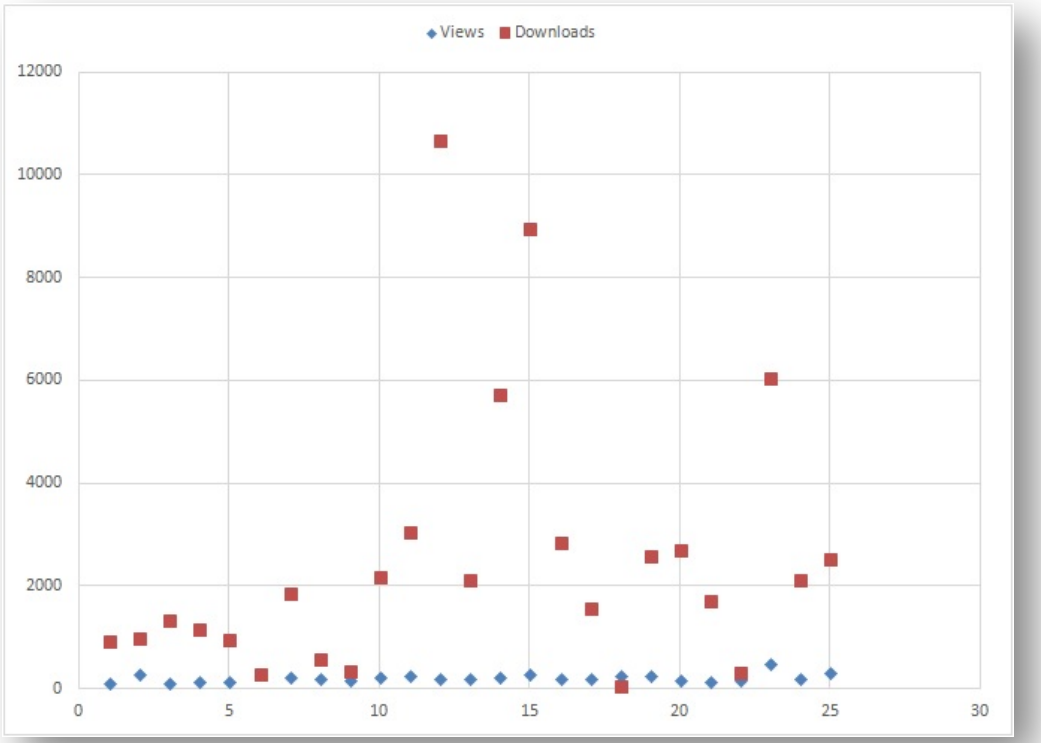


Life Sciences theses scatter plot

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Analysis

- Experimental Sciences Theses
  - Total views: 5378
  - Total downloads: 63399
  - Media views: 194
  - Media downloads: 595
  - Presence Google Scholar: 100%
  - Citations: 32%

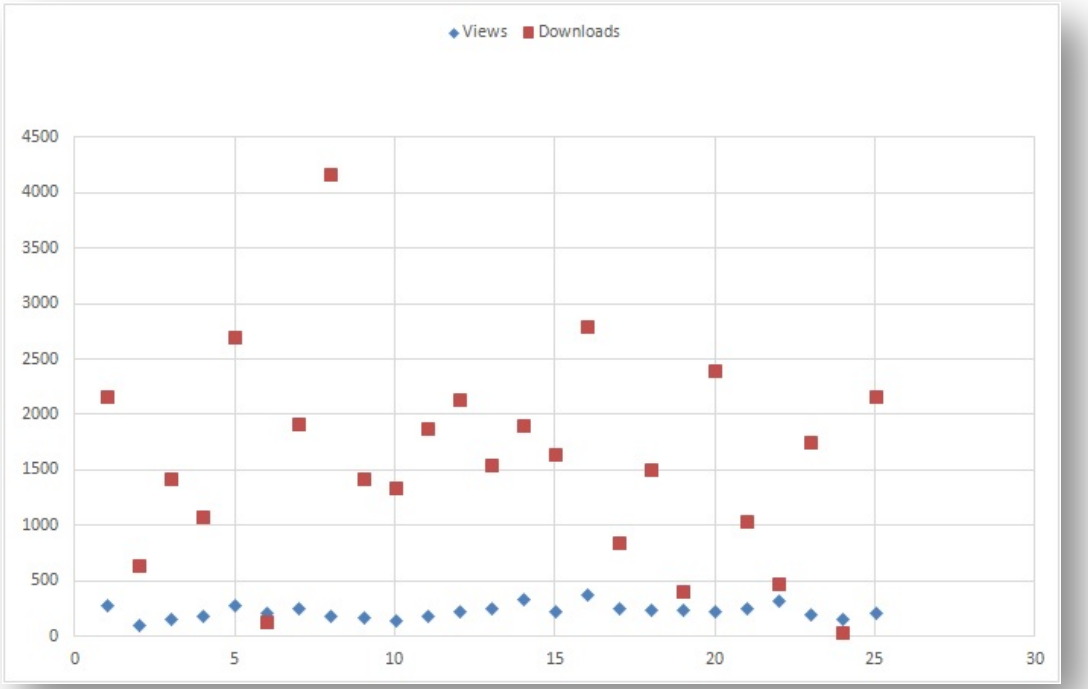


Experimental Sciences theses scatter plot

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Analysis

- Humanities theses
  - Total views: 5851
  - Total downloads: 39663
  - Media views: 218
  - Media downloads: 502
  - Presence Google Scholar: 100%
  - Citations: 20%

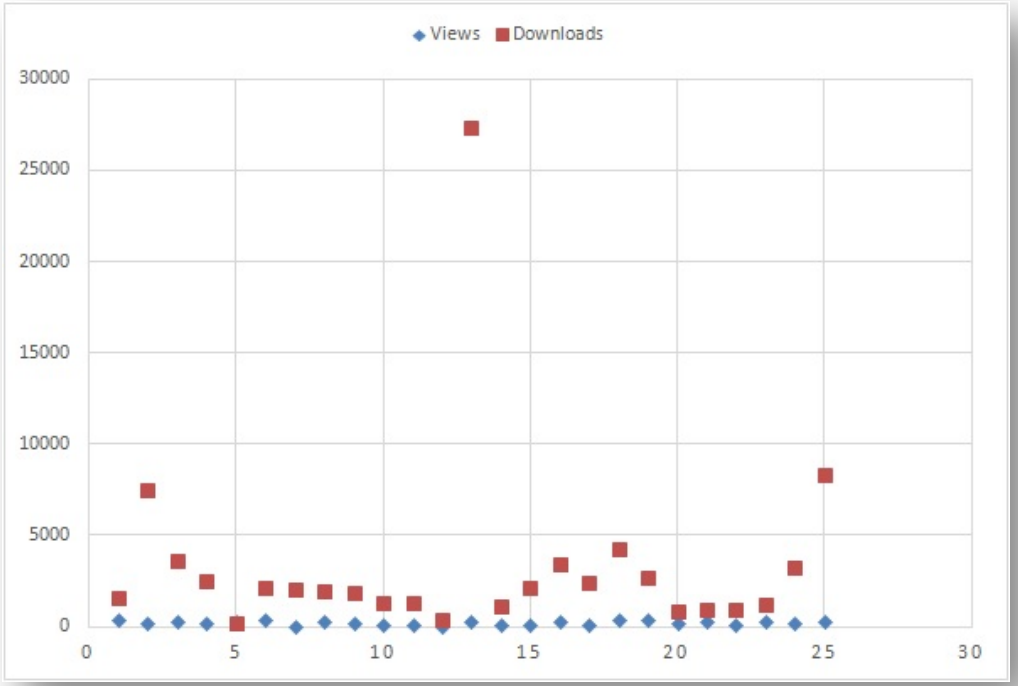


Humanities theses scatter plot

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Analysis

- Social Sciences theses
  - Total views: 7411
  - Total downloads: 86146
  - Media views: 253
  - Media downloads: 1267
  - Presence Google Scholar: 100%
  - Citations: 20%

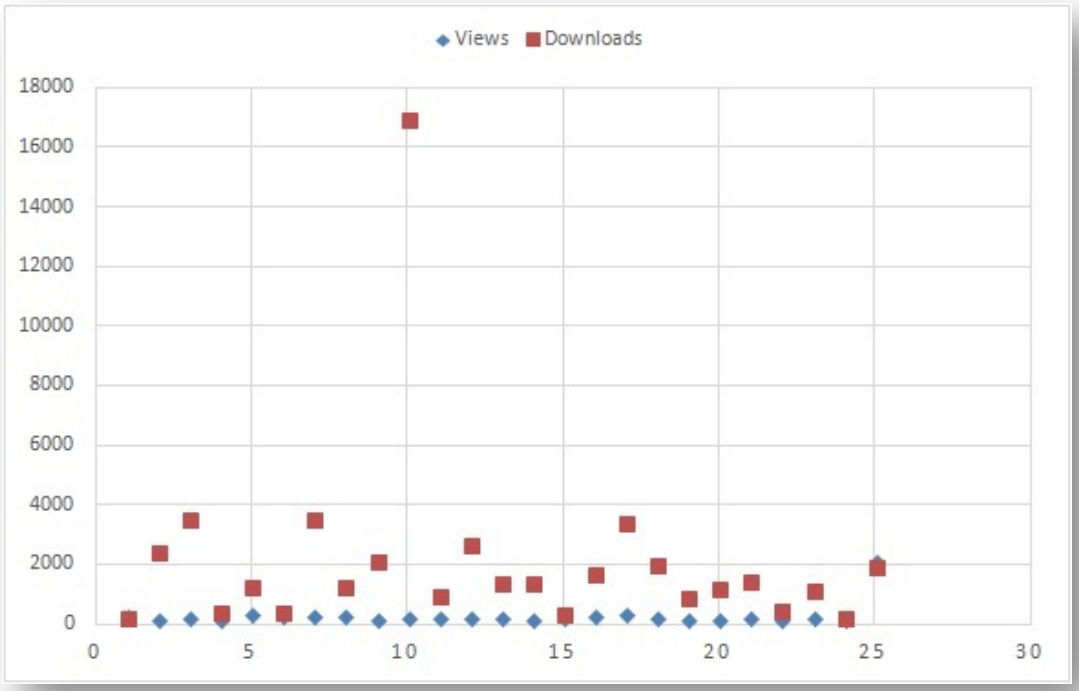


Social Sciences theses scatter plot

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Analysis

- Technological Sciences Theses
  - Total views: 7155
  - Total downloads: 52540
  - Media views: 207
  - Media downloads: 747
  - Presence Google Scholar: 100%
    Citations: 4%



Technological Sciences theses scatter plot

E-THESES IN GREDOS: ANALYSIS OF VISIBILITY AND CITATION

Results

	Views	Downloads	Media views	Media downloads	GS	Citations
Life Sciences	5938	42057	194	689	100%	16%
Experimental Sciences	5378	63399	194	595	100%	32%
Humanities	5851	39663	218	502	100%	20%
Social Sciences	7411	86146	253	1267	100%	20%
Technological Sciences	7155	52540	207	747	100%	4%

Analysis results

Conclusions

- Among the main reasons that the last decade saw an explosion of repositories include precisely the benefits derived in visibility, impact, use and dissemination of scientific production
- The study conclusions
  1. Open Access repositories can obtain information on the use (visibility), and citation (impact) of the doctoral thesis, information cannot be obtained in the case of theses that are not on open access
  2. Open Access theses are the most important grey literature in view of usability measured by visits and downloads them
  3. Open Access institutional repositories become a new form of scientific communication for dissertations, grey literature considered
  4. The recovery is enhanced through harvesters and search engines (Google) directly through the repository, as evidenced by data downloads
  5. The theses available in Open Access increase your visibility and use but the citation index is low
  6. Based on the sample analyzed it seems that there is not a correlation between the number of views / downloads and the citation rate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