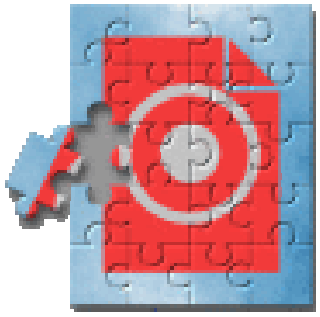
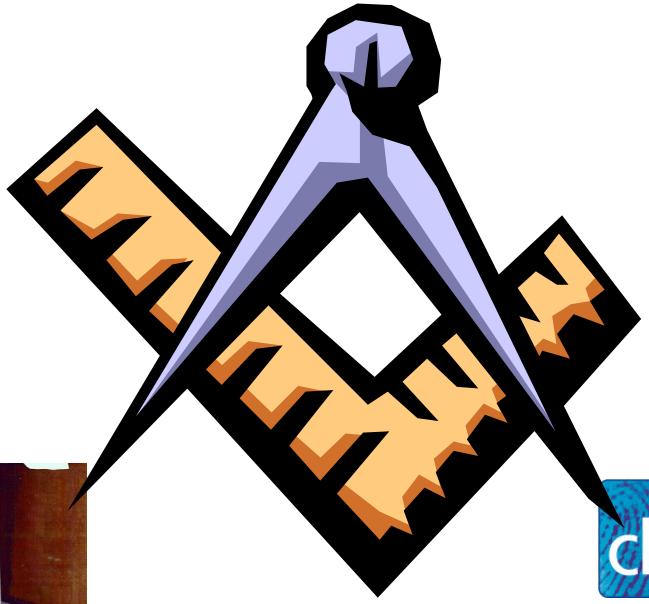
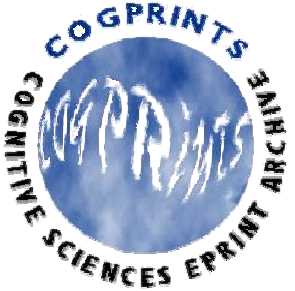
Distributed Eprints Archives and Scientometrics







RePEc

Resolving an Anomaly
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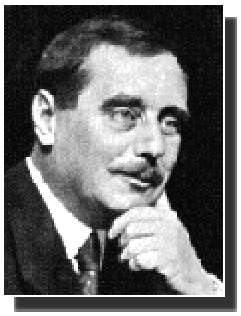


H. G. Wells, *World Brain: The Idea of a Permanent World Encyclopaedia* Encyclopédie Française, August, 1937

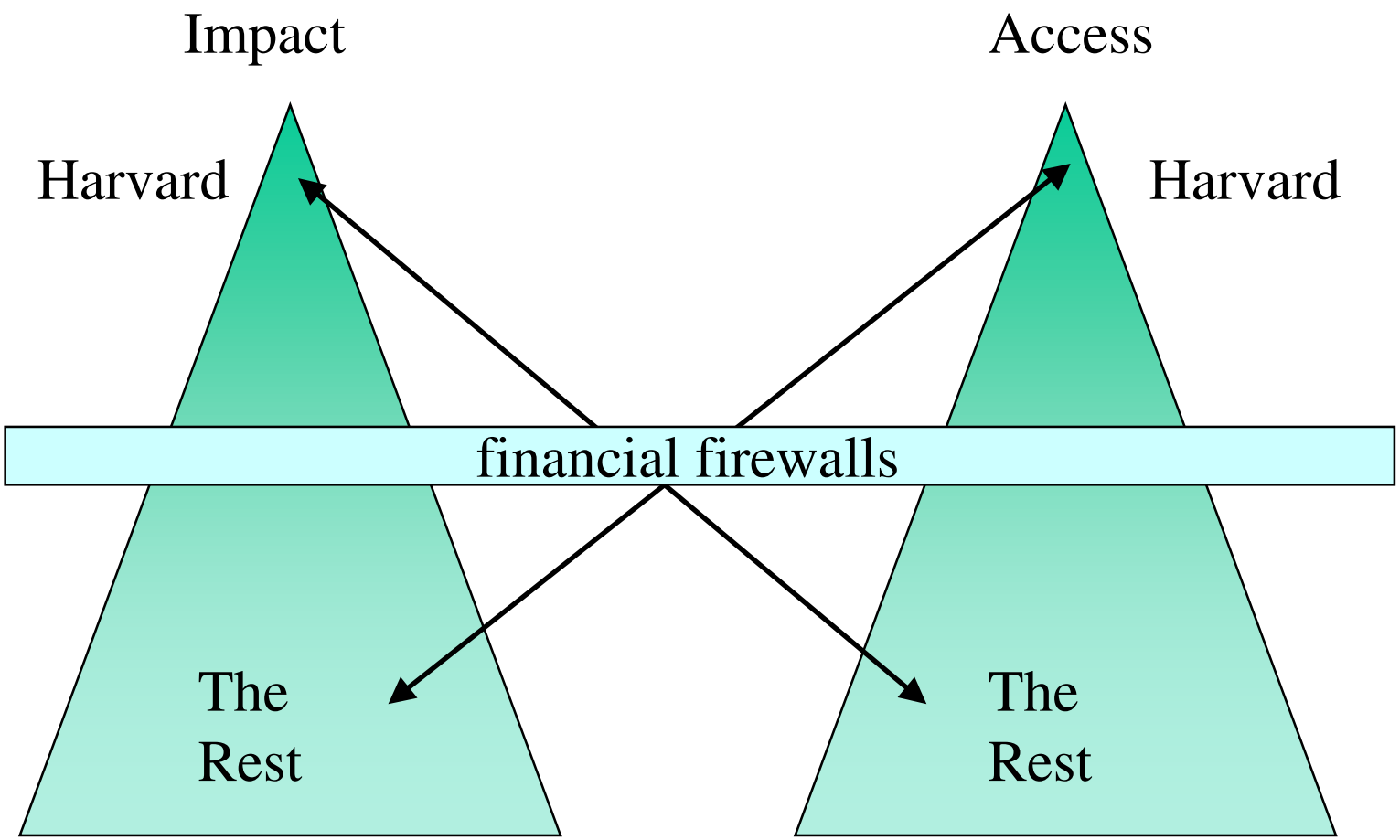
- Encyclopaedias of the past sufficed for the needs of a cultivated minority
  - universal education was unthought of
  - gigantic increase in recorded knowledge
- Discontent with the role of universities and libraries in the intellectual life of mankind
- Universities multiply but do not enlarge their scope
  - thought & knowledge organization of the world
- **No obstacle** to the creation of an efficient index to *all* human knowledge, ideas and achievements

The Optimal and Inevitable for Researchers

All of this will come to pass. The only question is "How Soon?"

- The entire full-text refereed corpus online
- On every researcher's desktop, everywhere
- 24 hours a day
- All papers citation-interlinked
- Fully searchable, navigable, retrievable
- For free, for all, forever

Globalizing Research



The Subversive Proposal:

Sufficient to free entire refereed corpus forever, immediately:

1. **Universities install off-the-shelf, OAI-compliant Eprint software**
2. **Authors self-archive (preprints & postprints)**
3. **Institutions subsidize first start-up wave of self-archiving**
4. **The Give-Away corpus is freed**

Hypothetical Sequel:

5. *Users prefer free version?*
6. *Publisher S/L/P revenues shrink, Library S/L/P savings grow?*
7. *Publishers downsize to QC/C service-providers + optional add-ons?*
8. *QC/C service costs funded by author-institution out of reader-institution S/L/P savings?*

Five Essential PostGutenberg Distinctions:

(if you don't make them, none of this will make sense)

1. Distinguish the **non-give-away** *vs*. **give-away** literature
   Litmus test: "Does the author seek a royalty/fee?":
   *books (*yes*) vs. refereed journal papers (*no*)*

2. Distinguish **income** (from paper sale) *vs*. **impact** (from paper use)
   (and distinguish give-away-author *imprint-income* [0] vs. *impact-income* [??]*)*

3. Distinguish give-away author copyright protection from:
   theft-of-authorship (wanted) *vs*. **theft-of-text** (unwanted)

4. Distinguish **self-publishing** (vanity press) *vs*. **self-archiving**
   (of published, refereed research)

5. Distinguish unrefereed **preprints** *vs*. refereed **postprints**
   "eprints" = preprints + postprints

Zeno's Prima-FaQs

"I worry about self-archiving because…":

1. **Preservation**
2. **Authentication**
3. **Corruption**
4. **Navigation (info-glut)**
5. **Certification**
6. **Evaluation**
7. **Peer review**
8. **Paying the piper**
9. **Downsizing**
10. **Copyright**
11. **Plagiarism**
12. **Priority**
13. **Censorship**
14. **Capitalism**
15. **Readability**
16. **Graphics**
17. **Publishers' future**
18. **Libraries' future**
19. **Learned Societies' future**
20. **University conspiracy**
21. **Serendipity**
22. **Tenure/Promotion**
23. **(your prima-FaQ here…)**

Answers available at < http://cogsci.soton.ac.uk/~harnad/Tp/resolution.htm >

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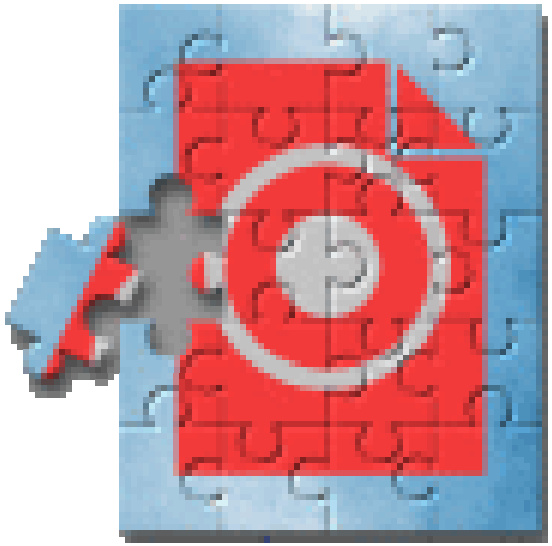


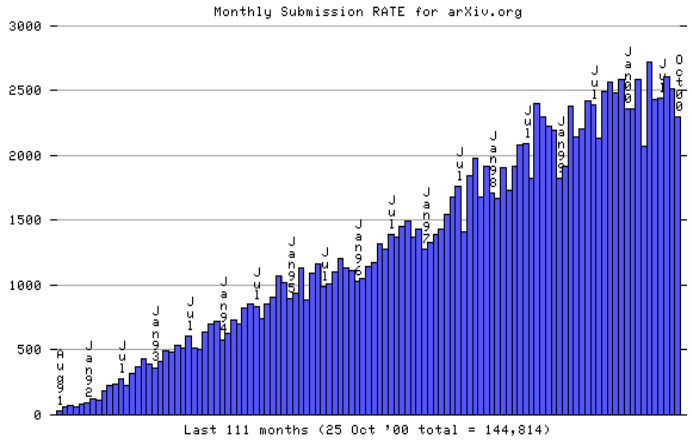
Eprints < ***www.eprints.org*** > is dedicated to freeing the research literature, pre- and post-refereeing, through author/institution *self-archiving* in interoperable

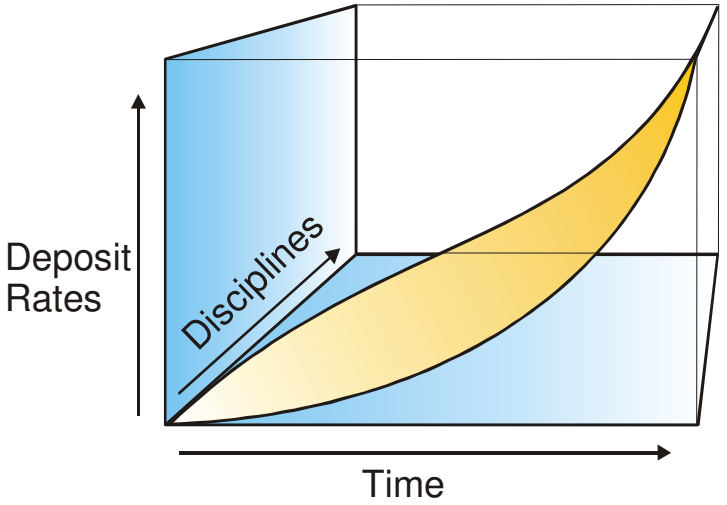
Open Archives < ***www.openarchives.org*** > To help the self-archiving initiative quickly gain momentum, *archive-creating software,* compliant with the OAi protocol, hence fully interoperable with all other Open Archives, has been developed at the University of Southampton.

Eprints is designed to be as flexible and adaptable as possible, so that all universities world-wide can immediately adopt and configure it with minimal effort for all their disciplines' self-archiving needs.

The ***Eprints*** software, has been available (*for free, of course*) from ***eprints.org*** since December 2000.

From Linear Growth to Exponential





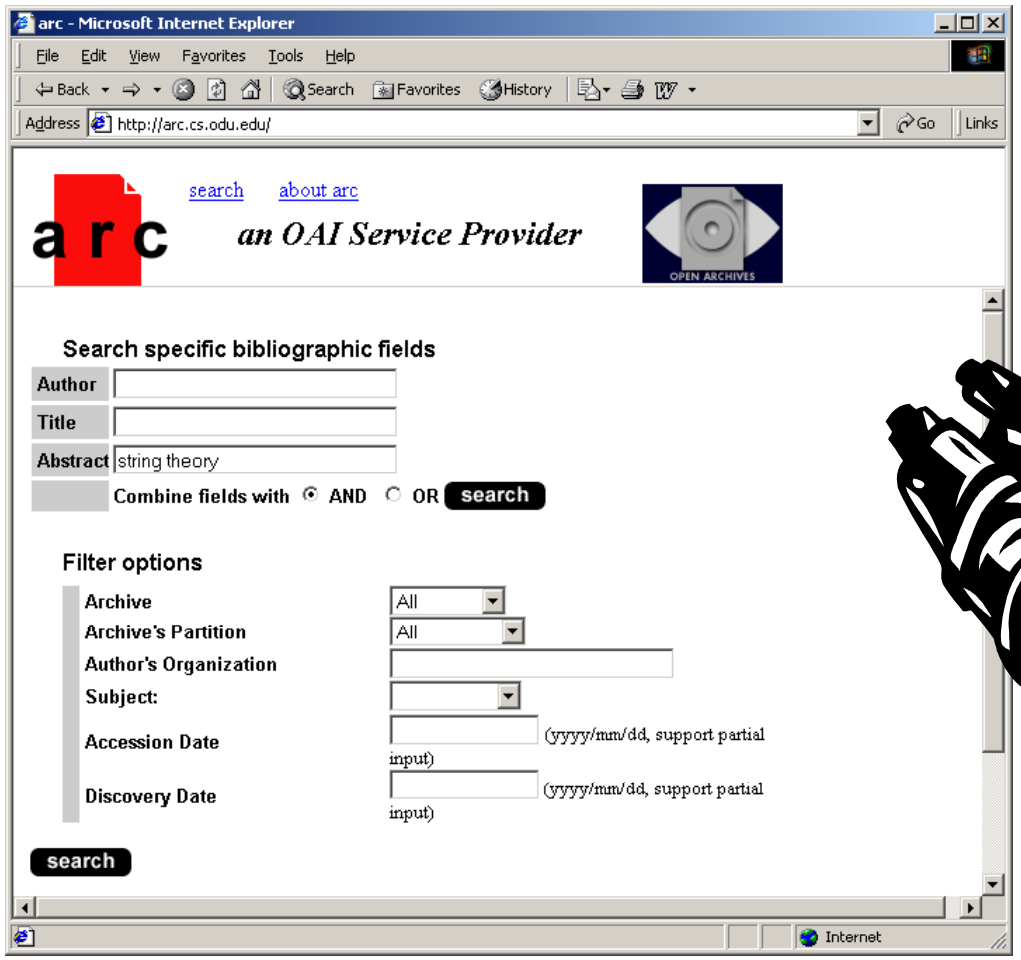
arXiv submission rates - *linear growth only*

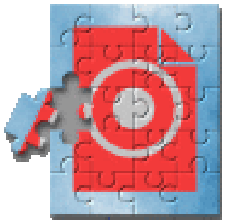
30% of citations to papers deposited in arXiv

Exponential growth in archiving to catch up with paper-based research

100% of papers archived, in all disciplines

Well's Global Research Database?





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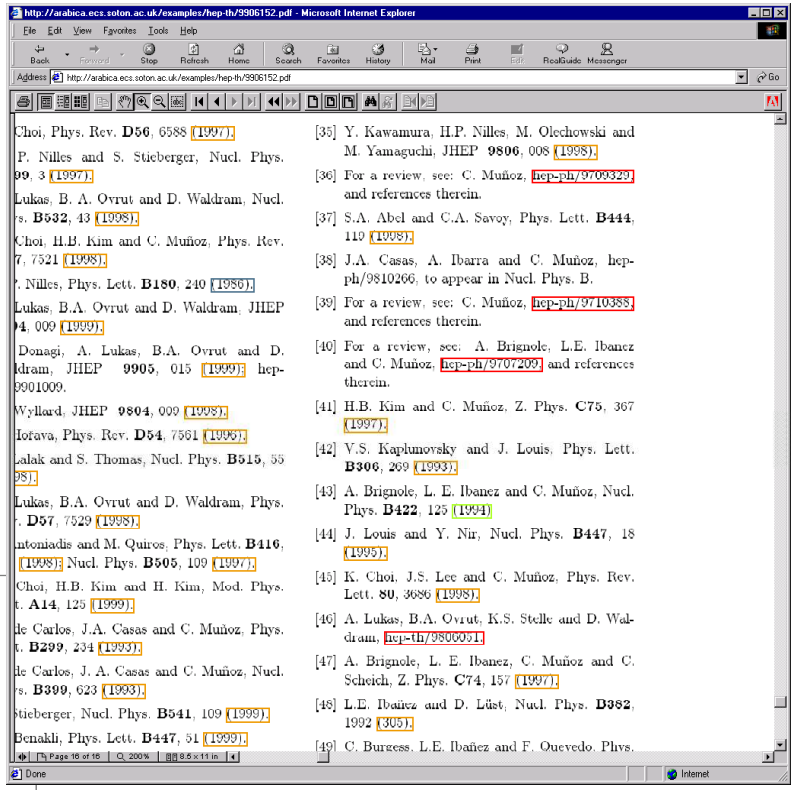
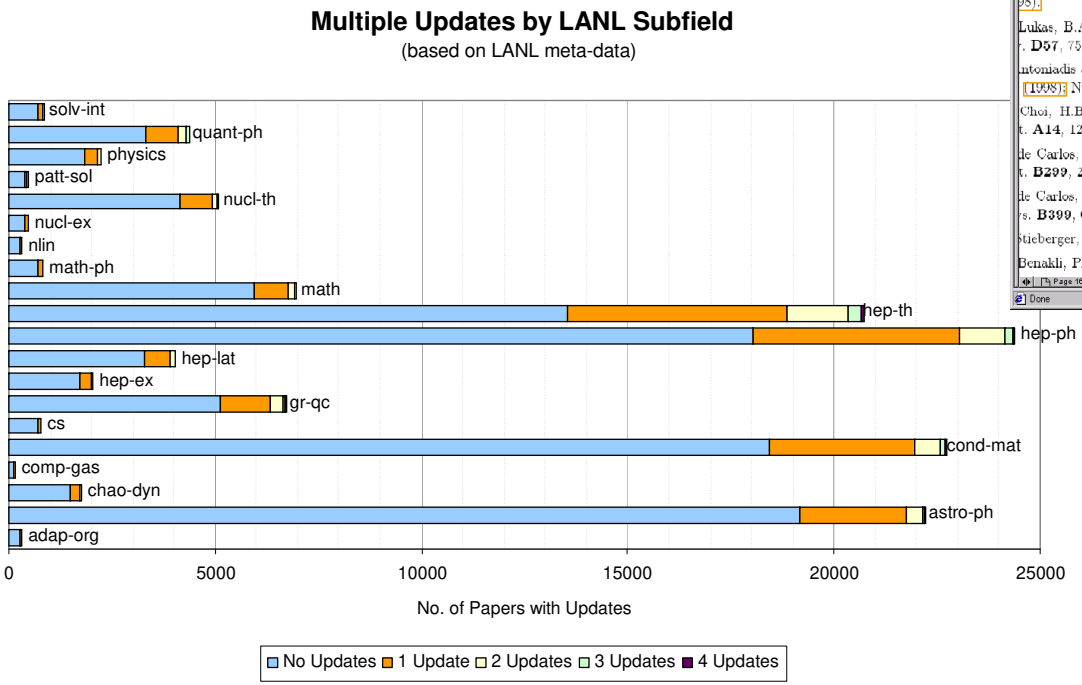
New OAI Services





Citation Linking & Scientometric Analysis

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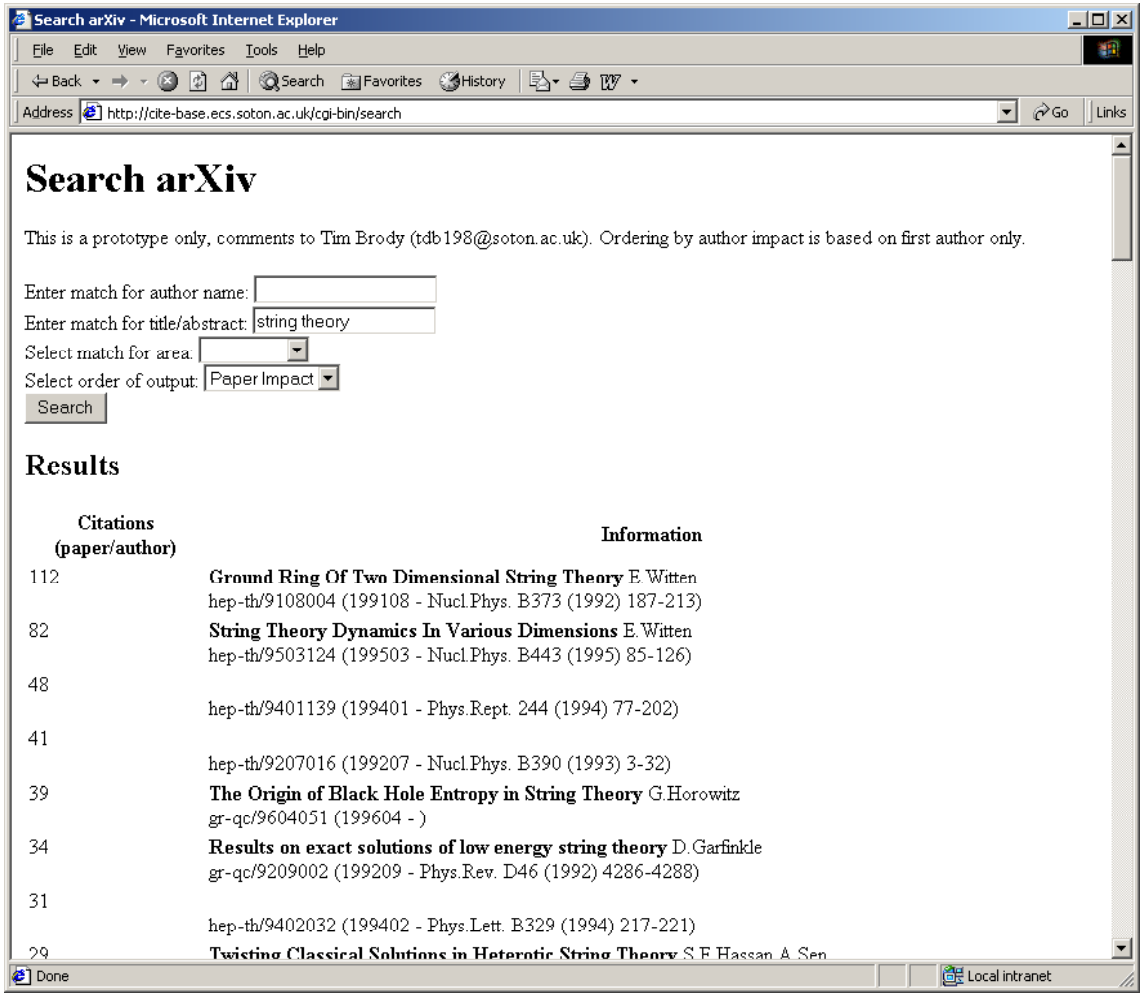
Citation-Ranked Searches



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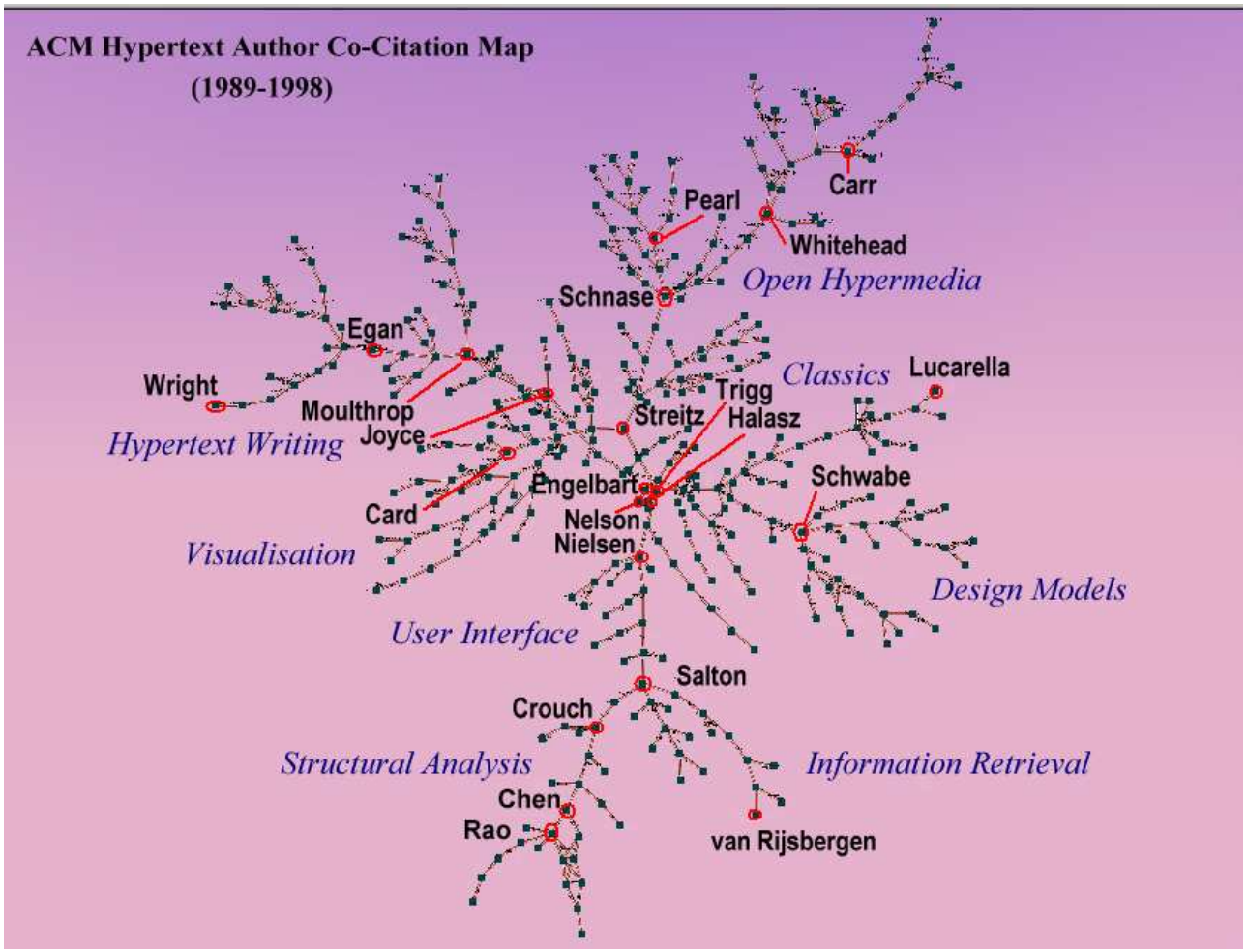
Citation-based Visualisation



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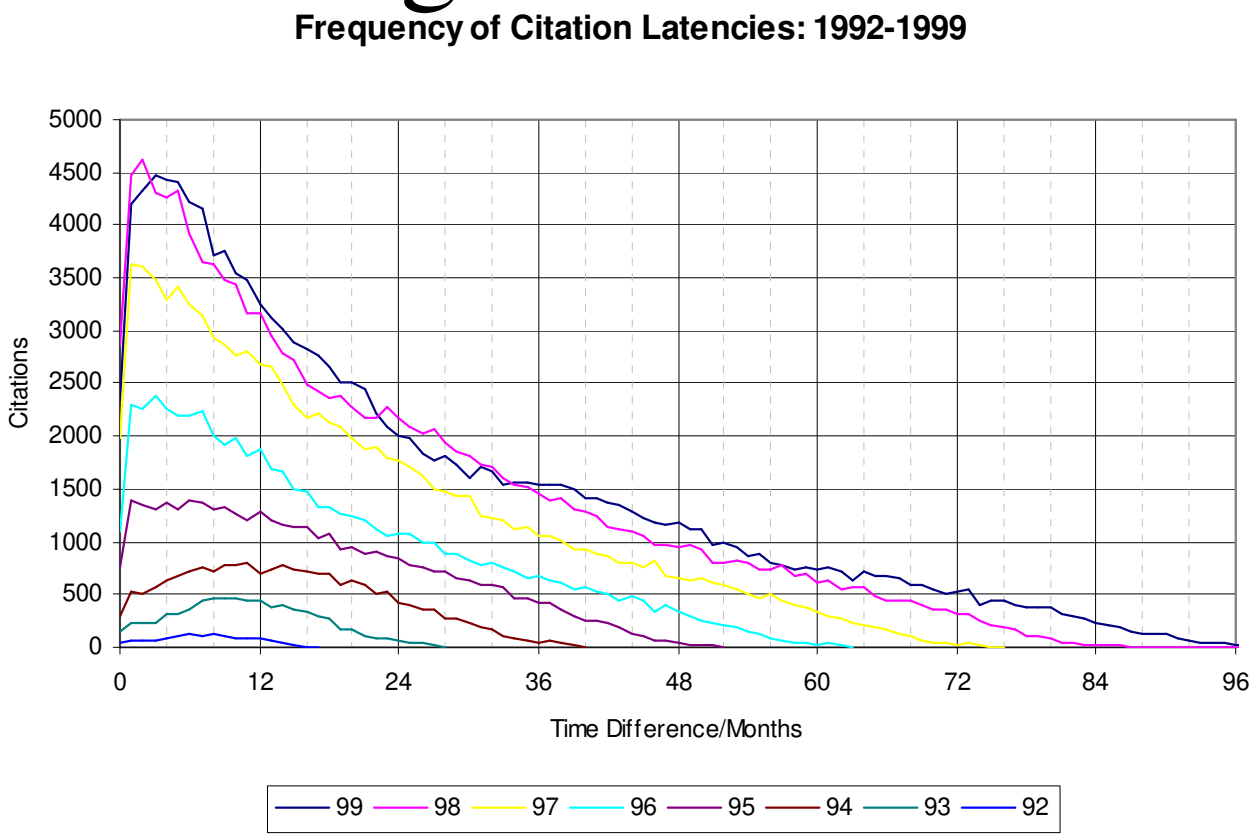
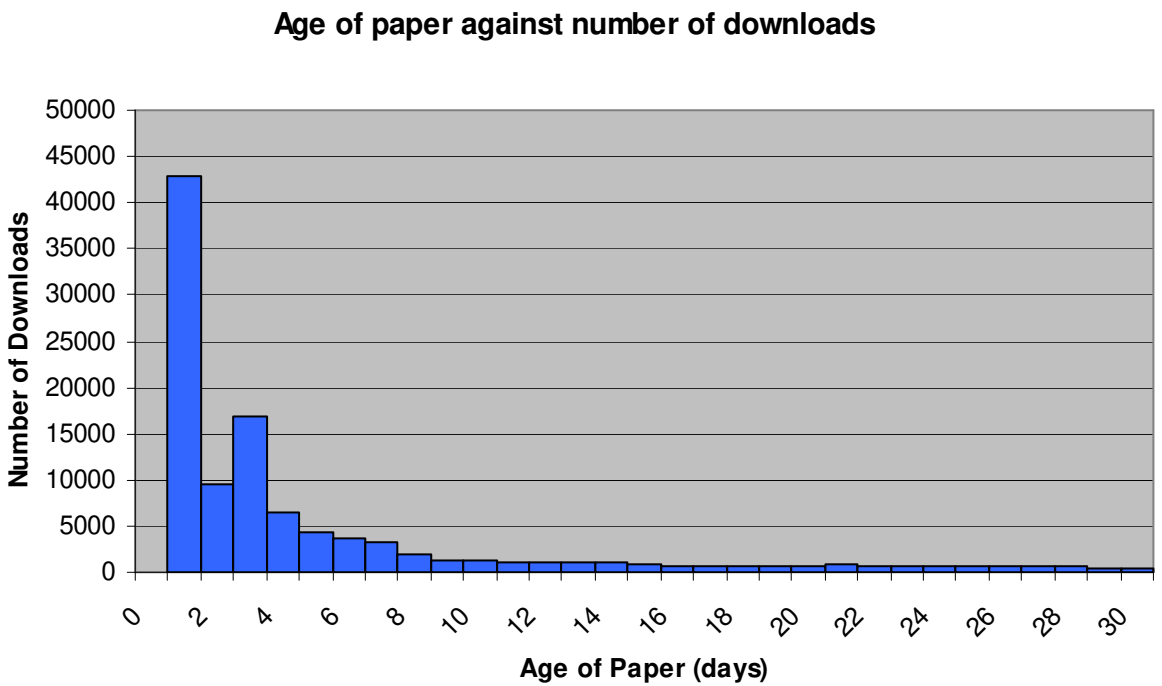
Decreasing Citation Latencies



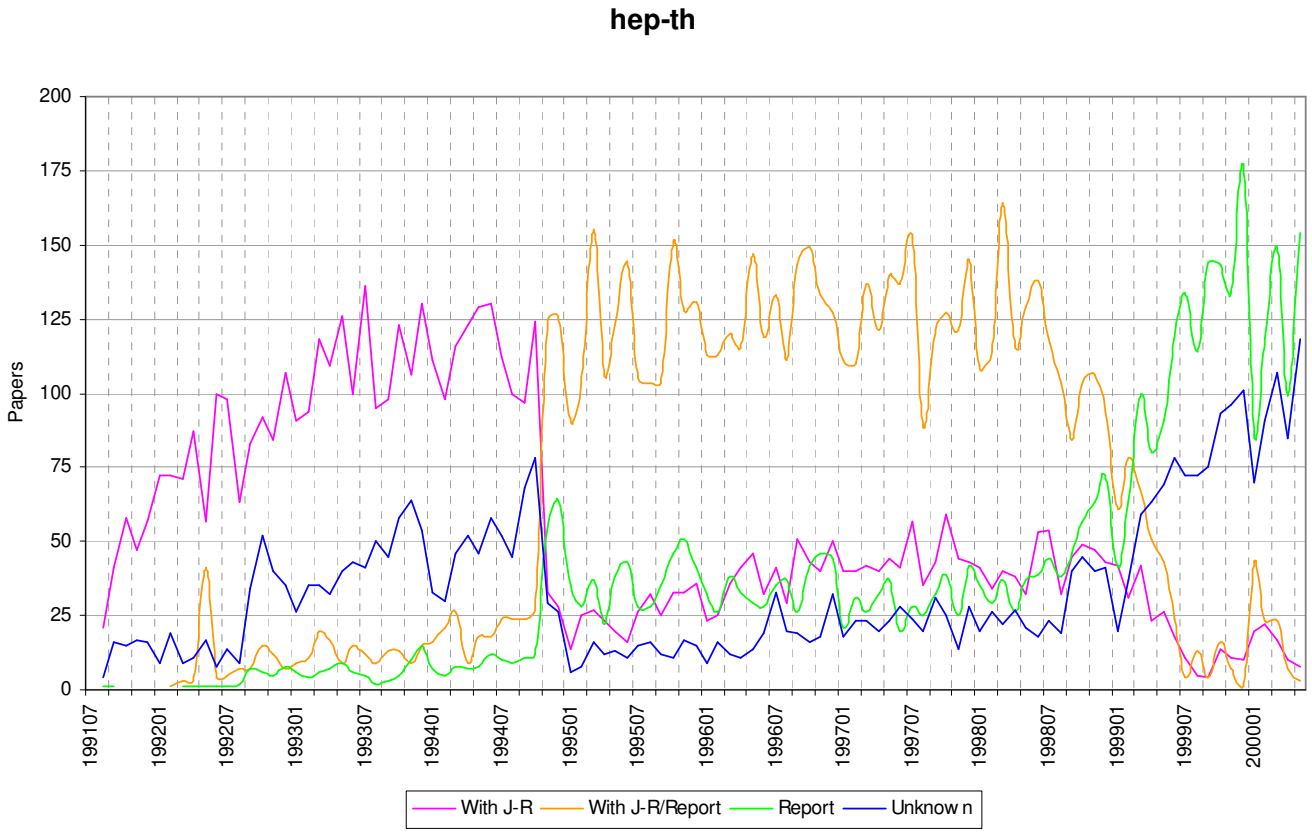
- The raw data show that the latency of the citation peak has been reducing over the period of the archive

The “New Paper Rush”



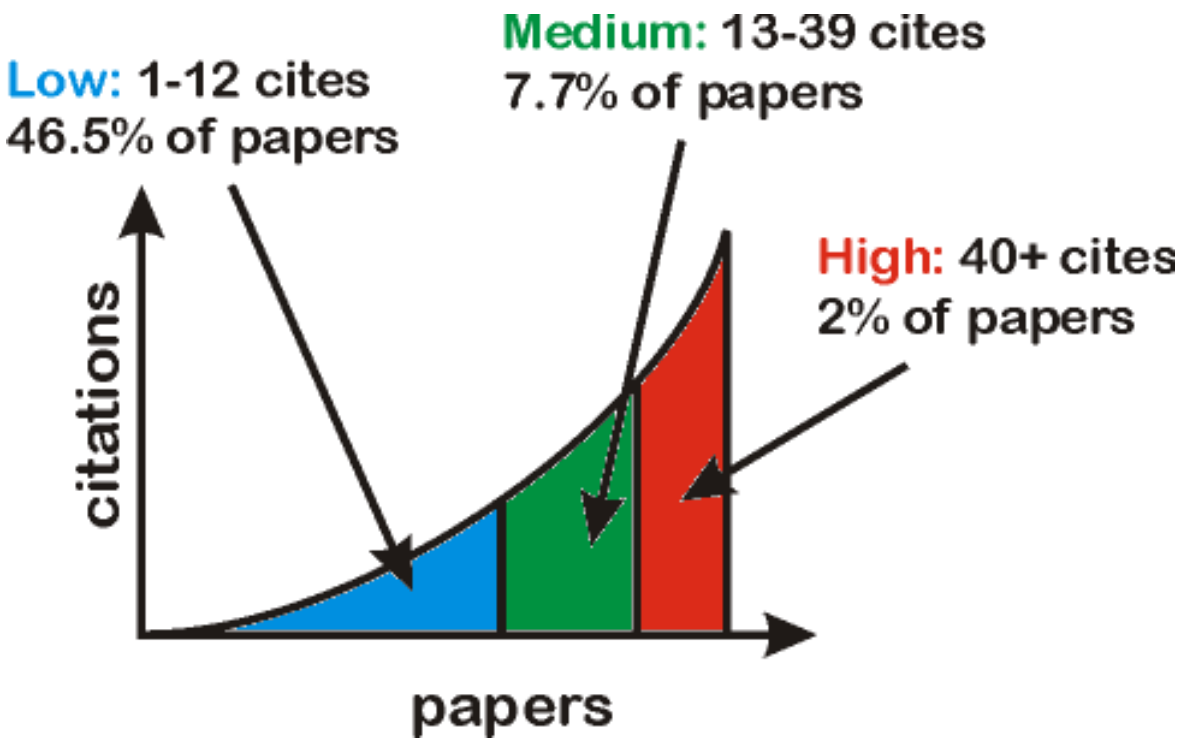
- Users subscribe to an email alerting service that informs them of new papers.

Article Embryology



- Papers with a journal reference [J-R] cross papers without a J-R at an age of 13 months, suggesting a time difference of 13 months between pre-print and post-print

Effect of Paper Impact



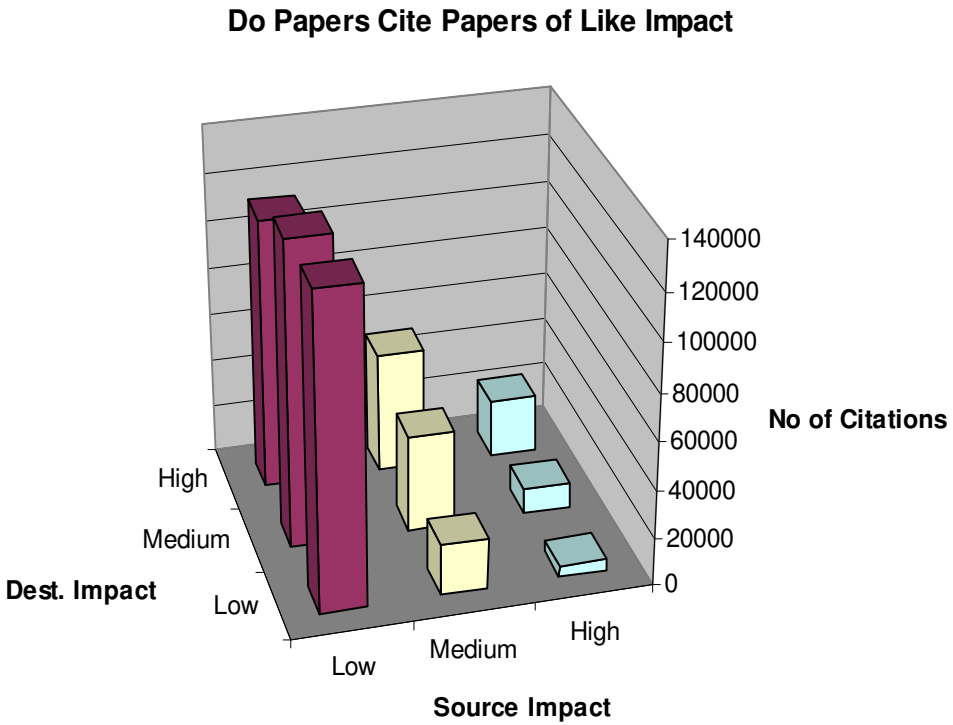
- The papers were split into three sets based on the number of citations to them.
- There are an equal number of citations to the papers in the low, medium and high sets.

Author Impact Quartiles

Quartile	Total	% Total	Citations	Papers	Citations/Author/Paper	Deposits	Mean Updates/ Author
High 25%	798	2.09%	240,092	2,732	0.11	6,720	0.48
Med 50%	9,262	24.20%	733,272	37,318	0.00212	93,671	0.37
Low 25%	28,211	73.71%	251,925	67,951	0.000131	165,971	0.27

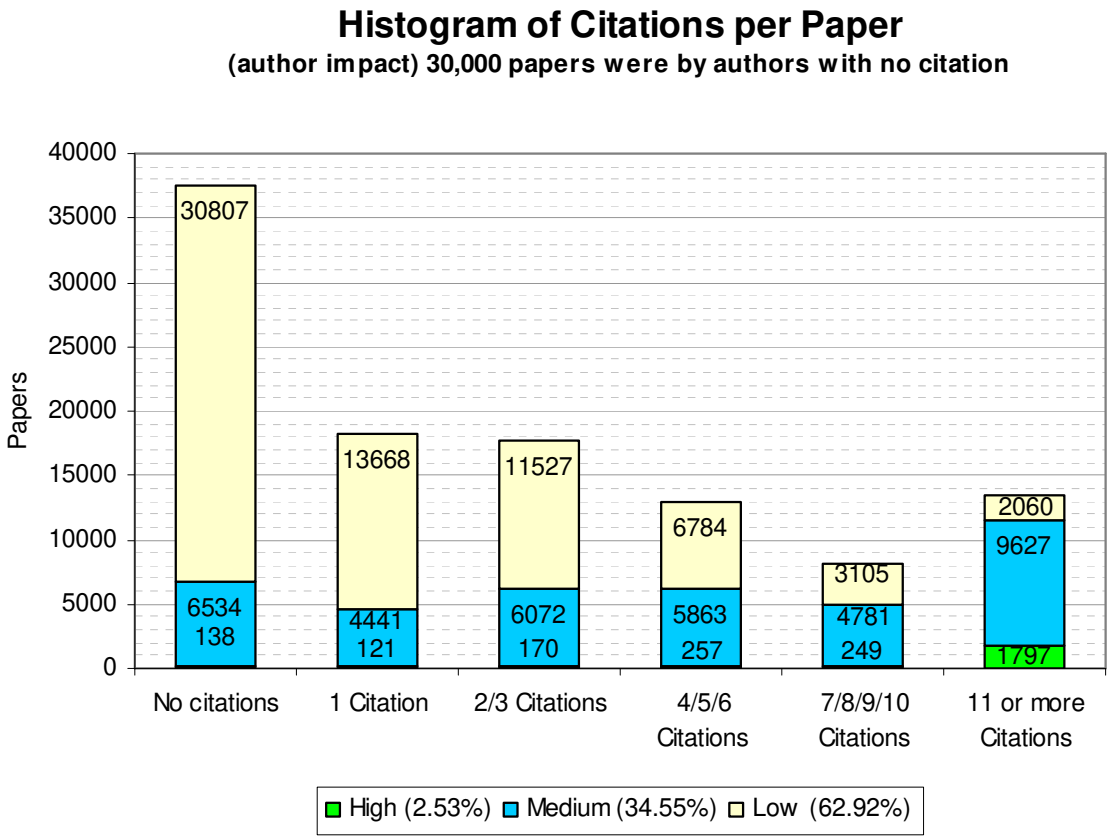
- High impact authors update more than medium or low
- High and medium impact authors deposit more papers than low

Citation Quality



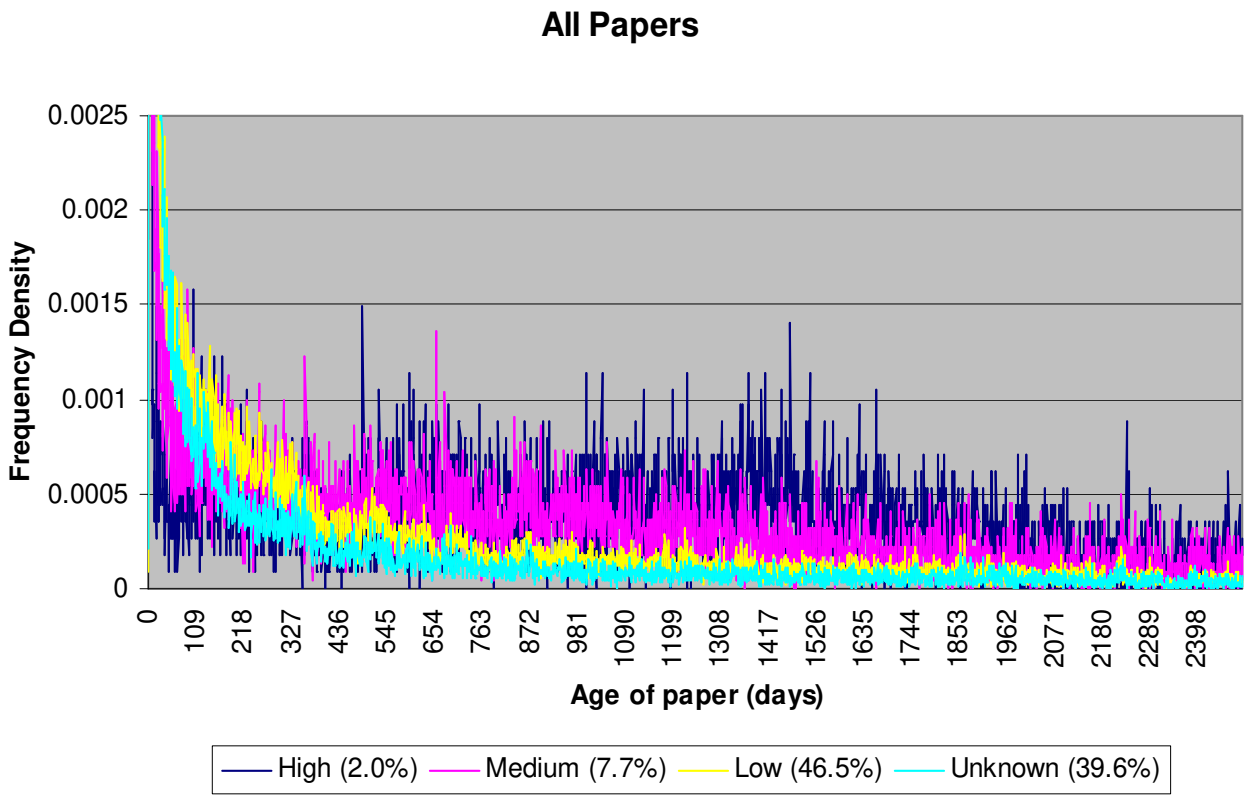
- Papers generally cite papers of like impact (χ^2 underway).

Citation Spread



- A small number of papers receive a very large number of citations

Effect of Paper Impact on Usage



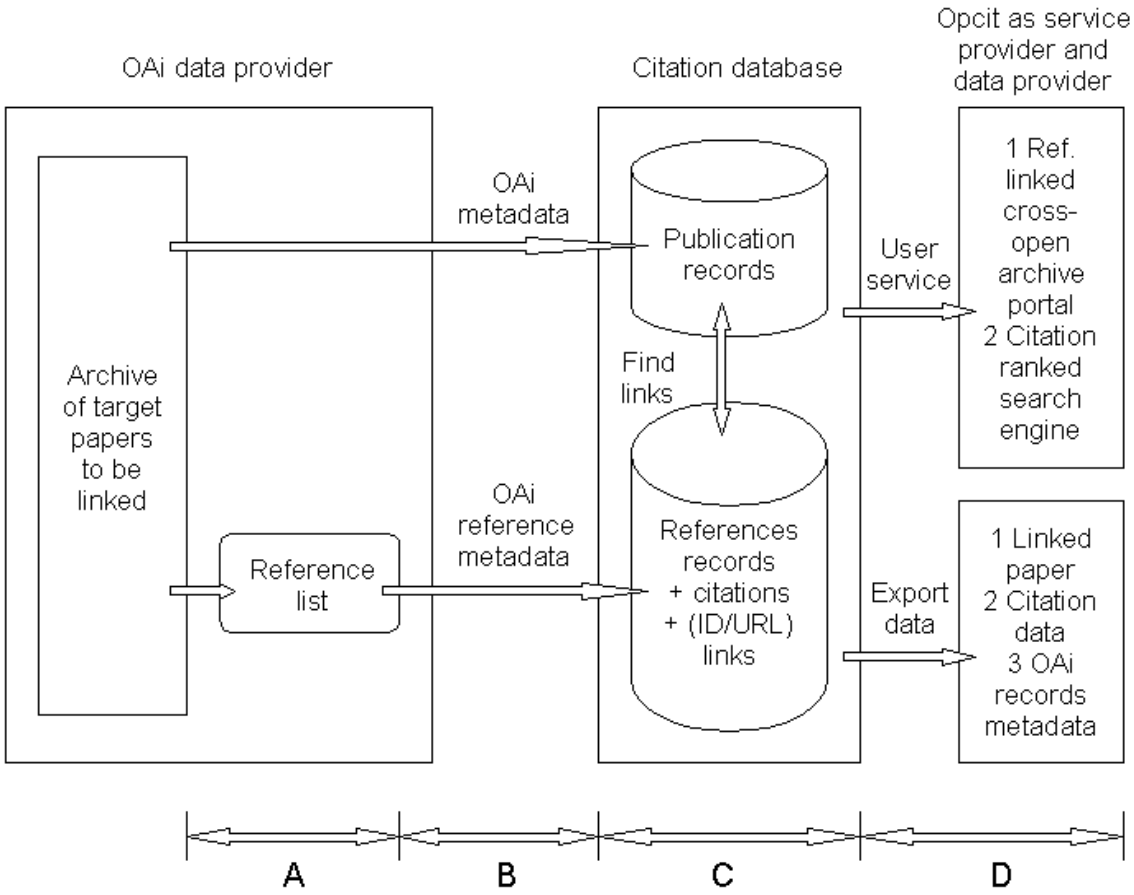
- Higher impact papers have a longer download life expectancy.

Correlating citations and downloads

Download type	r	n
All Papers	0.11155	63671
High Impact Papers (2.0%)	0.27293	1981
Medium Impact Papers (7.7%)	0.01288	5937
Low Impact Papers (46.5%)	-0.01412	30163

- There is a significant positive correlation between citations and downloads for high impact papers.

Implementation Issues



- Creating new metadata *vs*
- Creating new services