

A user perspective on value
or
how much do researchers care?

Michael Jubb

e-journals are forever?

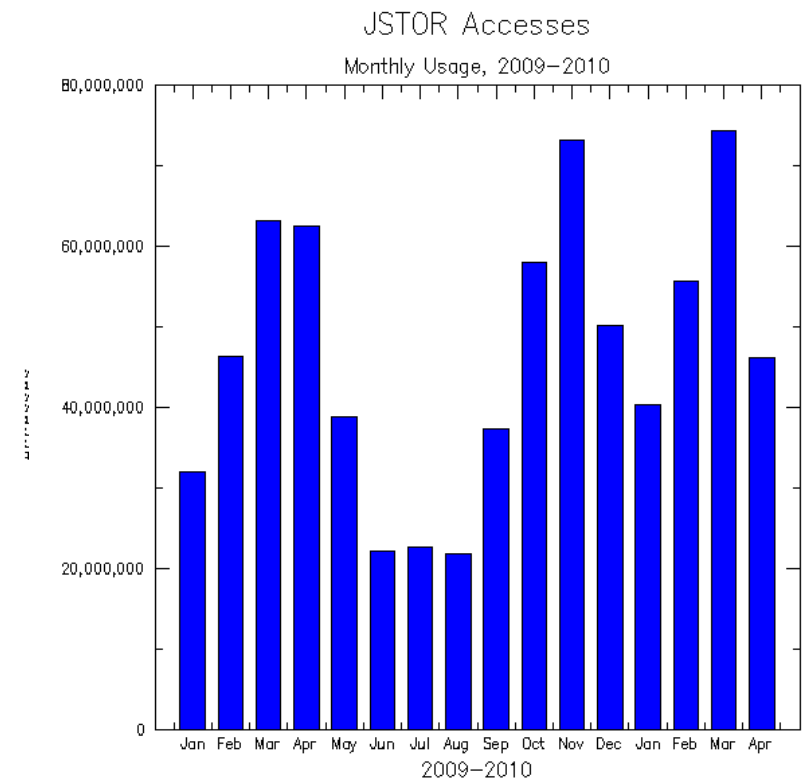
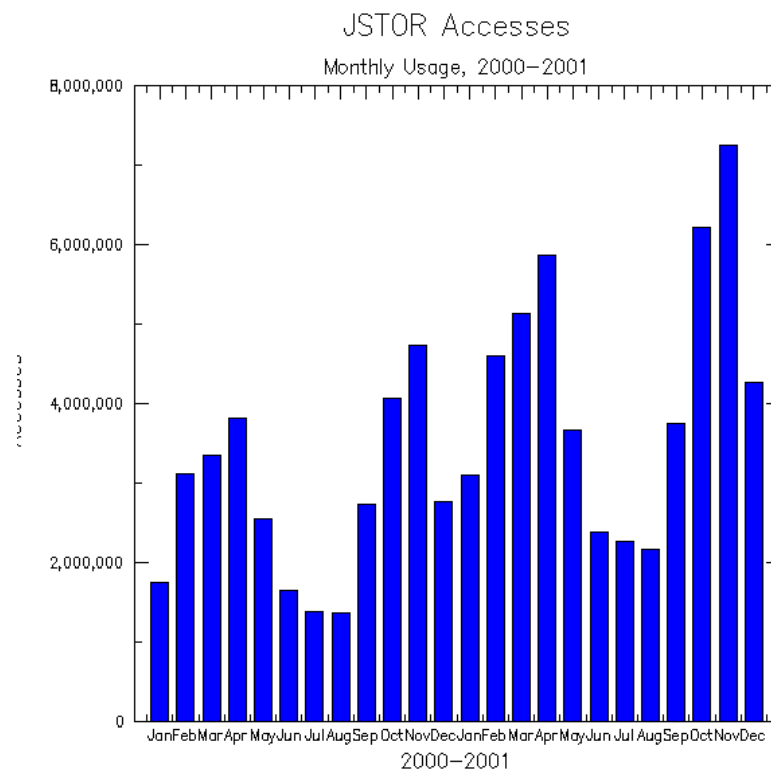
26 April 2010

Usage of e-journals

Table 22: Annual COUNTER downloads (CIBER estimates based on Sconul)

| Mean for sector (Huber's M-estimator) | | | | | |
|--|----------------|----------------|----------------|----------------|------------------|
| YEAR | 2004 | 2005 | 2006 | 2007 | 2008 |
| Russell Group | 783,870 | 1,377,603 | 1,846,121 | 2,211,245 | 2,795,825 |
| Pre-1992 institutions | 439,813 | 632,144 | 665,926 | 819,335 | 1,001,521 |
| Post-1992 institutions | 283,760 | 332,251 | 443,027 | 521,350 | 592,253 |
| Total | 432,693 | 632,758 | 772,600 | 930,415 | 1,134,165 |
| Index 2004=100 | | | | | |
| YEAR | 2004 | 2005 | 2006 | 2007 | 2008 |
| Russell Group | 100 | 175.7 | 235.5 | 282.1 | 356.7 |
| Pre-1992 institutions | 100 | 143.7 | 151.4 | 186.3 | 227.7 |
| Post-1992 institutions | 100 | 117.1 | 156.1 | 183.7 | 208.7 |
| Total | 100 | 146.2 | 178.6 | 215.0 | 262.1 |

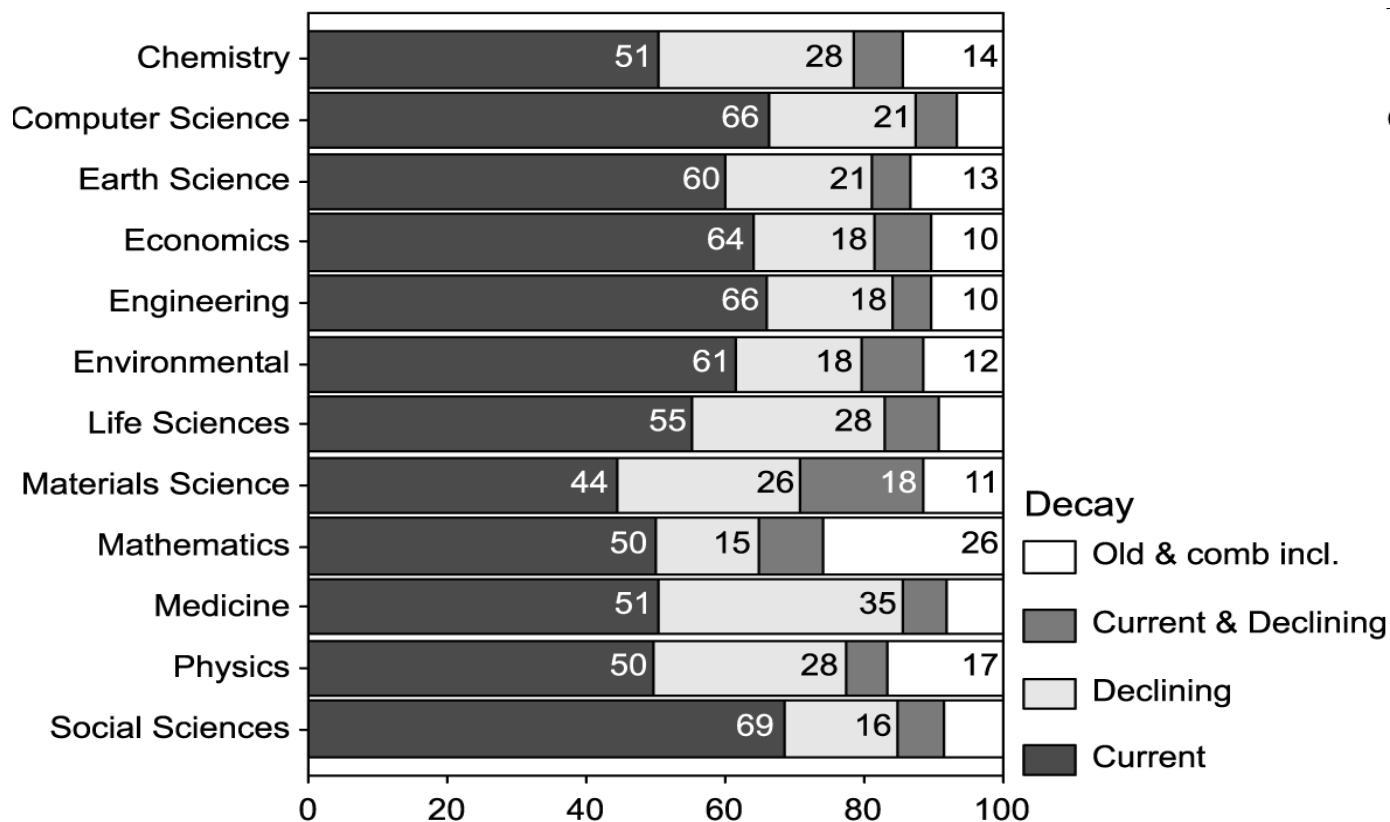
JSTOR Usage



Usage of e-journals

Age of articles viewed

(Nicholas, Huntington and Jamali 2008)



Usage of e-journals

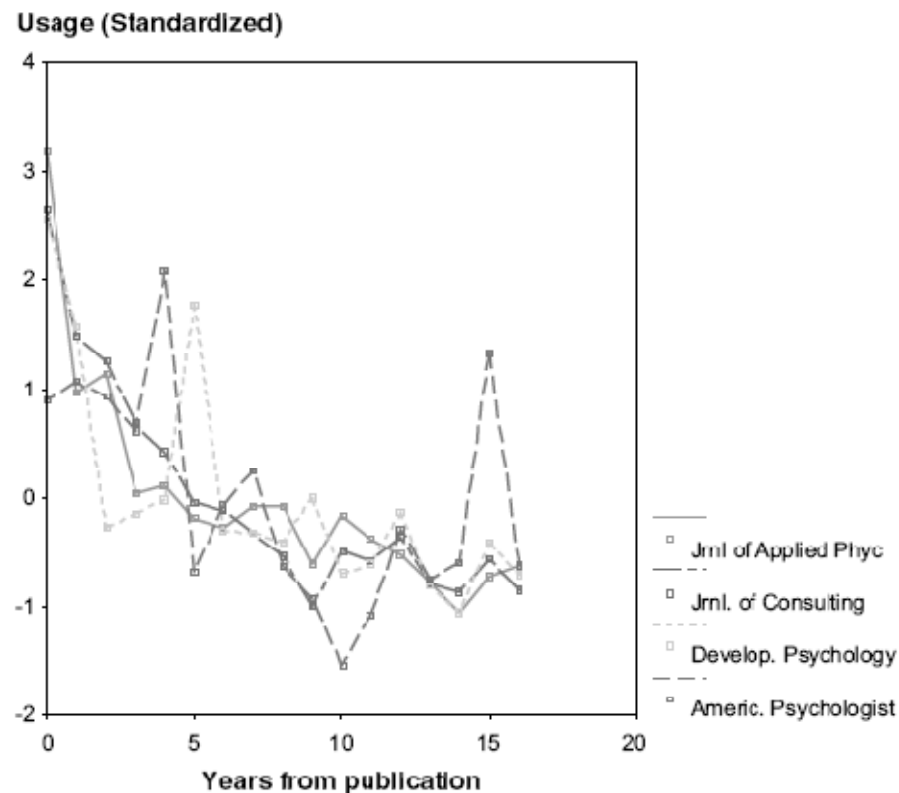


FIG. 6. Historic use of article by age of article over the period June to December 2004.

Usage of e-journals

Science Direct: Average age of article viewed (days)

| | Life Sciences | Chemistry | Earth Sciences | Economics | Physics |
|--------------------|---------------|-----------|----------------|-----------|---------|
| <i>Aberdeen</i> | 579 | 423 | 732 | 1,049 | 629 |
| <i>Bangor</i> | 1,007 | 871 | 1,175 | 1,471 | 876 |
| <i>Cambridge</i> | 722 | 967 | 1,167 | 1,756 | 1,099 |
| <i>Edinburgh</i> | 788 | 1,167 | 942 | 1,736 | 1,045 |
| <i>Manchester</i> | 828 | 1,213 | 988 | 1,746 | 1,416 |
| <i>Strathclyde</i> | 900 | 733 | 812 | 1,731 | 952 |
| <i>Swansea</i> | 737 | 693 | 748 | 1,431 | 1,045 |
| <i>UCL</i> | 507 | 561 | 739 | 1,266 | 739 |
| <i>CEH</i> | 309 | 833 | 355 | 729 | 302 |
| <i>Rothamsted</i> | 477 | 541 | 525 | 1,011 | 448 |

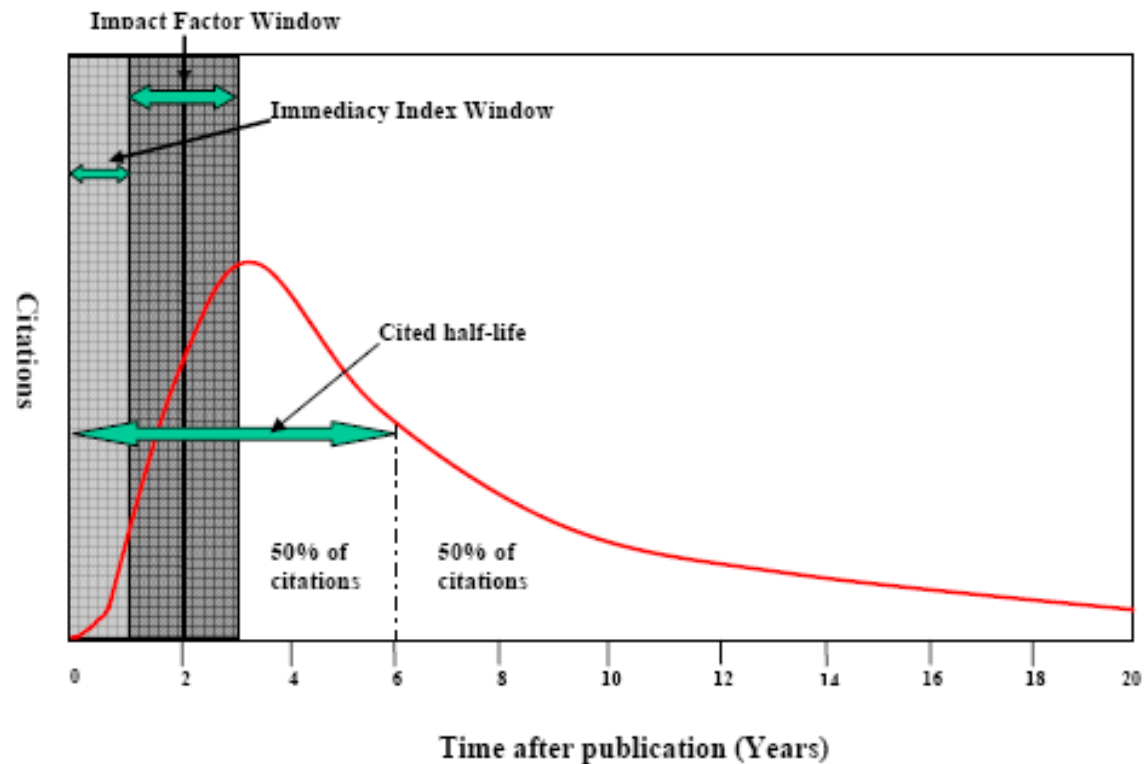
Usage conclusions?

- it's increasing
- usage of older content more prevalent than many thought, even in the sciences
 - 20-25% of STM journal usage is of content >5yrs old
 - significant disciplinary differences
 - significant institutional differences

Citation studies

- measure of usage but also of *relevance* to the research community
- usage over time can be measured, and analysed in terms of 'citation half-life'

Generalised citation curve



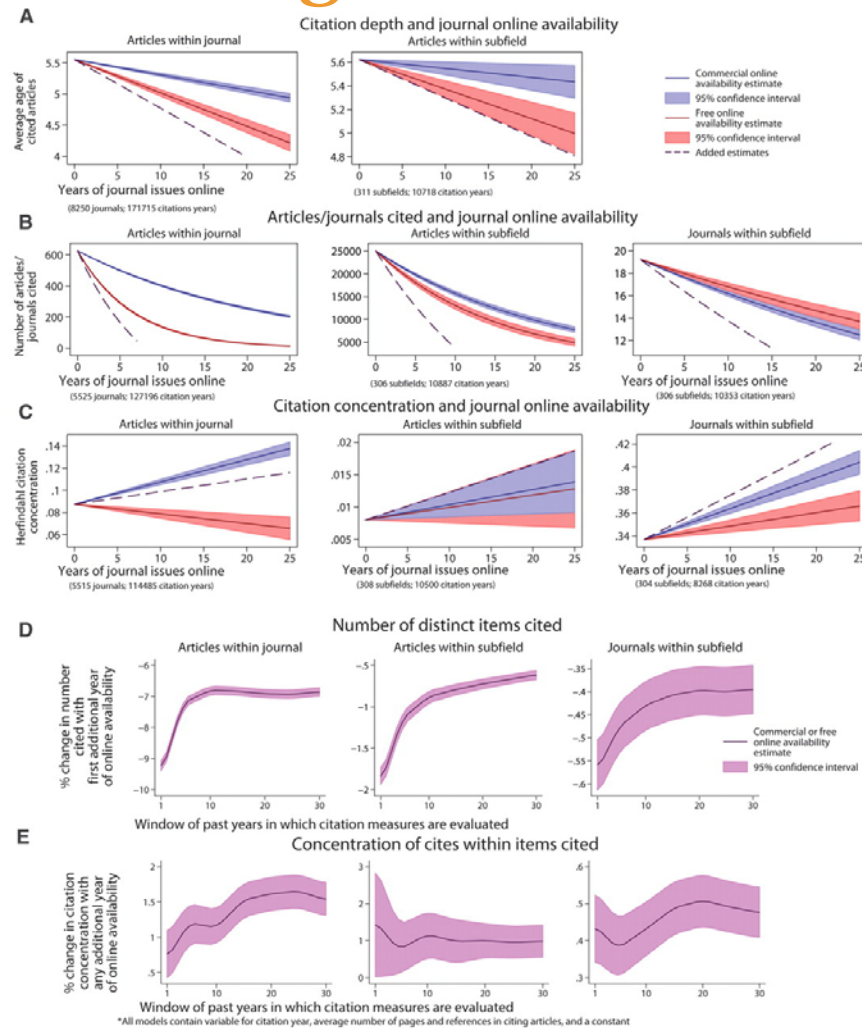
 Source: Mabe and Amin, 2007

Median citation ages

Table 2 Median citation ages for different subject areas

| Field | Median age of citations (years) |
|---------------------------|---------------------------------|
| Metallurgical engineering | 3.9 |
| Chemical engineering | 4.8 |
| Genetics | 5.0 |
| Information systems | 5.0 |
| Physics | 5.2 |
| Mechanical engineering | 5.2 |
| Desalination | 5.6 |
| Chemistry | 8.1 |
| Archaeology | 9.5 |
| Botany | 10.0 |
| Mathematics | 10.5 |
| Geology | 11.8 |
| Music education | 12.5 |
| Music theory | 12.5 |
| Biblical criticism | 21.6 |

Impact of digitisation on citation age?



J. A. Evans
Science 321, 395
-399 (2008)

Impact of digitisation on volume of citations?

Biological sciences

Table VII: Biological sciences worldwide (raw data)
(ISI SUBJECT CATEGORY=BIولوجY)

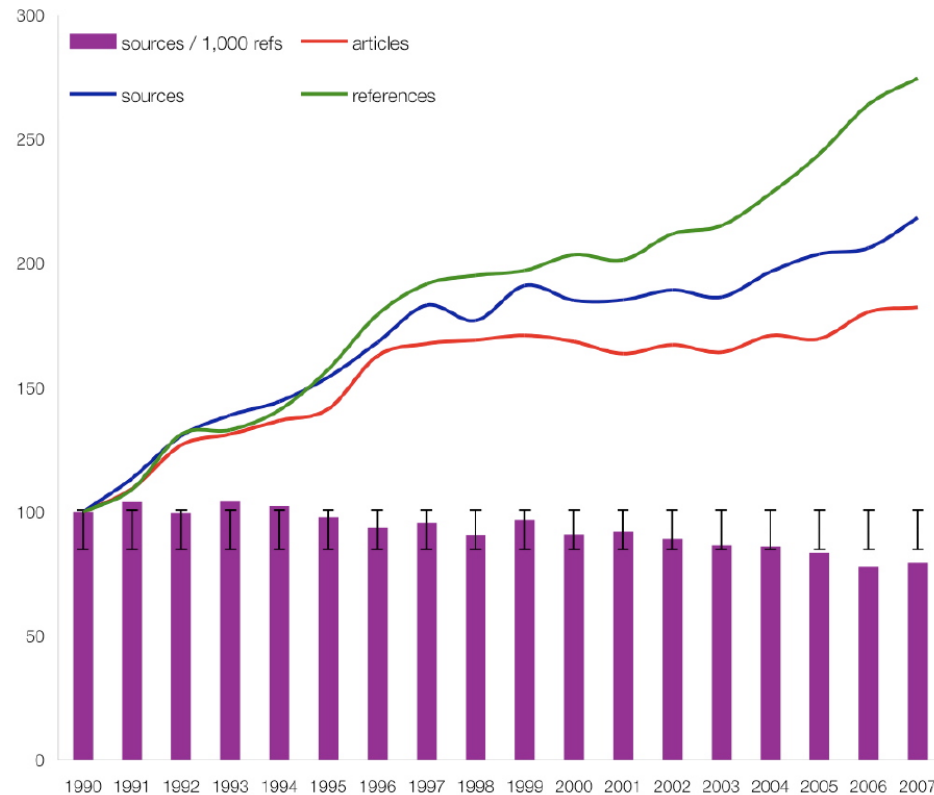
| Year | Articles | References | Sources | Refs /article | Sources / article | Sources / 1,000 refs |
|------|----------|------------|---------|---------------|-------------------|----------------------|
| 1990 | 38,057 | 1,127,486 | 90,261 | 29.63 | 2.37 | 80.06 |
| 1995 | 56,012 | 1,929,483 | 156,748 | 34.45 | 2.80 | 81.24 |
| 2007 | 78,373 | 3,149,215 | 263,487 | 40.18 | 3.36 | 83.67 |

Table VIII: Biological sciences worldwide (Index=1990)

| Year | Articles | References | Sources | Refs /article | Sources / article | Sources / 1,000 refs |
|------|----------|------------|---------|---------------|-------------------|----------------------|
| 1990 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1995 | 147 | 151 | 174 | 116 | 118 | 101 |
| 2007 | 206 | 279 | 292 | 136 | 142 | 105 |

Impact of digitisation on volume of citations?

Figure 3: Chemistry, UK



Citation conclusions?

- researchers value older content enough to want to cite it
- citation half-lives vary by subject
- some evidence that availability of backfiles reduces citation age
- evidence also that availability of backfiles increases number of articles cited, and sources from which they are cited

Researchers' attitudes?

print and digital preservation

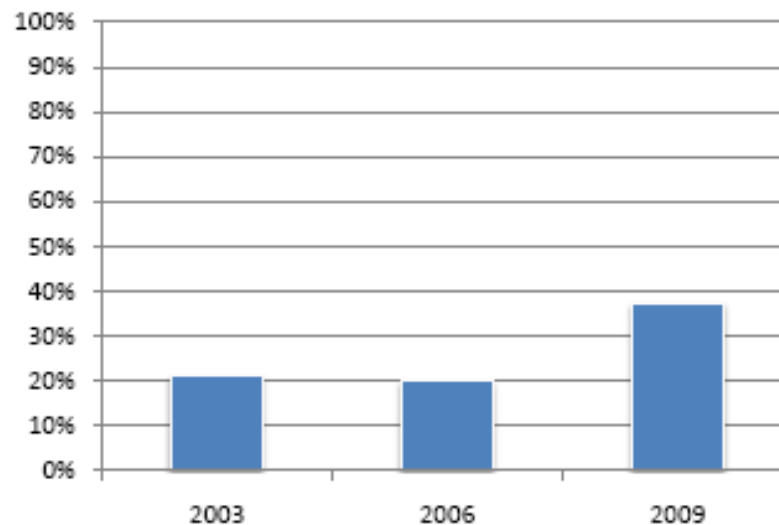
- UK Research Reserve

- JSTOR dark stores

- the cautionary principle, or researchers' need for a comfort blanket?

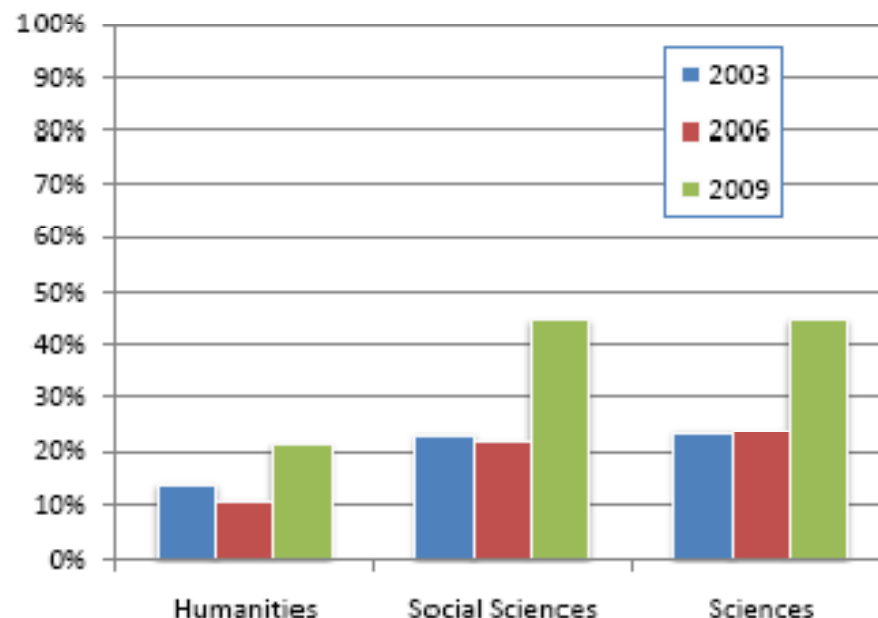
Discard hard copy collections?

Figure 15: Percent of faculty agreeing strongly with the statement:
“Assuming that electronic collections of journals are proven to work well and are readily accessible, I would be happy to see hard-copy collections discarded and replaced entirely by electronic collections,” in 2003, 2006, and 2009



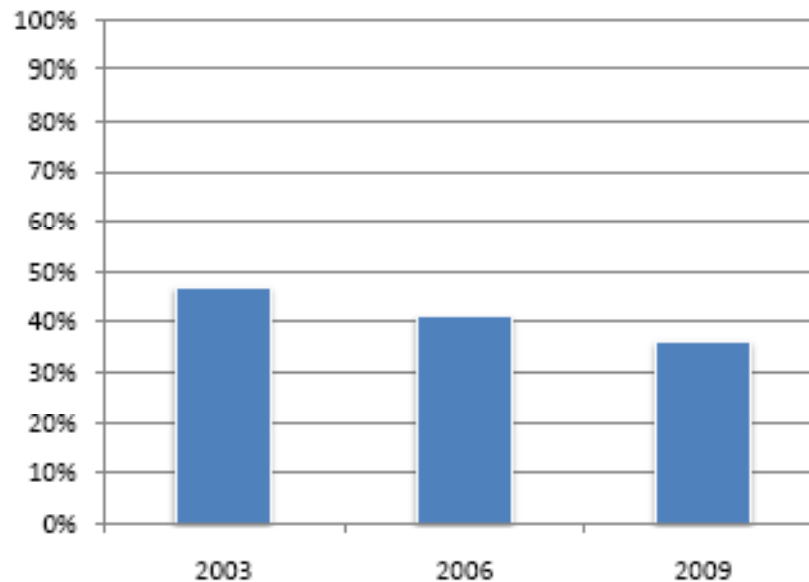
Discard hard copy collections?

Figure 16: Percent of faculty agreeing strongly with the statement: "Assuming that electronic collections of journals are proven to work well and are readily accessible, I would be happy to see hard-copy collections discarded and replaced entirely by electronic collections," by disciplinary grouping in 2003, 2006, and 2009



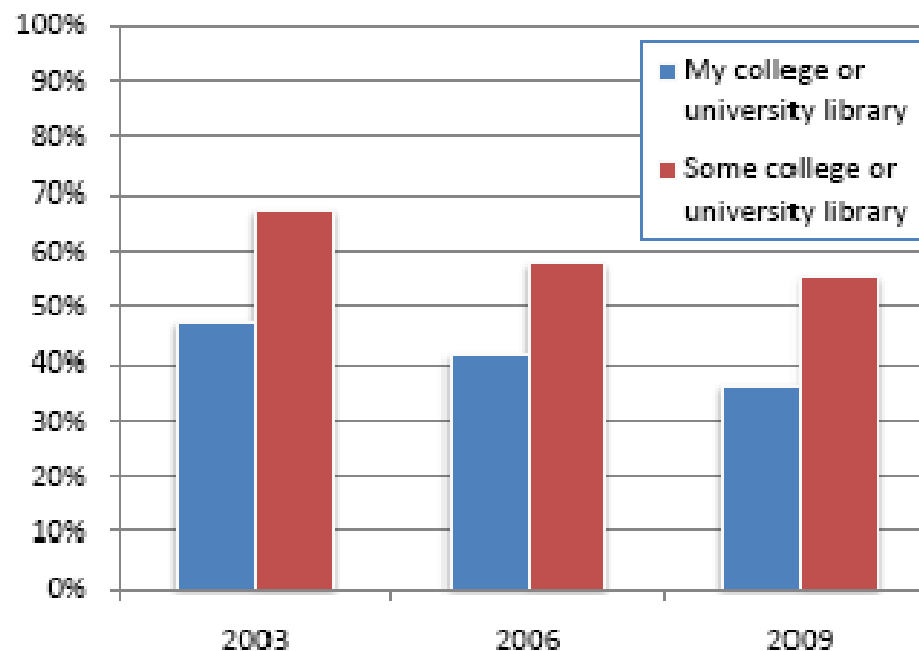
Keep hard copy collections?

Figure 17: Percent of faculty agreeing strongly with the statement: "Regardless of how reliable and safe electronic collections of journals are, it will always be crucial for my college or university library to maintain hard-copy collections of journals," in 2003, 2006, and 2009.



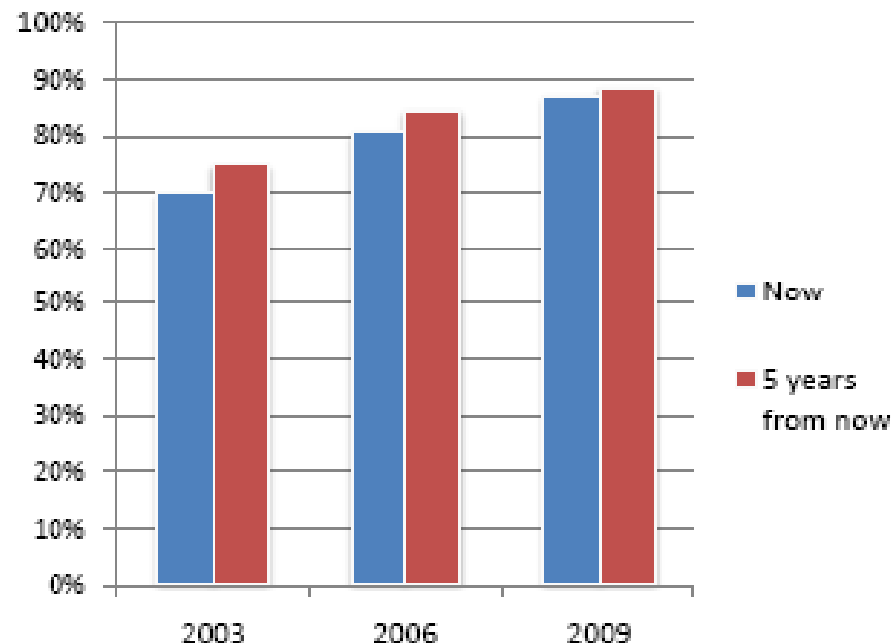
Keep hard copy collections *somewhere*?

Figure 18: Percent of faculty agreeing strongly with the statement:
“Regardless of how reliable and safe electronic collections of journals are,
it will always be crucial for _____ to maintain hard-copy collections of
journals,” in 2003, 2006, and 2009



Preserve e-journals?

Figure 19: Percent of faculty responding “very important” to the question “How important is the long-term preservation of electronic journals to you?” today and to the question “Thinking about 5 years from now, how important do you think the long-term preservation of electronic journals will be to you?” in 2003, 2006, and 2009



Researchers' attitudes?

- increase in proportion of researchers 'happy' to see print discarded
 - but still a minority, and important disciplinary differences
- decrease in proportion of researchers who regard print preservation and access as 'crucial'
 - but >50% still regard preservation *somewhere* as crucial; and dramatic disciplinary differences
- almost unanimous agreement on the importance of long-term e-journal preservation
- unanswered question: how does behaviour shape attitudes?

Thank you

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www.rin.ac.uk