



Why are Different Sources of STM Information Used?

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**Emerging Trends in Scholarly Publishing
Seminar**

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Overview

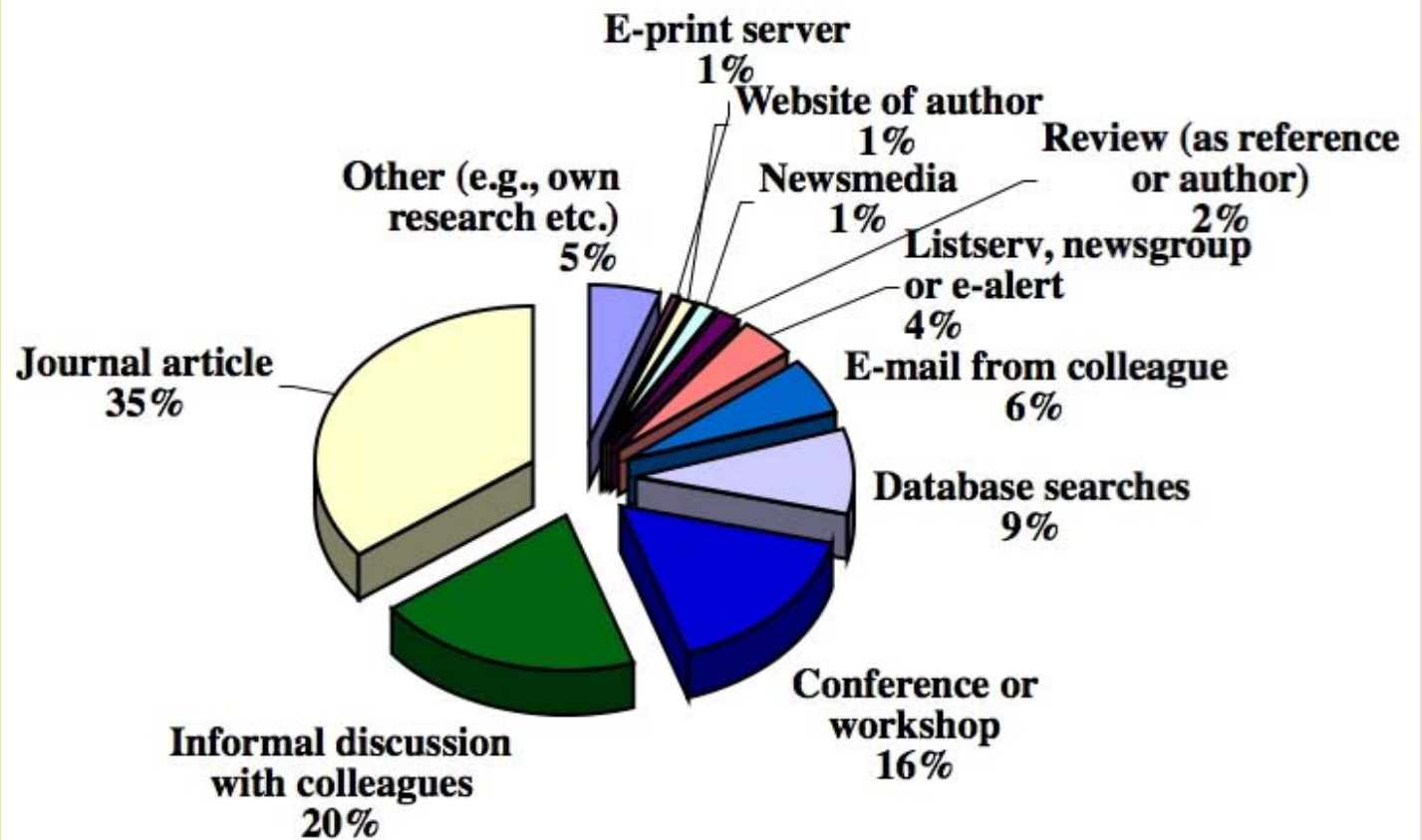
- ◆ Sources of information used by scientists, engineers and medical professionals
- ◆ Reasons that professionals choose the sources that they do
- ◆ Importance of professionals' time and effort in making choices
- ◆ Scholarly journals continue to be the principle source of needed information
- ◆ Trends in reading patterns over 30 years



Tenopir & King Survey Data

- ◆ Surveys of 30,000+ scientists, engineers, social scientists, medical and other professionals in many settings
- ◆ Two NSF-sponsored national surveys (King Research 1977, 1984)
- ◆ 26 surveys in organizations served by 84 special libraries (King Research with Griffiths 1981-1995)
- ◆ 12 surveys of faculty and students (U. of Tennessee and C. Tenopir 1993-2006)
- ◆ 6 surveys society member & journal subscribers (King Research 1977-1983, U. of Tennessee and C. Tenopir 2003-2006)
- ◆ Current IMLS study with transaction log analysis (U. of Tennessee & University College London, CIBER 2005-07)
- ◆ 6,000 national household telephone surveys (University of North Carolina, University of Pittsburgh)

Question: What sources did you use for the last substantive piece of information you used for work? (n=469)





Evidence of the Importance of Reader Time and Effort

- ◆ Jack Meadows once said: “One of the firmest conclusions of information usage surveys seems to be, indeed, that the intrinsic value of an information channel has little, or no, bearing on the frequency with which it is used. The ultimate factor is always its accessibility.”
- ◆ Our surveys have consistently shown that accessibility is a function of readers’ time and effort required.



Evidence of the Importance of Reader Time and Effort

- ◆ Our surveys indicate that, over the last 30 years, scientists spend more time at their work and the additional time is due to more communication activity.
- ◆ There must be a capacity in amount of time spent working and communicating.
- ◆ Various sources of information are strongly competing for this time.



Questions from National Household Telephone Survey

- ◆ Over 200 interviews involve scientists or researchers
 - Do you ever read professional trade or scholarly journals?
 - From how many...do you read?
 - Was the last article you read from a print or electronic version?
 - Where did you obtain the last journal article you read?
 - For what professional field is this last journal read?



Questions from National Household Telephone Survey

- ◆ (For last use of online sources) Which online source was used?

Including:

- Used chat mail or instant messaging (IM)
- Viewed a blogger Web site

Followed by:

- How much time did you spend using this source?
- Why did you choose to use this source to obtain needed information



Questions from National Household Telephone Survey

- ◆ Please rate the
 - (1) quality of information,
 - (2) completeness of information,
 - (3) timeliness of information,
 - (4) trust-worthiness of information,
 - (5) newness of information
- ◆ What were the outcomes of the use of the source?



Trends in Scientists' Reading Patterns

- ◆ They appear to be reading more
- ◆ They rely on libraries more
- ◆ Reasons for increased library use



Trend in How Articles Are Identified

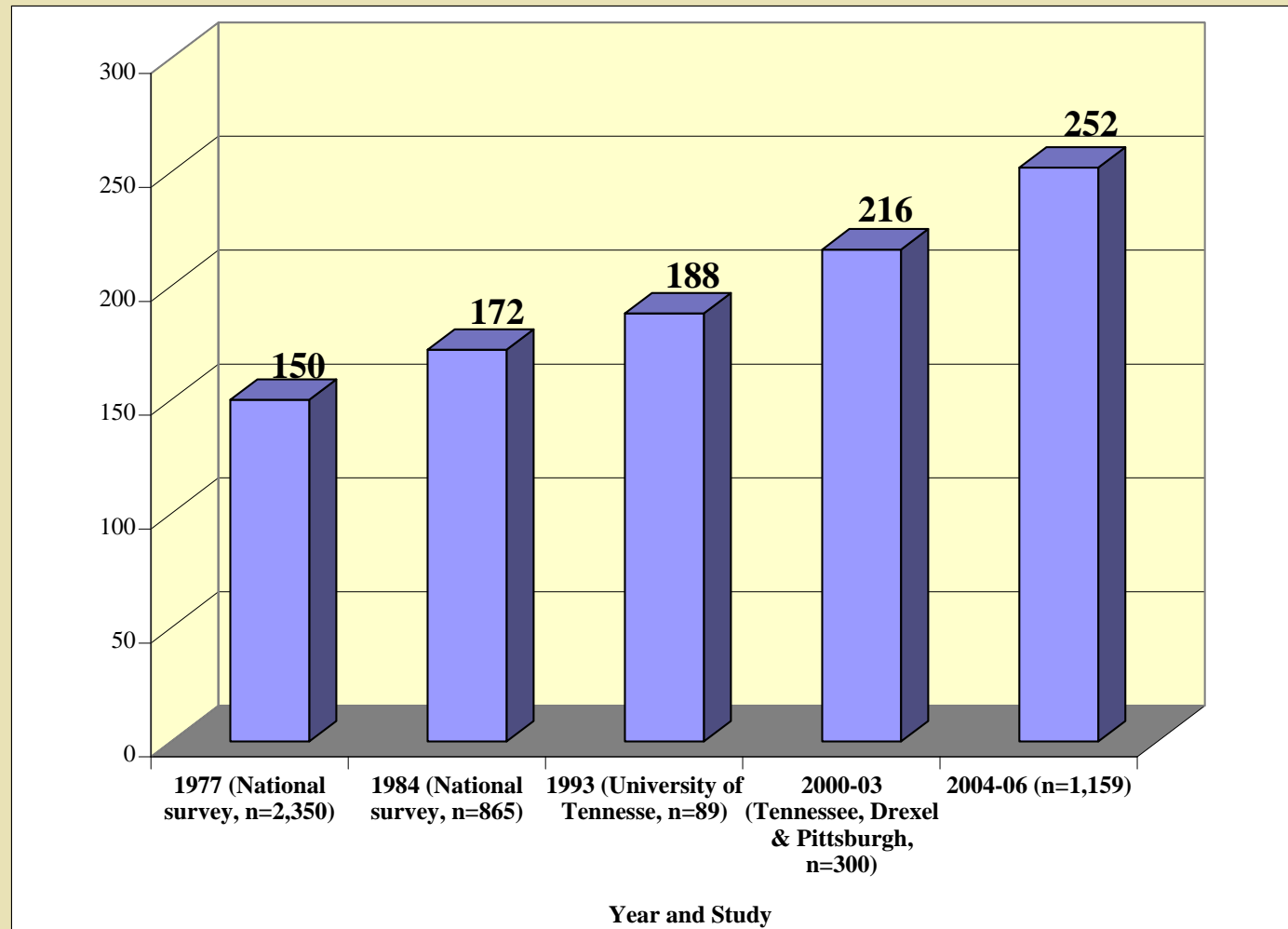
Science	1977	2006
Browsing	40%	37%
Searching		
Online	2%	25%
A&I	24%	---
Citations	11%	15%
Colleagues, etc.	18%	16%
Other	6%	7%

Where Do Readers Obtain Articles?

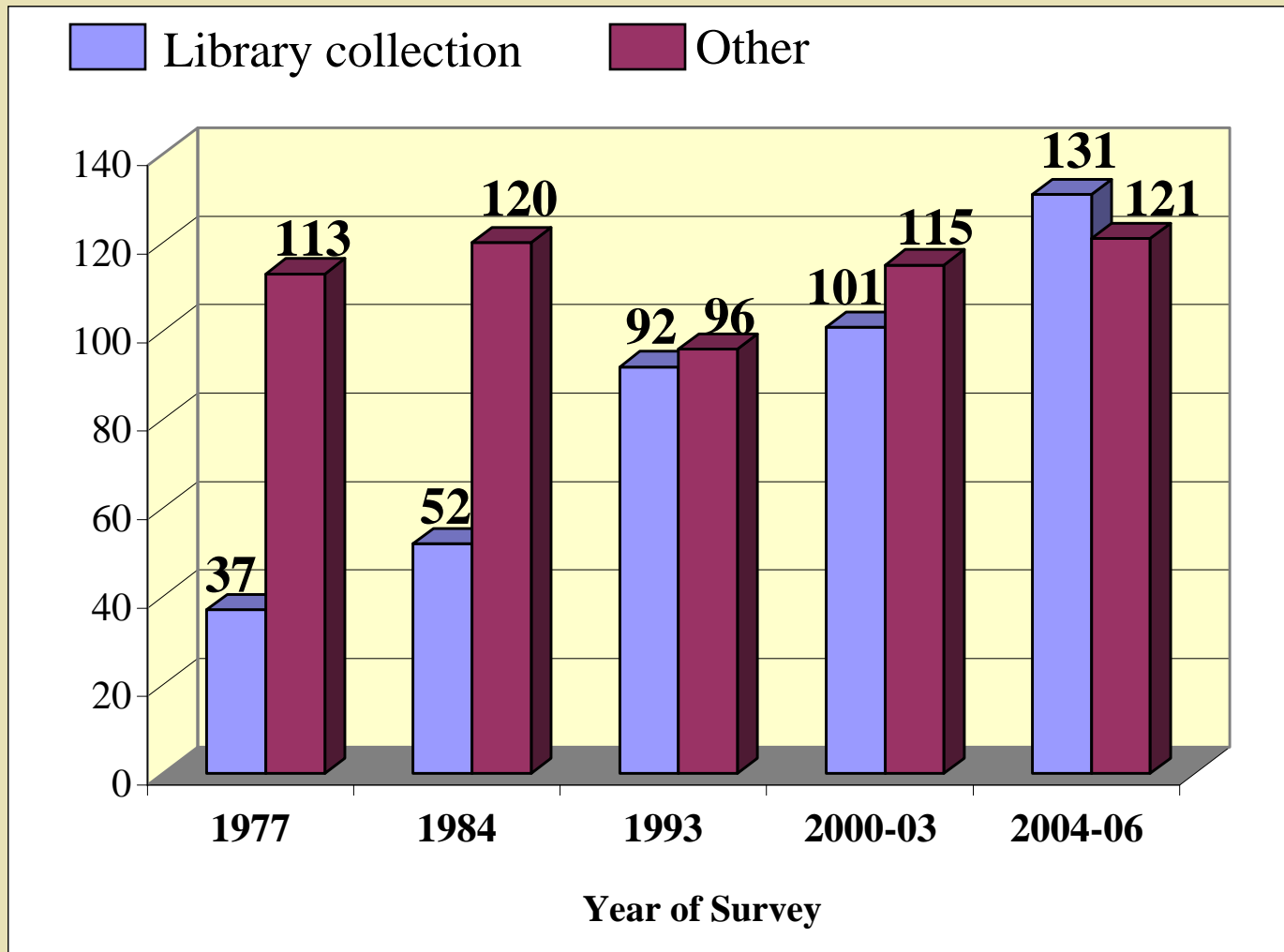
Trends

Personal Subscriptions	Down	↓
Library Collections	Up	↑
From Another Person	Same	→
Author Websites	Small	
Preprint and other databases	Small	
Age of articles is important		

Average Articles Read per University Scientist



Source of Additional Readings

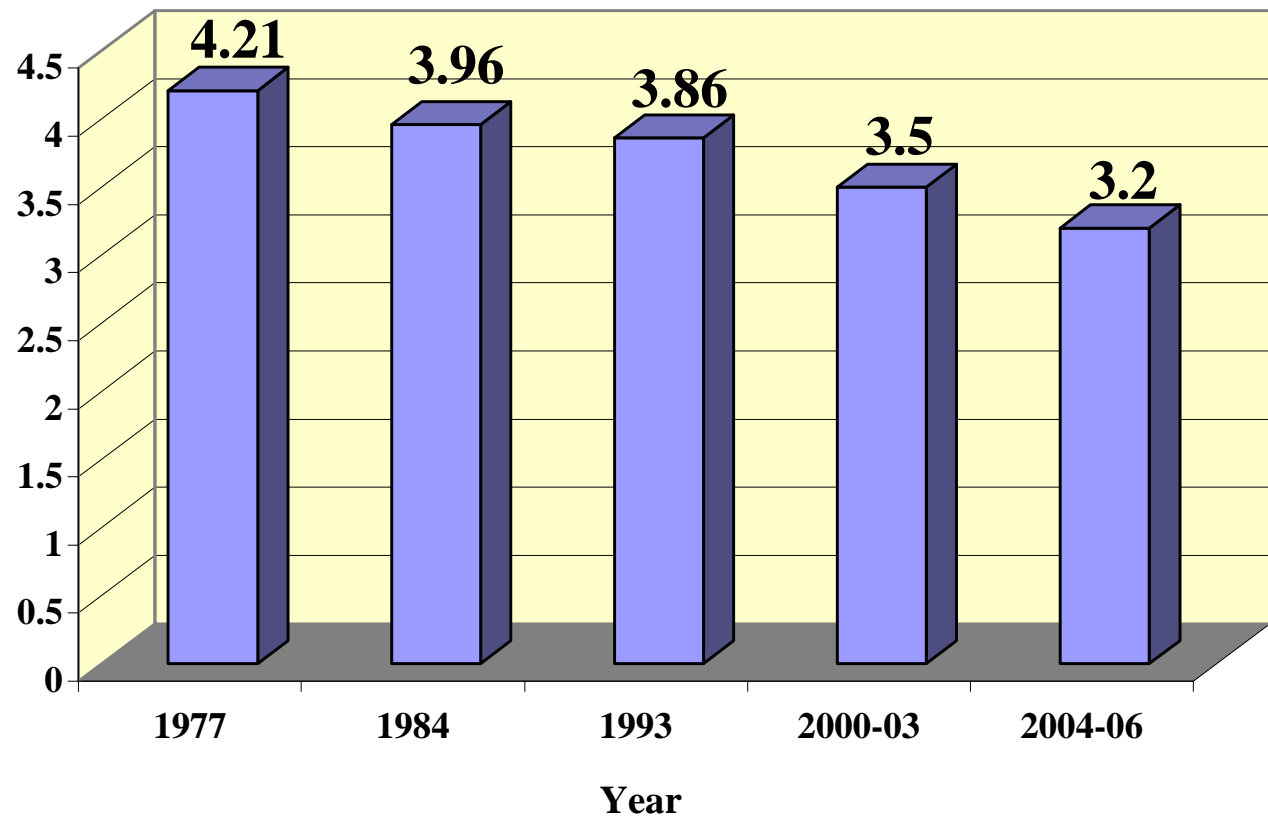




Reasons for Shift to Reading from the Library Collection

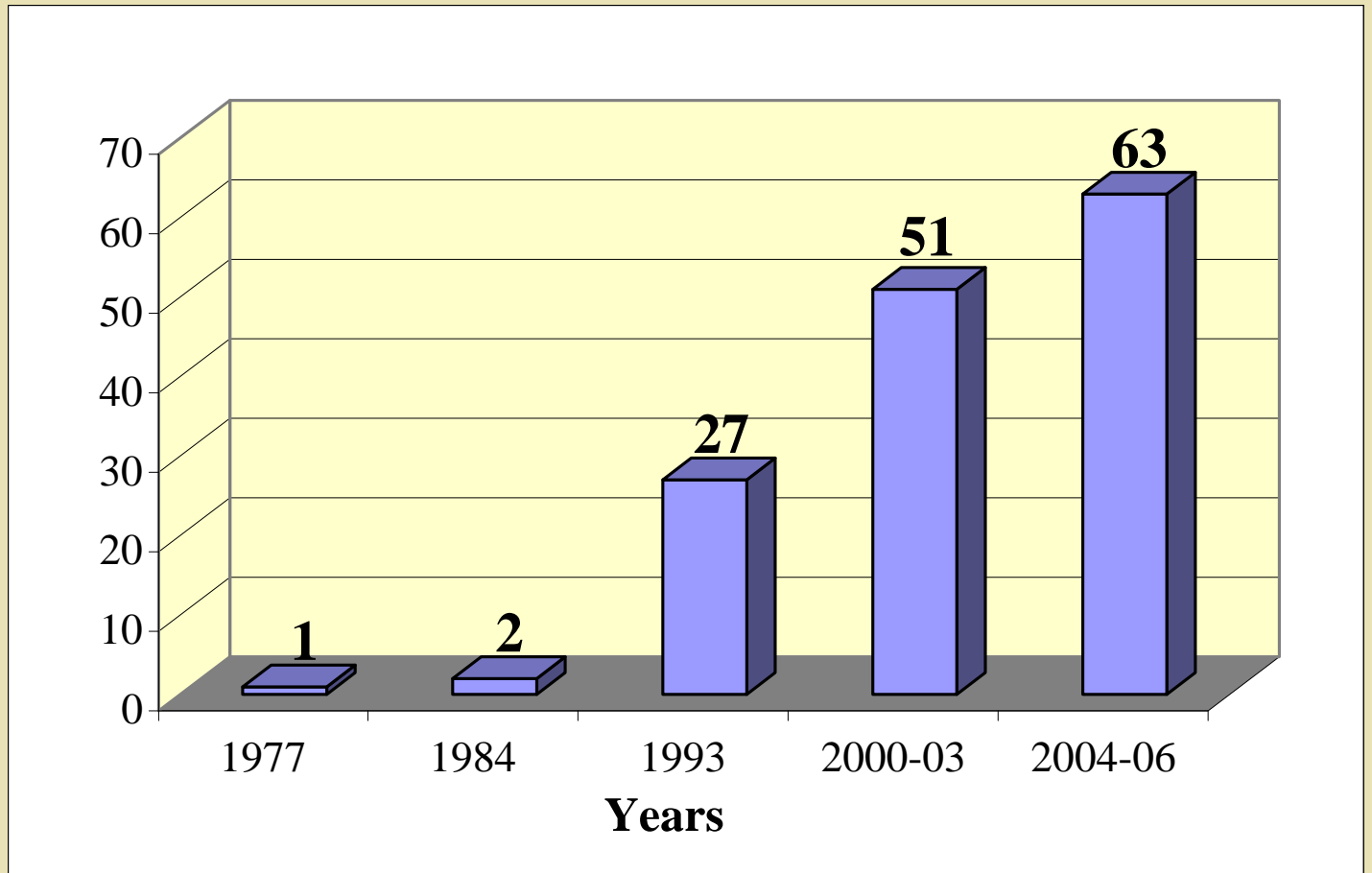
- ◆ Decrease in personal subscriptions
- ◆ More reading of articles identified by online bibliographic searches
- ◆ Electronic collections have broadened access to articles

Average Number of Personal Subscriptions Per Scientist





Average Number of Articles Identified by Automated Searches per University Scientist



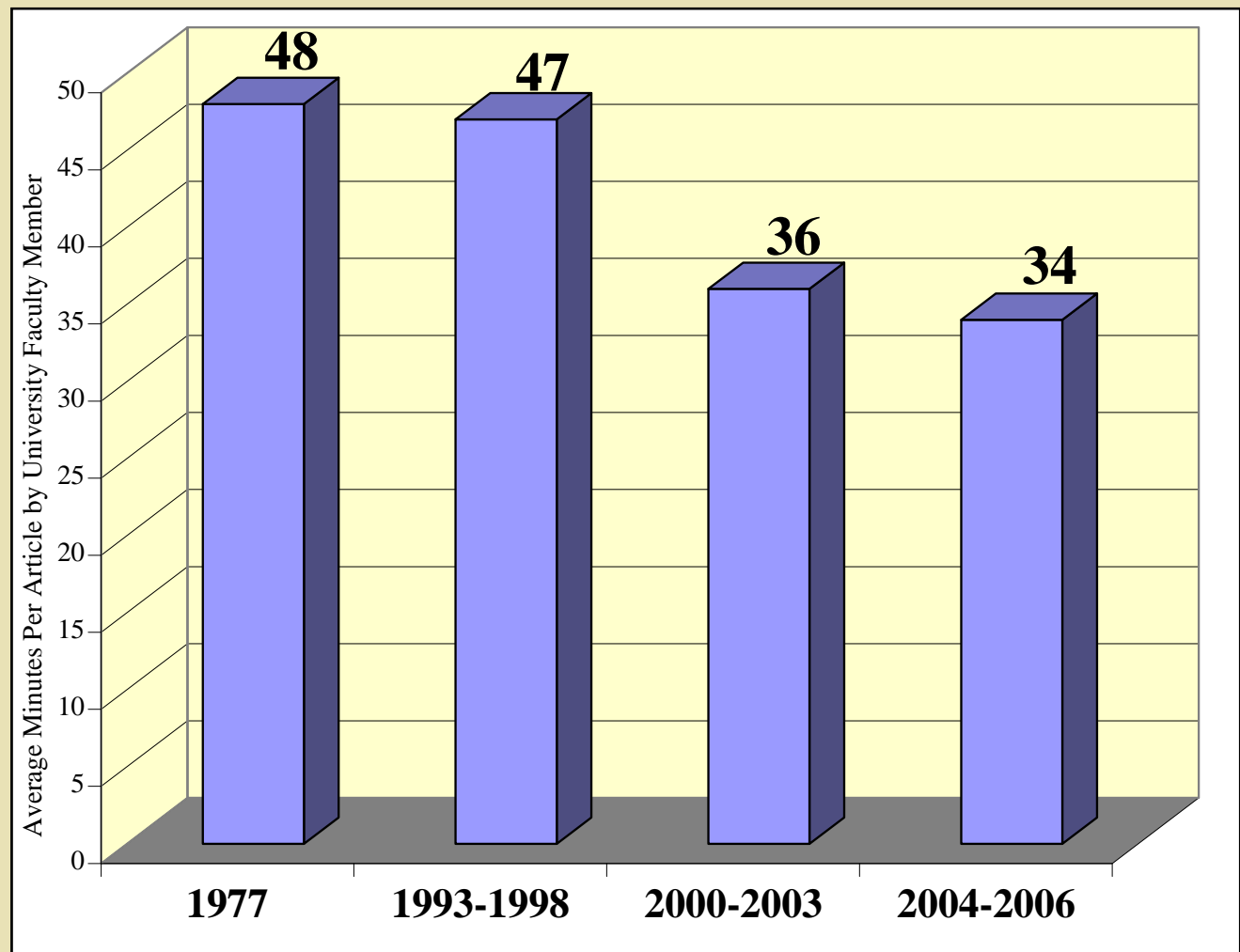


Electronic Collection Contribution

- ◆ Personal subscriptions - 90% print
- ◆ Library collections
 - 80% electronic
 - Broadens journal availability
 - Saves readers about 20 hours per year
- ◆ Breadth of reading has increased
 - Read from about 13 journals in 1977
 - Over twice that amount now
- ◆ Age of article is a factor

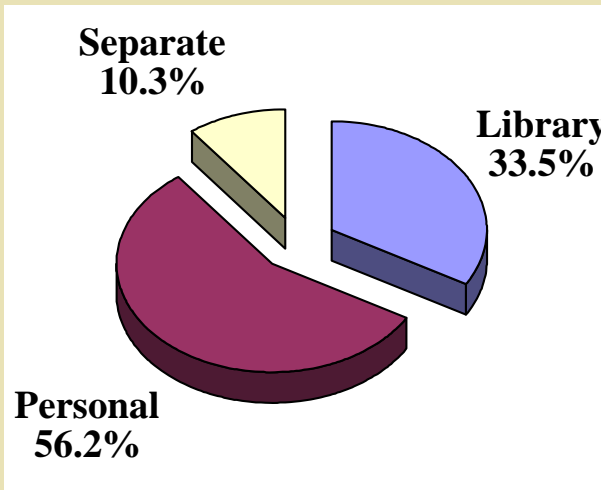


Average Minutes Per Article by University Faculty Member

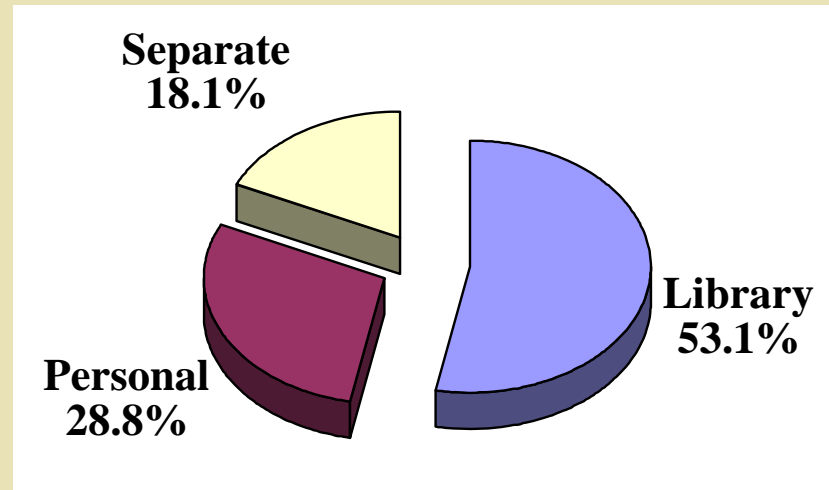


Article Age

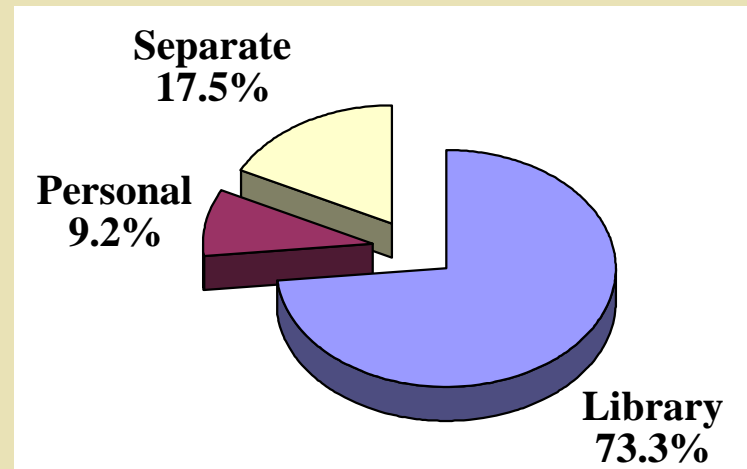
- ◆ Older articles are judged more valuable and are more likely to come from libraries



1st Year



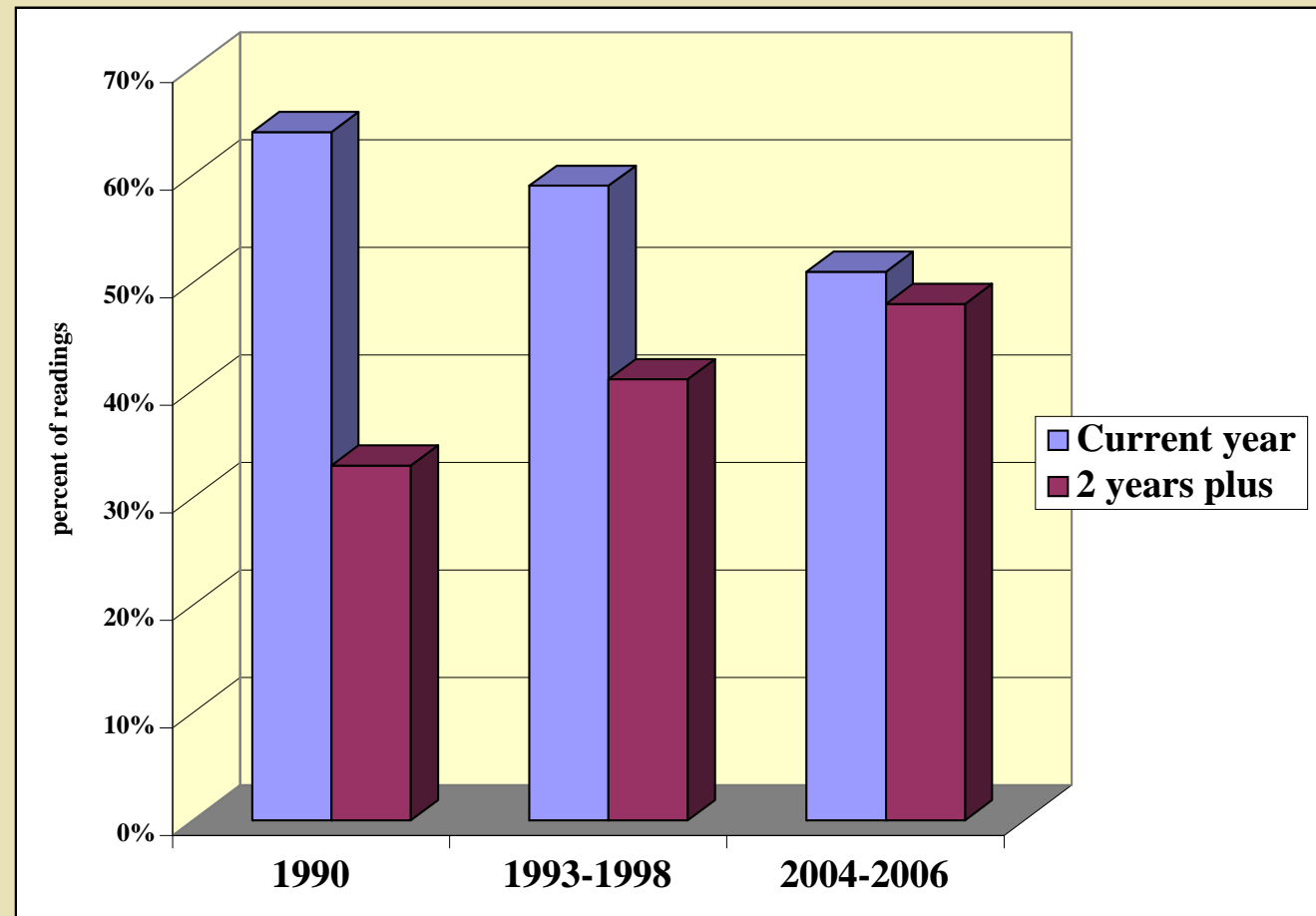
2-5 Years



Over 5 Years



Readings of Older Materials May Be Increasing (University Faculty)





Implications of the Studies

- ◆ Technologies will continue to advance journal publishing capacities and power to inform
- ◆ Electronic journals have been extremely beneficial, but print will be relevant for some time to come
- ◆ Both readers and libraries have benefited economically from electronic journals
- ◆ Libraries will continue to be an essential participant in the journal system for the foreseeable future
- ◆ Newly proposed system models need to advance cautiously and with demonstrable successes



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