

Toward a User-Centered Approach to Digital Libraries

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Digital libraries and users: an Italian experience

**Changes in academic users' attitudes, perceptions and the usage of
study and research tools in a hybrid context.**

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This is a presentation of a research conducted by Cinzia Conti⁽¹⁾,
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Overview

- Brief introduction of CIBER consortium
- E-Journals usage at CIBER
- Users survey: goals and methodology
- Analysis and evaluation of survey results
- The cluster analysis
- Conclusions

Premises

- in Italy there is no tradition of studies & research on library use statistics and users behaviours in the print nor in the digital environment
- this is the first study conducted on 25 Italian academic institutions
- most of the results of our survey confirm what is reported in the US, UK and international professional literature
- there are several reasons to investigate use and acceptance of e-journals
- Is the Italian scientific community ready to work in e-only dominated environment?

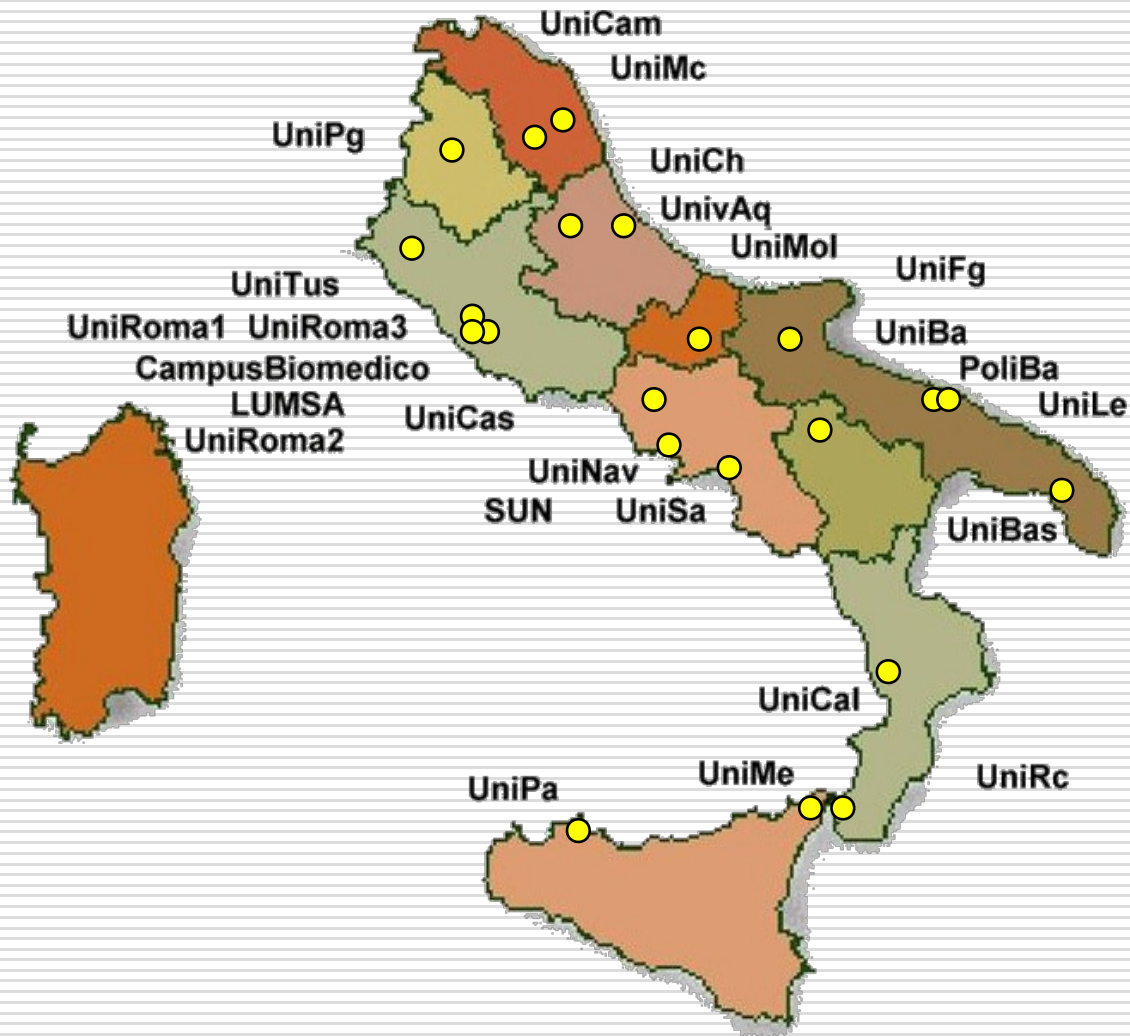
CIBER- Coordinamento Interuniversitario

Banche dati ed Editoria in Rete

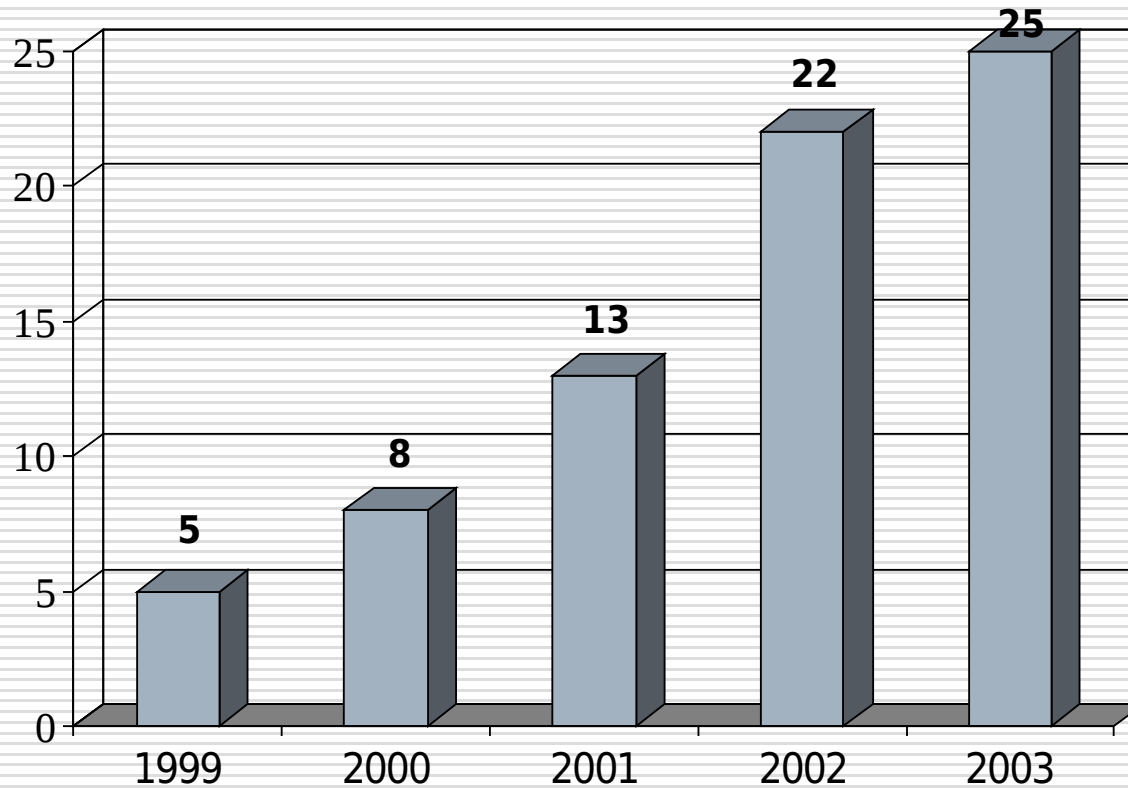
- university library consortium funded by 5 Universities in Central and Southern Italy in 1999
- currently 25 universities from Central and Southern Italy are members of CIBER
- aims: electronic content licensing and loading, preservation, promotion and dissemination of scholarly publishing, training
- CASPUR - SuperComputing Applications Consortium handles the technical /administrative side and runs the digital library platform for CIBER

CIBER- Coordinamento Interuniversitario

Banche dati ed Editoria in Rete



CIBER members growth



CIBER- Licensed e-resources

Emeroteca Virtuale (EV) is the name of the electronic journals library designed to aggregate e-journals from multiple publishers

- ❑ launched in September 1999 with 530 subscribed journals of Elsevier Science
- ❑ currently over 3566 journals from 5 different publishers
- ❑ most of the them are available full text through the EV platform
- ❑ backfiles start at different points in time, on average from 1995 or 1996 onward
- ❑ not all institutions subscribe to all contracts

CIBER- Emeroteca Virtuale/EV

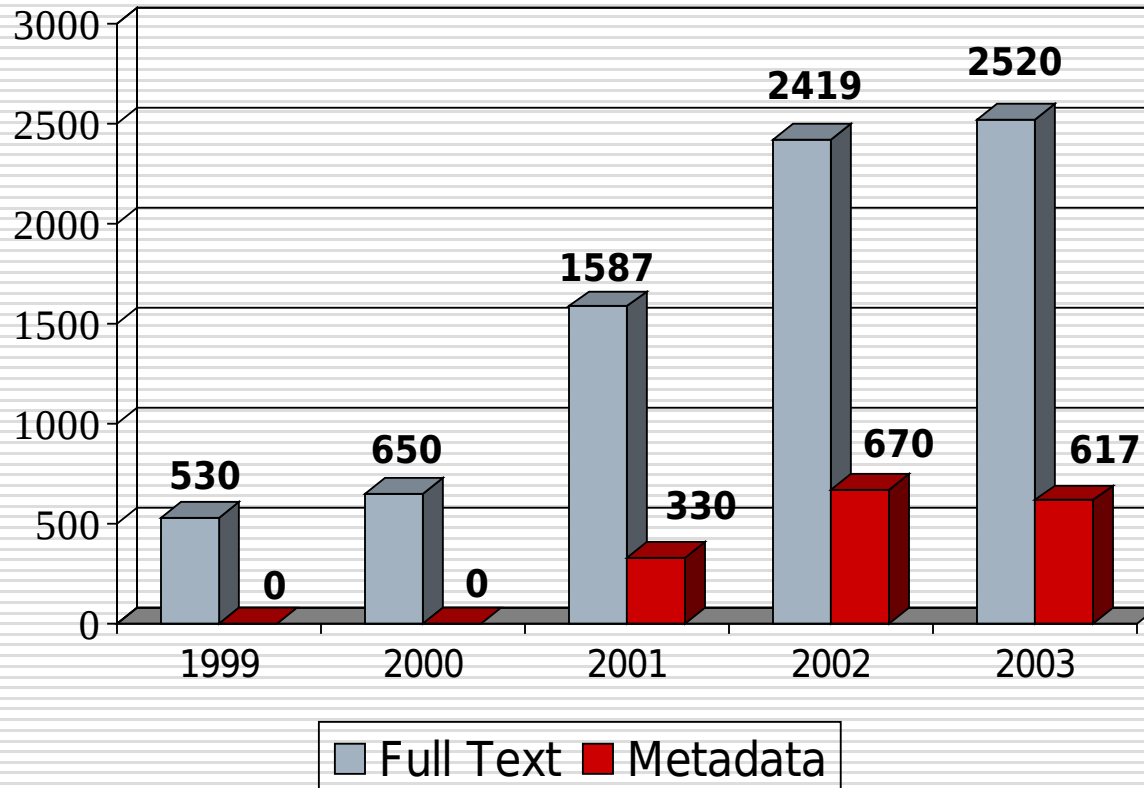
- access is by title, subject categories, by traditional search form options
- personalized services, CrossRef, links to pre-print servers are activated
- Url links to the EV are activated from library catalogs, from our locally mounted installations of Web of Science and from several secondary databases (CSA; Current Contents; Sci-Finder Scholar; Econlit, Medline; MLA, Pubmed; PsycINFO ecc.)

CIBER: Licensed Electronic Journals

	ISSN	Date	Loaded
Elsevier	1825	1995-	FT
Blackwell	590	1996/97	Metadata
Kluwer (ISSN)	760	1996/97-	FT
ACS	30	1879-	Metadata
IOPP	41	1875-	FT*
Wiley**	300	1996-97	
Nature	16	1996/97-	
Total	3566		

(as of August 22, 2003)
* from 1991
** Trial

E-journals available



CIBER- Users Population

25 universities

23 multidisciplinary universities

Users - Population

FTE Students: 265,879

1 > 50,000 FTE

2 > 20,000 FTE

4 > 10,000 FTE

7 > 5,000 FTE

10 < 5,000 FTE

Users - Population

Faculty: 26,036

1 > 5000

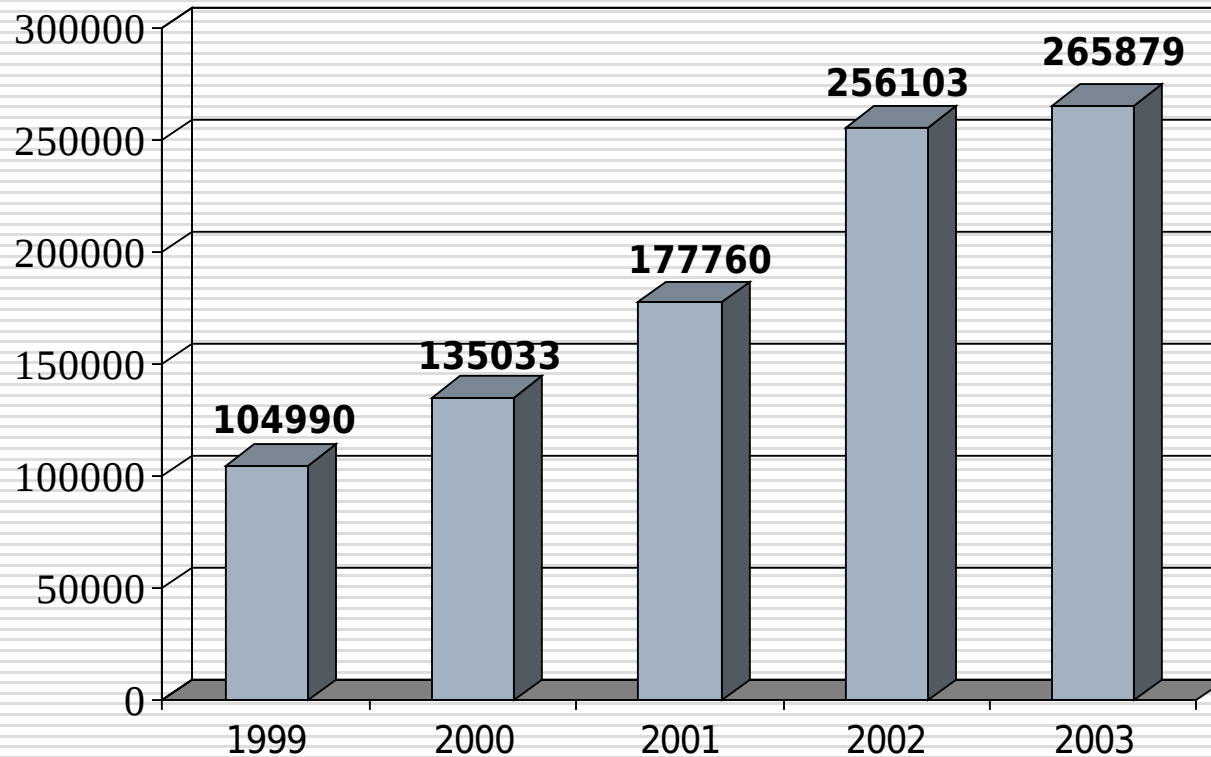
2 > 2000

3 > 1300

14 < 800

1 < 100

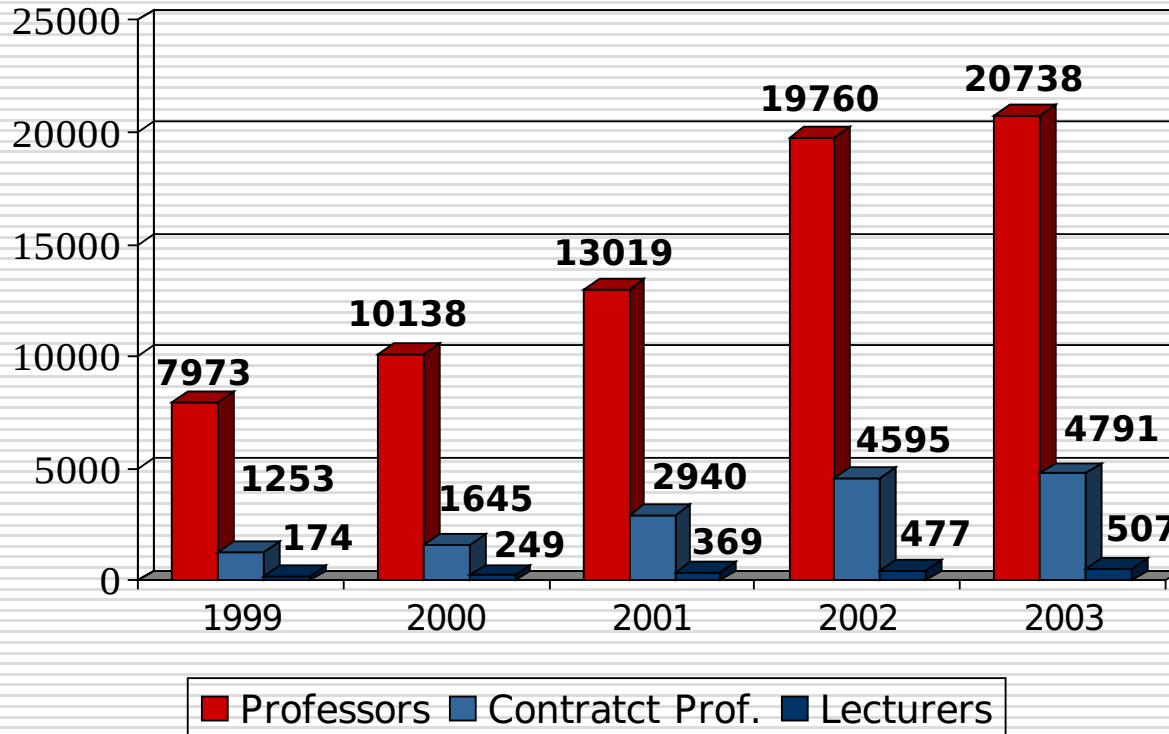
User Population - FTE students



Source: Miur - (Italian) Ministry Of Instruction - University and Research

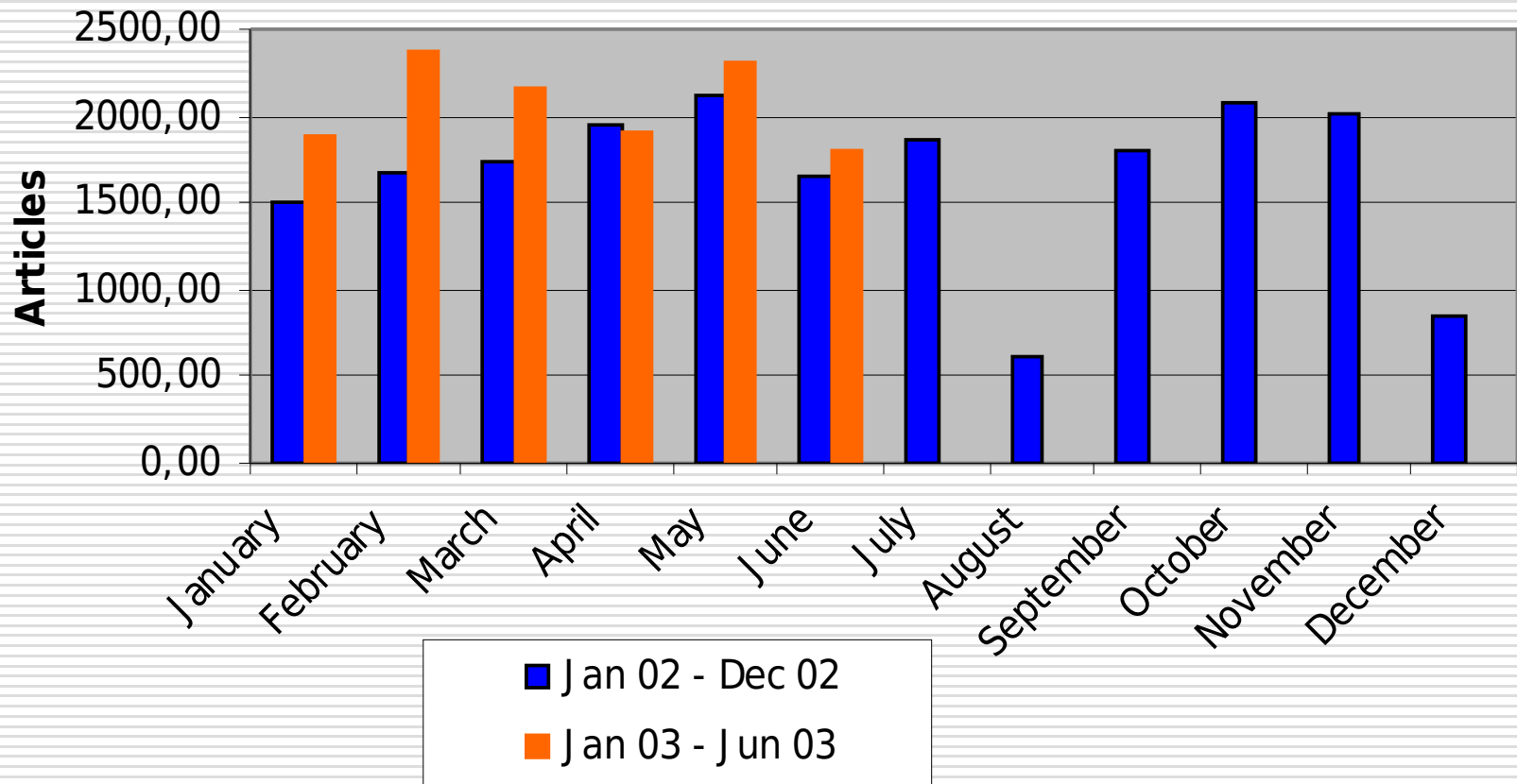
User Population - Faculty

Professors, Contract Professors, Lecturers



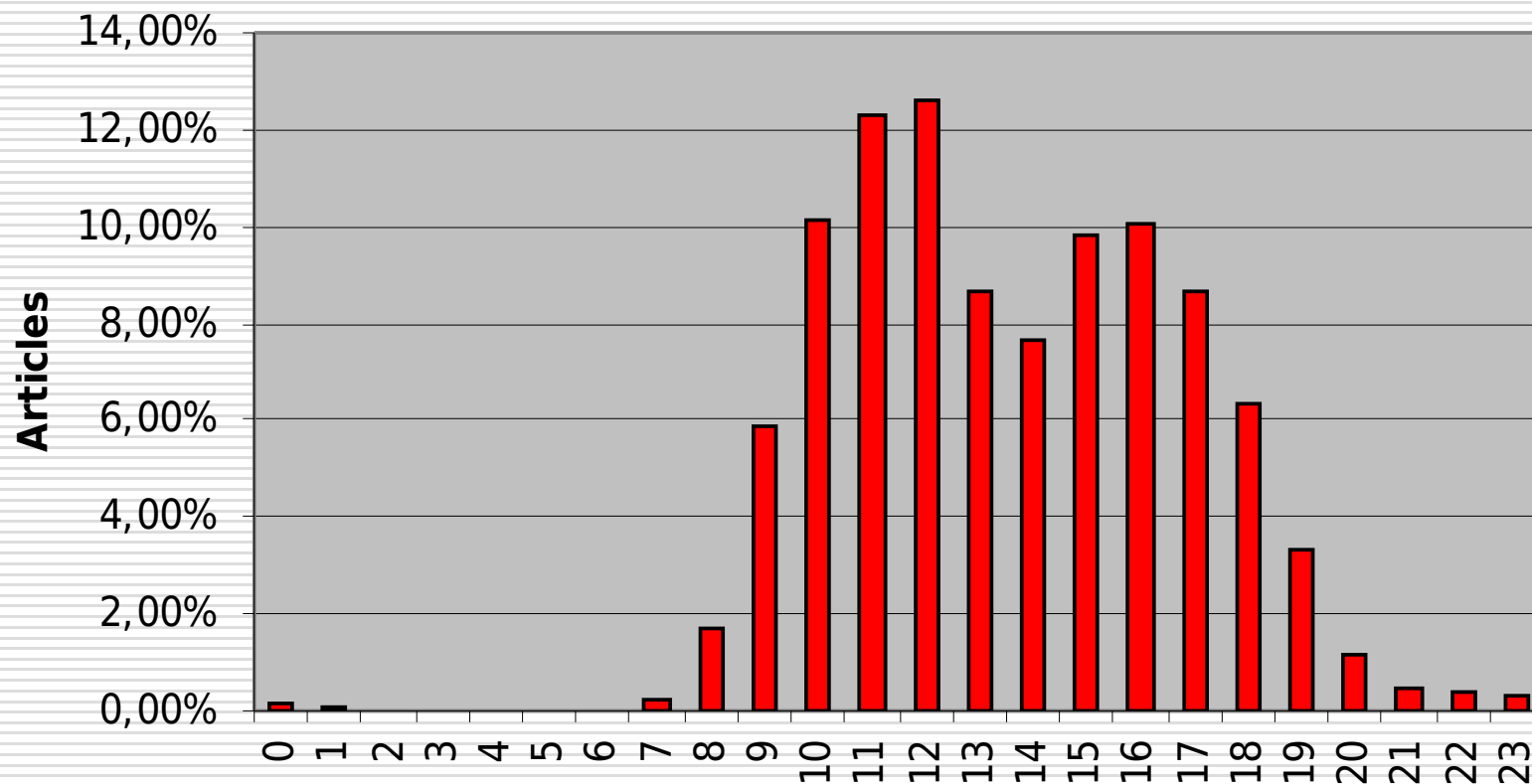
Source: Miur - (Italian) Ministry Of Instruction - University and Research

Daily article downloads by month



Total Articles Downloaded by hour (%)

Period: 01/07/02 - 30/06/03



Users survey: goals

Primary Goals:

- obtain direct feedback on the use and acceptance of the EV and e-journals
- profile electronic journals users (by age, sex, discipline, occupation, etc)
- explore the relationship between electronic journals usage and rank (with reference to faculty)
- collect opinions and attitudes towards e-journals
- gather information on users information skills, familiarity with e-resources, behaviours in obtaining and using information

Secondary Goals:

- assessing faculty and students awareness of e-journals library web pages, databases, title listings made available by single institutions
- exploring which aspects of the service needed improvement (e.g. promotion, user education, remote access, backfiles loading etc)
- assessing the need for additional e-journals

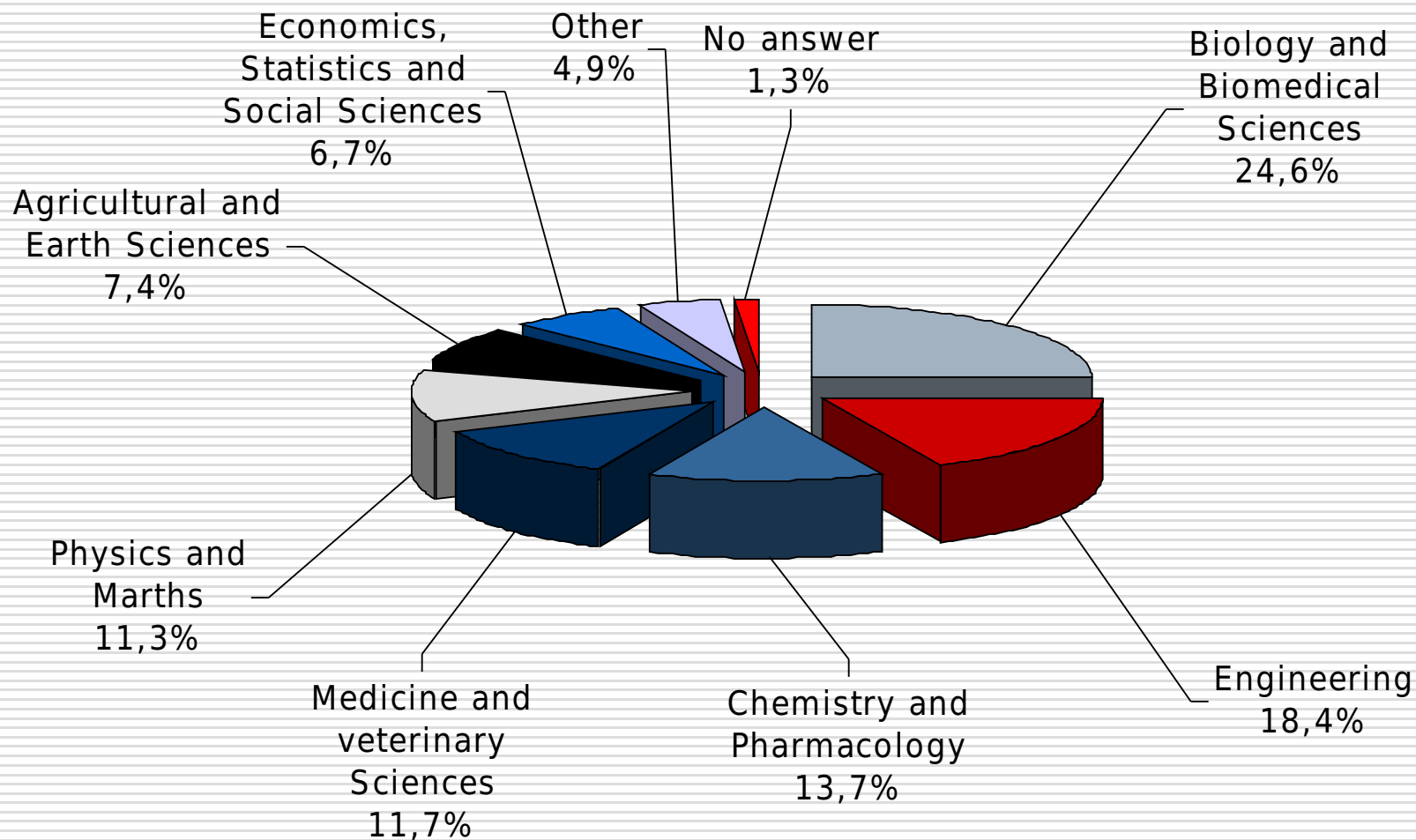
Users survey: methodology

- A questionnaire was posted on the web from March 15 to April 10 2003
 - Number of respondents: 1305
 - Number of valid questionnaires: 1150 (90%)

- A print questionnaire was distributed in 9 libraries from March 15 to April 30 2003
 - Number of respondents: 305

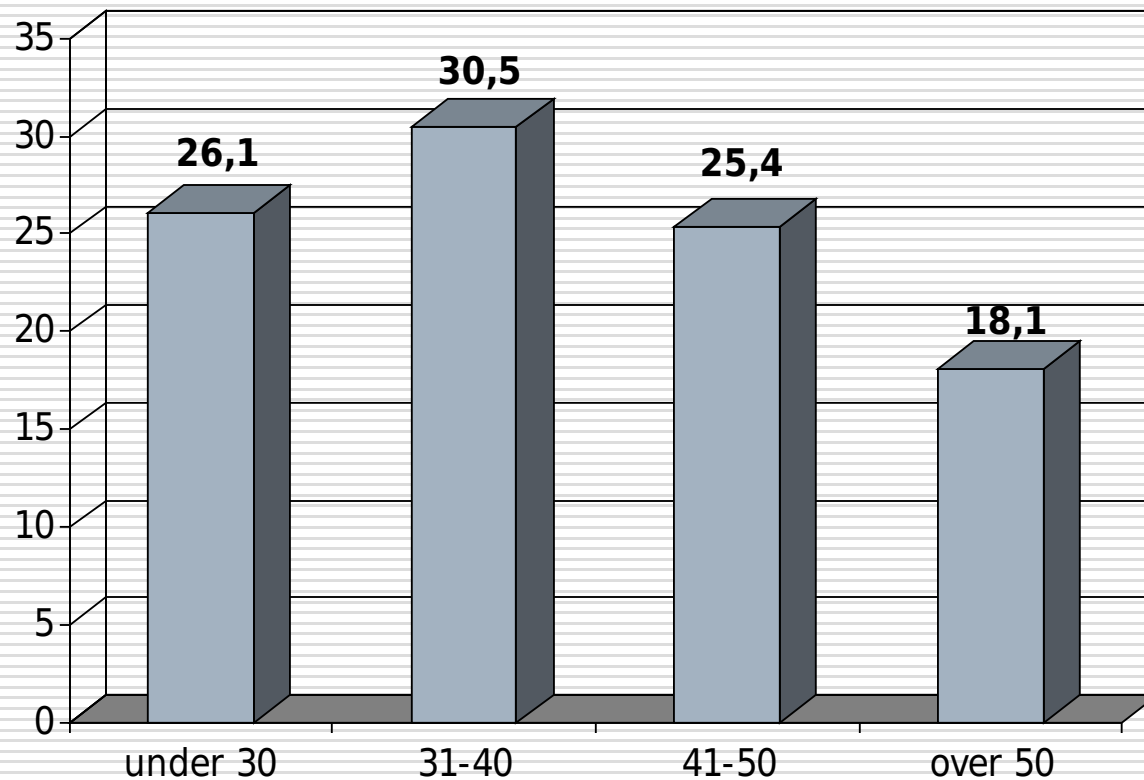
Users breakdown by discipline

based on the survey



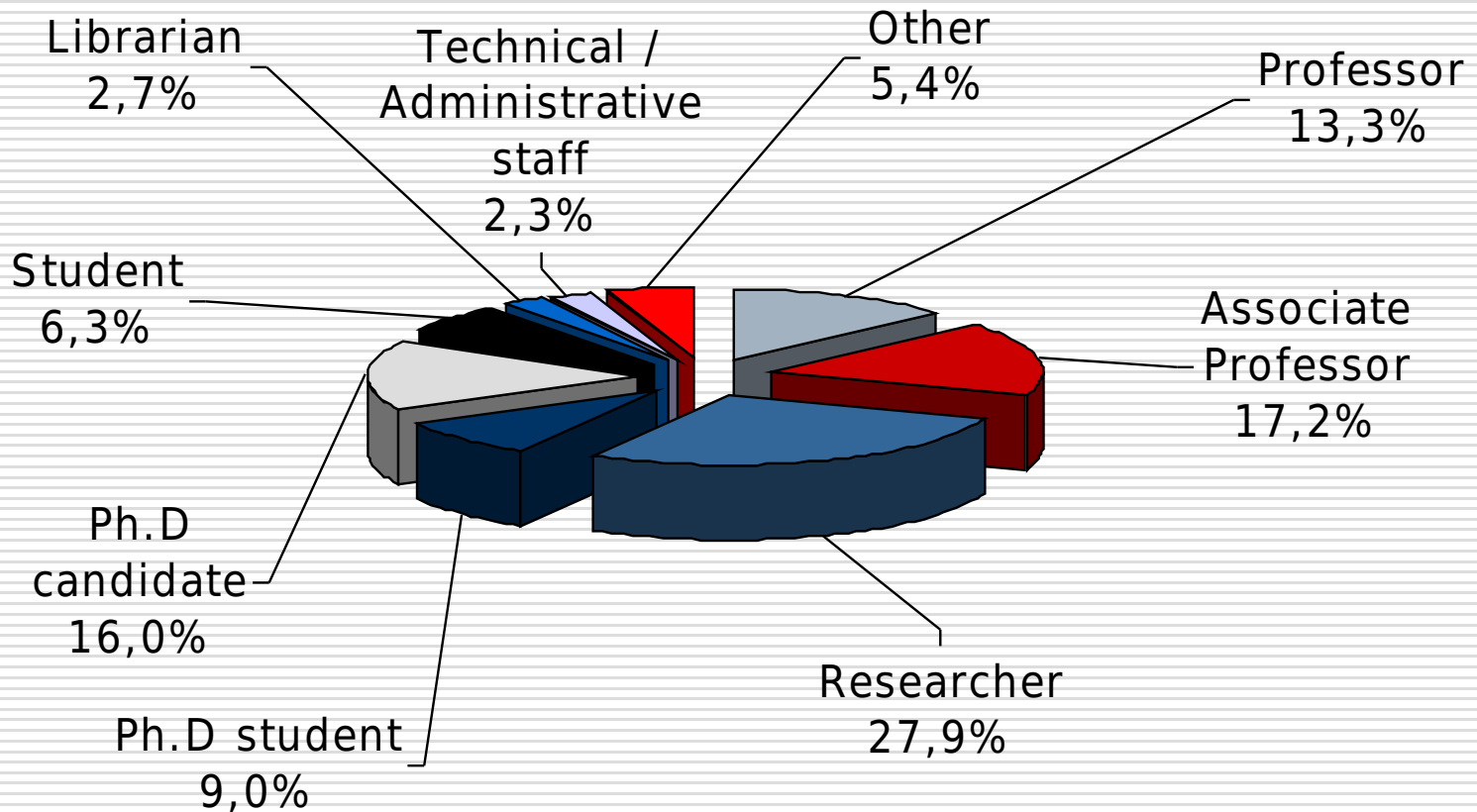
EV users according to age

based on the survey results

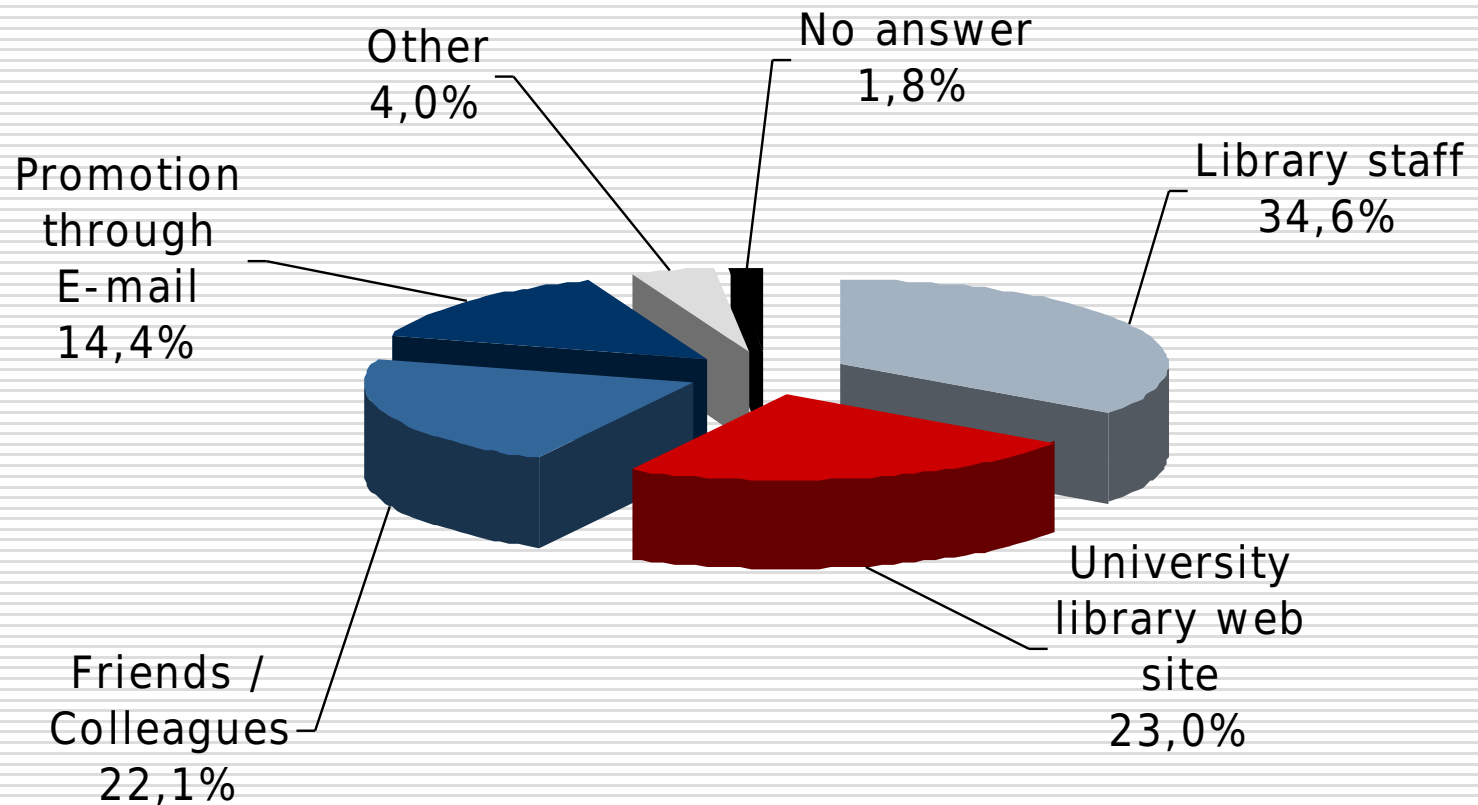


EV users by occupation

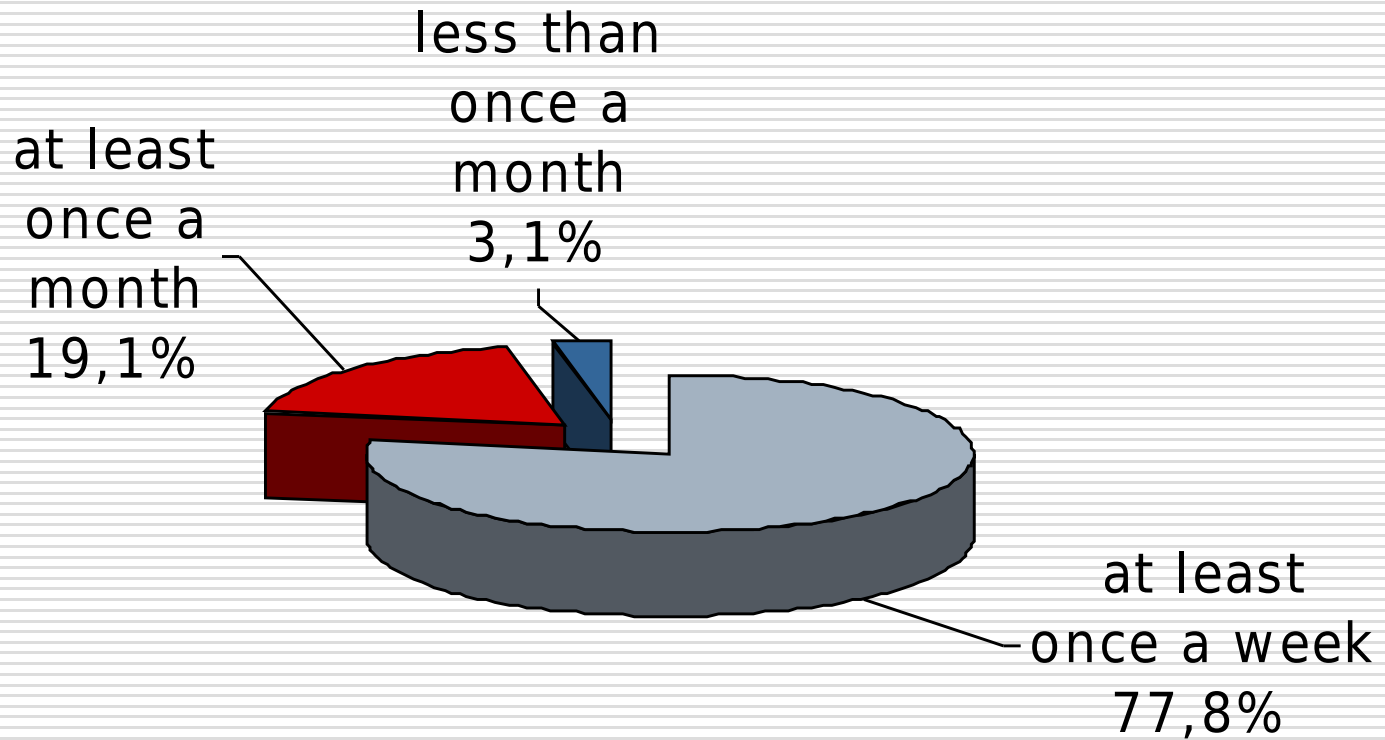
based on the survey results



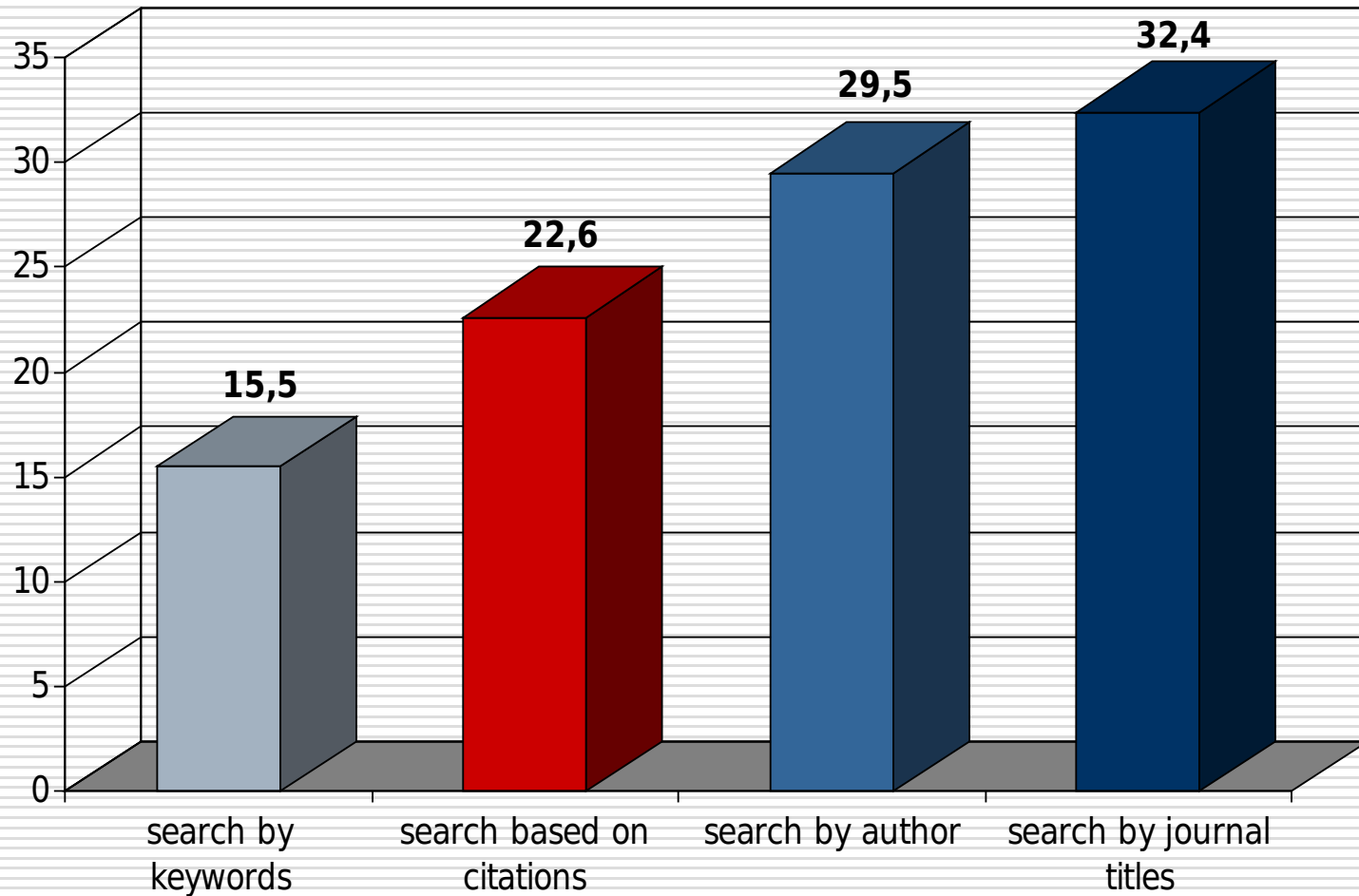
Awareness of the EV service



EV Frequency of use

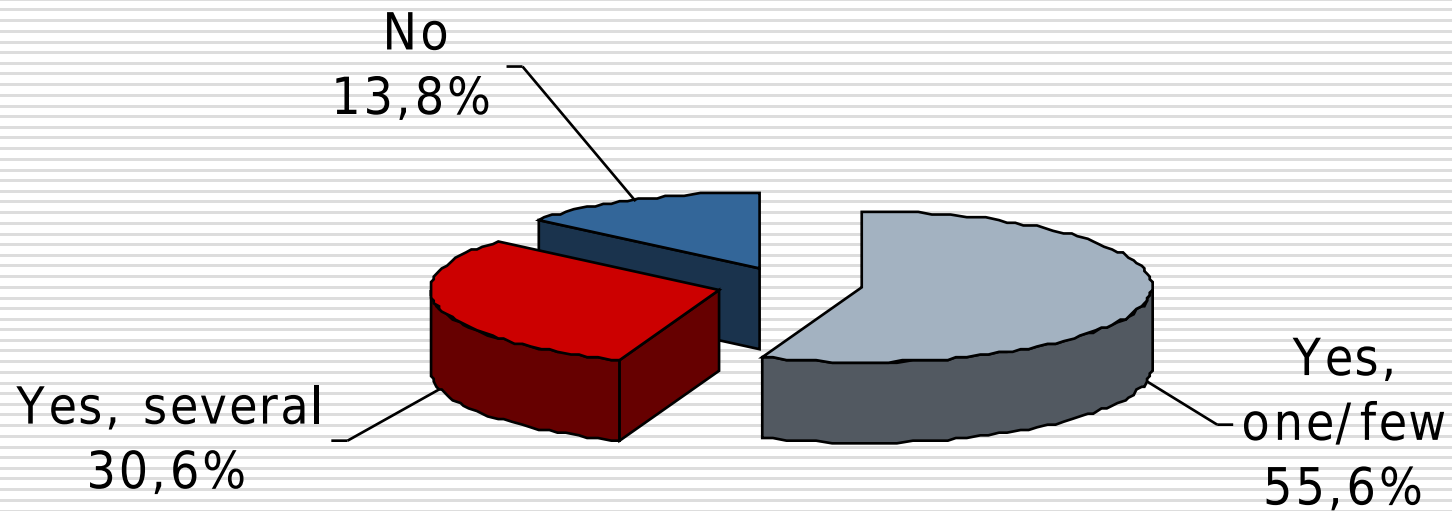


How users search or browse the EV



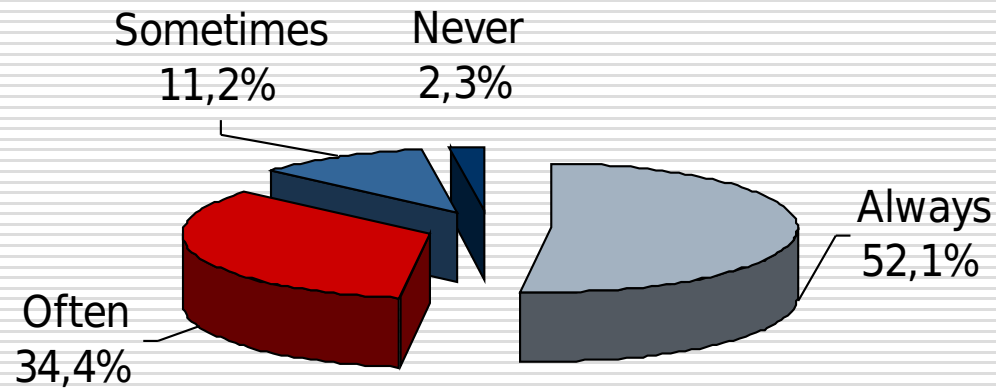
New journals discovery

Q. Have you found out any new e-journal, useful for your research / study?



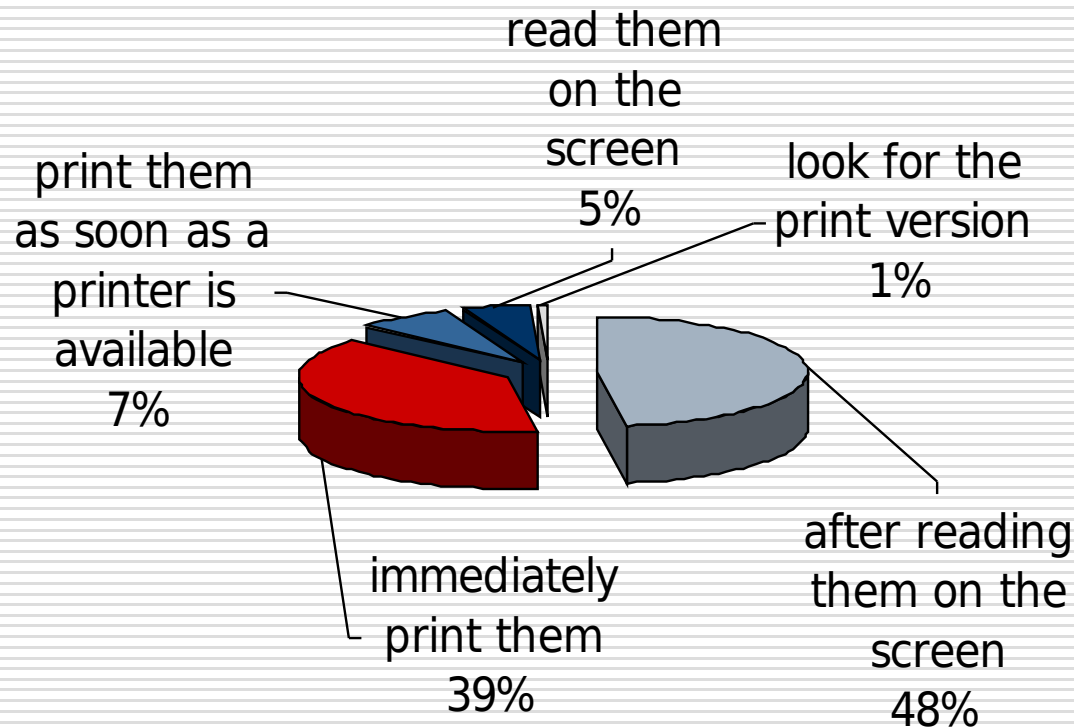
Articles usage and printing

Q. Do you use the electronic version of a journal even when it is available in the nearest library in a printed form?



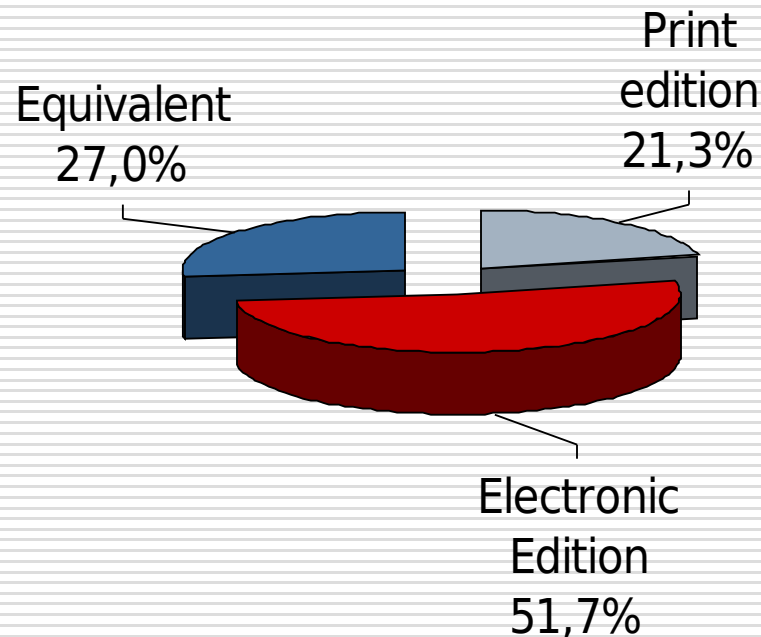
Articles usage and printing

Q. Do you usually print the articles you find very interesting?



Print or electronic format

Q. If you have access to a journal that is available both in electronic and in a hard copy format, you prefer to look at the...



Users survey analysis

- Relationship: rank and usage
 - Researchers and associate professors represent the higher percentage of respondents (44%: researchers and associate professors, 13% are full professors) and age (30,5 are between 31-40)
- Relationship: sex, rank and discipline
 - (61% of respondents are male, 44% researchers and associate professors, 35% biological sciences and medicine, 25% applied sciences, 24% physical sciences)
- Students low usage due to the Italian higher education system
- Electronic journals are now part of their weekly reading habits (77,8% use e-journals at least one a week)
- Parallel Publishing: e-journal are preferred to print journals (52% of respondents)
- The approach to e-journals is still quite traditional

Users survey analysis: usage patterns

- many respondents tend to search titles, authors and citations they already know
- many respondents tend to use always the same primary and secondary sources, neglect and/or ignore other e-resources made available through their libraries
- new journal titles are discovered through searches
- Usage of secondary databases or other sources (pre-print servers) to access e-journals is not heavily spread

Users survey analysis: usage patterns

- BROWSE: 63% browse the abstract first
- DIRECT TO FT : 37% go directly to the article
- READ: 48% read the article first on the screen
- PRINT: 39% print a copy of the article instead of reading it on the screen
- SAVE: 66% save articles (36% always, 27% often)

Users survey analysis

Reason to choose the electronic format vs print format

- convenience
 - quick consultation (23% respondents)
 - article downloading (18%)
 - storing the article locally (18%)

Disadvantages of using the electronic format vs print format

- Internet connectivity (32%)
- Incomplete volume collection (27%)
 - users would prefer to have backfiles available on line
- Difficulty of reading from a screen (19%)

- **graphics quality is not an issue**

The Cluster analysis

- Cluster analysis and users' opinions and behaviours
- The application of a cluster analysis to our survey
- Respondents are grouped in four different categories
 - Each category comprises individuals who share the same characteristics, behaviour and opinions
 - Maximation of cluster differences based on variables extracted from the questionnaire
 - Extraction of 11 active variables (how did you find out; do you use...) and 7 illustrative variables (age, sex, occupation, discipline)
 - Subsequently four categories were identified in an ideal space between ***tradition*** and ***innovation***

The Cluster analysis

Factor 1: tradition versus innovation with reference to users' opinions about electronic resources

Factor 2: tradition versus innovation with reference to the way people use the EV

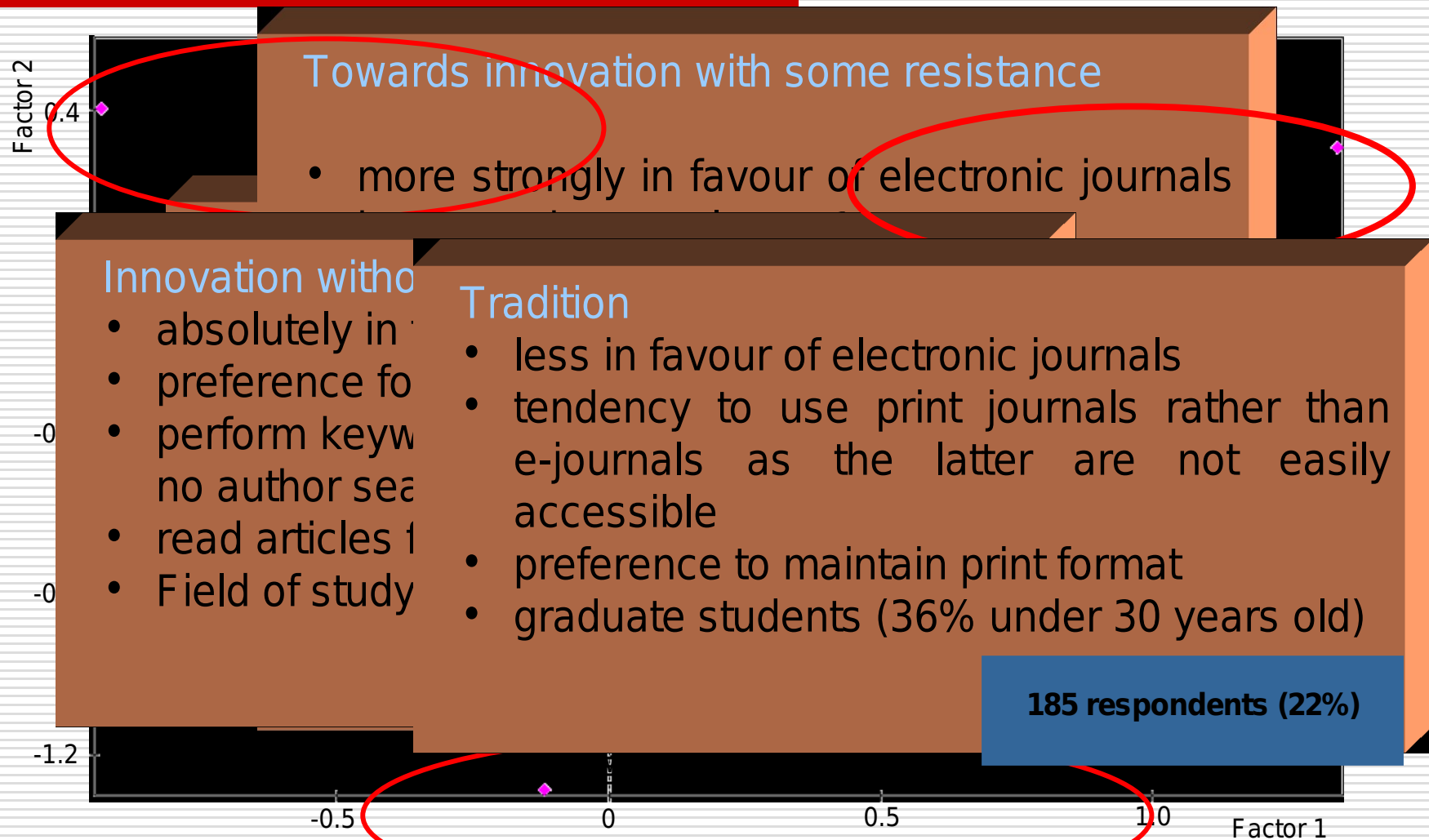
Cluster 1: between tradition and innovation

Cluster 2: towards innovation with some resistance

Cluster 3: innovation without hesitation/innovators

Cluster 4: tradition traditionalists/laggards

Cluster Analysis Graphic



Conclusions

- general acceptance and preference for e-journals especially in the STM fields
- request for additional journals and backfiles
- social sciences and humanities need better coverage
- strong need for promotional/training activities and for more workstations in public areas
- the cluster analysis gave an interesting, articulate, complex picture on users opinions and behaviours; further studies are required
- users interviews, weblog analysis will be carried out in the near future together with studies on reading purposes, reading behaviours, etc.