



Digital Libraries and Users: an Italian Experience. Changes in academic users' attitudes, perceptions and usage of study and research tools in a hybrid context.

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Abstract

The goal of this study is to measure the changes in scholarly journals usage in the Italian academic context. In order to meet our goals a survey was conducted based on a on-line questionnaire (1,305 respondents). The final results of this study clearly show the existence of four different categories of users (midway innovators, midway traditionalists, full innovators and full traditionalists), each category represents a different approach to digital library service.

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1. Introduction

CASPUR,¹ an Inter-University Consortium for Super Computing Applications, has played a major role in the field of digital library co-operation in Italy since 1999. CASPUR in fact provides CIBER,² a library Consortium for networked database and e-publishing, based in Central and Southern Italy, with technical support for databases and e-journal access and archiving. It develops tools and solutions to enhance digital library services and administratively handles licenses for participant institutions.

CIBER, founded in 1999 by five CASPUR members,³ has encouraged Italian academic and research institutes to participate, and nowadays, counts amongst its members 25 (out of 80) Italian universities resulting in 40% of the Italian academic population. The main e-service offered by CASPUR to academic libraries is the *Emeroteca Virtuale (EV)*, a electronic journals library providing local access to licensed scholarly e-journals, encompassing all titles from seven publishers (commercial publishers and professional societies representing 34% of the current scholarly e-journal publications) for a total of four thousand titles covering different subject areas, STM, Social Sciences, Humanities, accessible full text through CASPUR digital library platform. This service results in a constantly increasing mass storage occupancy of over 3 T-Bytes (3,000 Giga Bytes: over 2 million articles in html/PDF format). Access to articles is granted to CIBER university members only by an IP based identification method.

Due to the relevant number of participating universities the FTE student parameter for CASPUR EV is over 270,000, even though the number of real users is significantly lower, and over 26,000 academics (professors, research scholars).

At the beginning of March 2003 CASPUR initiated a survey in order to understand users' behaviour and attitude when they use these resources for their teaching, study and research activities.

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2. The Survey: Goals and Methodology

Being the first survey of this kind conducted by CASPUR, it was very important to identify and understand users characteristics. Previous data collected by CASPUR about users and usage of the EV were insufficient. Furthermore, more information was required on patrons familiarity with CASPUR digital library platform, and, in particular, on their real and potential usage of the different available journals.

Goals:

- Obtaining direct feedback on the usability of electronic publications
- Obtaining information on areas to be expanded
- Developing and improving offered services
- Collecting general information on opinions and attitudes regarding the usage of e-journals
- Measuring the need for additional e-journals.

The final goal of the survey is to measure the size of different type of users, identify their specific needs, in order to satisfy their scholarly information demand.

Methodology:

A web questionnaire was posted on the Digital Library Web Portal from March 15 to April 10 2003. Users' responses were stored in a database for a handy post- data collection analysis. During this period 1,305 questionnaires were filled in. After validating users' responses (90% of the total number), the data were examined. The initial results of this analysis are presented in this paper.

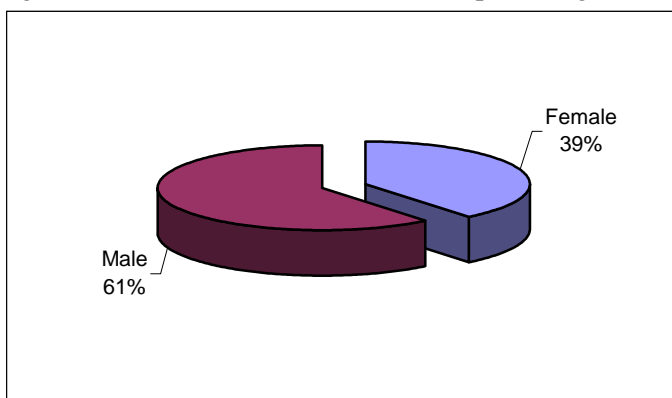
The questionnaire targeted the section of the academic population which has good computer and information retrieval skills, therefore it was expected they were motivated in participating in the survey. Only 155 uncompleted forms out of 1,305 questionnaires were excluded.

During the same period, an on-site survey was carried out in few selected CIBER university libraries, in order to compare the user characteristics of the two samples (on-line users and library users). The second survey includes also individuals who do not use the EV, the data are currently being analysed.

3. EV users: Male Researchers in their thirties

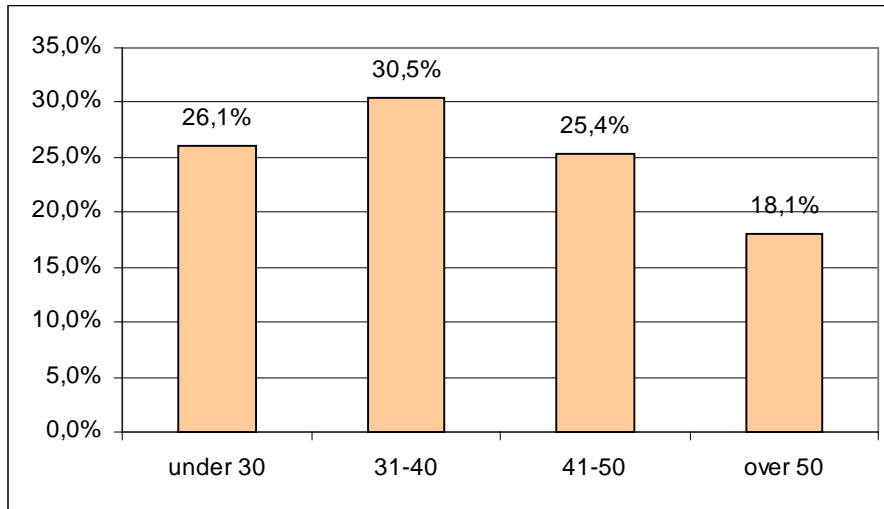
The survey shows that the EV users are mainly males in the 31-40 age group.

Fig.1 - Gender distribution of EV users' percentages



The gender distribution corresponds largely to the structure of the referenced population.. In fact, in the discipline areas interested in the use of the EV, the presence of females is not very large. This is particularly true for professors, although a change is taking place among younger academics.

Fig. 2 - EV users' according to age



The majority of users are researchers; just a few of the respondents were students (tab.1): this distribution does not correspond to the structural reality of universities.

Tab. 1 – Absolute values and percentages: distribution of EV users by profession

	Absolute values	Percentages
Professor	152	13,3
Associate Professor	197	17,2
Researcher	320	27,9
Ph.D.	103	9,0
Ph.D. candidate	184	16,0
Student	72	6,3
Librarian	31	2,7
Technical / Administrative staff	26	2,3
Other	62	5,4
No answer	3	
Total	1,150	100,0

This latter evidence illustrates the fact that Italian students do not have sufficient physical access to networked work-stations in university libraries and, in general, in the university. Many of them do not use e-journals. Many ignore the existence of the EV; the on-site survey conducted in libraries will probably clarify this aspect.

Furthermore, as students use library or laboratory work-stations on a scheduled basis and for a limited time, we have to consider that they would spend all their allowed time on performing their searches rather than filling in a questionnaire.

Considering the disciplines covered by the e-journals accessible through the EV, it appears that the majority of users are interested in scientific disciplines: 25% biology and bio-medicine, 18% engineering; 14% chemistry and pharmacology (tab. 2).

Tab. 2 Absolute values and percentages: distribution of users by disciplinary area of interest

	Absolute values	Percentages
Biology and Biomedical Sciences	283	24,6
Engineering	212	18,4
Chemistry and Pharmacology	158	13,7
Medicine and Veterinary Science	134	11,7
Physics and Maths	130	11,3
Agricultural and Earth Sciences	85	7,4
Economics, Statistics and Social Sciences	77	6,7
Other	56	4,9
No answer	15	1,3
Total	1,150	100,0

Also, in this case, the on-site survey conducted in the selected libraries will probably collect the opinions and needs of users who are interested in social and humanistic disciplines.

4. Respondents' behaviour and opinions of tradition and innovation

Users discover the EV through different channels. Professors and researchers are informed by library staff. Young researchers, Ph.D. candidates, students from friends and colleagues. The University library web-site plays an important role in providing information to every category of user.

Promotion through E-mail is very useful to both researchers and professors but rarely useful to Ph.D. candidates, and to students in general. The reason being that mailing lists do not include students' addresses.

From our example's structure we can conclude that the best channel of EV diffusion is the library staff.

Tab.3 Absolute values and percentages: "How did you find out about the EV service?"

	Absolute values	Percentages
Library staff	398	34,6
University library web site	265	23,0
Friends / Colleagues	254	22,1
Promotion through E-mail	166	14,4
Other	46	4,0
No answer	21	1,8
Total	1,150	100,0

In order to collect reliable opinions the questionnaire was addressed to individuals who had used the EV services for at least a month. It is interesting to point out that 14% of respondents stated that they were accessing the EV for the first time.

It can be stated that the survey itself had a positive influence in promoting the service and that the EV has not yet reached all its potential users.

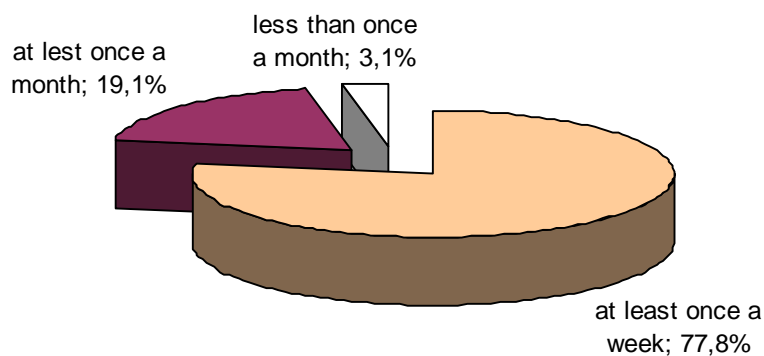
It can be also maintained that additional promotion activities are highly desirable. The data show that promotional activities would have a high success rate considering that 163 new users have been attracted to the service in the time span of one month, without any specific advertising. 38% of all respondents stated that they had been using the EV for a period longer than 2 years and 34% stated that they had known the service for 1-2 years.

Tab.4 – “How long have you used the EV?”

	Absolute values	Percentages
It's the first time	163	14,2
Less than 1 month	43	3,7
1-6 months	100	8,7
6 months – 1 year	124	10,8
1-2 years	336	29,2
More than 2 years	373	32,4
No answer	11	1,0
Total	1,150	100,0

The discrepancies depend on the fact that universities joined the EV at different times. However, our main sample consists of regular users, fairly experts in performing their searches. Almost 78% state that they use the EV at least once a week. It appears that the access to electronic journals, for this particular sample of users, has become a part of their everyday working life.

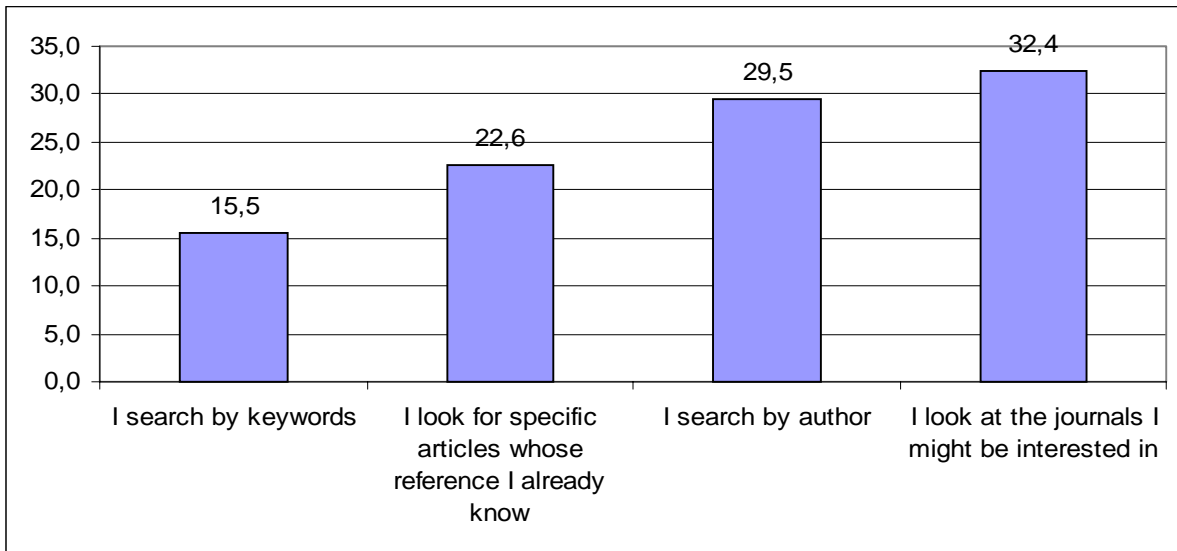
Fig. 3 – How often and how the VL is used: percentages*



Note: The percentages are based on the total number of valid answers.

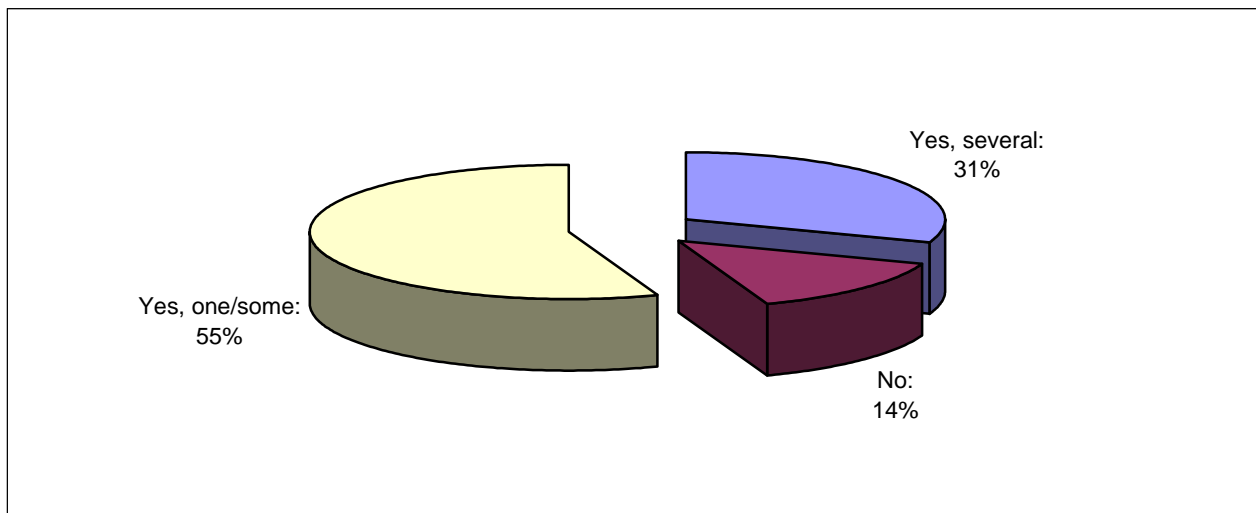
How is the EV used? Generally the service is used in a traditional way, as if it were a library with shelves full of books or journals. 32% of respondents search by journal titles, 30% search by authors names and 23% search referenced articles. Only 16% take advantage of doing keyword searches. These results show that even among regular users most of them do not explore the full potentialities of the information retrieval. Information literacy programs aimed at optimising the usage of the EV should be seriously considered.

Fig 4 – “What kind of research do you generally undertake?”



The EV seems to be a powerful means to become acquainted with new useful journals: 44% of the respondents discovered one or more new journals through the EV and 25% stated that they found several new journals. This might sound incoherent with the previous statement regarding the traditional use of the EV. However, it is felt that the EV offers a much larger range of journals compared to a traditional library and, as an example, author search makes it easier to access new available journals.

Fig 5 – “Have you found out any e-journal you didn’t know about before, useful for your research / study?”*



Note: * the percentages are based on the total number of valid answers.

In general, how much are the EV users familiar with e-journals? The majority usually prefer (42% of respondents always, 28% of respondents often) the electronic version of a journal even when it is available in hard copy in the library. This confirms that respondents consider the use of e-journals a normal and more convenient way to obtain scholarly information.

Tab. 4 – “Do you use the electronic format of a journal even when you can find its hard copy version in the nearest library?”

	Absolute values	Percentages*
Always	459	52,0
Often	303	34,4
Sometimes	99	11,2
Never	20	2,3
Total	881	100,0

Note: * the percentages are based on the total number of valid answers.

Users exploit the possibility of browsing the abstract (63%) before reading the article, but 37% of respondents refers directly to the article. Almost all users use their personal work-station to access the EV. As previously mentioned, often Italian academic libraries cannot provide patrons with sufficient PCs. 39% of users print a copy immediately, but 48% only prints out after reading the text on the monitor (tab. 5): this means that a first step towards a specific usage of electronic resources has been made.

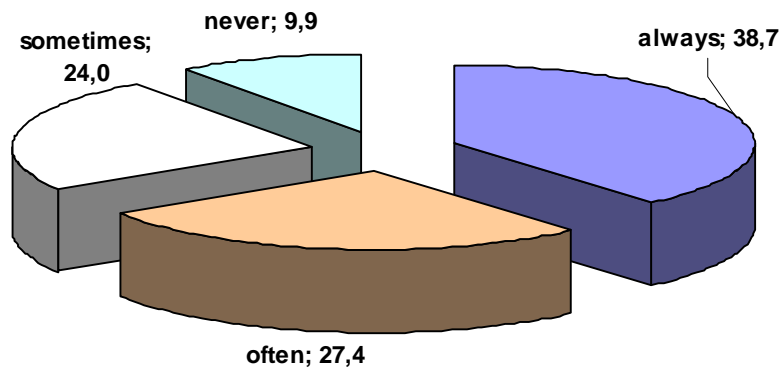
However, the fact that 7,1% of the interviewed stated that they would print the article right away if a printer were available nearby, supports the hypothesis that a limited access to hardware facilities can influence the usage of e-journals.

Tab. 5 – “Do you usually print the articles of your interest?”

	Absolute values	Percentages
Yes, but only after reading them carefully on the monitor and once having decided to cite them	412	47,7
Yes, I print them	336	38,9
Yes, I print them as soon as I have access to a printer	61	7,1
No, I read them on the monitor	47	5,4
No, I look for their printed version in the library	7	0,8
Total	863	100,0

Not everyone saves the articles of interest: 66% of respondents do (36% always, 27% often), but the 24% sometimes save PDF files and 10% never do this. This could be due to the common habit of printing articles and archiving them as traditional photocopies. However, the percentage of users who are not accustomed to saving files is quite relevant.

Fig. 6 – “Do you save the articles of your interest?” Percentages



The majority of respondents also use other resources for searching on-line articles (bibliographic databases with link to full texts, e-prints servers, etc). This is another indication that our main sample normally use electronic resources for their searches.

The table shows that we are clearly dealing with regular users who are not only accustomed to using e-journals, but are even ready to give up hard copy editions: 52% prefer the electronic format and for 27% the two versions are equivalent.

Tab. 6 – “If you have access to a journal that is available both in electronic and in a hard copy format, you prefer to look at...” (Q30)

	Absolute values	Percentages
The hard copy format	226	21,3
The electronic format	548	51,7
They are the same	286	27,0
Total	1060	100,0

Of course, these particular samples do not necessarily represent the user population as a whole, or even scholarly researchers as a whole. However, they are a relevant portion and probably the most reliable.

With reference to a question citing different advantages of e-journals (Q28) respondents indicate the following preferences:

- Quick consultation: 23%;
- Articles downloading: 18%;
- Permanent archiving and storage: 18%

With reference to a question about different disadvantages of e-journals (Q30) respondents indicate as main problems:

- Dependency from Internet connection: 32%,
- Incomplete volume collection: 27%
- Difficulty of reading from a monitor: 19%

Users confirm that they are ready to forgo traditional hard copy journals and 56% stated that they would be happy to access e-journals available through the library digital services.

5. The cluster analysis⁴

As we can see the EV users have different characteristics, behaviour, opinions and needs. In order to offer a brief and comprehensive view of users' different typologies, we have attempted to provide a cluster statistical analysis. Respondents have been grouped in four different clusters. Each cluster contains individuals who share the same characteristics, behaviour and opinions. We also tried to maximise cluster differences based on variables extracted from the questionnaire answers.

In order to get this result we applied a correspondence analysis and then a mixed model of cluster analysis⁵. We extracted 11 active variables (Queries 5, 10, 14, 15, 20, 21 and 22) and 7 illustrative variables (Queries 1, 2, 3, 4, 7, 8, 9 and 10: age, sex, profession, area of research /study, etc.) from the questionnaire. At the end of this process we identified four groups of users distributed in an ideal space between *tradition* and *innovation*. We adopted a two dimensional space to map these groups. The first is what we call **tradition versus innovation with reference to users' opinions about electronic resources (factor 1)**. This axis is largely defined by variables such as “*If you have access to a journal that is available both in electronic and in a hard copy format, which do you prefer to consult?*”; “*Would you agree if in your library you couldn't find any more the hard copy version of journals, which are accessible through the EV?*”.

The second (**factor 2**) is: **tradition versus innovation with reference to the way people use the EV**. The variables that define it are based on the following questions: “*Do you usually print the articles of your interest?*”; “*Do you save the articles of your interest?*”; “*What kind of search do you generally do?*” (*referenced articles, author, key-word etc*)”.

As shown in figure 1, the group called “*towards innovation with some resistance*” is opposed to the others due to the traditional way it uses the service.

If we consider users' general opinion about electronic resources, we find another group that we call “*traditionalists*” and is placed at the opposite side from the others along the *tradition versus innovation* vertical axis. The tables below describe more precisely different characterisations of these groups.

⁴ S. BOLASCO, *Analisi multidimensionale dei dati. Metodi, strategie e criteri d'interpretazione*, Roma, Carocci, 1999; S. ZANI, *Analisi dei dati statistici*, Milano, Giuffrè, 1994.

⁵ We adopted as a statistical analysis software the SPAD™ application.

The first cluster, composed by 208 individuals, is a group positioned “*between tradition and innovation*”. Many of them quite agree with the idea that libraries don’t need to keep the hard copy of journals anymore when the same periodicals can be found in a digital library. Moreover many of them consider equivalent the hard copy version and the electronic format of journals. They often read the e-journal even when it is available in a hard copy version in the library. We can argue that they haven’t yet abandoned the “*traditional approach*” to journals completely, but they started to make some steps towards a more innovative behaviour. In particular, as we can see from table 7, they show an untraditional behaviour in using the EV resources. Almost the majority perform authors (83%) and key word searches (98%). 70% of respondents save the articles previously found (sometimes 36%, often 34%).

Tab. 7 - Cluster 1 Between tradition and innovation (number: 208)

VARIABLES	MODALITIES	% on the total of sample	% on the total of the cluster	Number
Author search	Yes	59.11	82.69	291
Keyword search	Yes	37.59	97.60	540
Do you use the electronic format of a journal even when you can find its hard copy version in the nearest library?	Often	42.16	58.17	287
Journals search	Yes	33.95	70.67	433
Would you agree if you couldn’t find any more the hard copy version of journals accessible through the EV?	Quite agree	36.27	51.44	295
Referenced articles search	Yes	28.90	84.62	609
Do you save the articles of your interest?	Sometimes	37.13	36.06	202
If you have access to a journal which is available both in electronic and in a hard copy format, you prefer to look at the...	They are the same	34.42	35.58	215
Are you satisfied with the site response time and article downloading speed?	Little	35.54	20.67	121
Do you save the articles of your interest?	Yes, often	31.98	34.13	222
How did you find out about the EV?	Through the web site	32.12	29.81	193
Would you agree if you couldn’t find any more the hard copy version of journals which are accessible through the EV?	Little agree	30.71	35.58	241

Only a few, yet important, characteristics distinguish this first cluster from the second one “*towards innovation with some resistance*”. This group is very similar to the first one in its general attitude towards innovation. Maybe it only made some more steps in this direction (see figure 7 and look at vertical axis value). With reference to the results of the first cluster, the respondents of the second cluster are a little more in favour of electronic resources. More than 45% of the individuals would agree if libraries didn’t keep printed journals which are accessible through the EV, the majority of them always use e-journals even when a hard copy version is available (64% of the sample).

Tab. 8 – Cluster 2 -Towards innovation with some resistance (number: 208)

VARIABLES	MODALITIES	% on the total of sample	% on the total of the cluster	Number
Keyword search	No	58.02	81.73	293
Author search	No	35.61	92.79	542
Do you save the articles of your interest?	Never	68.67	27.40	83
Do you print the articles of your interest?	Yes, immediately	40.92	63.94	325
How did you find out about EV?	Through librarians	39.07	56.73	302
Referenced articles	Yes	30.21	88.46	609
Area of research / study	Biology and biomedical sciences	37.99	41.83	229
If in your library you couldn't find any more the hard copy version of the journals that are accessible through the EV, you would...	Agree somewhat	31.86	45.19	295
Do you use the electronic format of a journal even when you can find its hard copy in the nearest library?	Always	29.47	61.06	431
Do you save the articles of your interest?	Sometimes	33.17	32.21	202
If you have access to a journal which is available both in electronic and in a hard copy format, you prefer to look at the...	Electronic format	28.24	63.94	471
Search of journals of your interest	No	28.75	55.29	400

What makes the difference in these two groups is the way they use the Virtual Library Service. The second cluster shows a more traditional behaviour: its individuals are moving towards innovation but with some resistance. They don't perform authors or keyword searches, but prefer instead to read articles whose references they already know. Some of them (27%) never save the articles of their interest and the 32 % of them only sometimes does it.

The innovators are grouped in the third cluster (*innovation without hesitation*). A large majority of them (60%) would accept not to find hard copy version of journals in their libraries anymore if these periodicals were accessible through the EV. They always use e-journals even when their hard copy version is available in the nearest library. They prefer e-journals with no hesitation.

Tab. 9 – Cluster 3 – Innovation without hesitation (number: 232)

VARIABLES	MODALITIES	% on the total of sample	% on the total of the cluster	Number
If in your library you couldn't find any more the hard copy version of the journals which are accessible through the EV, you would...	Completely agree	77.22	59.91	180
Do you use the electronic version of an article even if its hard copy version is available in the nearest library?	Always	47.33	87.93	431
If you have access to a journal which is available both in electronic and in a hard copy format, you prefer to look at the...	Electronic format	42.89	87.07	471
Do you save the articles of interest?	Always	42.33	59.48	326
Referenced articles	No	43.75	42.24	224
Do you print the articles of your interest?	No, I read them from the monitor	66.67	12.93	45
Keyword search	Yes	33.33	77.59	540
Do you print the articles of your interest?	Yes, but only after reading them carefully from the monitor and having decide to cite them	34.59	59.48	399
You usually reach the site through ...	EV home page	30.36	83.62	639
How did you find out the EV?	Friends/ Colleagues	36.56	29.31	186
Are you satisfied about the site response time and articles downloading speed?	Very much	37.88	21.55	132
Area of research / study	Engineering	36.60	24.14	153
Author search	No	30.63	71.55	542

Furthermore the way they use the EV is very innovative: a good number of them save the articles found; they usually perform key word search; some of them don't print the articles but read them directly from the monitor, and the majority use the printer only after reading the PDF files on the monitor.

In the fourth cluster we gathered 185 individuals (22% of the total number of respondents). They represent the *traditionalists*. The majority of this group prefer the hard copy version of a journal and they little agree or do not agree at all with a scenario depicting libraries with no journals on their shelves. Rarely they use the electronic version of an article when the hard copy format is available. Surprisingly most of them are students (36% are under 30 years) in their MA or Ph.D. degree programs. A stronger attitude towards innovation and more information literacy skills were surely expected among the young population. In order to explain this behaviour, we have to consider that, in Italian universities, a traditional teaching method, based on lectures and studying notes, is still predominant, therefore students are not required to use libraries print and electronic resources until they reach their graduation year. Of course, the structure of the Italian higher education system clearly influences students' use of information sources in academic libraries, furthermore related indicators such as loans per student, requests for inter-library loans, database searching, etc. when compared to UK or USA data, show also a poor rate.

Another factor, that may explain students' poor information problem solving skills, is that professional and scholarly literature available in databases and e-journals is usually in English language; this still remains a limit, even though English knowledge amongst university students is

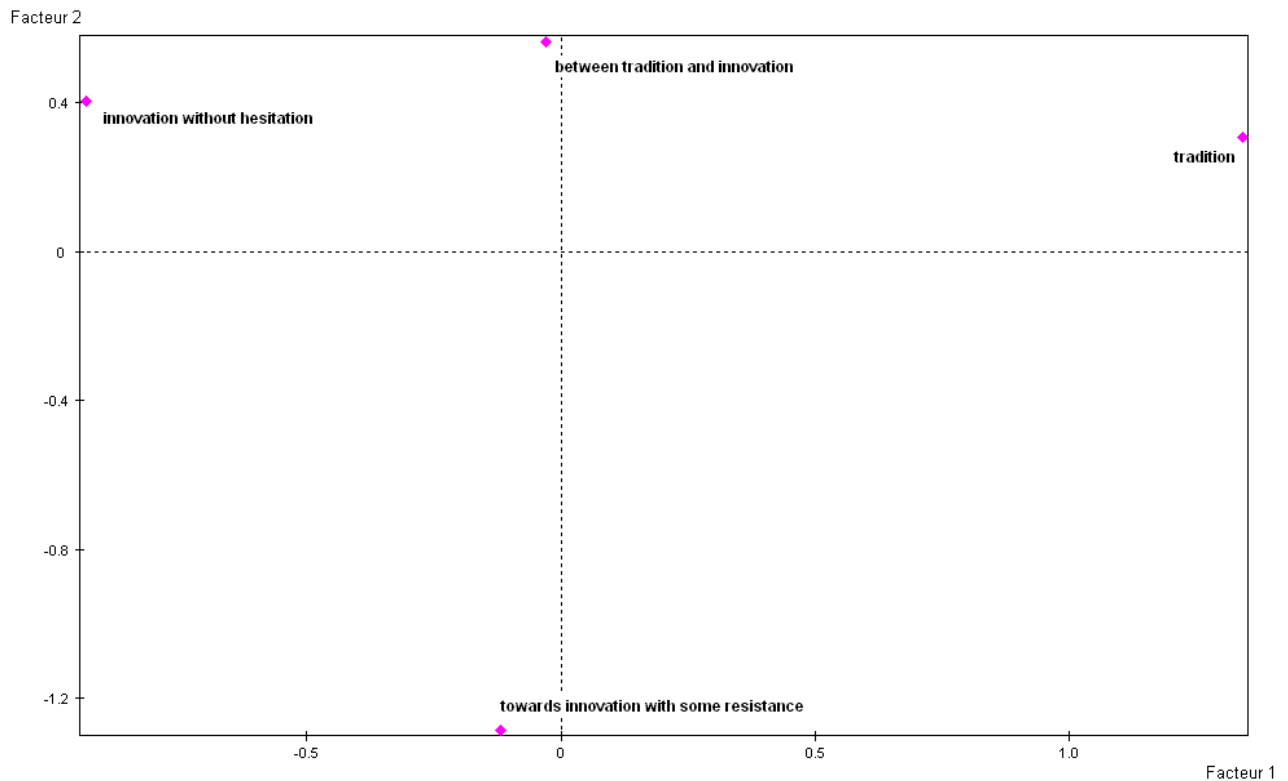
improving. Furthermore, in general, Italian university students don't have easy access to a personal computer in academic libraries or in the university itself. Even if personal computers are available, students are faced with public services problems (limited library opening hours, scarce availability of printers, no permission to download and save the articles on one's own diskette, no remote access to licensed resources outside the campus network, etc.). For instance many users in this cluster stated that they print the articles as soon as a printer is available; this means that in general there is not a printer connected to the work station from which they generally browse the EV.

As a general trend observed in this analysis, users mostly access the EV from their own offices. The "public" use of library resources is not so well spread. Therefore the distinctive behaviour of the last cluster could be mostly related to scarce hardware resources available rather than to a real attachment to a traditional way of browsing journals and searching articles. This hypothesis is reinforced by a close look at the other clusters whose behaviours result to be more innovative.

Tab. 10 - Cluster 4 -TRADITION (number: 185)

VARIABLES	MODALITIES	% on the total of sample	% on the total of the cluster	Number
If you have access to a journal which is available both in electronic and in a hard copy format, you prefer to look at the...	Electronic format	42.89	87.07	471
Do you use the electronic format of a journal even when you can find its hard copy version in the nearest library?	Sometimes	84.69	44.86	98
If in your library you couldn't find any more the hard copy version of the journals that are accessible through the EV, you would...	Not agree at all	67.52	42.70	117
Do you print the articles of your interest?	Yes, I print them as soon as I have access to a printer	57.89	17.84	57
Author search	No	27.12	79.46	542
Age	Under 30 years	34.90	36.22	192
Profession	Student	54.84	9.19	31
Referenced articles	No	31.25	37.84	224
Do you save the articles of your interest?	Yes, always	28.83	50.81	326
How did you find out the EV?	Friends / Colleagues	32.26	32.43	186
Profession	Ph.D candidate	34.33	24.86	134
How long have you used the EV?	6 months – 1 year	35.45	21.08	110
If in your library you couldn't find any more the hard copy version of the journals accessible through the EV, you would ...	Agree somewhat	29.88	38.92	241
How long have you used the EV?	1-6 months	35.71	16.22	84
You usually reach the EV web site...	Through university web pages	31.37	25.95	153
You visit the EV web site...	Periodically, at least once a week	29.87	24.86	154

Fig. 7 – Users’ behaviours mapping



Conclusions

The survey shows a general acceptance of electronic journals, an increasing usage of electronic journals especially in the STM area and a growing preference for the electronic format in comparison to the print format.

Some disciplines are not fully covered therefore it will be necessary in the near future to include more social sciences and humanities electronic journals in order to meet the information needs of their communities.

Furthermore the study confirms a strong need for promotional activities to reach out those portions of the academic communities which are still unaware of this new digital service, and at the same time it demonstrates users need for better information literacy skills.

The sophisticated cluster analysis allowed a closer study of four groups of users, their behaviours and attitudes. The study confirms that good information literacy programs, better library public services, more workstations available to the general public would increase the use of the service and move the “paper oriented” users towards electronic journals. The analysis shows that users having access to e-journals from their personal desktops are quite willing to give up the printed version, and start to change their modes of searching, reading, studying, students who are less privileged in their access to electronic resources are more conservative in this respect.

A more critical mass, the inclusion of journals from less represented disciplines, as well as better integrated access to different electronic resources (bibliographic and full texts, OPACs, e-print

archives), a larger availability of journals back-files and more public workstations would increase the usage of the e-journals and change users' behaviours and attitudes in Italian universities. This research is only a beginning, further studies will be regularly conducted by CASPUR based on regular questionnaires, surveys, focus groups and on web log analysis in order to have a more complete picture of users real behaviours.

QUESTIONNAIRE FOR THE EV (VIRTUAL LIBRARY SERVICE) EVALUATION

- 1) **Age**
..... (Years)

- 2) **Sex**
 - Male
 - Female

- 3) **Profession**
 - Professor
 - Associated Professor
 - Researcher
 - PhD
 - PhD candidate
 - Student
 - Librarian
 - Technical Administrative Staff
 - Other (Specify)

- 4) **Area of Research / Study**
 - Architecture
 - Engineering
 - Medicine and Veterinary Science
 - Agricultural and Earth Sciences
 - Biology and Biomedical Sciences
 - Chemistry
 - Pharmacology
 - Physics and Maths
 - Social Science
 - Humanities
 - Other (Specify)

- 5) **How did you find out the EV? Through...**
 - Friends / Colleagues
 - Library Staff of my Dept. / Faculty
 - CASPUR Staff presentation
 - Promotion through E-mail
 - University library web site
 - Other (Specify)

- 6) **Is this the first time you're using the EV?**
 - Yes (Go to Q 24)
 - No

- 7) **How long have you used the EV Service?**
 - Less than a month (Go to Q 24)
 - 1-6 months
 - 6 months – 1 year
 - 1-2 years
 - More than 2 years

- 8) **You visit the web site...**
 - Periodically, at least once a week
 - Periodically, at least once a month
 - Less than once a month

- 9) **You usually reach the site...**
 - Through the EV home page
 - Through your university web pages linked to individual titles

- Using your bookmarks linked to the journals of your interest

10) What kind of search do you generally do? (You can tick more than an answer)

- look for specific articles whose reference I already know (referenced articles)
- search by author
- search by keyword
- look at the journals I might be interested in

11) Have you found out any e-journal you didn't know before, useful for your research / study?

- No
- Yes, one / some
- Yes, several

12) Can you list up to three titles you most often consult in the EV?

.....
.....
.....

13) Can you list up to three titles you most often consult in the traditional hard copy version?

.....
.....
.....

14) Do you use the electronic format of a journal even when you can find its hard copy in the nearest library?

- Yes, always
- Yes, often
- Yes, sometimes
- No, never

15) If in your library you couldn't find any more the hard copy version of the journals, which are accessible through the EV, you would...

- not agree at all
- disagree somewhat
- agree somewhat
- completely agree

16) List the titles of the journals not yet available on line that you would like to find in the EV (three titles max)

- No journal
- 1st title
- 2nd title
- 3rd title

17) When you use the EV, you...

- usually look at the abstract and then eventually the article
- go directly to the article
- look at the abstract

18) Do you use the customised search service (i.e., article alert service)?

- Yes, always
- Yes, often
- Yes, sometimes
- No, never (Go to Q 19)
- I don't know what it is (Go to Q 19)

18_1) Since you have registered, have you got any e-mail message listing recent articles resulted from your saved search?

- No, never
- Yes, several

- Yes, one /some

18_2) Did you find the alert articles interesting?

- Not at all
- Little
- Enough
- Very much

19) From which work station do you usually log in the EV?

- From a PC in the room I work
- From a public access PC in the library
- From a public access PC in the lab
- Other (Specify)

20) Do you usually print the articles of your interest?

- No, I read them on the monitor
- No, I look for their hard copy version in the library
- Yes, I print them immediately
- Yes, I print them as soon as I have access to a printer (if a printer isn't available in the same place)
- Yes, but only after reading them carefully on the monitor and once having decided to cite it

21) Do you save the articles of your interest?

- Yes, always
- Yes, often
- Yes, sometimes
- No, never

22) Are you satisfied about the site response time and articles downloading speed?

- Not at all
- Little
- Enough
- Very much

23) Have you noticed that since November the EV has new web pages?

- Yes
- No (Go to Q 24)

23_1) After its change, do you find the following elements have degraded, unchanged o improved?

	<u>Degraded</u>	<u>Unchanged</u>	<u>Improved</u>
Usability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Colours / Graphics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24) Do you use any OPAC for your bibliographic search?

- Yes, often
- Yes, sometimes
- No, never
- I don't know what it is

25) Do you use any other service to search full-text articles on line?

- Yes, often
- Yes, sometimes
- No, never

26) Have you subscribed to a pay-per-view service to consult journals or periodicals?

- Yes, on my own
- Not personally, but the institution where I work / study did
- No

27) Do you use “Citation Indexes” in the WoS (Web of Science) version?

- No, I don't
- No, I don't know what they are
- No, the institution I'm working for is unauthorised
- Yes, those hosted by CASPUR
- Yes, yet not those hosted by CASPUR

28) In your opinion, what are the advantages of using e-journals? (Tick maximum three answers)

- Seven days per week availability
- Quick consultation
- Articles downloading on one's own PC
- Permanent archiving and storage of articles of your interest
- Resources availability
- Updating
- No advantage
- Other (Specify)

29) In your opinion, what are the disadvantages of using e-journals? (Tick maximum three answers)

- Poor graphics quality
- Dependency from Internet connection
- Difficulty to read from the monitor
- Incomplete volume collection
- No disadvantage
- Other (Specify)

30) 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...

- printed format
- electronic format
- They are the same

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Curricula

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Since his graduation in Computer Science at the University of Rome “La Sapienza” in 1998, he has been working for CASPUR, in the library automation sector, developing and maintaining a local OPAC, developing relational databases. His field of expertise is relational database analysis and development. He’s been doing research on web usability for the last two years..

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