# Snapshot on the practices of CERN users

their usage and perception of the CERN Library periodicals collection

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# Introduction

In the end of 2006, we started at CERN Library a study about the usage of the Library periodical collection, motivated by the will to have a clear view of the usage of the collection, and particularly the paper collection. Actually, if the development of online scientific journals started already 10 years ago and it presently arrives to a key moment. Indeed, all major publishers offer now stable versions of online journals and scientific Libraries, such as CERN Library, have already started to move towards e-only for most of their journals. Besides, the continuing increase of periodical's prices faces to the continuing decrease of Library budget. In this context, CERN Library has to re-think every year the periodical collection in order to face the crisis and to keep providing its users the information they need.

In order to present the institution to which the Library belongs, we can firstly remind that CERN is the acronym for European Organization of Nuclear Research and that its mission is fundamental research in High Energy Physics. CERN is also at a particular moment of its existence since it is currently finishing the construction of the new accelerator LHC (Large Hadrons Collider), which should be launched in 2008. CERN employs currently some 2600 persons (among them 80 research physicists and 100 applied scientists and engineers) but a large part of CERN users come from institutions all over the world; they come periodically at CERN to work on CERN experiments. These some 6500 scientists represent half of the world's particle physicists, 500 universities and over 80 nationalities.

In the CERN context, the Library has the mission to acquire and manage the information resources needed by the CERN users as well as to collect and disseminate the scientific information produced at CERN or by CERN users. Since 2004, this mission is reinforced with the Open Access movement. Indeed, CERN took the lead of the transition of the scientific information publishing model towards Open Access in High Energy Physics. This is now a real part of the CERN Library's activity and it is also part of this study's background.

The study was an opportunity to understand better the current needs of our readers in order to adapt our collection and services to them. This report describes the most important results of this study. We will start by presenting the method we used and the target population of the study. Then we will show the main results of the study: the usage of the collection, the usage of the services provided by the Library, the users perceptions of Library's issues, and finally the user's appreciation of the Library service.

## 1- Method and target population

The aim of this study was to gather data about the usage of both our online and paper periodical collections. Regarding the online collection, the usage statistics are provided by majority of the publishers. Even if there is now an initiative, COUNTER Project, which determines some standards about the calculation of these usage statistics, we know that these reports do not give us a completely trustful view of the usage. On the other hand, we have no such data on the usage of the paper collection, so we had to find a way to measure it. As a guideline, norm ISO 2789 suggests to either count the number of loans or the number of volumes in-house-used. Since our periodicals are not on loan, we chose to observe our readers for one week (5 working days), during working hours (From 8 am to 5 pm). However, we met two problems: on one hand our patrons disliked the presence of a librarian trying to find out which title(s) they were consulting. On the other hand, we lacked the human resources to ensure to an 8-hour a day presence for more than one week.

Therefore a questionnaire was the best way to reach a large panel of users, interrogating them on their habits in using journals. It was built around six problematics: journal collection usage, seeking and reading articles, collection appreciations, services' appreciations, Open Access publishing. And as usual, socio-demographic data were also collected. The questionnaire has been online for one month (from 19.02.07 till 19.03.07) and the information has been spread through different mailing-lists of high energy physicists. We also made some publicity on the CERN campus using posters, flyers, paper forms, etc... We collected 265 responses coming from 30 countries underlining the diversity of CERN users. Most of the responses were commented and we believe that we reached a population that had a sensible opinion on our collection and had also something to say. The questionnaire is at the heart of our study and shows a large panorama of the practices of our users. Together with the associated comments and our observation, it gives us a realistic snapshot on the usage of our periodical collection.

# 2- Patrons' profile

Four criteria appear relevant in order to define the socio-demographic profile of our respondents: their present domain of activity, their status as CERN employee or not, the amount of time they spend at CERN each year and the stage of their career.

People working at CERN often have a multi-faceted career path and are competent in different fields. This was obvious from the responses we received concerning their activity at CERN. Indeed, as the question allowed multiple answers, people selected multiple combinations within the proposed categories. In order to analyze the data, we decided to attribute a single category to each respondent. In order to determine the activity for which the user needs information, we decided to select the most specific activity (e.g., for an answer combining Accelerators Physics and Experimental Physics, we kept Accelerators Physics) and assumed that someone with an education in physics would always declare to be physicist even if hired to do computing (e.g., for an answer combining Experimental Physics and Computing, we kept Computing). On the other side, we assumed that the contrary was less probable, i.e. a computer scientist would't claim to be a physicist, even if he's working closed to physicists.

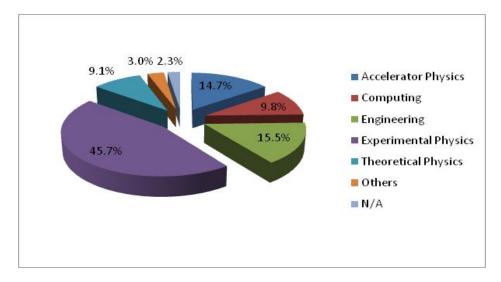


Figure 1 - This figure represents the distribution of the different activities of CERN users who answered to the questionnaire. The result reflects the importance of Experimental Physicists, who meet around big equipments of the research, like at CERN.

Regarding the employer of our users, we can pick-out a good balance between respondents who are CERN employees (46%) and external collaborators (52.8%). Obviously, a huge majority (97%) of the CERN employees spend between 10 and 12 months at CERN. For external collaborators we observed a greater variety, as illustrated below.

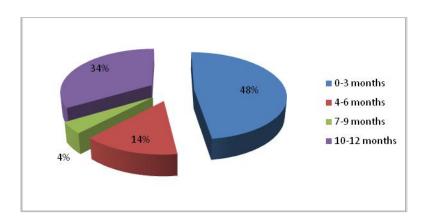
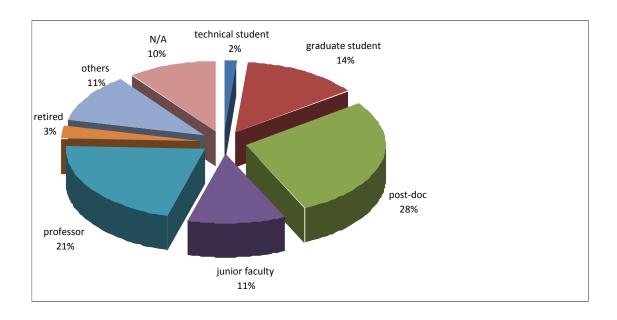


Figure 2 - Even if the figure shows a high percentage of non-CERN employees who spend more than 10 months at CERN, we have a good sample of the variety of time spent by people at CERN, depending on the collaboration in which they take part.

Moreover, our respondents are coming from 30 different countries. Among them, 67% come from Europe, 10% from America and 10% of them are from Asia. If we consider that we have received 265 responses, these statistics confirm that the respondents are representative of the CERN users.

Finally we wanted to consider at which stage our respondents were in their career. As pole of research, CERN welcome people at different step of their career and also many students whose work is related to the CERN experiments. As per the answers we received, we understood that 1/5 of the respondents could not identify themselves to one of the proposed categories. Typically CERN employees have mixed their status at CERN and their academic status, this explains why we have 11% in the category for "others" in the figure below.



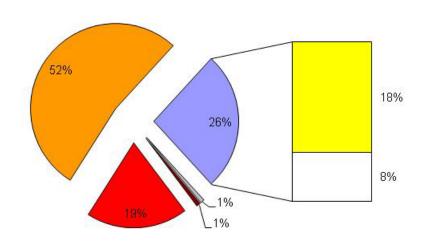
# Figure 3 - This figure shows the importance of education and training among the CERN users, as they all together represent 44%.

From our point of view, these four criteria (activity, employer, time spent at CERN and career) make our respondents a representative sample of users. Diversity is the master word to describe the profile of our patrons.

# 3- Usage's status of the collection

#### 3.1- Difference of usage of preprints and articles

While in most of scientific communication journals play the central role, in the context of high energy physics, preprints also have a particular importance. In order to quantify this, we asked our users at which frequency they read each of both categories. Taken as a whole, articles are more widely read than preprints, but we can also presume that people who only read preprints would not take time to answer our questionnaire, because they wouldn't feel concerned by the topic. However, an interesting point is that the high majority of people read articles and preprints at the same frequency.



- 52% read preprints and articles at the same frequency
- 19% read preprints more often
- 26% read articles more often
  - o but 8% of them never read preprints
  - 18% read preprints but articles more often
- 1 % read neither articles, nor preprints
- 1 % do not answer the question

Figure 4 - This figure aims to compare the frequency of the usage of preprints and articles. The two main observations are that half of the respondents read preprints and articles at the same frequency and secondly that they are more people who read articles and no preprints, than the contrary.

If we look more into details, we observe that only 5 people never read articles while 26 never read preprints. More generally, those who primarily read preprints tend to also read articles nearly as much, while those who primarily read articles can have very different preprint reading habits.

This may be explained by the fact that some categories of library users are not directly concerned by the preprints literature, which concerns mainly high energy physics. For instance, among the 26 people who never read preprints, about half of them (i.e. 12/26) are engineers or computer scientists, two categories whose core interests are not addressed by the preprints literature.

We can also say that regarding the free comments we received concerning this question, some people did not understand it and asked why we made a difference between preprints and articles, as, for them, it is the same document at different stages. So they access one or another according to their need, and the progress of their work. One other interesting point is that some respondents told us that they would use articles only for years that are not available in arXiv (before 1991). Therefore the choice between preprints or articles is firstly linked to needs.

#### 3.2- Preferred medium

This survey was also a good opportunity to take stock about the usage of electronic *versus* paper versions. During our week of observation, we had the opportunity to observe 106 printed versions consultations for 70 comings and goings. It appears that readers mostly come to read magazines, more precisely the latest issues of magazines, with titles such as "New Scientist", "Science", "Physics today", "Physics world" and "Astronomy" amongst the most widely read.

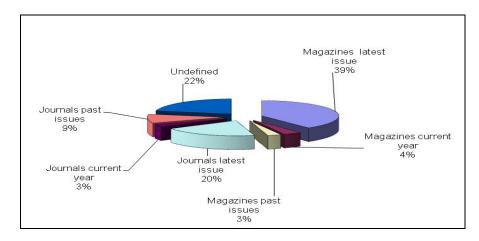


Figure 5 – This figure is a synthesis of the observations we made at the periodical section of the Library. We stayed there for one week, eight hours a day and it was a confirmation that the majority of the readers come to read magazines.

This can be explained through different ways: firstly, online access is not available for some of these magazines; then, this literature may not necessarily be considered as work properly (but current awareness), which would explain that the most frequented hours are around noon and after working hours.

A high majority of users (73.2%) claim to prefer electronic to paper versions. But both categories are very inclined to look for the other medium if the preferred medium is not available (88% for electronic readers and 93% for the paper readers).

The electronic format seems particularly well suited to a frequent usage, as 32.1% of users declare to read those daily, and 38.1% weekly. Paper versions seem to be mostly used in case someone cannot find the wanted article in an electronic form. 39.2% of users only read paper journals several times per year and 21.1% read them monthly.

Finally, the study shows that we have some serious readers: 5% of respondents declare that they daily read both paper and electronic journals.

Is it possible to qualify our paper readers, i.e. is it possible to find characteristics that they would all share? Nothing seems really striking, at least not their age and even less the activity they practice at CERN.

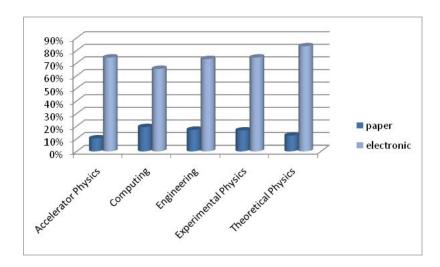
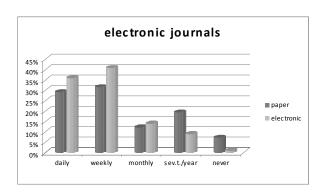


Figure 6 - This figure shows that the activity of the users is not a criterion that determines the preferred medium.

By crossing the paper preference parameter with the users' reading practices, it arises that if paper partisans read paper journals more frequently; they barely read electronic journals less often.



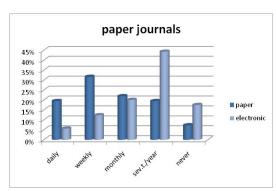


Figure 7 – These two charts show the difference of usage of paper or electronic journal depending on a preferred medium basis.

We can assert that usage does not reflect the preference of medium of our users. Preferring to read a journal in paper version does not either have an influence on the proportion of preprints versus articles reading. The only practice which seems to be directly influenced by the preferred medium is the print-outs of electronic versions. Indeed, our paper partisans print more frequently.

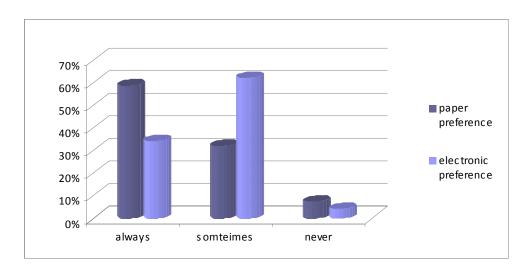


Figure 8 - This figure illustrates the high percentage of users, whose preferred medium is paper and who print out electronic version of an article.

Determine the actual usage of paper collections was one of the core questions of this study, because we had no real data but some vague constatations. We can see that the data confirm our expectations, people prefer by far the electronic format. However, the unexpected part of the results is that there no real common characteristics to the paper partisans — as one would have expected that age or career stage would be one of these characteristics.

Finally, once again, need is much more important than habit, and people read electronic or paper according to the content they need.

#### 3.3- Collection's content

Concerning the usage of our collection of periodical, we asked our readers to designate the titles they use most frequently, in the decreasing importance order, so that we could weight the results. We chose not to propose any closed list in order to let users free to add titles we might not have. We let ten lines for free text and we noted a maximum of 18 different titles for one reader (and this shows the real concern of our respondents). We attributed a weight conversely proportional to the order of citation: e.g. for every first cited title in the list, we attributed a weight of "18", the second "17"...

This question met a success with 62.3% of the respondents and 162 titles were cited. It is very interesting to see that 38% of the given titles have been cited more than one time and their weight represents 86% of the total weight.

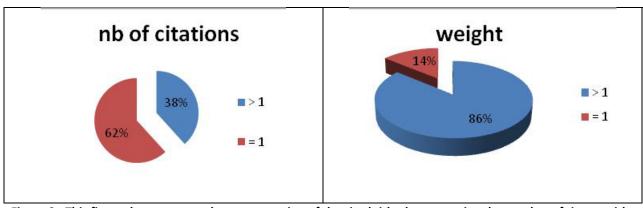


Figure 9 - This figure demonstrates the concentration of the cited titles by comparing the number of times a title has been cited and its total weight.

We noticed that among the cited titles, some were cited with some imprecision. It concerns mainly some most important titles that contain several parts; the problem is that in some cases these titles were cited without any part indication. As an example, we can mention Nuclear instruments and methods, Nuclear physics or Physics letters. For each case, we perfectly know that one part is more important than others for CERN users: Nuclear instruments and methods A (NIM A) is by far more read than Nuclear instruments and methods B (NIM B), Physics letters B is by far more read than Physics letters A. Therefore the weight has been attributed proportionally to the statistics of online usage provided by the publishers. For example, when Nuclear Instruments and methods was cited without any part mention, in accordance with the statistics, we attributed 90% of the weight to A, and 10% to B. We assumed indeed that on 10 people who cited NIM, 9 meant NIM A and 1 NIM B. Hence, we could split the imprecise titles and draw a picture as near as possible of the reality. This also means that the total number of cited titles is reduced to 153 different titles.

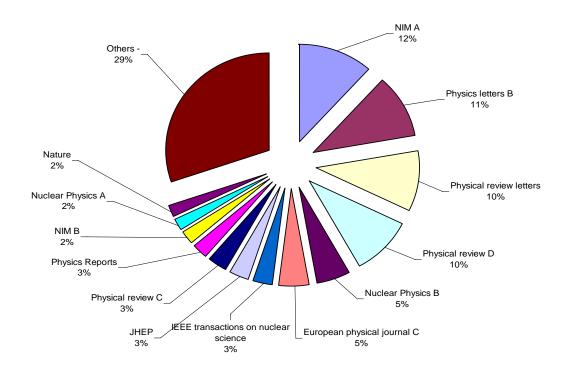


Figure 10 – As a complement to figure 9, this chart shows the percentage of weight per cited title. 71% of the weight is distributed in 13 titles and then 140 titles share the other 29%.

At CERN Library, we access the journals via two ways: we have some individually subscribed journals, and some that we can access because they are part of global licences, or "big deals", negotiated directly with the publishers or with the Swiss Library consortium. In 2007, we have 222 individually subscribed titles, among which 83 were cited by the readers. The other 70 cited titles are part of global licences (we have currently about 1000 journals accessible through these licences). It shows that our readers use a large part of our subscribed collection and that the titles from global licences seem to be less used. It can be explained by the fact that the big deals give us access to a huge number of titles, less important for CERN's users. We can also note that on the 153 cited titles, only 6 are not available from the CERN Library. Even if, it does not prove that our users don't feel that there are some lack in the collection (we will go into this later). This list shows anyway that our collection fits quite well the users' needs and that the sponsorship of Nuclear physics B (NPB), Physics letters B (PLB), Journal of high energy physics (JHEP), European physical journal C (EPJC), Physical review letters (PRL) and Nuclear instruments and methods in physics research (NIM A) through the SCOAP3 model should be welcome.

We also study the titles from 4 points of view: the importance of the titles among the collection, the type of publication, the subject covered and also the relationship between titles and the readers' activity.

In our collection, we consider some titles as "core"; these titles are the most important journals for CERN Community since they are the most relevant for Particle physics (they are also the most used).

These titles are all cited by our readers and their weight represents 65% of the total weight, confirming usage the statistics received from the publishers.

Secondly, we attributed a type of publication to each of the given titles in order to compare their usage.

Type of publications	Number of titles	<u>Weight</u>	% Weight
	Total : 153	Total: 11846	100%
JL: peer-rewieved journals (spec. subj.)	106	8964	76%
LT: letters, communications	9	1350	11%
RV: reviews, annuals	12	595	5%
AC: actuality, general science	8	549	5%
MP: magazines (professional magazines)	8	199	2%
PP: preprints and grey literature	7	147	1%
OT: others	3	42	0%

Figure 11 – This table shows the distribution of type of publication for the cited titles.

It shows a high usage of the letters, a very popular type of publication among our users. Their success is due to the fact that they allow scientists to be up to date in their field, these journals having a short delay of publication.

Thirdly, we analyzed also the subject categories of the cited titles. We took as reference the subject categories defined in our Library catalogue. The following table shows the repartition of these catagories among the cited titles.

<u>Subjects</u>	Number of titles	<u>Weight</u>	% Weight
	Total : 153	Total: 11846	100%
Nuclear and Particle Physics	23	4928	42%
Detectors and Experimental Techniques	6	2079	18%
General Theoretical Physics	16	1978	17%
Engineering	38	740	6%
Science in General	9	564	5%
Other Fields of Physics	21	448	4%
Physics in General	11	371	3%
Accelerators and Storage Rings	6	244	2%
Astrophysics, Astronomy, Cosmology and Relativity	6	158	1%
Mathematics	7	142	1%
Health Physics and Radiation Effects	4	106	1%
Computing	5	83	1%

Figure 12 - This table illustrates the difference between the variety (number of titles) and the importance (weight) given by the users, for each defined category.

This table is a first approach to the subjects and the four first categories are not surprising because they belong to our core subjects. We can also think that if subjects such as Astrophysics, Astronomy, Relativity, etc. have a light weight, it is due to the large usage of preprints in these fields. But these data have to be improved by establishing the ratio of subscribed cited titles among the subscribed titles. This percentage can be seen in the chart below.

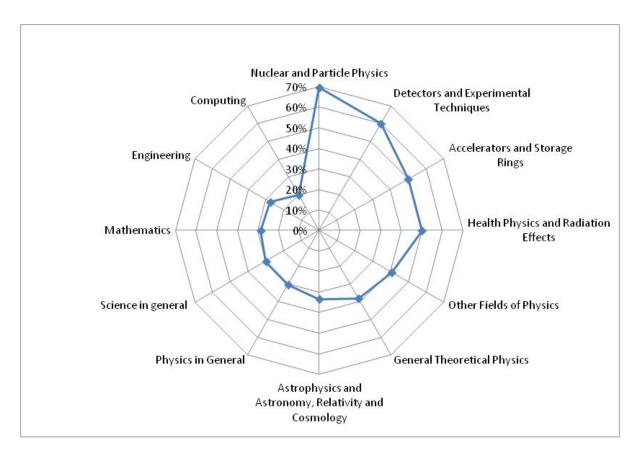


Figure 13 – The graph shows the percentage of subscribed titles that have been cited by the respondents.

We can pick out from this graph some interesting points, but shall also not forget that our respondents represent a sample of the CERN users. Nevertheless, we can observe that 70% of the subscribed titles in Nuclear and Particle Physics and 60% of Detectors and Experimental Techniques have been cited, showing a good correspondence between the subscriptions and the needs of our users. We should also emphasize that even if we have a few subscribed titles in the Heath Physics and Radiation Effects' category (6 titles), 50% of them have been cited, showing that this category is essential in the context of CERN. Even if we don't provide many titles, these are indispensable for the concerned users.

Finally, these given titles provide a good picture of the diversity of our users needs, depending on their field of activity. For almost all categories, the titles that have been cited more than once represent more than 50%, except for the engineers. Indeed, for the latter category we can observe the opposite phenomenon: 58% of the cited titles have been cited only once. We think that it reflects the variety of the needs of engineers at CERN, who can work in quite different fields such as: cryogenics, electricity, material science, safety and radiation protection, vacuum, aso.

To conclude this part, we can say that the list of titles cited by the users is the most interesting part of the questionnaire. It shows clearly the diversity of usage, and is a very useful tool to help us to understand what has to be done to fit better to their needs.

# 4- Access and value-added services provided by the Library

#### 4.1- The access

Regarding access, we were curious to know what kind of tools the readers used to find information when they have no reference. Primarily, our respondents use the specific tools of their community, namely CDS and SPIRES, at the same level with 87.5%. Immediately behind, with 84.9% of users, come the general search engines (Google,...). These tools are very popular and probably serve most of the needs of the community. Publishers' websites, on the other hand, are only used by 55.8% of the respondents. At the bottom of the ladder come the databases and specific search engines such as Google Scholar. By crossing these results, we find out that the vast majority use general search engines and specific tools of the community in parallel. A small number of readers tell us that they use only general search engines but never any specific tools. Indeed, the High Energy Physics community developed its own tools very early (CDS, Spires...) and they are very popular, so that the use of databases was less necessary. Here we have to say that this remark concerns mainly High Energy Physicists, this habit does not correspond really to applied physicists or engineers habits. In the latter category, the INSPEC database is still widely used at CERN.

As we have noticed above, the context of CERN as an international laboratory implies that users may work partly at CERN and partly in another laboratory. This means that they can use both subscriptions, these of our institution as well as those of their home institute. The result of the questionnaire regarding the subscriptions' issue is represented below.

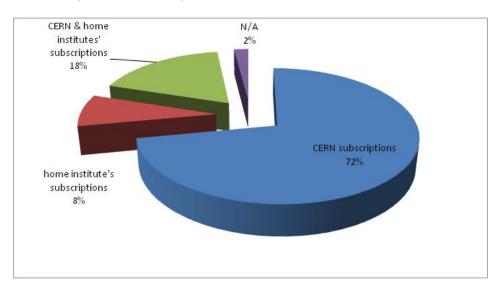


Figure 14 – Usage of CERN subscriptions and home institute subscription.

An interesting category is the people using both the CERN and their home institute's subscriptions. They are mostly non-CERN employees, spending between 0 and 3 months at CERN. These external collaborators come once a year at CERN and use the Library resources during this period.

Regarding the readers using only the CERN subscriptions, we can point out the fact that about half of them use these subscriptions from their office at CERN and very few (2%) from the computers in the Library.

# 4.2- Usage of the services

About the frequency at which our users use our different services, there is no real surprise. People mostly use the online CDS catalogue and the browsable Electronic Journal Page. The feature called Go Direct is maybe less identifiable for our readers. This link manager allows users to select a title and fill the volume and page numbers on the CERN Library server, then "go direct" to the requested page on the journal website. Also, this tool allows the links between the published article records stored in Library catalogue and the publisher full text. In this case, the process is completely transparent. But in the first case, the service naming is somewhat "hidden" and it is possible that many respondents use this function without noticing it.

#### Services Used by..

CDS – online catalog	74%
Electronic Journal Page	69%
Databases Page	46%
Go Direct feature	35%

Figure 15 – This table indicates the percentage of respondents who use the different services provided by the Library.

If we look a little bit further into this usage, we can focus only on the persons using one of our services and observe that the online catalog and the Electronic Journals page are very often used, then GoDirect and the databases' page come far behind. Even if we can not assert that it reflects the real usage of the services, it probably gives us tendencies.

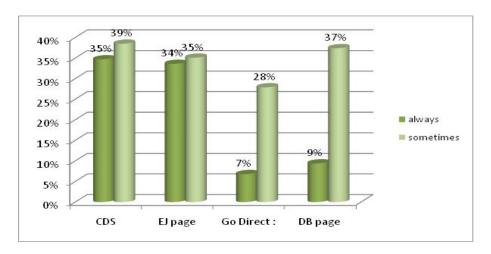


Figure 16 - This figure shows the tendencies of our readers to use more frequently the online catalog and the Electronic Journal page, than the others features, knowing that Go Direct is often unseen.

This confirms the discovered tendencies of tools usage, i.e. the databases are less used than some years ago, probably because other tools, that are easier to use, can fulfill a part of the needs of researchers.

After the description of several aspects of the usage, we can complete this landscape with the analysis of the appreciations given by the users concerning both our collection and services.

# 5 - User's appreciations

#### 5.1- User's appreciation of the periodical collection

Appreciations often appear in free comments, mostly in the form of comparison with others libraries. The view of our users on our collection is highly influenced by their past career. Depending whether their have been in a big campus (large offer of service) or in a small laboratories (fewer subscriptions), their appreciation varies significantly. We also had a precise question where they were invited to evaluate both our paper and online collections. We notice that the paper collection is less well known as 24.5% of the readers had no opinion on it whatsoever, versus 12.1% for the e-collection. This is not surprising considering that the preferred medium of our users is electronic.

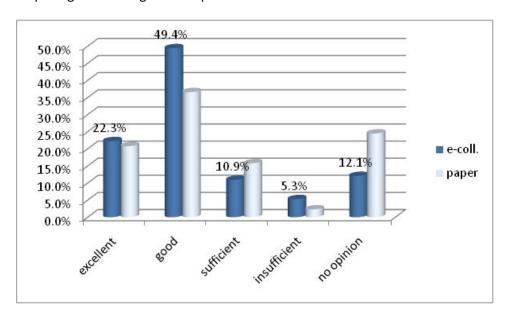


Figure 17 - This chart shows the appreciation of our both collections, paper and online. It also points out that our paper collection is less well known, probably because it is less used.

It seems that for the e-collection, appreciations of both CERN and non-CERN employees are very closed to one another. For paper instead, CERN people appreciate our collection a little higher than externals, surely because they know it better. On the other side, the high majority of people complaining about the insufficiency of our collections are CERN employees, who indicate us their uncovered needs.

As a general comment, physicists seem to be given what they need. Complains mostly concern subjects that are not considered as core subjects such as: mathematics, chemistry and computing. Some of the respondents have also stressed the necessity of having a whole access to the IEEExplore database. Actually the statistics of usage confirm a high consultation of IEEE journals and proceedings, but this full access is very expensive and the Library would probably have to give the proceedings part up.

We can say also that, beyond some missing subjects, the users complain about the lack of electronic back-files. In other words, they send us the message that they do not want to come physically at the Library to pick up the current as well as back volumes they need.

We also asked the users if they had already encountered access denials. It was another way to determine the lack they could notice in our collection. The answers were very surprising, indeed, except some users who mentionned titles that are not subscribed, a lot of them mentionned titles that are fully subscribed and should not imply any access denial, such as Physical reviews (APS), or Physics letters B (Elsevier). Therefore we can wonder if these answers are due to a lack of knowledge of our collection (from our users) or by the fact that there are often technical problems on the publisher's websites, that imply access denials.

#### 5.2- Appreciation about Library services in general

The comments written by the respondents of the survey clearly indicate that the value-added services of the Library are not known enough and that more publicity should be done on this. The questionnaire has been in use of publicity for features like the databases or the journals' page. Apart from these services that we should highlight, there are also some which we cannot push forward. This is the case for different ways of using CERN subscriptions from outside CERN, such as using a virtual private network (VPN) or windows terminal server (WTS).

A proof of this pour knowledge of the Library services is for example that some users did not even know where was the periodical paper collection, and how to search it. Only 39% of the respondents say that it is easy to find a paper journal at CERN, against 70% for the electronic journals.

The positive point is that this ignorance of our services clearly seems to be counterbalanced by the efficiency of the staff, who is qualified with terms such as "helpful", "kind", " available" … People having experienced the interlibrary loan service are satisfied with it: they underline the fact that the service provided what they needed, but also that it would be more rapid to have a direct online access. They appreciate the service but they would of course prefer to have a direct online access to more resources.

Obviously, the study was not shaped to collect complete user's needs – as we first wanted to make a picture of the usage and not influence on the needs or lacks. But, we can anyway determine already some important points such as the lack of knowledge of our services.

If the reader's knowledge of Library's services is not good enough, what is the level of reader's awareness on some current Library's issues, that are now essential in the current context, such as archiving issues and Open Access?

# 6 – Reader's awareness of current Library's issues.

#### 6.1- Archiving issue

We wanted to know how the users understand the archiving issues, and therefore we asked some questions related to this topic. The archiving problematic has been divided into 3 questions in order to consider the following points: conservation of paper versions, online access to electronic archives and personal practices of the users.

If most of our respondents (70.9%) do not expect the Library to keep a paper copy of electronic journals, a vast majority (91.3%) wants the Library to ensure a permanent access to electronic journals, should it be on a CERN server (49.4%) or on a publisher's server (41.9%). We received many comments for this question and this illustrates that the readers who answered the questionnaire are perfectly aware of the complexity of the conservation question in an electronic environment. However, the message aimed at the Library is at first that users attach importance to the preservation of the journals, secondly that the preservation format is not paper anymore, but electronic and at last that they rely on the Library to ensure a permanent access to the back files of electronic journals, should it be on our server or elsewhere. Obviously this result had to be confronted with our readers' own archiving practices. Indeed, we asked them to evaluate what percentage, of all the articles they read during one year, they keep for a long term use. On purpose, we did not define a the phrase "long term use", assessing that the concept was more important the way they keep these articles (on paper or on their personal computer).

The figure below shows, even though most of the respondents chose the average answer, that regarding the users practices: there is more people keeping less than 10% of the articles the read than people keeping more than 90% of them.

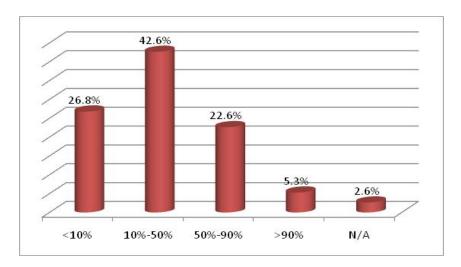


Figure 18 – This chart illustrates which percentage of articles the users estimate they keep for a long term use.

This result is important to us because it shows that obviously, the readers really trust the Library for the preservation. They are confident and seem to keep only articles that appear to be important to them.

This does not really change from paper usage. As Libraries used to keep paper journals, users expect the Library to continue providing access to the online journals.

However, as already told, we noticed from some free comments that the users understand the problems linked to this issue, such as the prices or the technical issues. It shows that the Library's issues are not unknown from the users, it is maybe due to the work on Open access awareness done by the Library since 2004.

#### 6.2- Open Access Publishing

The survey was a good opportunity to check to which point our users had become sensitive to the concept of Open Access Publishing, but as the study was not directly on Open Access, we chose to ask a very general question just to evaluate how deep the idea has been spread.

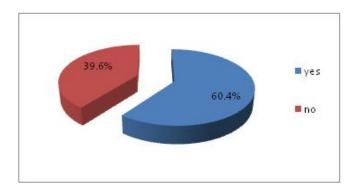


Figure 19 – This figure shows that taken as a whole, the majority of our respondents are aware the Open Access Publishing,

If a majority of people is aware of Open Access, this one is the last criterion that our users take into account when they submit a paper to a journal for publication.

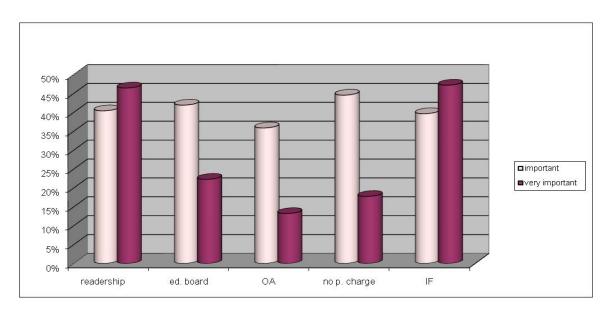


Figure 20 – We asked our users to quote, as authors, the importance of the following criteria: high readership, prestigious editorial board, Open Access possibilities, absence of page charges and impact factor.

A high Impact factor and a high readership are the most important criteria for our respondents, which is not surprising, when one knows that the evolution of the career depends on these two measures. This means that the conversion of existing journals to an open-access model, i.e. the gold road, chosen by the SCOAP Consortium should be welcome by the community. Indeed, if it will be a major change inside the subsidizing way of the publishing process, it won't change completely the current publishing landscape.

We also wanted to know how much our readers evaluated the cost for a publisher to publish an article. 99 persons have answered this question and the median value is 500 USD. So we can represent the tendencies with the following graph:

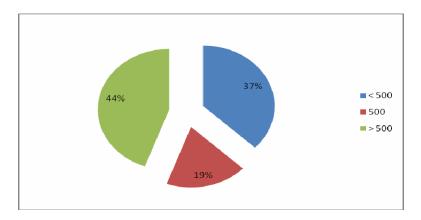


Figure 21 – This figure concerns the evaluation of the price to publish an article made by our users. It illustrates the repartition of the answers under, in and up the median answer, which is 500 USD.

In order to get rid of very fanciful answers, we can also eliminate 10% of the answers at the bottom and 10% at the top. The result is that the lower given price is 10 USD and the highest is 3000 USD, which

sounds reasonable. Knowing that the estimated price is quoted between 1000 and 2000 euros, our users underestimate the real cost of an article, but not that much. We assume that the campaign for the Open Access Publishing has helped CERN users to become aware of the real cost for a publication.

This shows that user's mind is changing, becoming aware of new concepts, new issues linked to the change of publishing process and to the move towards e-only. It is a very positive aspect of this study. Indeed, if we, Libraries, need to understand the needs of our users, it is very important that users understand the issues the Library has to face, especially at CERN where users can play an important role on some decisions concerning the Library.

## **Conclusion**

The study and the questionnaire confirm the difference of usage depending on the format of the journals. On one hand, electronic journals are widely use and we can say that CERN users are ready to move to an e-only collection, specially if this collection includes back-files. On the other hand, aside from people who prefer the paper format, we have observed that the paper journals that are mostly read are magazines, both of general science and of special topics.

Regarding the titles that have been cited by the respondents, even if the ranking is not surprising, we consider that this result is one of the most interesting point of the questionnaire. Indeed, this list reflects that most of the needs are met by a few titles, but this also means that beyond the titles, the Library has to face a high diversity of different needs. We assume that the users who decided to answer our questionnaire thought that they had to defend their needs and the titles they are used to read. This points out the importance of supplying a diversified collection, which takes into account the complexity of different activities CERN users can practice. The ratio between the cited, the subscribed and the available titles depending on the subject gives us an idea of the proportion of our collection which is really used. This allows us to illustrate the effect of the "big deals" provided by publishers and their relative usefulness according to the subject.

Here we have to mention that this study has been made in parallel of a cancellation survey for the 2008 subscriptions, imposed by a decrease of the Library budget; of course, as the periodical renewals process imply very strict timing, decision had to be made before the end of this study. The main decision taken during the cancellation survey was to move most of the journals to e-only (when possible). Finally, the study shows that this decision should correspond to the actual use. But it would be interesting to see what will be the reaction of the users faced to this change.

Therefore, we think that it would be useful to establish a really short questionnaire (around 5 questions) in order repeat the study next year and maybe, then, every year. By doing this, it would be possible to see the evolving habits of our readership faced to the evolving context and this could help us to continue improving our collection.