Going Digital in Italy:
Obstacles Concerning Access to Digital Libraries

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Abstract

This paper presents the findings of a user survey, promoted and financed by the Digital Renaissance Foundation in Italy. Digital resources and the Web are continuing to offer many opportunities to improve the access to information but how are libraries changing their internal organisation and diversifying their services? What are users' priorities and perceptions of digital library services? Selection criteria for digital collections, digital libraries management, co-operation experiences and issues, together with uses and users are described critically. In conclusion, obstacles to the development of digital libraries in Italy are evidenced.

Background

The first project of digital library applications started in Italy at the beginning of the nineties, lead by the Vatican Library (Mintzer et al. 1996). Other research institutions (such as the Institute and Museum of History of Science – IMSS Digital Library[1]) or academic departments (such as Cibit, Centro Interuniversitario Biblioteca Italiana Telematica for "Biblioteca Italiana"[2]) in the same years have started to build digital collections for supporting learning and research. In 2000 the national project "Italian Digital Library" began to work, developing a digital collection and also starting a national programme in diffusing guidelines for metadata and other technical standards (Biblioteca digitale italiana 2000, 2003). While many articles and conferences presentations deal with national projects, very little is known about how users access digital libraries.

Purpose of the study

The Digital Libraries Applications Project, begun by the Digital Renaissance Foundation[3], aims at evaluating the services currently offered by digital libraries in Italy, to identify the actual state of the art and eventual obstacles to improving their services. To realize this aim, a Study Group was established in the summer of 2005. It was composed of a wide group of

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[1] Located at: http://www.imss.fi.it/biblio/ebibdig.html (Retrieved December 7, 2007).

[2] Located at: http://www.bibliotecaitaliana.it/ (Retrieved December 7, 2007).

[3] The Fondazione Rinascimento Digitale (Digital Renaissance Foundation) is a young institution, established in 2000 to encourage the cooperation of various organisations, experiences and know-how in the digital environment, with the goal to promote the use of new technologies in cultural institutions by establishing a high quality standard. The project Digital Libraries Applications is part of the activities of Fondazione Rinascimento Digitale entitled: Management of and Access to digital libraries. A report on the survey and other documentary material is available online: http://www.rinascimento-digitale.it/ (Retrieved December 7, 2007).

experts, representing different cultural institutions that offer digital services or make their collections accessible digitally.

The approach chosen by the Study Group was to evaluate the complexity of the digital library from the user's point of view. Indeed the specific demands of the user may be difficult to know. In most cases there is a supposed user group, and it is the aim of the institution to increase its services for this group and expand its approach and influence.

The purpose of this research was to answer the following questions:
    1) what are the performance measures that can serve as indicators of quality for digital library services, fundamental for users' satisfaction?
    2) how can an evaluation model for digital libraries deploy an improvement towards a digital library strategy?

The survey also aimed at exploring how digital libraries in Italy are working in terms of funding, selection, processes, access, use, and management.

An other objective was that to determine actions to improve digital library services. The driving idea was that one can develop services that better meet users' expectations by comparing library's data with that of peer institutions and examining the practices of those libraries that are evaluated highly by their users.

Literature review
Primary concern of any evaluative approach is to get information from collected data to be used against a set of defined objectives, which may be "library-centred", focusing on efficiency and effectiveness, "system-centred" with a focus on usability, and "user-centred" pointing at service quality and users' needs (Bertot, 2004). In a digital library environment, attention is also paid to a "human-centred approach", studying users behaviour, such as information seeking or performance in completion of a given task and bridging between system and human-centred approaches (Saracevic, 2004).

The Study Group took as their reference points some of the most important studies, including the Project E-measures of SCONUL (Town S., 2004), the Project by ARL called E-Metrics (Miller R., Schmidt S., 2001) and the Project COUNTER, which have established the standard criteria that rules the availability of digital resources managed by the vendor statistics.

The Project eVALUEd, began in 2001 and achieved in 2004, proved to be particularly interesting to the Study Group as it had developed a toolkit to facilitate the assessment of digital libraries. The aim of the Project eVALUED was to simplify a first reading of qualitative data, without abandoning the gathering of quantitative statistics. It sought to go over the measure of the performance indicator to tackle the evaluation outcomes related to the supply of electronic information services.

In Italy there are no comprehensive users evaluation projects going on, but there have been initiatives such as those of the univerities consortia CASPUR, which have raised the issue of digital services performance measurement from an operational point of view (Gargiulo, 2003), or CILEA activities on measurement (Rodi, 2003; Dellisanti & Balducci, 2004) concentrated on getting statistics from access and full-text article download counting and other performance indicators. Among the analysis already carried out there were two useful surveys, one by the Istituto e Museo di Storia della Scienza, (Museum of the History of

Science – IMSS) and the other by the Biblioteca Nazionale di Firenze (National Central Library of Florence – BNCF).

The Study Group used a methodological approach that integrated these international experiences with the experimental approaches of the IMSS and of the BNCF, from which the Study Group took useful methodology suggestions.

Methods used for the study
The methodology of the survey has been based on three phases. The first phase was dedicated to gathering information on existing digital libraries and their organisation, and at the same time gathering the contributions to discussion of experts, to define a theoretical context and reference model for digital libraries.

In the second stage, a literature and documentary review has been done to find evidence of issues and problems in the development of digital libraries in Italy. Based on these previous activities, a questionnaire for digital libraries has **been** realised and distributed for collecting data about:
-   aims and objectives for the development of the digital library,
-   the workflow for digital resources,
-   the typology of access services available.

The questionnaire has been distributed in each type of cultural organisation (public libraries, national libraries, university libraries, special libraries, audiovisual libraries) with experts collecting data and preparing a critical synthesis.

In the third phase, a users survey has been realised, to understand users priorities and perceptions of digital library services. The context chosen by the Study Group was that of three humanistic cultural institutions and the survey was repeated in participating institutions with the same methodology. The case studies included the Mediateca of the Tuscany Region, the Faculty of Humanities Library of the University of Florence and the Library of the IMSS; the results were later compared to those obtained by the BNCF of Florence.

The digital resources considered in the survey were liked to the following: electronic journals, e-books, databases, CDROM, learning materials, audiovisual and multimedia, and also thesis and students' work. Traditionally the most common measurements, because they are easily obtainable, are concentrated on numbers and data like the budget employed, the number of titles in a digital collection, etc. Because these types of statistics don't give data on the user and their normal activities in a digital library, the Study Group did not take them into consideration.

The Study Group wondered if enlarging the size of the collection is necessarily correlated to users' needs, but they did not arrive at a final conclusion; moreover it is difficult to understand if the single research session on a digital library is truly useful to (or if it has had an impact on) the user. Therefore it was decided to evaluate the perception that users have of how resources are employed as well as the digital services available.

The questions in the users survey questionnaire were aimed at identifying the users' expectations of the services offered, like: available hardware, on line catalogues, access from home, portal/site, users' education tutorial, promotion, and staff assistance. Additionally, the

survey attempted to identify cultural institutions other than the surveyed institutions, where the users regularly go virtually.

Despite the fact that it is essential to develop a tool to measure how digital libraries services contribute to the user's success, this is very difficult to assess. Therefore the Study Group chose to define user success as closely tied to the success of the institution that the digital library belonged to, as it is expressed in their mission or in other project documents. This necessitated finding a tool capable of identifying the critical criteria of the specific mission of each individual digital library, one that preferably included a definition of user activities. To identify and measure the impact, the Group limited itself to evaluating the specific digital library services in the case study, which ones were provided in such a way as to be a support (or if one like useful) to the activities of the users and their regular research activity and information use. The impact, therefore, is not a value of the resources or of the services in and of themselves, but more pragmatically, a measure that identifies activities that would be impossible to accomplish without the use of the digital library. Impact measurement defined in this way was researched in the comments section of the survey and in specific question asked during the interview. Of particular interest to the Study Group were qualitatively negative or neutral (those that were not negative or positive) comments.

The following table synthesizes the model chosen for the evaluation:

Cultural Institutions	User Information	Output	Outcomes (Impact)
Approaches and strategies applied by digital libraries • Experts' contributions to the discussion • Activities and state of the art in the Italian digital libraries • Digital Contents and services currently available	Needs, priorities and perception of services • Demographic analysis of the users • Socio-economic factors with an impact on the utilisation of the applications of digital libraries	User satisfaction (measured as GAP between expectations and perceptions) Frequency with which digital assets and services are used	Achievement of the Cultural institutions' mission Measure: • How do digital libraries support thier regular users' activities? • What wouldn't be possible to do without digital libraries?

Findings
In the field of digital library, change and innovation are rapid and some of the survey results can become quickly outdated. However the survey describes the enourmous change in internal organisation which is going in Italian libraries, trying to adapt to the digital environment and also the change in user' behaviour.

The first group of findings discusses how digital library resources have been integrated into traditional library collections, how to build upon the experience of librarians and archivists who work with traditional formats and cooperation, and in addition, discusses where

assistance from private companies is needed. Analysis of data has been done for: mission and target of the cultural institution, selection criteria, change in workflow and staff training, evaluation of user access and usage.

The second group of survey findings give evidence of users expectations and perceptions of the ongoing change in digital libraries services.

Collections, digital services and workflow of digital libraries
The present focus of digital libraries in Italy is on strategies for selecting collections for conversion to a digital format. In considering approaches and strategies applied by digital libraries, several strategies have been evidenced, when approaching the transition to digitized collections, including how to evaluate these strategies. However these strategies have rarely considered a national coordination plan or the users expectations and priorities.

Again a selection gives some indication of the breadth of perspectives administrators must understand, such as budgetary, staffing, and other commitments required for digital preservation projects. However, the analysis has evidenced how libraries have not developed a program of systematic funding that can support sustained digitization. Also the digital collection is managed by a separate task group, with a different workflow from print collections and services.

The experts also discussed decision-making issues associated with access (lease or purchase) to local and remote databases by users. Obstacles to access have been evidenced in: fragmentation of collections and lack of cooperation between cultural institutions, no clear business model for the economic sustainability of digital libraries, no agreement on contract models to facilitate the relationships between public and private organisations.

User Satisfaction
Even with a wide range of different uses, some results were common to all groups of users and different case studies can be compared.

Through a careful examination of the service expectations, correlated to the user satisfaction with those same services, it was possible to identify which services users consider to be unsatisfactory and therefore know where it is necessary to concentrate our efforts to improve. These are:
- The promotion of resources and services;
- On line tutorials;
- User education;
- Staff assistance.

It should be noted that need for promotion of services available was expressed by all users. The services that received the highest level of satisfaction were:
- Remote access;
- On line portal.

University students prefer remote access, but contradictorily they also appreciate the help of staff and information literacy courses with an actual teacher, more than online tutorials. The IMSS users prefer remote access and the portal, together with on line tutorials, but they see staff assistance as their first priority. Mediateca users, also due to the unique characteristics of the current service that is mainly local, decidedly prefer a local access and are the users that

demonstrate the greatest appreciation of staff assistance even though it is a remote access, the portal and the tutorials are also regarded as important.

By repeating, for the digital resources section, the correlation between the satisfaction for individual resources, it was possible to identify the resources that are not considered priorities. They are listed in inverted order, starting from the less used:

- E-books;
- Audiovisual materials;
- Learning materials;
- Theses.

The resources that were listed as priorities are:

- OPAC catalogue;
- On-line databases;
- Electronic journals.

Regarding resources, the priorities demonstrate biggest differences between different types of users. For example, University students mainly use the on-line catalogue and the databases; the IMSS users are the ones that prefer the e-book and CD-ROMs more than the others; Mediateca users tend to prefer the audiovisual material.

The impact was underlined by users regarding primarily the advantages of the digital library like: the speed of access to digital resources, a greater number of resources available (even if this is not yet considered to be sufficient), and personalization.

Discussion
User perspectives' survey has examined the benefits to users of digital collections such as nearly instant, direct access from networked computers to electronic resources in remote collections. What interventions are possible for improvement? It can be stated that new users want to be independent to do their research and they want remote access: this is demonstrated by the general expectation of a good orientation through a portal, even in the case that the user regularly goes to a physical library.

Databases and on-line catalogues are areas that need particular attention, in order to meet the users' priorities. A service that users view as particularly important is information retrieval. Users expect to find and locate digital resources quickly and easily. In the suggestions that were made it seems particularly relevant to underline the request for a greater functionality of the OPAC.

In answer to the question: which services would you like to find in a digital library? most of the users interviewed answered: a greater number of digital resources available. Other answers were regarding the possibility of integrating the different databases available, as well as the possibility of having more functionalities available, such as to manage a personal digital collection, or for example a link from the OPAC to a preview of the cover, copyright page, and contents of the book. The personalization of the service was also viewed as important. The answers also underlined the need to improve the user skills to use digital resources along with the need for more promotion of their existence.

The results of the survey has made clear that users have different needs, which correlates to the different goals of the digital libraries' institutions. Nonetheless, users regularly use the

services of more than one cultural institution and they share some common priorities. Users view the services offered by digital libraries in a positive light, but there is a lack of knowledge on how to use them and users are often unaware of all the services that are available to them. The accessibility of the interface is considered important, but the more sophisticated it is, the greater the assistance from the staff must be.

Conclusion

A common assumption of the papers is that digitization projects will require libraries to make dramatic policy and procedural changes, as well as tougth selection decisions. In answer to the question on the need for greater cooperation between cultural institutions, the indication was that the current situation is definitely unsatisfactory and insufficient.

Libraries are changing their organisation, but with no clear vision of the service and evaluation is not a regular process. The importance of the Digital Renaissance Foundation' survey is in documenting the evolution of digital library applications in Italy and offering a methodology for the continuous evaluation of services.

In conclusion, it is important to give users the possibility to say where the services should be improved, so that their expectations can be met better. Moreover, digital libraries can try to improve their services through a cooperative approach. In fact, with periodic user surveys, the single institutions could compare their own results with other digital libraries, that are positively evaluated by their users.

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