

Towards an Electronic Resource Library

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TOWARDS AN ELECTRONIC RESOURCE LIBRARY

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The paper will focus on the transformation of a National Resource Library of Technology into an Electronic Resource Library. The role of a national resource library has been twofold: it has had responsibilities in supporting research, teaching and learning within its own academic environment as well as responsibilities in the national well-being in information provision and management in its own specific field of expertise. The Helsinki University of Technology Library is the center of the scientific information supply of some 12 000 students, research staff and teachers and the library's external clientele consists of other research institutions, industry, public administration and private individuals. The users are offered a full range of library services, such as circulation, interlending, document delivery, information retrieval, database production and management etc.

According to the dictionary a transformation process "may cause changes in the composition or structure, it may change the outward form or appearance or lead into changes in the character or conditions" ¹. The transformation process in a library can be controlled, provided that the library itself takes an active role in the process. Even if the term "change" implies "making an essential difference often amounting to a loss of original identity" there are functions such as structural analyzing, indexing and organization of information which will be needed also in the future. Furthermore, the electronic publishing and scholarly communication in the network calls for the development of methods in the processing of information contents as well as in the measuring and evaluating information quality. All these issues have been among the core competences in libraries and therefore the transformation towards a digital library does not necessarily lead to a loss of identity. However, the way things are done will change and new techniques and methods are adopted. The identity, i.e. the fundamental roles of an academic library will still be found within information acquisition, organization and distribution also in the years to come.

In recent years the higher education sector in Finland has witnessed the birth of several new college level institutions (merged from previous polytechnics and colleges) and the growing competition between them and the universities for students and funding. Both the learning as well as the teaching process are expected to undergo significant changes in the near future, due to the possibilities created by the new technology. Besides these opportunities provided by the networked environment, such as distance education, new demands concerning academic education and research are

set by the environment. The technical universities are under pressure to generate more dynamic responses to meet the needs of the industry. The universities should be able to offer more flexible study modules, to ensure shorter time of completing one's studies and to promote applied research at the side of basic research, etc. All these factors are bound to affect also the supporting role of the library in the learning, teaching and research conducted at the university.

The academic libraries have been a part of the scholarly communication process since the foundation of universities, and their participation in the process has been adapted to the circumstances of different times [2](#). Currently many Finnish university libraries are involved in the electronic publishing initiatives of their respective universities.

Just a month ago, May 30th 1997 the Finnish Committee on the National Electronic Library published its report [3](#) which outlines both the national information provision as well as the organizational structure of the Finnish electronic library for science and research. The national electronic library is no physical entity but a plan for integrated networked resource and service arrangements. The Ministry of Education will be responsible for the funding and the proposed annual budget of the National Electronic Library will be some 20 million Finnish marks (appr. 4 million USD) until 1999. In addition to the national licences smaller amounts are planned to be allocated to projects concerning electronic publishing, digitization etc. There will be national licence agreements to the most important sources of information such as databases and electronic journals. Negotiations to varying degrees have been carried out with publishers such as Elsevier Science, Academic Press, Blackwell Science and Springer Verlag and with some database producers. In the first phase there will be national agreements with the Institute of Scientific Information (ISI) and Academic Press. The respective ISI databases and the electronic journals of Academic Press are to be in use before the end of this year. The National Library of Finland will be responsible for the practical management of national licence agreements and the CSC-Tieteellinen Laskenta Oy (Center for Scientific Computing, at <http://www.csc.fi>)[4](#) will cooperate in the technical solutions and possibly provide platforms for different services. The nationwide agreements for science and research are not, however, necessarily sufficient for the information provision towards the industry. The electronic resource library must hence be prepared to initiate consortiums in its own specific field of expertise. This task may even include the provision of archiving and mirroring services.

The recent growth in electronic publishing has been concentrating on the number of electronic journals [5](#) but textbooks and other types of educational material are emerging. The electronic publications today are by and large parallel versions of the printed publications. There are no generally accepted standards governing electronic publications and the publishers carry out experiments with, (sometimes - it seems - on) the libraries in their quest of suitable means for storing, distributing and pricing of their products. Therefore the basic acquisitions must still be purchased on paper and the testing of unstandardized electronic publications leads into additional costs in the necessary hardware and software acquisitions. It is also a paradoxical situation: on the one hand the libraries must be prepared to receive, manipulate and forward scientific material regardless of its form but on the other hand it is not advisable to buy IT equipment before the products requiring them even exist. This situation, the lack of real new media products, has been more than evident in the planning process of a new

library at HUT campus. There is a new building under construction, the IT House. There will be a small unit library of the Dept. of Computer Science in the IT House. The building, scheduled to be completed in the fall 1998 will formalize visions of the modern learning environment with the most modern technological solutions. The Finnish telecommunication industry is e.g. very interested in testing its new inventions in this stimulating environment simulating tomorrow's world. This will bring the library into the forefront of the technological development as well.

The expectations concerning the actual use of electronic journals and other purchased networked information sources may be unrealistic. There is a lack of factual data concerning the real use of these sources which are, in fact quite expensive from the libraries' perspective. Does the electronic availability at one's desk-top actually increase or intensify the reading of journals? If so, how much and how much more is the library willing to pay for this increase in usage and the convenience of the user to have the electronic material at one's desk?

A limited survey was conducted among the research staff at the Helsinki University of Technology last winter concerning the table of contents and the routing of periodicals service provided by the library. Most of the respondents indicated their willingness to receive the service in electronic form. They did not, however, wish to access electronic journals and table of contents services themselves but preferred the alerting service option where the material would be transmitted to them via e-mail. We are also currently monitoring the use of the different networked information sources made available on HUT campus by the library, such as the Ei Village, Encyclopaedia Britannica, Into Info -service and a number of electronic journals. Through the network monitoring the library hopes to acquire the hard facts, i.e. factual, numeric data of the searching and browsing conducted in these information sources on HUT campus. During the monitoring project special emphasis will be put on marketing these services. Because the HUT campus itself is a heavy producer of HTML documents (its www site at <http://www.hut.fi> consists of more than 100 000 documents), the library's share of material provided into the campus network is not necessarily evident or attractive enough to the users.

Any network user is expected to be able to evaluate the retrieved information, the reliability of information sources and their usefulness and relevance. The library user education must therefore focus on the assessment of scientific information and systematic information seeking methods. At HUT all material concerning the library user education is of course available in the network and distance education possibilities are offered [6](#). However, because a puzzled face is not yet transmitted over the networks as a standard procedure the total lack of real-time communication between the students and the instructors may cause problems. It is not the library's intention to become a place where advice is given and personal communication is carried out only when it is explicitly requested by the patron. Therefore the lectures and guided sessions still add value to the library user education programmes.

The electronic publishing process has not yet altered the structures of scholarly communication. The activity has been more or less in the distribution process. The electronic publishing has to a large extent been a mere conversion of material formerly found in printed form. Multimedia, VRML and other forms of tomorrow's media will no doubt alter, if not totally change the concept of scholarly

communication. From the point of view of the libraries it will be essential to watch closely how and when it will happen. In this respect the library participation in different initiatives concerning the Subject Based Information Gateways (SBIG), electronic publishing and Metadata -projects is very useful. The HUT Library has been responsible for the delivery of Finnish energy research information into the international database ETDE-Energy and it is also a "correspondent" of EELS, the Electronic Engineering Library of Sweden and a partner in the Finnish Virtual Libraries initiative. The processing of information content related to these projects includes filtering, indexing, supplying of bibliographic information and/or metadata. The information collecting is not restricted to the traditional formal information sources but includes also monitoring of newsgroups, electronic conferences and new educational material. These tasks help the library to detect the changes, modifications and variations which are taking place in scientific communication.

Finally, the university itself must make clear strategic choices between the supported software solutions and ensure that the core information will be accessible at all times, also while systems are being developed. There must be a distinction between the distribution formats and the archiving formats of electronic information. Structured documents will survive and can be read and used again with new technologies. The university must also provide flexible telecommunication connections towards its operating environment to ensure the fluent and rapid transfer of its knowledge towards the industry. In this respect the integrated campus- wide information system may provide the external users with much more versatile services than the traditional library and information services. University expertise in research or distance education courses can well supplement the library-related services and these new products can be offered to the external clientele as an integrated service provided that all agreements governing the legal use of this material are made accordingly and allow the transfer to third parties.

At the [Helsinki University of Technology Library](#) two main topics have been identified to form the "competitive intelligence" of the library, i.e. the core areas which must constantly be followed. The library must also see itself as an active partner in these areas, namely the scholarly communication process and the overall development in the educational, research and industrial institutions and communities around the world. The prerequisites of the library existence are set there, not within the library itself nor within the university. But the library must be an integrated part of the academic education and research process. In this respect the recently completed HUT information strategy was a success from the library's point of view. By being active all throughout the planning process the library could position its expertise into the strategy for the benefit of the whole academic community.

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