

# Planning and managing the Digital Library

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## **Introduction**

An overview of the current situation in the development of the Digital Library at Tilburg University will be provided. The "digital library" strategy at Tilburg University is being developed in close cooperation with the overall strategy of the university and focuses on the campus-wide implementation of the concept of the "integrated desktop". In the realization of this concept and in the various current projects at Tilburg University the close cooperation between the library and the computer centre is one of the most important success factors. The paper emphasizes the online provision of primary information to the end-users, both of journal articles and of papers produced by the researchers of our own institution. Attention will be given to various managerial issues, especially to the management of human resources.

## **Tilburg University: Background**

Tilburg University is a medium-sized university with a focus on the humanities and the social sciences. Currently 9,000 students are enrolled. The university employs 1,500 staff: researchers, teachers and supporting staff.

In 1985/1986 the strategy of the university focused very explicitly on the stimulation of excellence in teaching and research. Within the medium term faculties were to reach the top three of their kind nation-wide. Internationalization was stimulated. The use of information technology had to be fostered both in teaching and research and in the supporting services. In other words, the university wanted to manifest itself as a dynamic, innovative and versatile university for the humanities and the social sciences.

Now, ten years later, the Tilburg Departments of Economics and Law hold a top ranking position in the country both in teaching and in research. Economists from all over the world regularly act as visiting professors at the Tilburg Center for Economic Research. Other research institutes, such as the Schoordijk Institute (a part of the Law Department), also maintain a prominent position. In this context the planning process for innovative library services could be started.

## **The library between 1978 and 1989**

The library had completed the first wave of library automation in 1983 with the launch of the Online Public Access Catalogue and with the completion of its retroconversion in 1986. As early as 1978, the management of the library, as well as its staff, had developed plans and ideas which assigned an important role to modern technology and advanced forms of services. Cooperation with the computer centre and

cooperation with others, such as the Dutch organisation for library automation Pica, were regarded as necessary in order to realize new and advanced services. Because of the ideas in the library with respect to the future role of libraries and electronic information, plans for staff education were developed and executed which caused an important improvement of skills in the library and a greater focus on the use of new technologies. Another important impetus to this was given by the acquisition of a very important national collection on applied computer science in 1985. It stimulated the library to develop inhouse databases (Excerpta Informatica) and to attract young and new staff that were committed to new technologies and to the development of new library applications.

In this period, library facilities were decentralized and organised in six different departmental libraries housed in various buildings on the university campus. The library was used quite intensively by faculty but did not play a prominent role in the educational process. Student use of the library, which altogether offered approximately 250 study places in the various locations, was limited.

Initiatives to develop a new and innovative library and to move in the direction of the digital library must be seen against this background: The library was ready to make an important step towards innovation and the university offered an environment which stimulated new initiatives with respect to the use of information technologies in order to improve teaching, learning and research.

### **Policy strategy in 1989**

The decision of the Dutch government in 1988 which enabled Tilburg University to build a new library was an important impetus for broad consultation and intense discussions on the type of library that should be created. It was obvious to all participants, the library staff, the management of the computer centre and the senior management of the university, that a new library should be in compliance with the new demands of the forthcoming electronic age.

In May 1989 Tilburg University Press published a basic document for the new library program: "The new library and the development of innovative information services at Tilburg University". This publication was a cooperative effort by the library staff, the staff of the computer centre and specialists from Digital Equipment Corporation and was inspired by the ideas of Leo Wiełrs, who at that moment was the university librarian.

In this document the university's policy, which has been described before, was an explicit starting point: "This policy has challenged all faculties and supporting services into actively contributing to the realisation of this aim."

Basic assumptions were:

The forthcoming changes in the scientific **information chain** will provide the author with more facilities both as a consumer and as a producer of new information;

Close cooperation between the library and the computer centre can have a strong supportive influence in the primary process of academic

education and research by making possible an **information-oriented workplace**, both inside and outside the library building; -Optimal support can be offered to staff and students in all aspects of the gathering and use of information by focusing on **integration** of library information services with other computing facilities; The technical infrastructure should be characterized by flexibility and stability, and should be based on technological **standards and open solutions**;

Only with the help of other parties can the technological potential in the field of information use be made operational. Hence there should be a clear and active preference for **cooperation** both within the university and with other parties: libraries, vendors, publishers and others; There should be a strong belief in the potential, the creativity and the **expertise of the staff** of library and computer centre. These two departments already have a history of successful partnership and cooperation. The library could take advantage of the experience of various staff members and, since 1985, has been developing its own applications in specific areas (for example, the design, development and exploitation of the Excerpta Informatica databases).

### **The innovative direction**

Subsequently, the strategic goals and the vision on the future were made concrete. From the very start the Digital Library Programme at Tilburg University (1) focused on:

1. The provision of electronic information to the desktop, of both our faculty and our students, on campus and at home. Excellent support facilities should be provided to all staff and all students.
2. A campus-wide implementation of the "integrated desktop": One single computer, connected to the campus network, that provides seamless access to all important information resources and communication facilities.
3. The development of tools for knowledge navigation in order to support the user in locating and retrieving relevant information in the global information environment.

The concept of the integrated desktop is a cornerstone in our activities. Recognition of the power of electronic communication, the increasing importance of electronic information and the changing opportunities for end-users, who have access to information through their desktop computer, was the starting point for Tilburg University to develop and implement the concept of the integrated desktop. Working on one single computer, the user should have easy and direct access to secondary and primary information, to various software packages and to communication facilities. In a university environment, the user is a consumer of information, but at the same time he or she is often also the producer of new information by making full use of the present body of knowledge and by enhancing this with new ideas and research results. This process should be supported by the library in close cooperation with the computer centre.

Desktop integration means that

- databases can be consulted and documents can be requested from the desktop of the individual user;
- electronic information can be retrieved from computerized collections which are stored remotely and without the intermediate steps of collecting and sending printed documents;
- the different applications on the desktop computer can be integrated.

### **Current situation**

Tilburg University's network connects more than 2400 PC's, each of them providing access to locally and remotely stored information. For the students 450 PC's are available in the library and an additional 350 PC's in seminar rooms. All 1600 staff have networked PC's on their desktop. The power of the concept of Tilburg University is that all of these 2400 PC's offer the same basic facilities: access to library databases, Internet resources and networked CD Roms, access to management information, to software packages, such as word processing, graphical and statistical software, which are licensed campuswide and to facilities such as electronic mail, WWW and newsgroups. Since 1995 access is being provided to

- the full text of more than 100 Elsevier journals the library subscribes to and some 20 journals provided by Kluwer Academic Publishers;
- the full text of research papers produced by researchers of the Departments of Economics and the Centre for Economic Research;
- the coloured images of 13,000 pictures and maps from the Topographic Historical Atlas of the province of Brabant.

### **Experiences and problems**

The evaluations of these services so far have been very positive:

1. The library is overcrowded. Students make extensive use of the library resources. Ninety percent of our students regularly use the integrated desktop computers.  
The library is a meeting point and working place for university students.
2. Most electronic services which were implemented since 1992 are heavily used.
3. Currently, the "integrated desktop" is not only a cornerstone of the digital library programme, it is widely accepted as a key element in the strategy of the university. It is the basis for IT innovation projects in teaching, learning and administration.

We have also identified some important problems:

1. The most important problem is that it takes more time to integrate new information services into the educational process of the university than we

expected. Individual use by students is excellent, but not enough professors make full use of the opportunities provided by the electronic information environment. Many teachers are, so far, reluctant to invest in an innovative approach to the educational process.

2. New services demand more instruction, more training and more user support.
3. A constant concern is the performance of the various services. It is an important daily task to monitor and maintain the facilities, to constantly improve things and solve minor and major problems.
4. The open environment in the library demands more regulations on the use of the computers by students (for that reason a reservation system and a time-out system were developed), security measures and clear policies in order to maintain a proper and correct use of the electronic facilities.

### Library strategy

Libraries will identify their own strengths and weaknesses and decide on their strategy with respect to the ownership and the access to documents according to their own specific situation.

I would like to recommend university and research libraries to focus on

**1. The provision of access to information.**

I would like to stress that there is no need to make a distinction between printed information and electronic information which will be of increasing relevance. It is clear that libraries should focus more on electronic resources which are available on the Internet, making users aware of it, cataloguing and classifying this information.

Although various databases can be used, a seamless access to heterogeneous databases can be achieved by using the Z39.50 protocol.

**2. The development of a clear library policy with respect to "access and ownership".**

Decision on the storage location of the electronic files are trivial compared to the decision libraries will have to make whether to subscribe to journals/ to have campus wide licenses on electronic files of these journals or to rely on inter library loan and (electronic) document delivery. It is also obvious that an increasing number of libraries will found consortia in order to make fair license agreements with the publishers and to organize shared collection development and electronic document delivery in a cost-effective way.

**3. The integration of library information services with the primary process of the parent institution.**

In a university it means integration with teaching, learning and research which is absolutely necessary because a university teaches young people

who definitely have to work in an electronic environment. The working conditions of the future should be reflected in the educational conditions of today.

It urges the library staff to be pro-active and supportive, to make close links with the faculty and the academic staff.

Research can also be supported in an active way by developing tailor-made services and to develop tools for knowledge navigation.

**4. Support and training.**

The library can play a significant role in the regular support of their end-users who have questions and problems with respect to information handling but also with respect to the use of new information technologies. This task makes a close cooperation with the computer centre quite obvious. Training should be provided to end-users in various ways. Regular instruction in the curriculum but also more tailored support to individual members of the faculty staff.

**5. There can also be a role for the library in the support of in-house publishing.**

This will be of growing importance because we cannot leave the whole business to the publishers. Universities should be more aware of the value of their intellectual output. This development is inevitable since universities in the next century will develop into institutions with more cost awareness and more market orientation than ever before.

### **The importance of the human resources**

I stressed before one of our basic assumptions: a strong belief in the potential, the creativity and the expertise of the staff of the library and the computer centre.

From 1984 to 1991, the main challenge in the development of the Digital Library Programme at Tilburg University was to **change the organisation** from a library that had focused on the automation of internal library processes **into** a more user-centered and **innovative** facility that focused on electronic information provision to the users.

This change was realized through various initiatives:

1. Staff were encouraged to improve their skills and qualifications. This policy was accompanied by an active educational programme with an annual budget of Dfl.45,000 - 50,000 between 1984 and 1992. In this period, 33 staff members, all of who are still working at the library, opted for further education.
2. An innovation programme started in one unit of the library, Excerpta Informatica, and the experiences there were carried over to other departments. At the same time, this unit served as a breeding ground for further innovative projects.

3. The organisation of the library was changed fundamentally. The first major change focused on the creation of subject-oriented information teams which could act as liaisons with the faculty and provide current-awareness services.
4. Gradually, more staff were involved in innovative projects. In 1989, the University library set up about ten project teams in the framework of our innovation programme. Thirty five library staff participated in these teams. As there was a firm policy to rely on our own staff, various staff members were partially replaced in their regular jobs making it possible for them to participate in new projects. The project activities differed completely from their regular jobs.

From 1991 to 1994, the key issue was finding a proper balance between **consolidation and innovation**, between the going concern, the daily services to users, and the need to consolidate the results of various projects on the one hand, and the need to continue our efforts to innovate library services and proceed in the direction of the electronic library, on the other hand.

This tension is, of course, a well-known phenomenon in all innovative organisations. No truly ideal solution has ever been found in any of these organisations. Some of the measures taken in Tilburg for coping with this tension were:

1. To make results of projects available as soon as possible in the regular organisational line and to make staff of the standing organisation responsible for the new service.
2. To create a flat and simple organisation consisting of three departments. One department was created for automation and development, but also cataloguing and acquisitions. This department had the primary responsibility for the maintenance of new projects and the development of library applications, in cooperation with the computer centre. Two other departments focussed on user support and information management /provision of tailor-made services. This again implied a fundamental organisational change.
3. To make innovative activities part of as many of the regular jobs in the library as possible. Examples of this policy are the documentalists, information specialists and library assistants who are assigned to support the Faculty of Economics staff. They are very much involved in the development and maintenance of a database that provides electronic access to research papers produced in their faculty.
4. To continue the formation and implementation of working groups and project teams and to involve people from more than one department. As opposed to the criteria used in the period from 1989 to 1992, the participants were chosen because of their specific professional contributions,

which were very much connected to their regular job. This was possible since the content of the "regular jobs" had changed.

Currently, nine different project teams and working groups are operating with an involvement of 25 different staff members.

### **An argument for strategic planning**

I would like to end with an argument for strategic planning. It is my experience that it is necessary to have a strategic plan that forces the library to regularly identify its weaknesses in its support of the user and in the dissemination of new services, but also in the organisation and communication with staff. The plan should set goals and objectives for the coming years, building upon strengths and opportunities, and specifying and clarifying new jobs and organisational changes. People should know what is going to happen, what the changes will be, and how they can best prepare for these changes, for example by getting additional training.

A strategic plan is also an excellent opportunity to organize the debate both within the library and with the user community and the executive board of the university. It can be a powerful tool to stimulate maximum participation on the part of these involved, which is necessary for the development of the electronic library.