The Role of E–Services in the Library Virtualization Process

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INTRODUCTION

The networked ICT technologies (such as the Internet) are having a dramatic effect on how services and especially knowledge services are innovated, designed, produced and distributed. In addition ICT-networks such as the Internet have created the basis for the development of new types of services. E-services are defined here as services that are produced, provided and/or consumed through the use of ICT-networks such as for example Internet-based systems and mobile solutions. E-services can be used by both consumers and businesses, and can be accessed via a wide range of information appliances (Hoffman, 2003, p.53). E-services include also selling of physical goods on the Internet as for example an airline ticket that is purchased online, but delivered by surface mail to the buyers or government services offered on the Internet or e-government. There are three main characteristics of e-services:

- The service is accessible across the Internet or other electronic networks
- The service is consumed by a person across the Internet or other electronic networks
- There might be a fee that the consumer pays the provider for using the e-service, but that might not always be the case as for example in some e-services offered by the government.

Normally the production, provision or consumption of a service requires the interaction between the service provider and the user of the service. Traditionally this has been based on personal interactions, most often face-to-face interactions. In e-services, the production, consumption and/or provision of services takes place through the intermediation of an ICT-network such as Internet-based systems or mobile solutions. Examples of e-services are e-banking, e-library services, e-publishing, airline tickets, e-government, information and location services. The advent of e-commerce and e-services has raised a number of challenges for knowledge intensive service organizations such as consulting companies, libraries and publishers, as well as for companies selling physical goods.

The purpose of this study is to investigate the challenges that e-services are posing and will pose for research or academic libraries. The study has focused on the issues that Roskilde University Library (RUB) has had to deal with as a result of e-services adoption as well as the future challenges that e-services provide for RUB. The study is based on a number of interviews with RUB management, other secondary material provided by Roskilde University library and information provided on the Web page.

BACKGROUND

In order to understand how digitalization and e-services are changing the library and its activities it is important to understand what a library is, and what its major roles in learning are. Libraries can be defined as "an organized set of resources, which includes human services as well as the entire spectrum of media" (e.g. text, video, and hypermedia). Libraries have physical components, such as space, equipment, and storage media; intellectual components such as collection policies that determine what materials will be included and organizational schemes that determine how the collection is accessed; and people, who manage the physical and intellectual components and interact with users to solve information problems" (Marchionini & Maurer, 1995, p. 68). Marchionini and Maurer (1995) distinguish three major roles that academic and research libraries serve in learning. The first role is sharing expensive resources. These resources are physical resources such as books, periodicals, media, and human resources such as the librarians that provide a number of responsive and proactive services. The second role that libraries serve is a cultural role in preserving and organizing artefacts and ideas. Libraries have historically had the role of preserving material to make it accessible to future learners in addition to ensuring access to materials trough indexes, catalogues and other aids that allow users to find what they need. The third role of the library is that of serving as a physical knowledge space, where people meet to study and read and often to exchange ideas.

Roskilde Universtiy Library

Roskilde University Library (RUB) is a research library serving the students and staff at Roskilde University. Roskilde University is a smaller university located in Roskilde, a city about 35 km from Copenhagen, the capital City of Denmark.

The university counts circa 10,000 students. According to Roskilde University Statute (www.ruc.dk/library), Roskilde University Library has the following purposes:

1. To give teachers and students at Roskilde University access to information and materials containing information, that are necessary for research and teaching, as well as ensure information on and access to the university's teachers and students' research.
2. As a public research library to make available its collection to external users, among which regional research and teaching institutions, business, and citizens.
3. Participate to the national and international library collaboration.
4. To conduct research and development within the library subjects and functions, but also the surrounding community and businesses as well as anybody who would like to use the library because it is a public library.

Today the library counts circa 45 employees, and the number of employees has decreased due to the digitalization process and e-services adoption. The library acquires still 8,000-9,000 books in paper format per year. However they expect this number to go down, while the number of e-books to go up especially as the quality of e-books improves. In addition RUB counts today circa 18,000 e-journals, while the number of paper journals has gone down from circa 5,000 to 2,000. Today, in Denmark, libraries are the heaviest users of ICTs among the public sector institutions. The advent of the World Wide Web circa 10 years ago has completely revolutionized the way RUB operates and has made possible a number of e-services and self-services. The adoption and implementation of e-services and self-services has resulted into a number of organizational changes, changes in the organizational structure, the competencies of the librarians and relationships between the library and the publishers and the library and the users. In addition also the business model is changing as RUB is trying to sell the services to private businesses. RUB is moving towards a combination of physical and virtual library, as many services are getting transformed into e-services and self-services. Therefore Internet and e-services might change many aspects of the library and its relationships with users and publishers. However, RUB might preserve its historical role of knowledge space, even though after the implementation of library's online communities, such knowledge space can become also a virtual knowledge space.

E-Services Adoption at RUB

Over the last few years RUB has adopted a number of e-services and self-services that are changing many aspects of the way the library operates. Many of the services provided by RUB have been transformed into e-services after the

advent of the World Wide Web. Nowadays RUB offers a number of e-services and Web based self-services. The main e-services offered at RUB are as follows:

1. Access to electronic journals
2. Access to electronic books
3. Digital repository of all the students projects
4. Chat with a librarian

Examples of self-services include:

1. Rucforsk: a self-service system for the online registration of research and other activities of the teachers.
2. Online reference search, online reservation of material not available in the library, etc.

The library is also working on developing a digital repository of the compendia used in the courses. These e-services and self-services are developed on the base of open source software, although the IT department at RUB modifies it to make the software fit to their needs. However they try to use the original open source software as much as possible since it is very expensive to modify it.

MAIN FOCUS OF THE CHAPTER

This session presents the main issues that RUB has encountered in e-services' adoption, the organizational transformations RUB had to go through as a consequence and the challenges that RUB is presently facing and expecting to face in the future.

Back Office

Back office processes have been completely automated as a result of e-service adoption and they have changed from manual to electronic. All library work is today done with the use of ICTs. Even when they get the physical magazine, they insert it into an integrated library system. Everyone working in the library is using ICTs to do their job.

Innovation

Innovation is very important at RUB. The entire e-services and self-services business model is based on one key word: innovation and especially IT-driven innovation. E-services related innovations at RUB are both user-driven and employees-driven. The sources of innovation are very different. A lot of projects are based on ideas coming from people employed at RUB such as librarians, management, the director, and the IT department. Also they provide courses to new enrolled students and faculty about how to use the e-services, and a

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