

## Stick or carrot - how to fill an institutional repository

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### Introduction

SLU (Sveriges lantbruksuniversitet – Swedish University of Agricultural Sciences) has four main campuses, situated in different parts of Sweden. SLU employs 3200 people and has ca. 3300 undergraduates and 800 postgraduate students. Roughly half the staff are concerned with teaching and research. The main subject areas are agriculture, forestry, veterinary medicine and environmental protection. About 150 doctoral and licentiate theses are produced annually in the postgraduate programmes and about 7-800 undergraduate theses in the undergraduate programmes.

The SLU Libraries first became involved in electronic publishing around 1990. This article attempts to summarize developments from the very first ideas of electronic publishing to the operational archives we have today. What difficulties and impediments had we to deal with during those years? What strategies did we choose to motivate the researchers and what were the critical decisions which made it possible to continue with our aims?

### Background

In cooperation with the Swedish Board of Agriculture and SLU External Relations, the SLU Libraries first created a full-text database on ecological farming and related subjects. The database, 'Växteko', was updated periodically and distributed in CD-ROM format. By agreement with publishers, relevant material was selected by an editor from different publications for inclusion. The technical production included scanning and conversion to SGML. The editor provided metadata for the documents that were included in the database. In 1996-97 the SLU-libraries developed a web-publishing platform based on Oracle. [1] At this stage the document format was changed to HTML, but the technical and editorial workflow was basically unchanged.

On the basis of the 'Växteko' experience of editing and handling digital documents, and from the technical know-how generated in the creation of the publishing platform, we concluded that the SLU-libraries had a major role to play in introducing and coordinating electronic publishing within the university. Our primary strategic aim was to anchor an electronic publishing project, not only within the library organisation and the academic community in general, but also at the very highest level of the university. We devised a plan for a feasibility study, 'PUB2000', which was commissioned by the Rector in the spring of 1998. The study was chaired by the head librarian, and the secretary was also a librarian, but the working group included leading representatives from all faculties as well as representatives from the university's IT-department and the its web-organisation, together with other stakeholders. The group worked for six months from October 1998 to March 1999. Under the auspices of PUB2000, a technical team at the library developed and tested a platform for electronic publishing. PUB 2000 concluded its work by submitting a report (EPSILON - Electronic Publishing of SLU-material ON-demand) in May 1999.[2]

The report mainly concerned a plan for a two year project, 'Epsilon', to run during 2001-2002. The project focused on two publication types: doctoral dissertations and undergraduate theses. A main objective of the project was to develop within the university a technical infrastructure for electronic publishing, which also included editorial support for authors. At the end of the two-year project, we had doubts about our technical platform. A great deal was happening in academic electronic publishing, and new concepts were being formed, not least within the Open Archives Initiative (OAI). We began to test a new platform, based on the EPrints software from Southampton University.[3] EPrints had native support for the newly created protocol for metadata harvesting (OAI-PMH), thereby facilitating interoperability between repositories. We quickly realised the potential benefits of this development, and soon chose to change platforms and to discontinue our own Oracle-based system.

The Epsilon project was funded for two years. Towards the end of

that period, it became evident that the goals of the project could not realistically be attained within the given timeframe. It was also clear that development, coordination and support of a system for electronic publishing within the university was not a finite task. With the support of the head librarian, the Epsilon group therefore submitted an application for funding of an EPC (Electronic Publishing Centre) within SLU. This was not intended to be a new project, but rather a new permanent unit within the university, associated with, but not directly part of, the library organisation. EPC was to be a centre of excellence within the university combining the various skills and competencies required in the publishing process. Our application was submitted at a very inopportune moment, however: SLU was going through a difficult economic period, which resulted in severe cutbacks and major reorganisations. Thanks to a very committed and visionary library leadership, we were able to continue the work, basically in accordance with the plans laid out in the earlier projects - albeit on a smaller scale and at a slower pace.

### **The Rector's decision**

PUB2000 had convinced us that voluntary contributions by authors were not a reliable way of creating a comprehensive publishing system. Therefore, we petitioned for and obtained a ruling from the Rector, making it compulsory for postgraduate students to upload their doctoral dissertation to our system. We also designed, in cooperation with SLU's legal department, a copyright agreement between authors and SLU. The main purpose of the agreement, from our point of view, was that an author should not be able to withdraw a dissertation from our repository as a result of pressure from commercial publishers or for other reasons.

The Rector's decision was implemented in January 2003. This was a crucial step, and made it possible for us to set up and begin to operate the Epsilon publishing system.[4] In short, the decision meant that the use of a special stylesheet became mandatory, and that the author must submit the thesis through the Epsilon publishing system. Although we had the Rector's decision, this did not mean that information about the new publishing rules was automatically established in the research departments. One of the hardest tasks was to disseminate information to the involved researchers and students in the various departments on the several campuses. We arranged seminars, to which we invited post-graduate students, teachers and supervisors to provide information about using the stylesheet and the Epsilon publishing system. We also contacted the post-graduate students directly by e-mail with information about new routines. But the most important issue was to build up information on the web, such as step-by-step instructions for authors, so that we could refer to the Epsilon website to which they were also supposed to submit the thesis. Today, the publishing workflow in Epsilon involves two persons; the author who submits a pdf-file, and an editor, i.e. a librarian, who

checks the submission and the bibliographical data and finally publishes the thesis.

In the first few months before the publishing routines had been settled, our work was devoted to giving the authors a lot of support, but also to convincing researchers about the benefits of electronic publishing. Even if many students were favourably inclined to the idea of spreading their work via Epsilon, some postgraduate students and their supervisors were concerned about exposing publications in full-text form on the Internet, in view of the perceived risk of plagiarism. In such cases, we did not force the issue; instead we made exceptions and published only the abstract.

It also appeared that there was confusion among many researchers as to whether the Rector's decision actually made it mandatory to publish the full text, or to publish only the abstract. Therefore, we petitioned for a further ruling, which resulted in a second Rector's decision in October 2003, making it clear that all SLU doctoral and licentiate theses should be published in full-text form, and stipulating that the number of printed copies of a thesis delivered to the library was to be reduced from 120/130 to 20/30 copies. At that time, we had compiled the first user statistics from the Epsilon archives: these showed more than 300,000 downloads during the first year of operation. These figures seemed to function well as a carrot, and from that point onwards, the publishing routines functioned more smoothly and we spent less time on assistance and arguments.

## **Publication of undergraduate theses**

The focus of the Epsilon project also included undergraduate theses. We had contacts with representatives for the veterinary medicine programme - which at that time was subject to minor reorganisations - who wished to start a new serial publication. They showed interest in beginning to publish their undergraduate theses, which is why we started, in January 2003, started two parallel archives, one for doctoral and licentiate theses and another for undergraduate theses in veterinary medicine. At the same time we were also involved in collaboration with other Swedish universities and university colleges in a national project called SVEP.[5] One of the goals in the SVEP project was to create a national portal for Swedish undergraduate theses and diploma work, using OAI-PMH, with a common metadata model and a set structure for local repositories. The service 'Uppsök' has been available since November 2004. [6]

Our experience demonstrates the advantages of starting by cooperating with one interested partner, in our case the veterinary programme, then continuing to attract the interest of other departments and educational programmes. Soon, other

undergraduate programmes wished to begin to publish in Epsilon, and now all faculties are represented. Recently, in December 2005, the faculty of Landscape Planning, Horticulture and Agricultural Science at Alnarp decided that all undergraduate theses in that faculty should be published in electronic format. This is an important step, which we hope the other faculties will follow.

## **Conclusions and final remarks**

In our organisation, we have a 15-year perspective on electronic publishing. Today, the Epsilon archives contain ca. 1,150 full texts of doctoral, licentiate, international master's and undergraduate theses. We have a running system which is rapidly growing, and we are experiencing an increasing demand from researchers and students for electronic publishing. At present, we are developing our publishing system to also include other publications produced at SLU, such as reports, articles and books. In retrospect, however, it seems as though many of the questions and issues that were on our original agenda are still there. Print-on-demand solutions and establishment of a standard document format for SLU, based on XML, are some of the major outstanding issues. One could argue that lack of funding has forced us to transform some of our original short-term objectives into long-term goals.

At SLU, we have explored some fundamentally different models for content creation, with slightly different roles and implications for the editor/librarian as well as for the author and other stakeholders. We have a selective, subject based archive, i.e. 'Växteko', with no author involvement whatsoever. In the Epsilon publishing systems, the author is responsible for submitting the document in electronic format and is partly responsible for the metadata.

Our experience is that whether you have access to the stick or the carrot, whether participation is voluntary or compulsory it is always important to pay attention to motivation. Usage statistics provide a good motivator for authors. In presentations we have been able to show the enormous potential inherent in the electronic distribution, as compared to traditional print distribution. With the help of statistical tools applied to our web logs, we have compiled 'top ten' lists that show astonishing numbers of downloads for individual works, but statistics also show a very fast increase in downloads overall, from 2003 to the present time. Ideally, one should never need to resort to the stick. Although we had the Rector's decision behind us, we put a lot of effort into convincing and persuading graduate students about the benefits of open access and full texts publishing. We feel that it was time and effort well spent.

We firmly believe that, irrespective of the kind of funding or business model on which one bases an electronic publishing venture, it is more important to have a good, generally supported

plan than to have good finances. In our experience, it is also a fundamental requirement to have the whole-hearted support of the library leadership. We feel confident that we have that, and that we will return to the unsolved issues and resolve them eventually as well as meeting new demands.

[1] Växteko web-site (in Swedish): <http://www.vaxteko.nu/>

[2] PUB2000 (1999). EPSILON, Electronic Publishing of SLU-material ON-demand: en förstudie. Available in Swedish at: <http://epsilon.slu.se/epsilon/Epsilon.pdf>

[3] EPrints web-site: <http://www.eprints.org>

[4] Epsilon web site: <http://epsilon.slu.se/eng/index.html>

[5] SVEP - Samordning av den svenska högskolans elektroniska publicering. A brief intro is available at: <http://www.svep-projekt.se/english/>

[6] LIBRIS Uppsök web-site (in Swedish): <http://uppsok.libris.kb.se/sru/uppsok>

## **Svensk sammanfattning**

Biblioteken vid Sveriges lantbruksuniversitet (SLU) har lång erfarenhet av frågor som rör elektronisk publicering. I våra tjänster har vi arbetat med olika strategier för att fylla dem med innehåll. Vi driver Växteko som är en ämnesbaserad fulltextdatabas där en redaktör/bibliotekarie ansvarar för inmatning och urval. Dessutom driver vi Epsilon ett publiceringssystem för avhandlingar och examensarbeten som bygger på författarinmatning och där bibliotekarie svarar för användarstöd och utför kvalitetskontroll av metadatan. Beträffande avhandlingar är det obligatoriskt vid SLU att publicera dem elektroniskt via Epsilon. Oavsett om inmatning är obligatorisk eller frivillig är det vår erfarenhet att man initialt måste lägga mycket tid på att marknadsföra systemen inom universitetet samt på att motivera författarna. Det är vidare viktigt att förankra projekt och ansatser inom detta område på hög nivå såväl inom den egna biblioteksorganisationen som inom universitetet.