Changing the Business Model of a Distance Teaching University

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The case of the Open University of the Netherlands

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Abstract: In distance education teachers and students do not have classroom contact, but the education is mainly delivered through distance media. This dependency on technology makes these institutes extremely sensible for changes in technologies: from time to time fundamental shifts in the business model are needed in order to maintain the quality of their offering. In this chapter a case study is presented of a business model change of the Open University of the Netherlands in the period 2008 – 2013. The triggers for change and the new business model are presented. The implementation of the business model is discussed in terms of adaptations in course development (including the use of Open Educational Resources), course delivery, ICT infrastructure, and a revised model for the implementation of innovations.

1. INTRODUCTION

Due to massive changes in the technologies and its uptake within society in the past five years, an enormous pressure is put on traditional distance

teaching universities, like the Open University of the Netherlands (OUNL), to adapt their educational delivery systems towards a proper use of these new technologies. To be mentioned are developments in the fields of social media, learning analytics, mobile learning, open educational resources (OER) and massive open online courses (MOOCs).

In this chapter I will present the case of the OUNL in its approach to cope with these new developments. The changes in policies will be presented, including the resulting development of new online facilities and the change/innovation processes that it requires to change an institute.

It is important to report about these large scale change processes in actual practice, because in the literature of technology enhanced learning much is written about the development of new prototypes and small scale experiments, but there are only a few reports about the (management of) change processes that are required to bring the new technologies into institutional use (see also Kearsley, 2013). This study could be considered as an exploration towards a future model of institutional, educational transformation processes.

First the case context will be presented, the OUNL and its drivers for change. This is followed by a presentation of the method, including the strategy and project approach that is followed to realize the change. The results are presented per relevant dimension: changing the business model, the ICT infrastructure, the transformation of existing education and the creation of new educational services. In the last section the results are discussed.

2. CASE CONTEXT: THE OPEN UNIVERSITY OF THE NETHERLANDS

2.1 The university

The OUNL, founded in 1984, is a public university in the Netherlands providing open and distance education. It is open in admission for its bachelor programs, there are no formal entry requirements. The university provides academic bachelor, master and PhD programs in various alpha, beta and gamma sciences. The number of students is ± 18.000. The education itself is provided 'at a distance': the students are separated in time and place from the teachers and fellow student.

2.2   **Educational concept: guided self-study**

The OUNL uses a mix of, mostly asynchronous, distance media to deliver its education. From its start the primary educational medium is printed text delivered by post. Additional media like television, CD's and DVD's, email, websites and mobile solutions have been added later, but mostly as an add on to the printed materials and at a relatively small scale. The core activity of students is to study text materials that are send to their homes or are provided online or, more recently, on tablets. For examinations they have to go to one of the study centers throughout the country (including some in Belgium). The pedagogical approach of the OUNL is 'guided self-study'. Course materials are designed very carefully for self-study, most of the guidance is 'baked into' the written materials. Guidance by tutors and other advisors is available, although this is optional in most cases and only delivered on the request of the students themselves. A limited number of students (less than 1/3) uses the additional guidance facilities.

2.3   **The context and background of change in 2008**

Change was triggered by a variety of observations in 2008. The main five triggers for change can be summarized as follows:

Still in the transition towards online course delivery. The central policy was, from 1997, to promote online learning as the primary delivery mode for new courses. However, in 2008 still many courses where primary print based and although all of them had a course website for more than ten years, they where in most situations an optional add-on instead of the core delivery channel.

Lack of standardization in the infrastructure for course delivery. Also from 1997, the central policy was (and is) to use one central, integrated set of services to deliver all our courses. The main reason was, except from efficiency in the back-office, to take care that teachers and students have the availability a high quality, secure, complete and consistent environment for teaching and learning. In 2008 the situation was that there were still many competing, not integrated systems in the university and students are required to switch from one system to the other; as well within courses as between courses. Furthermore, a core component of the infrastructure in 2008 was the LMS Blackboard Learn. An internal evaluation revealed, that the use and maintenance of most course sites in Blackboard was below threshold (Van den Boom, 2008).

No systematic strategy to implement and mainstream innovation results. Because the research focus of the OUNL is on advancing online distance education, at any moment in time there are many different research and innovation projects exploring the use of new technologies or researching new teaching and learning methods. Some of these projects experiment within the OUNL context, sometimes at smaller but sometimes also at larger scales. Examples of projects are the use of mobile technologies, of language technologies, the implementation of a new digital skills labs (Nadolski et al, 2008), the development of a new corporate website, the use of itunesU and Youtube Edu, exploring the use of eReaders (later tablets) and new facilities to monitor student progress. Among these projects also larger scale EU project were executed, like the EU Integrated Project TENCompetence, a project that researched and developed an approach, including software for the support of lifelong learning (see: Koper & Specht, 2006; Koper, 2009). The problem in 2008 was: how do we turn successful research results into successful use within our own institution? Most of the implementations of these projects were limited in scale, only used within a few courses or some faculties. No maintenance, continued development or support was foreseen after the project period. Furthermore, it was unclear how all of these solutions would fit in an overall strategy and architecture.

Discussions about the strategic position of the OUNL within the national university landscape. This discussion has started around the year 2000. Regular, residential universities were also using e-learning to a certain extend and also the number of students at the OUNL where decreasing and drop-out was too high. The question was: what should be the specific role of an Open University in a landscape where residential universities are also delivering distance education? What should be our market position, target groups addressed? Several answers are given at that time with attributes like: adult education, online education, continuing academic education. The main umbrella became the concept of 'lifelong learning', more specifically upgrading the professional workforce in the Netherlands towards academic degrees. So, the role of the OUNL would be to provide academic lifelong learning: the facility to attain a bachelor or master degree in any phase of your life and to keep up to date with your profession or discipline of interest. In order to be able to deliver a broad range of learning options, it was also required to collaborate with other universities. The OUNL would then position itself more in a broker role, integrating the online offering from various academic institutions through a single point of entry for students.

Searching for a strategy to position Open Educational Resources within the system. The use of OER was motivated by a strategy statement made in 2005: when the central government compensates the OUNL for the loss of student income (about 1/4 of the total university costs), all educational self-study materials could be made available for free at the Internet. These high quality in-house developed materials could then be used by individuals and other universities to enable massive participation in higher education. This would strengthen the economic position of the Netherlands and would redefine the role of the OUNL as the public provider of academic (lifelong) learning opportunities for all citizens in the Netherlands. The OUNL participated in OER projects, resulting in the provision of some open courses. In 2008 several open courses had been developed and delivered to the public (Schuwer & Mulder, 2009), but they were offered on a separate platform and where not integrated properly in the OUNL's degree programs. So the question was: how could we position OER as an integral part of our business model.

In order to cope with this rather challenging situation, in 2008 a new strategy plan was formulated and agreed upon at the level of the Board, Deans and Directors. The main objective was first to fundamentally renew the business model and adapt the infrastructure accordingly. In the following paragraphs we will focus on this change of the business model.

3.   THE NEW BUSINESS MODEL

3.1   Approach and Aims

A task force was established to develop the new business model. The approach developed by this task force was the following:

- Given the constraints of a public university and the national economic situation, it is not likely that the OUNL will be financially compensated by the national government to provide all of its courses for free. Furthermore, there is no sound business model available that can be used by a public university: it is impossible for a public body to compensate for loss of income with market activities like selling user-profiles, adding commercials or attracting venture capitalists.
- Instead of providing all resources for free, a more sustainable business model would be to establish a subscription system for academic education along the lines of online services like Spotify or Netflix. For a fixed, small amount per month, subscribers should get free access to all courses and be able to study them to update their professional knowledge. A concentric circles model was developed, specifying the

access rights of different user groups: OER users, users interested in continuing education and students in degree programs. This model will be explained in more detail in the next paragraph.

- In order to realize this ambition, all courses should be delivered online, including all the in-house developed materials and the additional educational services that are added. The access rights of all materials should be organized according to the concentric circles model and it should be easy for teachers and others to set and change the access rights for each course element. In this way, materials in degree programs can be made available as OER or within the subscription model with just a simple 'press on a button'.
- Besides the OUNL, other institutes for higher education could participate to deliver their online courses through the same infrastructure. In this way creating a single entry point for academic lifelong learning in the Netherlands.
- In order to stimulate social learning processes like knowledge sharing, peer collaboration and contacts between experts and novices in a field, social community functions should be established and supported in the infrastructure.
- And, last but not least: it was a deliberate choice to integrate all the products and services from the OUNL and external providers through one integrative entry point for end users (a 'portal'). In this way it is easier for users to search and use the system.

The ultimate aims identified in the strategy plan of 2008 can be summarized as follows:

1. The renewal of educational offering to attract new target groups;
2. promote retention/prevent drop-out;
3. more efficient course development;
4. increase the visibility of the OU research and education in the Dutch society;
5. integrate the use of OER within the business model.

In order to implement this strategy an innovation project was installed: the OpenU project (2009-2013). In the next paragraph the concentric circle model is presented, followed by the requirements for the project and the management of the innovation process.

3.2   The business model: the concentric circles model

Business models can be described in different ways. In the strategy planning we used the business model canvas of (Osterwalder & Pigneur, 2010), see figure 1.

Fig 1. The Business Model Canvas
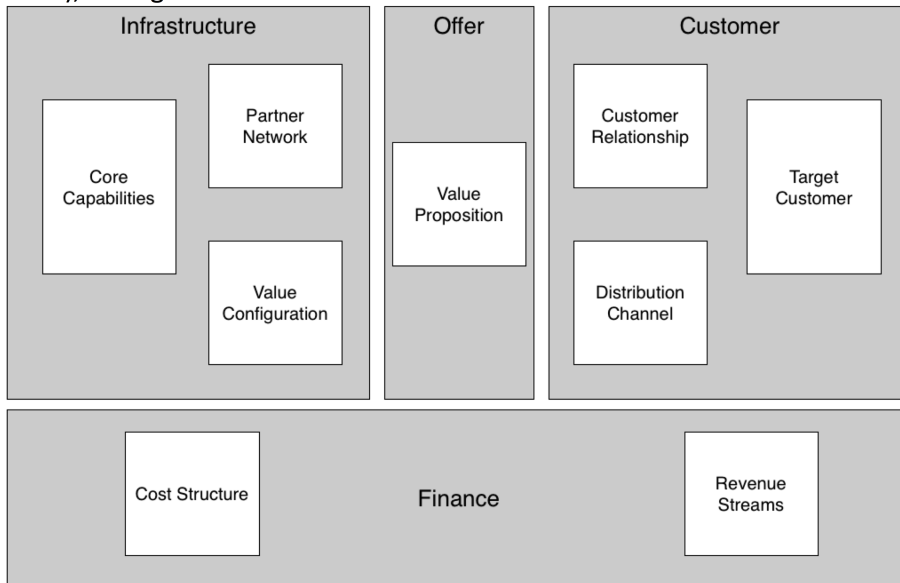
The core aspect in this model is the value proposition that is created for the customers through the infrastructure and the resulting costs and revenues. The new business model of the OUNL is described through the 'concentric circles model' that brakes down the target customers into four groups, each offered different educational products and services for a different payment scheme (figure 2).
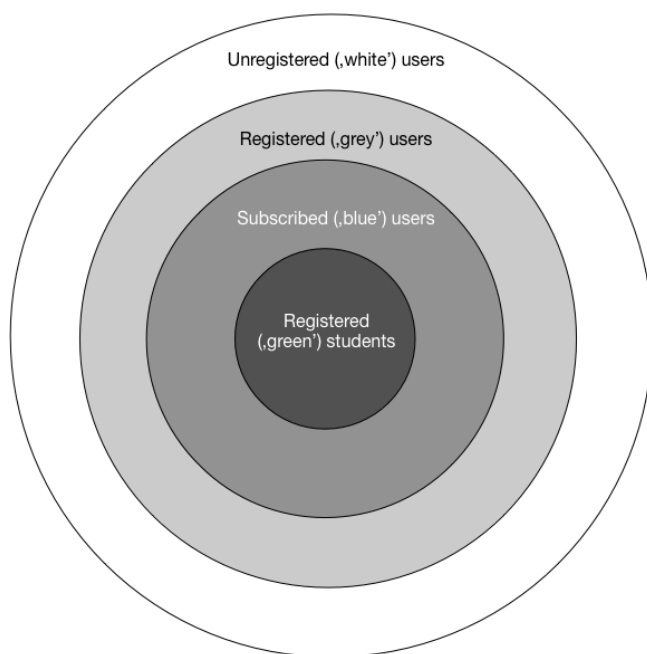
Fig 2. The concentric circles model

The first group ('green users'), are the students that are enrolled in the various bachelor, masters or PhD programs of the OUNL. This is the core target group of the university. The offering, the quality, the enrollment and financial compensation are all regulated by national laws, checks and services. The next circle ('blue users') represents post-initial, continuing education. It is aimed at people who want to update their professional knowledge in the field. This group will be offered a subscription for one or more academic disciplines, like informatics or educational sciences. The challenge is that they should be offered sufficient new and up-to-date learning opportunities to attract them for a long period in their careers. The third group ('grey users') is ment for people who want to explore whether a subscription program or studying for a degree program at the OUNL fits their needs and is attainable for them. They are offered free courses and resources (OER), but they need to register (for free) in order to be able to access them. For most open courses, like MOOCs, this is needed in order to keep track of progress, use the social functions, use of notifications, etc. The last group ('white users') are people who are interested in the OUNL and the educational resources that are offered for free without registration. These

resources are indexed and searchable through search engines and can point people to the OUNL when they are searching for learning opportunities.

One of the possibilities would have been to create services for each of these groups separately. However, in the business model this is designed as concentric circles, meaning that people in one of the middle circles automatically have access to all services offered to the outer circles. E.g. a person from the blue group, also has access to the facilities offered to the grey and white users. Students (green users) have access to everything offered. Table I provides an overview of the products and services offered to the users in the different circles.

Table I. Main products and services delivered to the green, blue, grey and white user groups

Product/Service	*Users*				*Access restrictions*
	Green	*Blue*	*Grey*	*White*	
Information & orientation facilities, including open access materials (research papers, master/PhD thesis, access to research communities ('topics')	x	x	x	x	Open access
Open courses, social network tools (including user profiles and tools for knowledge exchange)	x	x	x		Free access, registration is required
Subscription program, including access to all digital course materials in the selected academic discipline	x	x			Access for a monthly subscription fee
Access to tutoring and examinations within the degree programs	x				Enrollment as a student and payment of the regular tuition fees

3.3   Project assignment

The assignment for the OpenU project was the following:
1. Develop, test and implement the business model, including the ICT-services to deliver the required functionality as specified in table I.
2. Create functionality for rapid, collaborative online course development and delivery, integrating resources from other systems, like LMS's and the student administration.

3. Develop a solution that enables a course developer to change the access rights of parts of the courses to any of the users in the concentric circles model. In addition to this it was stated that about 10% of all the digital materials of the degree courses should be made available as OER.

4. Develop a learning analytics approach to monitor student progress and provide aggregated and individual feedback about performance to students, tutors and managers.

3.4 Management of the innovation process

Innovation projects like OpenU involves a complex management process. The approach followed was based on modern innovation approaches like the cyclic innovation model (CIM; Berkhout, 2000).

In these modern approaches innovation is seen from a systems perspective and not as a linear diffusion processes (cf. Rogers, 1995). In CIM, innovation is the result of close interaction cycles between research, technology development, product creation and market transitions. It integrates technology innovation and social innovation. The innovation method used in the project can be summarized as follows:

1. First of all complexity was reduced by involving only two of the seven faculties of the OUNL: Informatics (1500 students; 1 bachelor and 3 master programs) and Educational Sciences (652 students; 1 master program). The idea was that after a successful implementation phase in these two faculties, the business model will be implemented in the other faculties. The two faculties where chosen on the basis of multiple dimensions, like the variance in the target groups and some practical concerns about staffing and resources.

2. Close connections and collaboration were established between all relevant stakeholders involved: researchers, technology developers, ICT maintenance, educational development and delivery, students, teachers and managers. Also, more distant stakeholders were involved like the ministry of education and student and employee representatives councils.

3. The users in the two fields (existing students, but also new target groups) should be involved as soon as possible. This was done by developing the ICT facilities and educational services incremental. In only two month of preparation a first website with offering should be made available, people can participate and the project can evaluate users needs and behaviors. The strategy was to start with the easy functions and release more complex functionality later in

the process. So, the idea was to start with the services for the white user group, followed by grey, green and then blue. The facilities for the blue users were considered to be the most complex and innovative.

4. The design of the approach should build on the results of contemporary research and developments. One of the main inputs was provided by the TENCompetence project (Koper & Specht, 2006), providing the fundamentals for the development of the ICT framework and the educational services to offer (for an overview of the research articles published in this project see hdl.handle.net/1820/496). Based on the experience in the TENCompetence project, the software framework selected as a base for development was the Liferay Portal platform (liferay.com). The software development methodology selected was SCRUM (Schwaber, 2011).

5. The work was divided in several sub-projects: new service development, ICT development/maintenance, help-desk, training, marketing, course conversion, development and delivery, testing.

4. ADAPTING THE DISTANCE EDUCATION SYSTEM

4.1 Adapting the ICT services

In March 2010 the first version of the portal openu.nl was released focussing on the services for the white and grey user groups. It contained sub-portals for both the Informatics and the Educational Sciences faculties, along with a first version of a user profile and social software functions. The main ICT challenges in the first releases were connectivity with the existing infrastructure like the identity management system for single logon. This was not complex from the technological perspective, but mainly because there were many stakeholders involved within the OUNL, each with their different projects and priorities. Following the SCRUM process every three weeks there was a release planned. Users were actively asked for input through different means: questionnaires, help-desk, personal contact. User behavior was followed through logging of user behavior (e.g. using google analytics). The main functions developed are:

1. A personal *dashboard* that presents the various courses, programs and websites the student is subscribed to. The dashboard can be rearranged according to user needs, much like apps on a mobile platform. The apps provide push information about important events or messages from the courses or websites they represent.

This provides an overview of the learning activities, important events and the learning path for the students (also see Janssen et al, 2008;Janssen, 2010).

2. A *catalog* of the total offering from multiple vendors. This functionality is much like a web-shop. People can search and subscribe to courses and websites. Each item has one or more prices attached. For instance: one can enroll for a regular OUNL course in a degree program, but also see the free version of this course or enroll for the subscription program (blue user).

3. A *credit point and voucher* system. People can earn or buy credit points that enables them to subscribe to some services like online masterclasses and conferences. Vouchers with credit points can be emailed and carried over to other users. This is especially important in corporate settings where an employer buys a couple of vouchers to be distributed among employees who can use them to register the credit points in the openu system. With the credit points they can enroll in online masterclasses or pay the subscription program.

4. A *collaborative course development* system in which the author can control per item the access rights for user groups given the concentric circle model (see figure 3). This system is used for the development and delivery of online courses as well as for online masterclasses, MOOCs and research communities. It works alongside the standard wiki function of Liferay. The wiki is used to collaborate on the development of course content. The course development system also includes the authoring and delivery of tests as well as a workflow system for assignments.

5. A *user profile and social system* in which users can specify their interests, can find and contact each other, can blog, maintain a personal wiki and manage files. Also connections to Facebook or LinkedIn can be established. Every item posted in the system has a link to the user profile of the author (see Henry Hermans, Kalz, & Koper, 2014 for an overview).

6. A learning analytics system that is used to monitor the progress and the activity of individuals as well as groups of learners. It contains information from various sources, e.g. the student administration and the progress within courses, logging data as well as information from the activity stream of Liferay.

Dedicated learning network services, like the possibility to annotate, tag and bookmark resources for later reference (Hermans, Wigman, & Berlanga, 2011).
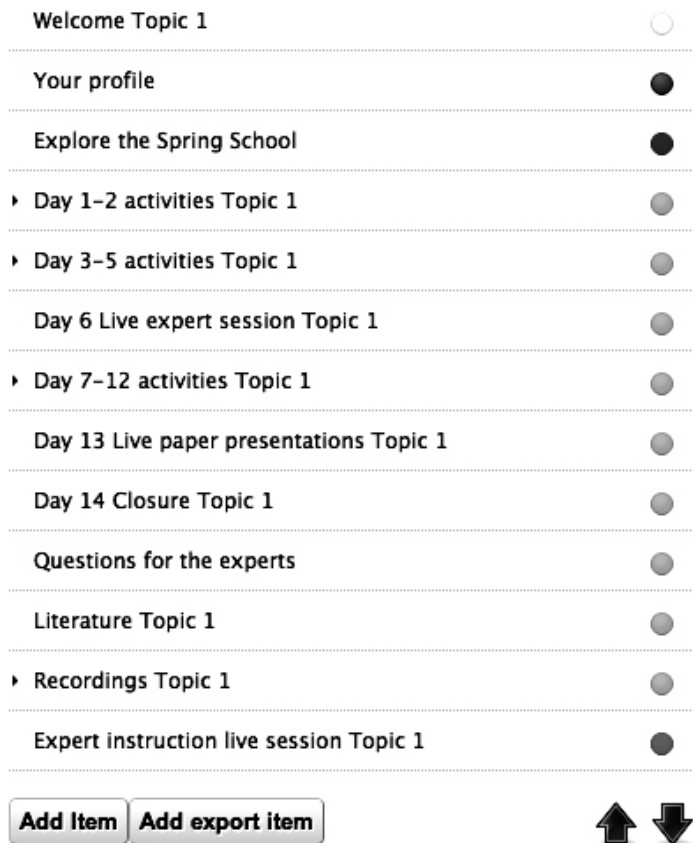
Fig 3. Controlling the access rights for course items: the colored bullets use the colors of the concentric circle model. Example: the grey users can only access the item 'Your profile'. Clicking on a bullet will change it color and respective access rights.

4.2 Adapting the business model

The ICT infrastructure supports the intended change of the business model. In the Educational Sciences faculty several services for green, blue, grey and white users are developed and maintained using the OpenU infrastructure. Offerings for the white users includes:

- 10% of the regular courses are offered as OER (free access for white users, using the access system of figure 3);
- a portal with an overview of all study facilities, research outputs and job possibilities in the educational sciences;

- a series of eight research topics that are directly connected to the core research groups within the OUNL. These topics have introductory texts about the research field, the main theories and main literature. The members of the team and interested students publish blogs about these topics and organise one or two online masterclasses each year per topic. The research topics are: Learning Analytics, Information Literacy, Networked Learning, Expertise Development, Mobile Learning, Effective Learning Strategies, Cognition, Lifestyle and Learning and Serious Gaming.

The grey users are offered the same as the white users, but with the addition of social tools (user profile, personal blog, wiki, etc.) and the possibility to interact, e.g. provide comments on the content.

A subscription system for the blue users has been realized. The subscription was designed as follows:

1. People subscribe for a learning trajectory in the educational sciences, called 'learning and teaching in the 21th century'. Subscription is for one year. The content of the trajectory changes continuously; people are offered new learning opportunities every month. The idea is that they maintain their subscription many years ('lifelong') to keep themselves up-to-date in their profession. The main target group is teachers and managers interested in the innovation of education.
2. They are offered 6 vouchers with credit points that they can use to access 6 online masterclasses from the total offering in a year (about 12) and they can access the archive of online masterclasses.
3. They have access to all digital course materials of the online MSc program in the Educational Sciences. They are able to make assignments, but they cannot send them in for feedback or grading. Peer feedback in the community can be asked.
4. After a year they are offered a certificate of participation, specifying the number of study hours they have spend on various learning activities. They can bring in external learning activities, however they should offer some proof. The certificate does not specify the attainment of any learning objective, but specifies the type of activities and the number of hours spend. Every hour is equivalent to exactly one PE (Professional Education) point. Some professional organizations in the Netherlands require professionals to attain a certain number of PE points per year and agreements have been made with such a public organization to accept the PE points provided from OUNL. PE points can not be converted to EC (European Credit) points that are needed within degree programs,

although they can serve a role in the assessment of prior experience, e.g. for exemptions in degree programs.

The MSc program in Educational Sciences has been transferred from Blackboard Learn to OpenU in July 2011. This included a more advanced monitoring system based on learning analytics principles. Students can complete individual tasks and teachers can follow individual and group processes in the context of the available data like: activity stream, student administration data, completion dates, date last login, etc. Furthermore, the workflow for submitting, grading and feedback has been better integrated within the course structure. Because it was a straightforward conversion, social tools and functions where not added in the first run, but are now slowly integrated more and more in the different courses.

In the Informatics faculty the facilities for the white and grey user groups have been elaborated extensively, but the subscription program for blue users is not open yet, although it has been designed and worked out. The design of the subscription system is a bit different, mainly because the distance teaching model of their course offering is different. They offer mainly printed course materials. In informatics, subscribers get access to the read-only PDF versions of the course materials. The idea is that this is of interest for alumni to keep up-to-date in the rather fast changing profession. They also introduced the community tools and some webinars are organized. Facilities for regular students (green circle) are not yet integrated. The reason was that it would be too much work to change from the written delivery of course content to online teaching. This can be done later, when the degree programs are revised.

4.3 Adapting existing education

As stated before, the MSc program in Educational Sciences, including the pre-master program has been converted from Blackboard Learn to OpenU. In total 25 courses (except the thesis course all have a study load of 120 hours; 4.3 ECTS) have been converted. This has been done in five days with the tutor team, the program management and the OpenU team, including testing, further standardisation of the structure of the courses and the conversion of all the digital course content. The process went smooth, the authors have found the new authoring environment easy to use.

4.4 Adapting the educational services

The conversion of existing courses to the new platform does not reform education or its business model more fundamentally. Based on the ideas worked out in the TENCompetence project, the functionality of the OpenU

platform is designed to implement solutions that provide fundamental new ways of teaching and learning. Some new educational concepts have been designed and implemented using OpenU. This includes: the setup of pedagogically advanced MOOCs, the concept of online masterclasses, the concept of learning trajectories for professional development (PE points), the establishment of online research topic communities that bring scholars and interested students in direct contact, the 10% OER that is derived from regular courses, comments of students on designed course content, intensive monitoring of student progress in order to realize more pro-active teaching modes in distance teaching, the use of social functions (searching fellow students, exchanging knowledge/experience online, debating research issues, etc.). Furthermore new types of guidance and pacing where explored using OpenU, so called Sprints and OUX. Sprints are optional tutoring facilities within a course for students who want to increase their speed of completion. OUX courses are optional tutoring facilities that help students to run in a fixed tempo through a series of courses. The problem of dropout and the need for more pacing has led to the development of a new strategy plan for the redesign of all the education within the OUNL. This process has its first deadline in 2015 to adapt and change all master programs of the OUNL.

Besides innovations that are already tested, there are many areas that are not yet explored sufficiently, to be mentioned:
1. Systematic exchange of knowledge between participants, e.g. solving real world problems.
2. Collaboration in course content development between students, external experts and teachers. The course content is stored in a wiki format, enabling this collaboration.
3. Alerts and warnings based on student data that are available in the system: as well for the students themselves as for teachers. Examples are automated alerts when students are behind schedule or when teachers are not responding fast enough to student requests.
4. Exploration of new pedagogical models, mixing the principles of regular courses with more social, collaborative approaches.
5. Using the learning network as a peer support network to increase the support facilities without increasing the teacher load (Kester et al., 2007; Rosmalen et al., 2008).
6. The integrative use of the system in the context of skills training through serious games (Nadolski et al., 2008).

4.5   Use of the services

At the moment (September 2013), there are 19.829 registered users in OpenU (figure 4) of which 12% has created a user profile (adding a photo and/or additional information about yourself).
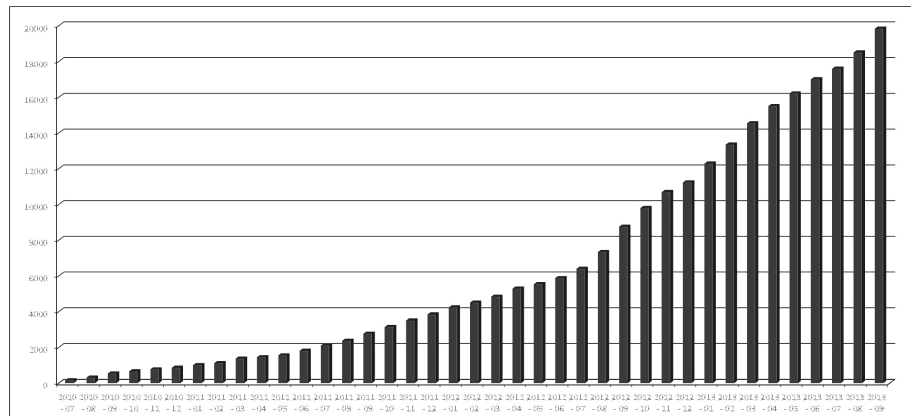

Fig 4. The development of the number of registered users in the system
(registration was open from July 2010).

The google analytics data in the period September 2010 - September 2013 for the two faculty portals were as follows:
- Educational Sciences: visits: 153,340; unique visitors: 91,104; returning visitors: 59.4%.
- Informatics: visits: 245,604; unique visitors: 165,345; returning visitors: 67.4%

The results of a recent user survey are as follows (Verstappen, 2013). A questionnaire was send to 1546 registered users, of which 291 responded between 18th of March and 15th of April 2013. The use of the various services is summarized in table II.

Table II. Use of the various services

Service	N	%
Online masterclasses	101	44.5%
Topic communities	97	42.7%
OUX	35	15.4%
Online courses	181	79.6%
Created user profile	139	61.2%

Social contacts	57	25.1%
Blogs	44	19.4%

In total 31 online masterclasses have been organized from Sept. 2011 to Sept. 2013 and in addition around 10 online webinars were delivered. A first MOOC in the Dutch language is running at the moment with 700 participants in the Educational Sciences. The MOOC integrates a couple of online masterclasses that can also be followed individually.

The subscription program in the Educational Sciences at the moment attracted 144 persons. Both the total number of students in the Educational Sciences and in Informatics degree programs are increasing from 2010 onwards. This compared to a context where all other OUNL faculties, except Law, are decreasing in student numbers.

5. RESULTS AND IMPACT OF THE USE OF THIS NEW MODEL

In this section we are looking back on the original strategy aims as they were defined in 2008 and the results and impact on the distance teaching system.

5.1 The renewal of educational offering to attract new target groups

The OpenU project successfully delivered an infrastructure for two faculties. The implementation for Educational Sciences was complete (including products and services for all four user circles) and for Informatics only for the white (non-registered) and grey (registered) user circles, although in the latter case they were much more elaborated. The difference is because Informatics viewed the OpenU facilities mainly as marketing facility for their existing educational offering. In the Educational Sciences the educational offering was also renewed.

In the Educational Sciences, new target groups are attracted, mainly by the new online masterclasses and the subscription system. In Informatics less has been done to renew the offering, but the student numbers are increasing as well. Whether this can be attributed to OpenU is hard to measure. A big difference with the past situation is that OpenU stimulated direct contacts between all participants: teachers, students, external experts and (prospective) students and lifelong learners. Distance teaching has become less distant. The interaction does not come spontaneously by

just putting the ICT facilities in place. It is necessary to organize learning opportunities like masterclasses, webinars, research topics and online courses in order to stimulate the online interactions between users.

5.2   Promote retention/prevent drop-out

In the Educational Sciences, one of the main advantages that teachers and managers see in the new OpenU facilities is that they are able to follow progress of students by means of the new learning analytics facilities. However, this also requires that teachers are more pro-actively following students and take actions when something seems to go to the wrong direction. This is done more and more by the teachers involved, but is not given automatically by installing the technical facilities: also proper management and coaching of the teaching staff are needed. OpenU has also been used to experiment with a new, more structured form of distance teaching. Based on the need to increase student retention, we have developed a plan to revise all education in the coming years.

5.3   More efficient course development

Based on the fact that a whole online MSc program could be converted in a couple of days and the fact that many of the courses have been revised, updated or renewed in the meantime, we can conclude that authors can use OpenU for course development in an efficient way. However, most efficiency came from the following aspects. First of all OER materials are not developed anymore separately from the online degree courses. They are directly derived from them by setting some access rights on the full courses. In the second place, not all course materials should now be developed in advance. They can be developed also during the run of a course. In this way course development can be more adaptive to the experience and needs in the course run; development and exploitation are not so divided as they were in traditional distance education. A third factor is that existing courses can be adapted easily to a new target group, and last but not least, the OpenU facilities support strong collaboration on course development, even involving students or external experts. Involving students has not been done to a large extend yet, however more and more students are now commenting on specific course pages when they want to add something, see a mistake or have a question.

5.4 Increase the visibility of the OU research and education in the Dutch society

The online masterclasses that are organized by the research groups and the topic communities that provide an insight in the latest developments in research are now important instruments to increase the visibility of research. The visibility of education is also increased, especially by the work in the Informatics faculty to build their website as a showcase for their study programs, including the free accessible (OER) samples. We came across a difficult problem here: the relationship between the corporate university website and the OpenU website: what should be offered in what site and how do they relate? This problem will in future be solved by merging both websites, especially the offering for the white and grey users. The corporate website however should be redesigned to offer functionalities like the dashboard. First steps in this direction are already taken, but it is expected that it takes at least a year for better integration.

5.5 Integrate the use of OER within the business model

OER is used integral within the offering of Educational Sciences and Informatics. The development is directly connected to the core business in the Educational Sciences, because it is derived directly from the existing online courses. Also many of the online masterclasses and MOOCs are offered for free. Some of them are also sponsored by external public parties so that they can be offered as OER. The system is developed in such a way that the percentage of OER offered can vary according to circumstances which makes it very flexible. These technical solutions however do not stop the more political discussions about the extend of OER, especially MOOCs, that should be offered by (public) universities. Should there be a national action plan? What about the level playing field with commercial providers in the Netherlands?

5.6 Innovation process

What is the reflection on the innovation process that has been followed? How do we proceed

from now by implementing the new products and services within the rest of the university, including the support departments? These questions turned out to be one of the most difficult questions. The faculties who did not participate, invested in some other innovations that are not in line with the general agreed upon strategy. Also, although they were formally connected and informed about the process in established boards, they were

rather distant to the project ('wait and see'). The same is true for the support departments: for services during the project they are payed. After the project they are required to organize the support as part of their regular services. This restructuring requires to de-prioritize other regular activities and they should train staff and reorganize. This is a hard process, so resistance to these changes are expected. So, for future projects questions like the following should be answered. Is it a good idea to concentrate on only some faculties instead of all? Should such a fundamental new service be build outside of the running business and not integrated with it? How could we improve the 'landing' process within the service organizations?

5.7   How far are we?

Are we anywhere near the idea of transforming the OUNL to a kind of Spotify or Netflix for education as was intended in 2008? The simple answer is no, not yet. Although this route is still very worthwhile to explore, there are many problems to solve first. Not discussed so far, but in OpenU also courses of external parties were developed and provided. Because of an overfull agenda of activities in further development and experimentation with new services, this did not had a high priority yet. Also for various reasons it is hard to collaborate with other parties in this way. Most other providers do not have the experience and organization as distance education institutions have them to develop high quality online education. So, to the contrary of the offering of Spotify (music) and Netflix (film), most of the content itself does not exist yet and should be created first. Furthermore, courses are not like music of films: they cannot be copied as easy to almost no costs. Each time they should be organized, and involve teaching staff. For the OUNL this means that the institute will first focus on the further internal implementation, the changes in the internal organization and the improvement of its own educational products and services.

5.8   Towards a model of institutional change in education

As stated in the beginning, case reports about institutional change processes in the field of technology enhanced learning are rare. Educational innovation projects have difficulties in finding the right innovation management approach, as was illustrated with the questions asked in the previous sections. Maybe it is worthwhile to work towards a model for institutional, educational transformation: a model that can be used as a guide to arrange educational innovation projects and processes successfully.

I see at least five core questions that should be addressed in such a future model:

1. The system boundaries: what is controlled within the educational institute and what factors represent the relevant external world?.
2. What are the relevant performance variables of the institute and how to measure them?
3. What are the relevant input and context variables, e.g. laws, budget, tasks and targets, etc.?
4. What is the business model of the institute, i.e. how does it attain performance with the constraints given?
5. When the aims of the organization are changing or performance is below threshold, what is the best approach to change the business model of the institution, given its context variables?

The first thing needed however to develop such a model is enough case studies that can be studied in meta-analysis.

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