Lifelong Learning and the E-strategy of the Open University of the Netherlands: ou.nl

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1. Status Quo

The Open University of the Netherlands is the smallest university of the country. Its annual budget is about 60 million euros and the number of staff is no more than 700. Notwithstanding its small size, the Open University has a total number of 32,000 students, which would make it the largest university of the Netherlands. However, a straightforward comparison with other universities is quite troublesome, because of the Open University's very different educational system and target groups. In contrast with other universities the Open University allows open admission of students: no formal certificates are required for the enrolment into Open University courses or academic programmes. Also, it provides distance education, as it has been established in the Dutch Higher Education Act (WHW). Students live all over the country and abroad and study primarily at their homes. Most of the students can be labelled lifelong learners: they have regular jobs and study only part-time. Consequently, the students' population is highly heterogeneous with respect to age, personal ambitions and previous level of education. The average age is 40 years. The model of distance education and the associated focus on lifelong learners has prompted the Open University to develop an explicit e-strategy for the flexible online delivery of courses. Indeed, the emergence of the internet has offered great opportunities for overcoming the drawbacks of distance learning. Current e-services include the delivery of learning assignments, collaborative work, online support and feedback, and various digital learning resources, although still many books are being used. The Open University has 7 faculties offering accredited bachelor and master programmes. The programmes are modular and are based on some 250 distance courses with course sizes of typically 120 hours. Since flexibility, openness and autonomy are the main characteristics of the Open University's pedagogy, students are free to choose when to study and at what pace. As a consequence, the common idea of cohorts of students has only little importance: apart from occasional collaborative work, students choose their own learning routes that aren't necessarily synchronised with other students. This puts high demands to the technical and organisational infrastructure that is being developed under the e-strategy. The e-strategy of the Open University has been made explicit in the institution's strategy paper (OUNL, 2006). Basically, the e-strategy covers three ambitions, which are greatly interlinked:

- The Open University is an internet-based university
- The Open University provides open educational resources
- The Open University is a frontrunner in educational technology

Even though many online courses and services are available already, there is still a lot of work to be done, because changing demands and changing technologies urge for continuous improvements and innovations. So far, many projects are carried out to support the e-strategy. Its realisation, however, is not straightforward. The organisational picture of the Open University (cf. figure 1) shows the various stakeholders involved.

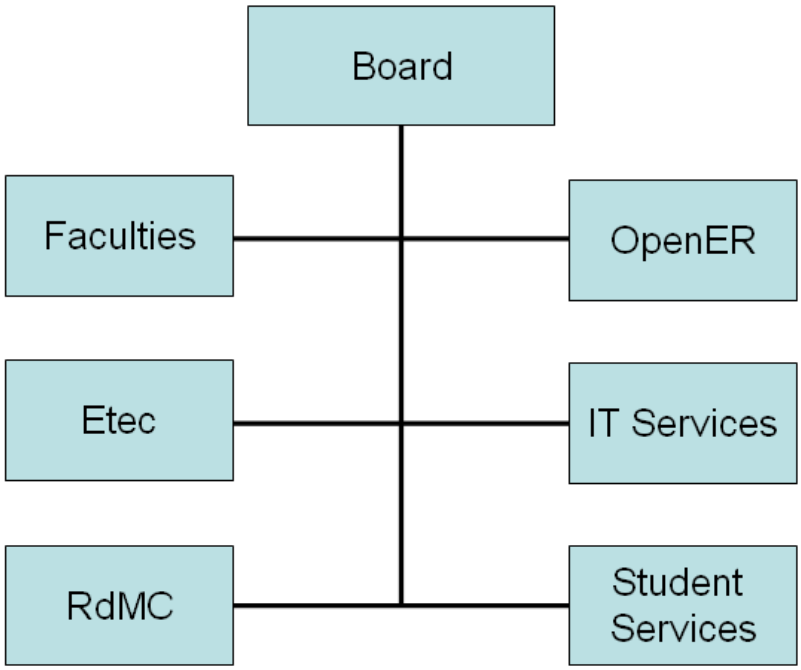

Figure 1. Organisation chart of the Open University of the Netherlands

First, faculties are responsible for the courses and programmes of the Open University. Like in other universities, the faculties are highly autonomous and they tend to develop their own formats, methods and procedures for their educational programmes; as a consequence, quite some differences between faculties occur. The Educational Technology Expertise Centre (Etec) is an innovation driver, displaying international renowned research and development and a variety of experimental innovation projects inside and outside the Open University. The IT-services department aims to implement and maintain stable and reliable e-services, rather than to explore state of the art applications or infrastructures. The Open Educational Resources project (OpenER) is a new initiative staffed by members of various departments. Its main task is to develop or assemble new open courses and making these available through the web. The Student Administration Service centre provides topical information and effective support for students or students to be. The Ruud de Moor Teaching Expertise Centre (RdMC) has a separate task oriented on supporting teacher education in the Netherlands. Even though its services largely resemble regular services of the faculties, it uses a separate IT-infrastructure. So far, there is no separate CIO position available within the Open University. The board of the Open University coordinates a number of e-strategy activities, but its hierarchical control is not too strong because of the departments' autonomies.. The self-governance of the various departments is not necessarily a drawback; it goes with responsibility and initiative, which are essential characteristics of a dynamic and innovative working environment. Likewise, innovative power as well as the academic habits require sufficient staff autonomy and time for exploration. It is the Open University's challenge to create the right conditions for evolving and implementing a shared e-strategy. In the following sections we will introduce the goals and scheduling of the e-strategy of the Open University of the Netherlands and discuss several aspects of this strategy more into detail.

2. Goals and scheduling

As stated in the institute's strategy paper (OUNL, 2006), the Open University has high-minded ambitions: the transformation into an internet-based university, the delivery of open educational resources and being a leader in educational technology. The constitution of the strategy document took about 12 months of discussions at various levels in the organisation. During that period, a number of plenary meetings were arranged by the Open University

board to allow open discussion and exchange of ideas. Such procedure for achieving consensus is quite common in the Netherlands. It has yielded a lot of support amongst staff.

Turning the Open University into an internet-based university has been considered the best strategic option for offering flexible and personalised learning arrangements to a variety of lifelong learners. High quality, internet-based educational services are considered the unique selling point of the Open University as compared to other higher education institutes. It is important to note, however, that many courses of the Open University still include face-to-face meetings in its 18 local study centres. These meetings are particularly useful when virtual alternatives are doubtful, as may be the case for communication skills training or presentation skills training. It doesn't alter the fact though that the internet is being considered the main channel of delivery.

In contrast with the original business model, which positioned the Open University as an educational publisher, the institution's core business is gradually shifting from the development and delivery of educational content to the arrangement of learning opportunities. Learning content creation still remains relevant as such, but revenues are supposed to be largely generated by tutoring support services and fees for certified examinations. As a first step, the Open University has decided to make various online courses available free of charge by means of its Open Educational Resources project (OpenER, 2007). Like MIT's Open Courseware project (MIT, 2007) and the OpenLearn project of the British Open University (OpenLearn, 2007), the OpenER project's mission is to advance higher education and to empower people without imposing any thresholds (cf. the Open Courseware Consortium, 2007). The project is also motivated by the so-called Lisbon Agenda of the European Union to make Europe, by 2010, the most competitive and the most dynamic knowledge-based economy in the world. Like many other EU countries, the Netherlands has adopted the Lisbon target of 50 per cent of highly qualified people on the job market. Providing open access to high quality e-learning content is assumed to contribute significantly to this target.

Being a frontrunner in educational technology is considered essential, because it positions the Open University deliberately as an educational innovator. From its start in 1984, the Open University has been a trendsetter in educational technology. Although print was by tradition the dominant modality of learning materials, many courses also included simulations, audio and video programs, computer-assisted instruction and interactive videos. In the 1990's, the Open University was one of the first higher education institutes to launch a virtual learning environment which used the internet for the distribution of learning materials, collaboration between students, file exchange and the communication between teachers and students. Educational research and development as well as practical valorisation are coordinated by the Educational Technology Expertise Centre (Etec). It has arranged thematic expertise programmes on instructional design, learning networks and learning media. Its size of some 100 people (relative to total staff of 700) signifies its importance.

The goals of the e-strategy have been made more concrete in the organization's strategy document. By the end of 2009, the Open University aims to have achieved the following goals of the e-strategy:

- Coordinated innovation
  The Open University has arranged an institutional innovation programme in order to coordinate the innovation activities.
- E-learning
  All educational programmes and courses can be characterised as open, flexible,

modular and web-based. The use of interactive multimedia will be common. The services are student-centred.

- Quality assurance
  The Open University has improved its quality assurance system in order to preserve and continue formal accreditation. It has maintained its top ranking in the National Survey amongst students (CHOICE, 2007).
- Staff development
  The human resources policy will be tuned to the required e-competences
- Open educational resources
  The Open University has achieved a substantial assortment of open courses and the associated external funding.
- Reputation
  Nationally and internationally, the Open University will be considered a leading party in educational technology, educational innovation and lifelong learning.

3. Measures

In this section we will explain a number of actions that have been taken in view of the agreed e-strategy.

Coordinated innovation

As has been noted above, the hierarchical control of the Open University board has never been too strong because of the departments' autonomies. Yet, by 2006 there was a shared feeling that innovation was increasingly hampered by the uncoordinated diversity and duplication of initiatives. The general image of innovation was dominated by individual pioneers who eagerly and opportunistically embraced new software applications, without even bothering about the wider implementation and scalability, robustness, reliability, maintenance, not to speak of licensing costs. As a result, Etec's educational technology expertise was scattered over an incoherent diversity of topics, projects and services, which made it increasingly counterproductive. Even when separate faculties developed their preferential policies, their sizes (approx. 25 fte) were far below the critical mass that is needed for achieving substantial and structural innovations. On the initiative of Etec, it was suggested to introduce an institution-wide programme to arrange the educational innovation of the Open University. Eventually this suggestion was adopted by the board; all stakeholders recognised the great opportunities that might present themselves by better coordination and collaboration. As has been proposed in the institutional strategy document (OUNL, 2006), from 2007 all internal innovation activities of the Open University are coordinated by the newly arranged Institutional Programme of Educational Innovation (Schlusmans, 2006). The programme aims to coordinate and amplify the institute's quality assurance and educational innovation power and to integrate the required change management. It is an important enabler of the e-strategy, since it includes projects on online tutoring, educational multimedia content, online testing, redesign of the virtual learning environment and staff training. All departments have been invited to participate in the programme's projects. In order to stimulate participation, additional funding of about 1 million euros per year has been made available, which is largely used for partial compensation of staff costs (50%). The programme manager has an independent position directly subordinate to the board of the university. Coordination of the programme is supported by a steering committee of internal stakeholders. Yet, the programme has a wider scope than the institution's e-strategy. It also includes the implementation and monitoring of the institutional quality assurance systems in order to preserve the formal accreditation of its higher education programmes. One of the projects concerns the regular acquisition of management data which comprises biannual questionnaires amongst students, persons interested and alumni. Another project deals with issues of learning efficiency, while

taking into account the unrestricted course subscription policy, the students' diverse study paces and a comparison with other distance universities. Because of the Open University's positioning as a lifelong learning university the programme also covers the institution-wide introduction of a formal procedure for the assessment of prior learning, be it formal learning or informal learning, viz. work experience. By the end of 2007 the Open University of the Netherlands has introduced this assessment service for all of its higher education programmes. Finally, the institutional programme also coordinates the strategic discussions and reflections about the Open University's educational system and its further development.

E-Learning

The transition to a web-based university that provides high quality, open, flexible and modular educational programmes, courses and services is a complex operation. Various projects have been initiated to cover parts of this transition. Inevitably, the projects are greatly interdependent. One of the key projects on e-learning is the future-VLE-project, which explores the future virtual learning environment (VLE) of the Open University. The current all-in-one monolithic VLE is considered unsuitable for the envisioned e-learning approach. The future VLE is assumed to cover various emerging issues like student empowerment, personalisation and adaptivity, electronic support and assessment services, the incorporation of free web services and mash-up tools, seamless integration with working environments, dedicated multimedia integration, authoring tools, content management etcetera. Importantly, the project's focus is not so much about functional requirements of the VLE, but about fundamental issues with regard to the system architecture and software strategy. The call for a coherent IT architecture matches the need for better coordination within the Open University. Here, two opposite approaches are at issue: first, the component architecture, which integrates best of breed applications; second, the services-oriented architecture (SOA) which focuses on distinct functionalities rather than applications (Kluijfhout, 2006). The former approach provides great flexibility for integrating preferential applications, be it open source or closed source software. The latter approach directs the discussion at the level of necessary functions and it helps reducing the unwanted duplication of functions and data within the overall system. Another fundamental issue of the future-VLE-project concerns the use of open standards and open source software. Until 2010, the Open University will maintain and improve its closed source all-in-one virtual learning environment. Also the current IT-infrastructure uses closed source operating systems, productivity software, email-servers and other applications. With regard to the future VLE, the board of the Open University has decided to adopt an open source software strategy. The main arguments for this decision are increased flexibility, adaptability, maintainability and improved innovation power. In addition, open source software nicely matches the notion of 'openness' that the Open University radiates through its ideologies of open admission and open content. Apparently, the time was right to extend it to software.

In parallel with the future-VLE-project the topic of e-learning and the required IT-architecture are addressed by a special workgroup. This group is working on several levels of the overall enterprise architecture, which include the business processes, the information architecture, the applications and the technical infrastructure. So far, it has identified and redefined the principal value chains and the underlying concepts, services and groups of customers. Naturally, the project touches on the strategic positioning of the Open University; therefore it is chaired by a member of the board. As a first practical operation, identity management has been arranged, which is the basis for improved student services, efficiency, security and topicality of information. All these activities come together in the Web2008-project which covers the integral redesign of the student portal environment. This portal environment is

supposed to be the principal communication channel of the web-based university, which offers all relevant tools and information for customers, electronic subscription and access to the VLE and to personal student data. Subsidiary to the VLE various additional projects have been defined to cover online tutoring, online assessment and multimedia content development. For online tutoring various methods and tools are being used within the Open University, ranging from textual discussion board to real time video communication sessions. Because online tutoring is assumed to be a key factor of online education, the project aims to explore and evaluate various possible solutions. The project aims to identify a limited number of validated online tutoring services that are substantiated by pedagogical models and underlying business models. The online assessment project analyses the options for innovation of the assessment infrastructure. For many years the Open University has been a frontrunner in computer-based assessment. Today, however, an update is opportune, both with respect to the available modes of assessment and the underlying technologies. The multimedia content project has been started to amplify the use of other media than print. Indeed, the philosophy of online education creates many new opportunities to include audio and video streams in education, immersive environments for higher skills learning and dynamic content tools for tutoring and user-generated content. It fits in the tradition of the Open University to support rich media in the learning environment, as used to be the case with audio and video cassettes, computer-aided instruction, simulations and interactive video. Today all these types of applications seems to merge at the internet. The need for multimedia content is also geared by contemporary views on pedagogy which tend to advocate rich learning environments in service of competency-based learning, and the associated authentic learning tasks and complex problem spaces.

Quality assurance: the SEIN evaluation system

Quality assurance of higher education in Europe has gained in importance since the Bologna Agreement (European Ministers of Education, 1999). This agreement proposed a new trans-European higher education quality framework. Existing quality assurance models were greatly challenged by the new European ambitions of benchmarking, mobility of students and possibilities to exchange European credit points (ECTS) between institutions. According to the Bologna Agreement the quality of higher education comprises a formal system of programme accreditation: accreditation means ‘awarding a hallmark that indicates that certain quality standards have been satisfied’. In particular, students will be given a stronger position to feed back their comments to their higher education provider. The accreditation mechanism put a lot of pressure on higher education institutes to improve their quality assurance system. As part of its e-strategy, the Open University of the Netherlands has responded to this notion by the design and implementation of a web-based system for the monitoring and evaluation of its distance learning programmes. The evaluation system is called SEIN, which is the Dutch word for ‘signal’. The SEIN system indeed has a quality signalling function: it covers the arrangement and publication of course-related electronic questionnaires and the highly automated collection and aggregation of the students’ responses. The process is coordinated by local administrators who have been appointed for each department. Each local administrator works closely together with teachers to create course questionnaires and publishes these on a web server to allow easy access by students. On a regular basis the SEIN system checks the institutional students’ administration database to select the students that have completed their course (or rather: the students that have taken their exams). Subsequently, SEIN automatically sends an email notification to these students with a request to fill in the involved course evaluation form. When appropriate, SEIN also sends reminders. Student response data are collected in a database. The local administrators regularly generate evaluation reports that summarise the students’ appreciations of the course and forward these to the teachers involved. Subsequently, the teachers of the course may decide to make

revisions to the course. From early 2007, the SEIN system is being used by 6 out of 7 faculties of the Open University (Law, Arts, Environmental Sciences, Educational technology, Business Administration and Psychology). In all, this concerns over 200 courses. Currently, the SEIN questions database contains a large number of questions to build questionnaires: 30 standard questions that can be reused in various domains, 200 domain-specific questions and 150 questions about research and thesis projects. Questions cover 6 main categories: content, print, electronic media, exam, study load and support. As all questions have been screened, the question bank allows quick assembly of high quality questionnaires. In order to keep ensured of the students' commitment it is arranged that they receive frequent feedback about the results and the measures that have been taken to improve the courses. For the same reason, student panels have been established that discuss quality assurance issues of the Open University. SEIN is thereby an important institutional quality assurance tool for the monitoring and evaluation of Open University courses. It is considered an important instrument for maintaining the institute's top ranking in the National Survey amongst students (CHOICE, 2007).

Staff development

For any educational institute the availability of skilled staff is a precondition for success. Over the years the Educational Technology Expertise Centre (Etec) has arranged workshops, presentations, websites and reports on behalf of Open University staff. The approach was successful in that it offered many accessible opportunities for informal knowledge dissemination and sharing. In the absence of a human resources policy and human development regulations, however, this staff development was arranged without any obligations. Consequently, the majority of staff never showed up. When it was decided that the Open University will transform itself into a web-based university, it became clear that a significant institutional policy for staff development was needed. Indeed, the proposed online university would require radically different staff competences with respect to content development, online tutoring and utilisation of the VLE. At the time (2006), staff development at universities was a topical issue at a national level: it was felt that university teaching skills should be specified and covered by a human resources development framework that was shared by all universities. There was also some political pressure involved and this unmistakably urged the universities to agree upon a basic skills framework for university teaching. Each university in the Netherlands has conformed to the framework which comprises courses, formal assessment and certification; the general idea is that every university teacher should have mastered the basic teaching level, which would require up to some 200 hours of study. Even though the interpretation of the framework may be quite different for each university, a basic skills certificate obtained at one university is also valid at the other universities. Within the boundaries of this national framework, the Open University was able to start a project for the implementation of a dedicated staff development policy which meets the needs for web-based education. The project started early 2007. By the end of 2009 it aims to have trained over 80% of teaching staff (which is over 150 people). The training programme starts from an overall skills map and identifies 5 key themes for teaching at the Open University. These are tuned to web-based education and include the design of learning tasks, tutoring, testing and assessment, quality assurance and the virtual learning environment, respectively. The mode of delivery is workshops and self-contained learning materials; 50% of the time is devoted to training on the job. Each theme is covered by three separate assignments of some 12 hours each. Completion of assignments is formally assessed, which yields 1 credit point out of 15 points required in total. For experienced staff a dispensation regulation may be applicable by formal assessment of prior learning. Naturally, such dispensation reduces the overall efforts for achieving the basic teaching qualification significantly. By the end of 2007 all Open University teaching staff have been subjected to

prior learning assessment and this has yielded a dispensation rate of well over 50%. For new staff members the project has also developed an general introductory programme which precedes the basic teaching skills themes. After having received the basic teaching skills certificate, all teaching personnel will have to participate in refresher courses or colloquia in order to preserve its validity.

Open Educational resources: The OpenEr project

Open Educational resources have become a strategically important activity for the Open University of the Netherlands. The UNESCO refers to this topic as "the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes" (Unesco, 2002). In the Open University of the Netherlands the OpenEr project has been installed in 2004 with external funding from the William and Flora Hewlett Foundation and the Dutch Ministry for Education, Culture and Science. In this project 16 courses from the different faculties of the Open University have been made publicly available, each of them with a learning effort of 25 hours. The motivation to install this project was to bring more non-traditional groups to higher education and to widen participation in higher education in general. The openness of educational resources is a perfect fit to the general mission of the Open University in regard to an open admission to (higher) education in order to provide the opportunity for every individual for competence development. Recently the OpenEr project has carried out a survey amongst its users, while focusing on demographic data, usage of the educational resources, current educational situation and future plans for studying. Around 900 participants have participated in this survey. Here is a short summary of the results:

- About 60 % of the population did not participate in Higher Education before.
- Regarding the motivational background to visit the site with the material about 52 % wanted to take a free course, 34 % wanted to test their ability to cope with university courses and 43 % wanted to try out studying at the Open University.
- Only 5 % of the users reused the material in their own courses.
- 72 % of the participants of the survey were at the time of the survey not involved in any formal educational trajectory.
- 26 % had plans for starting a formal study in higher education while 25 % had plans for buying courses on the level of higher education.
- 82 % indicated to start some study at the Open University.

In addition, the project's website is frequently visited and a lot of media attention has been given to the project. At the end of 2007, 8 months after the launch of the website, more than 4400 people have registered on the mailing list to keep on track with new developments of the project. To summarize the results from the OpenER project it can be stated that the project has reached its objectives. Especially the communication with new potential learners has succeeded according to the results of the survey.

A recent project report argued that the mere availability of open educational resources is not enough to reach innovation in educational practice (Geser, 2006). According to this report the future focus for institutions should be on open educational practices which use the open educational resources rather than focusing only on open access to resources. Currently it is unclear which direction the OpenEr project will take. Several directions are possible, ranging from making courses stepwise available with internal funding to a large scale implementation of the open educational resources idea with the support of external funding.

Reputation: Educational technology

It is an essential part of the Open University's e-strategy to innovate the educational technology practice on a national and international level. The Educational Technology Expertise Centre (Etec) is the main institutional unit for educational technology research, development and its practical application. The research program of Etec has a good reputation for instructional design research with a specific focus on cognitive load theory and education design rules. The development program of Etec has a sound international reputation for its work on educational modeling languages which finally lead to the IMS Learning Design specification (IMS Global Learning Consortium, 2003). Current focus is on learning networks, which reflects the growing interest of lifelong learning. Etec has participated in several European projects in the last framework programs and led some of them. At the moment Etec is leading the TENCompetence project, one of the largest Integrated Projects that has been funded under the umbrella of the "technology-enhanced learning" label. TENCompetence is a 4-year EU-funded Integrated IST-TEL project that will develop a technical and organizational infrastructure for lifelong competence development. The infrastructure will use open-source, standards-based, sustainable and innovative technology (Koper & Specht, 2007). The project involves 15 partners from 9 different countries. Besides this project Etec is actively involved in other European projects. Substantial efforts of Etec are directed on practical solutions and their implementation in educational practice. To this end, Etec closely cooperates with national and international higher education institutes, schools and business partners. Until 2007, Etec was a major contributor to the national Digital University, which is an alliance of 10 large higher education institutes, that pursued joint innovation and knowledge sharing in the area of technology enhanced education. Etec initiated and realized many innovative projects, which include a wide range of urgent topics: communities of practice, technology standards, learning objects, VLE-analyses, feedback models, redesign of curricula, pedagogic scenarios for real time videoconferencing, models for computer-supported collaborative learning, virtual corporations, approaches for flexible testing, digitally-supported performance assessment, peer coaching, models for quality assurance, open source software, games and simulations, social software solutions, wikis and blogs for learning. By 2007, however, the activities of the Digital University were terminated for financial and political reasons. Many of its activities have been adopted by the SURF foundation, which represents all (up to 60) higher education institutes in the Netherlands. One of the new initiatives chaired by SURF has been the launch of the National E-learning Action Programme, which is funded by the Dutch Ministry of Education. The programme aims to introduce e-learning solutions in order to achieve higher participation rates in higher education as has been agreed upon in the Lisbon Agenda. Naturally the Open University, that is, Etec in close cooperation with some of the faculties, participates in various projects of the National Action Programme. In 2008 a new initiative of etec is supposed to enhance its reputation: it will establish a multimedia laboratory in order to address the progressing virtualisation of learning by new media technologies. The laboratory will cover social media for learning, immersive media (games, simulations and virtual worlds) and mobile media for adaptive and contextualised learning.

4. Experiences and Outlook

One year after its stipulation, the institutional policy document of the Open University (OUNL, 2006) and the associated activities have been evaluated by the board and the management. A first objective was to assess progress. Secondly, the evaluation included a reflection on the strategy itself, in order to be able to respond to changing conditions and demands. At large, progress of the various projects has been satisfactory. After some

hesitations, the coordination approach has generated a shared enthusiasm, collectivism and increased sense of urgency amongst Open University staff. Faculties have been fruitfully cooperating and have been sharing new insights, methods and tools. The interdependence of the diverse projects, however, was quite troublesome and maintained a lot of duplication. To address this problem extra attention has been paid to internal communication and the mutual exchange of ideas through meetings, presentations and colloquia. Also, an additional project was started to fundamentally discuss and establish the basic characteristics of the Open University's pedagogical concept, which is the basis for many decisions in the other projects. With respect to the overall strategy an important additional topic was introduced related to the notion of scale: it was argued that the regulations of the current bachelor and master system was inappropriate to address the great demand for flexible refresher courses for various groups of lifelong learners and that alternative business models and additional VLE flexibilities would be needed. Since web-based delivery per se requires an economy of scale to be viable, the institutional e-strategy has been extended to include significant volumes of lifelong learners. From 2008 and beyond the dichotomy between bachelor and master programmes on the one hand and demand-driven mass personalisation on the other hand is supposed to have great impact on the elaboration of the Open University's e-strategy. So far, it can be concluded that the Open University has succeeded fairly well in making its e-strategy explicit and in taking the appropriate measures to implement this strategy. Today, the Open University is well on its way to become an reputable internet-based university, because increasingly all learning activities are primarily coordinated, arranged and communicated over the web, be it that good old books are still available as part of the course materials.

5. Literature

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