UNIVERSITY OF TARTU

Facts about the institution

Name of the institution	Tartu Ülikool, University of Tartu
URL of the institution	http://www.ut.ee
Country	Estonia
Interviewer	Jüri Lõssenko
Interviewed persons	Aune Valk, Head of the Open University Office. Lehti Pilt, Educational Technologist.

Contextual factors

Market size
University of Tartu focuses mostly on the Estonian market. The population of Estonia is 1.4 million and the predominant language is Estonian which is spoken as a first language by 70% of the population. The majority of the remaining 30% speak Russian as a first language. Currently there are 68 000 students in Estonian higher education, about 10% of which study in distance education and continuing education. It is foreseen that the number of on campus students will decrease significantly in the coming years but a slight and steady increase is expected in other forms.

Market readiness
Estonia is certainly one of the best of the new European Union member states and close to the Scandinavian countries when it comes to using ICT and the availability of technical infrastructure. According to statistics, 60% of the population aged 6-74 uses Internet, 35% of the same age group uses Internet daily. 39% of the families have Internet connection at home and this figure is constantly increasing. Every school and university has broadband Internet connection and student/computer ratio is around 15:1 in universities.

Target group acceptance of e-learning
Taking into account good digital literacy skills of the younger population, the acceptance is generally regarded as positive. The problem lies with the teaching staff which is not as positive or adaptable in certain cases.

Digital literacy in population
Digital literacy is regarded to be relatively high in Estonia. Such services as online banking and online tax reporting are popular and widely used by large majority of the population.

National policy
Governmental support of online higher education has been relatively low. Establishment and support of the Estonian e-University consortium has been the major initiative in this field. Certain finances have been made available through the Tiger University Programme but still most of the funding is project based or comes directly from the universities' budget.

History

1. **How would you describe the history of distance education in your institution?**

The year 1995 may be considered to be the beginning of e-learning at the University of Tartu when the first e-mail based course was delivered for the students of the Faculty of Mathematics.

In 1998 our Multimedia Centre obtained videoconference facilities with the support of the PHARE Multi-country Project in Distance Education. 1999/2000 university colleges in counties were provided with the ISDN connection and this gave us a possibility to start videoconferences between the main campus and colleges in educational purposes (regular lectures and seminars, meetings, consultations).

In 1998 the first web-based course in the WebCT environment was developed and delivered at our university. Since this year, the number of web-based courses has continuously increased. At the moment we have approximately 100 operating web-based courses and a lot of courses are being designed (see: http://webct.ut.ee and http:/webct6.e-uni.ee). We do not have any completely web-based curriculum, but one 16.5 credit point module at the Faculty of Economics and traditional, open university and continuing education courses within different curricula.

In January 2000 the University Council stated in its decision that ICT-based teaching and learning is strategically important at our university. The University Council acclaimed it should be important to inculcate ICT-based learning in all study modes, to start the development program of ICT-based courses and assigned the Distance Education Centre as a structural unit with the responsibility for developing ICT-based learning at our university.

In 2001 our Multimedia Centre started to create CDs for study purposes. In November 2002, the Multimedia Centre launched a project of video lectures that received financial support from EITF (Estonian Information Technology Foundation) in 2003. They use both real time video streaming as well as storage and archival of lectures. The project was continued in 2004 by replacing the outdated video conference equipment with the support from EITF.

In February 2002 the portal of the E-University of the University of Tartu was opened (see: http://www.ut.ee/e-ope). Besides offering learning opportunities and support to learners, this portal provides technical and methodological help for academic staff (professors and tutors) for elaborating ICT-based courses, etc.

In February 2003, the University of Tartu initiated in cooperation with other universities, the Ministry of Education and Research and the Estonian Information Technology Foundation the Estonian e–University, which has grown into a consortium under EITF to support the universities and coordinate the development of e-learning. The e-University consortium is planning to continue providing support for the development of e-courses/curricula, training of the teaching staff, employment of education technologists, development of shared databases, etc.

The first education technologist was employed by the University in 2000 to assist the teaching staff in the development of web-based courses. The University employed further 7 education

technologists in the study year 2004/2005 – two for centralised tasks in the Open University Office, one in Pärnu College, one in the Gifted and Talented Development Centre, one in Türi College, one in the Faculty of Education, and one in Narva College. The salaries of the new education technologists are partially funded from the REDEL project of the European Social Funds measure 1.1.

At the end of 2005 University of Tartu approved the e-learning strategy 2006-2010 which sets the tasks in developing e-learning in 3 categories:

I Support high-quality studies focused on the student and involving new target groups
II Increase the e-learning competence of the teaching staff, students and assistance personnel and develop cooperation models for e-learning
III Ensure high level of infrastructure and support services for e-learning

2. **How has competence in distance education developed in your institution, and how would you describe this competence today?**

In the beginning there were a few e-learning enthusiasts who had necessary technical skills how to create web-based courses started to use ICT in the learning process. In some cases they did not have the knowledge how to plan an online course pedagogically. Since 1999 we started to organise training courses for teaching staff in the field of e-learning. The first training course was „Designing courses in WebCT environment". At the moment university offers several pedagogical and technical training courses for teachers in which ca 300 teachers have participated during the last few years. Training courses are mostly web-based with some face to face sessions in computer classes in order to give teachers the possibility to get experiences as an online learner. Web-based training courses allow joint training of the teachers not only from our university, but from other universities as well.

In addition to training courses, educational technologists offer individual counselling to teachers. The support from educational technologists and media specialists is very important for teaching staff.

Training courses and the support from educational technologists have increased the teachers' e-learning competence, but we still have quite a lot of teachers who do not have the necessary skills to create e-courses.

3. **Has this development been abrupt or would you describe it more as a gradual step-by step process?**

This is more like a step by step process. We have quite a lot of teachers who create their e-course initially by the help of educational technologists knowing nothing about the technical design. After using their e-courses for some years, they have participated in training courses and started to make technical work themselves asking help only in the case of some complicated problems.

4. **How has online education been followed up by evaluation and research through the years and what is the situation today?**

Prior to the decision (January 2000) to consider e-learning strategically important, several analyses were made to calculate the costs of e-courses and the readiness of teachers and students.

Currently some research is made together with other institutions under the umbrella of the Estonian e-University consortium. In 2004-2005 a thorough analysis was made among different student groups about the role of ICT –based teaching and learning to students' learning approach (deep or surface) (ETF grant No 5838, How to support deep learning at university level). Faculty of Education has been planning to open a chair of educational technology but the position of the professor is not currently filled.

In addition, a survey was carried out in 2003 by the Estonian e-University consortium involving all the largest public and private universities in Estonia to assess the readiness of the teaching staff to use ICT as a tool in the learning process

Technical issues

5. **How would you describe competence in information and communication technology in your institution?**

Most of teachers are competent in using PowerPoint, web for information searching, e-mail, university study information system etc. More complicated skills are not so widely spread, for example creating web pages, recording audio and video files, creating animations, designing courses in LMS.

Teachers' ICT skills depend on the faculty of the teachers. In some faculties ICT competences are very good (for example Faculty of Mathematics and Informatics, Faculty of Economics), but in some faculties quite poor (for example Faculty of Philosophy).

6. **To which extent are distance education courses in your institution based on widely used technologies that can be taken into use by students without requiring them to by additional hardware or software? (in addition to what they have from before)**

The University of Tartu has used learning management system WebCT for developing and delivering e-courses since 1998 and using this LMS does not require any additional software. WebCT courses are accessible by students via the web browsers (Internet Explorer, Mozilla, Netscape).

Only in very few cases special software is needed (eg. Mathcad, APSTest).

In the case of using videoconferencing or Horizon Wimba tools, students needs microphone and earphones. Watching videoclips and recorded video lectures require Windows media player or other similar software which can be freely acquired from the Internet.

7. **How would you describe the integration between different IT-systems that are involved in distance education in your institution?**

Our learning management system is not integrated with study information system (separate authentication, no data exchange between LMS and SIS).

IT-systems integration with LMS is the activity we have to deal with in the near future. Our e-learning strategy 2006-2010 states:

Ensure required exchange of data between different information systems (SIS, course database, e-learning environment, database of learning objects, tutor database) and develop global authentication system (University computer network, e-learning environment).

8. **What are the strengths and weaknesses of technical systems for administration of distance education, in terms of being effective?**

WebCT server management and course administration is accomplished jointly at the Estonian e-University consortium level which is certainly the strength, saving necessary human and financial resources for these tasks at the universities level.

At the same time LMS management and administration at the consortium level makes it more difficult to integrate the different IT systems. For example every consortium member university has different SIS and this makes it complicated to integrate LMS and SIS of each particular institution.

Courses

9. **Which subjects are covered by online education in your institution and what is the relative importance of different subjects (in terms of student "production")?**

The University of Tartu has been using web-based courses for 8 years. Today the number of web-based courses has grown to approximately to 400 and the teaching staff of almost all faculties has experience with the WebCT environment. Most e-courses have been registered by the Faculty of Economics (53), Faculty of Mathematics and Computer Sciences (50), Pärnu College (44), Faculty of Philosophy (38), and Faculty of Social Sciences (32).

E-learning courses distribution by the subjects:

Medicine – 16
Biology and Geography – 14
Social sciences – 50
Philosophy and languages – 60
Education – 44
Economics – 65
Mathematics and informatics – 55

Physics and Chemistry - 10
Theology – 2
Law – 9
Sport Sciences - 6

E-courses are used in the Open University as well as in stationary education and in-service training programs. The courses in these cases are usually not 100 % web-based, but e-learning is used in combination with contact teaching in classrooms to support independent work of the students. Most of the e-courses are in Estonian; there are currently only 6 courses in other languages.

10. How would you describe the "onlineability" of the subjects your institution has chosen for distance education?

There are currently 70 curricula at the University of Tartu offered in distance education. All of them have some ICT support but in most cases it is difficult to follow how much the courses are supported by web-based materials, discussions and other learning opportunities. Currently around 100 courses that are taught in distance education can be more or less fully completed online.
E-learning strategy aims to have web-based support for all Open University (distance) curricula by 2010.

11. Do the online courses provided by your institution have flexible start-up and progression?

In most cases, no, they do not. Continuing education courses have usually flexible start dates.

12. What is the relative importance of synchronous and asynchronous communication between students and teachers (and among students if they communicate with each other)?

Learning is a social activity and communication plays an important role in learning. The communication tools in an online learning environment create the opportunity for communication and socialisation between the learners.

In the case of totally online courses, asynchronous communication is more widely used than synchronous communication. The discussions board is the main tool for asynchronous communication. Private communication is taking place through course mail of regular e-mail. In some courses synchronous communication is taking place as well using chat, Horizon Wimba live classroom (integrated with WebCT) or outside tools (MSN, Skype, videoconferencing system).

In the case of blended learning asynchronous communication takes place in LMS through discussions board and synchronous communication takes place in classroom as face to face communication.

Management, strategy and attitudes

13. How would you describe involvement from the leadership in terms of being supportive?

Leadership has been supportive towards e-learning but rather passively not actively supportive. Last 5-6 years have been very busy due to the implementation of Bologna reform, implementing programme-based teaching (programme managers and councils for all curricula) and internationalization. Thus, there have been clearly other - wider and more important topics in the centre of the attention of leadership.

14. How would you describe the attitudes of the different groups of staff towards online teaching?

University teachers have generally positive attitude towards online teaching, but teachers have described the following problems related with online teaching:

- Not enough supporting personnel (educational technologists, multimedia specialists, tutors)
- Teaching staff is mainly interested in learning technical skills, not e-learning methodology, instructional design and that is the reason why they do not have knowledge how to organize learning process in e-learning courses
- Teaching staff is very busy and if they participate in training courses, they often drop out and do not finish the course
- Older persons have difficulty to learn new skills (especially technical skills) for e-learning
- Problems with counting workload of teachers and tutors

Administration and leadership:
There is lot of misunderstanding, while many people do not have personal experience with e-learning.

15. Does your institution have a strategy for online education? If yes, what is (briefly) the content of the strategy and how is it followed up by employees in your organisation?

University of Tartu has an e-learning strategy 2006-2010 approved by the Council of the University of Tartu December 23, 2005. According to e-learning strategy, the aim of the University of Tartu in developing e-learning is to create a modern, flexible and internationally open educational process supportive of efficient and independent learning. In order to achieve the established objective, the University of Tartu sets itself the tasks in developing e-learning in 3 categories:

I Support high-quality studies centred on the student and involvement of new target groups
II Increase the e-learning competence of the teaching staff, students and assistance personnel and develop cooperation models for e-learning
III Ensure high level of infrastructure and support services for e-learning

As only the first year of the strategy is currently running, it is hard to say if employees follow the strategy or not. In general the strategy paper itself does not initiate the activities. Faculties and central administration units have to make certain and detailed action plans and control the fulfillment of these plans. The support (both emotional and financial) from university management and Rectors Office is the key factor in strategy implementation.

16. How does your institution deal with quality issues related to online education (e.g. in terms of strategy, control and management)?

We have paid much attention to staff development and the support for developing ICT-based teaching through following activities:

a) For managing fears, and in order to inspire university teachers to engage in ICT based teaching, we have written informing articles, organized seminars and colloquia on ICT-based teaching. The aim of these activities is to give information, share experience and provoke discussions on ICT-based teaching opportunities.
b) For several years we have run seminars where the teachers who have used ICT-based teaching methods share their experiences with colleagues and analyse pluses and minuses of their experience. We find this kind of discussions very useful since it has been proven that most of teaching skills in higher education are acquired from senior professors. Faculty members learn better from their peers through show-and-tell demonstrations than through official courses. Fellow teachers are the best example to show that ICT-based teaching is possible (considering both their subject and their resources: skills and time), it can be useful in organising their study process, and it is rewarding: saving time and energy usually spent for lecturing.
c) ICT-based teaching courses for using different technologies in teaching have been provided. Since 1999 the courses in ICT-based teaching have been focused on both technical and methodological skills for elaborating Internet-based courses, planning the learning process and assignments, student support, motivation and activation of students in case of self-instructional learning.
d) In addition to seminars and courses for the teachers the technical and methodological support in elaborating web-based courses is offered by the 8 educational technologists.
e) At the moment the developing a system for ensuring and auditing the quality of e-learning courses (incl. quality criteria for e-learning, continuous internal evaluation of the courses, quality signs, etc.) is taking place by the Estonian e-University consortium.

17. To which extent may work related to online education be said to be "industrialised" (meaning strong division of labour between groups, high degree of automation, etc)?

Although this has been discussed a long time and some division of labour appears, there is still very low "industrialisation" for several reasons: the quantities (no. of courses and students) are still rather small, there is lack of support specialists and e-learning is not of so high priority to hire more, multimedia services are commissioned and there is usually no spare money to make a video or animation, teachers are used to be personally responsible for teaching. However, educational technologists and tutors are of increasing importance.

Technical and methodological support to teachers is very essential. The first education technologist was employed by the University of Tartu in 2000 to assist the teaching staff in the development of web-based courses. The University employed further 7 education technologists in the study year 2004/2005. The employment of new educational technologists is followed by the increasing number of e-courses.

The courses are provided by teachers themselves or by cooperation of educational technologist and teacher(s). In some cases media specialists are the members of the team as well helping teachers to record audio or video lectures, to make graphical design and animations. The help of media specialists is not free and that is the reason why this service is not available to every teacher.

For automation it is useful to provide templates of course graphical design, study guides, learning objects etc.

18. To which extent do teachers involved in online education have predictable and manageable workloads?

Teachers have observed that the creation of online courses is a very time consuming process and should be supported by additional finances and help of educational technologies.

During the course delivery if the study groups are small (10-30), teachers can manage with workload during the course delivery, but if the study groups are bigger then the help of online tutors is needed.

19. To which extent does your institution collaborate with other educational institutions?

In February 2003, the University of Tartu initiated in cooperation with other universities the Ministry of Education and Research and the Estonian Information Technology Foundation the Estonian e-University consortium to support the universities and coordinate the development of e-learning. The e-University consortium is planning to continue providing support for the development of e-courses/curricula, training of the teaching staff, employment of education technologists, development of shared databases, etc.
In addition University of Tartu has wide international cooperation with European universities.

20. How would you describe the credibility of your institution (both formal and informal) with the government and public administration?

It is very good.

Economy

21. How would you describe the cost-effectiveness of online education in your institution?

There are no exact calculations and as online education is supported by project funding, the decisions are not always made on financial basis.

22. To which extent is income from operation of online education stable and predictable?

There is no separate income counted on e-learning and traditional learning.

23. To which extent does your institution experience a pressure to be flexible to be able to adapt to a changing market?

It is a great pressure. As ca 2/3 of our students pay for their studies and ca 1/3 of students are Open University students (they study besides work and family) university has to consider seriously their needs. In addition, the no. of secondary school graduates will decrease rapidly in Estonia in coming years which means even stronger competition between institutions and therefore pressure to meet the needs of market.

24. To which extent does your institution apply a strategy of flexible employment and use staff to adapt to changes in markets?

All academic staff is elected for a period of 3-5 years (only professors can apply for tenure after 3 elections). Thus the employment is by the Law very flexible.