The Potential and Readiness of Tallinn University to Establish Massive Open Online Courses (MOOCs)

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Abstract. This study explores the potential and readiness of Tallinn University (TLU) to establish MOOCs and focuses on the expectations and perceptions of students and academic staff of TLU. The qualitative methodology was used and the focus group interview and face-to-face interview were applied as data collection techniques. The results of the study indicated that both students and academic staff of TLU had positive attitude in spite of some deficiencies and constraints of MOOCs. In addition, it seems that TLU has good resources and potential in developing MOOCs.

Keywords. MOOCs, Open Education, Tallinn University, Students, Staff

1. Introduction

The flourishing of Massive Open Online Courses (MOOCs) is a recent phenomenon in the development of online education. However, in a short time, MOOCs have received a great deal of attention from various sectors of society such as the media, governments, entrepreneurial vendors, education professionals and technologically literate sections of the public. The 'free' and 'massive' characteristics of the offered courses are fascinating enough to drawing the attention of a growing number of institutions to develop their own MOOCs. The purposes of these institutions are various; expanding access, marketing and branding, as well as the potential of developing new revenue streams in higher education (Yuan, 2013:16).

Despite the rapid growth of MOOCs, there are still considerable number of questions and uncertainties that have not been solved yet. For example, how a university can participate in a MOOC initiative, how to offer the MOOCs the most effective way, what kind of infrastructure, student and academic staff support is needed, how to organize assessment, how to assure quality and better completion rates. Therefore, this subject area requires academic research. A deeper understanding of the expansion of MOOCs will help policy makers in

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higher education institutions and in governments to support the development of MOOCs more effectively and can help and guide future MOOCs efforts.

The aim of this study was to examine the nature, key attributes and challenges of MOOCs, and the potential and readiness of TLU to establish MOOCs as TLU is one of the potential joining partners in a new European MOOCs project (OpenupEd Project). This investigation has a special attention to the expectations and perceptions of the students and academic members who can be better engaged in effective development of MOOCs.

2. Background

The creation and development of the first MOOCs are followed by evolving the concept of open education movement since 2000 such as Open Source Software, Open Contents, Open CourseWare, Open Educational Resources (OER), and Open Learn. Although all MOOCs have common features such as massive scale and free access, but they have already bifurcated in two very distinct types of courses when compared in terms of their learning theory and pedagogical model, format and structure, known as cMOOCs and xMOOCs. Connectivism and Connective Knowledge course (CCK08) is recognized as the first connectivism MOOC. This course was designed by George Siemens and Stephen Downes in 2008 for 25 fee paying students at the University of Manitoba at Canada. This course was also opened online and free of charge to anyone from the general public interested in participating, and 2300 students registered (Rodriguez, 2012, p.6). Daniel (2012, p.3) considered this course as an influential movement in developing MOOCs.

cMOOCs and xMOOCs clearly differ on the learning theory and pedagogical model and more importantly distinct regarding to the concept of openness. cMOOCs are based on a philosophy of connectivism and networking, that emphasizes on openness, creation, creativity, autonomy and collaborative networking learning (Daniel, 2012). Openness allows for all degrees of involvement of learners and the information and knowledge creation is exposed freely through the network (Rodriguez, 2012, p.19).

On the other side, xMOOCs are based on behaviorist pedagogy and they are offered mostly by elite American universities including AI-Stanford course, Udacity, EdX and Coursera. xMOOCs rely primarily on information transmission, auto grading assignments and peer assessment. The "x" of xMOOCs is adapted from MITx and EdX, the main initiatives that offer xMOOCs (Daneil, 2012, p.2-3). Although xMOOCs announced as open, but the concept of openness is more restrictive than in cMOOCs. "In this model, instead of distributed knowledge networks, the courses are based on a hub and spoke model: the faculty at the centre and the learners are replicators or duplicators of knowledge. Therefore, the learning environment is not very open to create knowledge by learners, moreover the course materials are made available under a custom copyright license." (Rodriguez, 2013: 7).

3. The development of MOOCs in the United States and Europe

The main development of MOOCs started from the United States and then has been continued in Europe. The following initiatives are the most significant MOOCs' providers in the United States since 2011 that mostly offer xMOOC model. In 2011, the Stanford University offered a free online course entitled Artificial Intelligence (CS221). More than 160,000 people from 190 countries signed up and 20.000 successfully completed the course (Lewin, 2012). In 2012, Udacity as a for-profit initiative was established with the mission of democratizing education by presenting affordable online courses for everyone to advance students' education and careers. At present, Udacity presents 25 online courses in five disciplines with 3 levels for beginner, intermediate and advanced (Udacity Homepage, 2013). After establishment of Udacity, EdX was created as a not-for-profit enterprise by a partnership of Harvard University and the Massachusetts Institute of Technology (MIT). EdX's goals combine the desire to reach out to students of all ages and nations, and to deliver teaching from a faculty, which reflects the diversity of its audiences. EdX has offered 67 courses so far in 23 disciplines, with the collaboration of 28 universities and institutions (Harvardx Homepage, n.d). Coursera is a for-profit company that works with the various universities and organizations all over the world. At present, Coursera has provided around 440 online courses and more than 4.5 million participants have enrolled. Altogether, 86 universities and institutions are global partners of Coursera (Coursera Homepage, 2013).

It seems that the European MOOC projects are a step behind US' initiatives, although many European institutions and universities work in partnership with the American MOOC projects. Two major autonomous European MOOC projects have recently been initiated, OpenupEd and FutureLearn. The first MOOC project in Europe is OpenupEd which was established on early 2013. This project is supported by the European Commission, and it is coordinated by the European Association of Distance Teaching Universities (EADTU). 11 'open' universities and some traditional universities are involved in the project and offer 65 courses with wide variety of subjects in 12 different languages (OpenupEd Homepage, 2013). This project did not design a new MOOC platform; instead, it aims to provide accessible and flexible online higher education, specifically for Europe in order to contribute to the modernization of higher education through the provision and services of the partners. In order to reach to this goal the OpenupEd is independent of educational philosophy, social-cultural environment and political issues (Swann, 2013, p.2).

FutureLearn is the UK's first large-scale private company for MOOCs. The Open University is the owner of the FutureLearn that plans to offer the first free online courses in mid-September. This company collaborates with the British Library, the British Council, the British Museum, 21 of the UK's high-level universities and 2 international partners. The objective of FutureLearn is to increase access to higher education for people around the world, by delivering high quality distance and open learning and combining this with online and mobile technology and the best of the social web to reinvent the learning experience (FutureLearn Homepage, 2013).

It can be recognized that so far, many MOOC projects have been run in different geographical areas and they have more or less the same characteristics and objectives. However, the American initiatives were pioneer in this path; they offer a wider range of disciplines and have broad partnerships with many elite universities in the US, as well as several European institutions. Therefore, it seems that they would get more publicity among various countries, governments, institutions and the media and thus enjoy higher enrollment numbers, which could possibly exceed millions of participants in the future. This leads one to believe that MOOCs operate in a very competitive arena and the publicity and acceptance of such courses may be growing too quickly. In contrast, the European MOOCs' providers may be slower in their growth, but perhaps more thorough and thus perhaps more innovative, adding practical features to courses which have content of a generally higher quality.

4. Nature and Key Features of MOOCs

The MOOCs are a recent development in online education. The aim of MOOCs is to provide equal educational opportunities for everyone through sharing knowledge and by offering free access to high quality courses. To reach to the massive number of the participants, the demographic, economic, and geographical constraints are not of considerable importance because the courses are presented free and open for all people without any necessary prerequisites (Wegerif, 2013, p.95). In the other hand, "MOOCs build on the active engagement of several hundred to several thousand students who are emergent, fragmented, diffuse, and diverse. They self-organize their participation according to learning goals, prior knowledge and skills, and common interests" (McAuley, 2010, p.5).

MOOCs have some distinguished attributes in comparison with other online courses. The main difference of MOOCs is the massiveness characteristic that can be related to the number of participants, the amount of materials and scalability. The scalability feature of MOOCs is critical. As Bond (2013, p.31) stated that it is almost impossible to be aware of the number of participants in advance, therefore even if hundreds or dozens of students participate; MOOCs should have the potential to accommodate thousands.

Moreover, MOOCs are free and open to all participants without any specific requirements and the course content is open and even students can suggest and provide the resources. The students are free to choose their discussion format such as blogs, Facebook or Twitter in order to share their knowledge and experiences and they are even asked to assess the fellow students' assignments (peer assessment) (Bond, 2013, p. 29).

Regarding to these innovative characteristics of MOOCs, a great deal of attention has been drawn in higher education environment. Many of the MOOCs' providers believe that there are more students registered in the online courses offered through MOOCs than residential students. For instance, the University of Melbourne is the first Australian university that joined Coursera, and recently the University released the information that they had 148,000 enrolments in the online courses, and this number is greater than the total

number of students that the University has ever registered on-campus (The University of Melbourne Homepage, 2013).

5. Methodology

A qualitative research methodology was used in this research. Strauss and Corbin (1998, p.35) emphasized that qualitative method is suitable when a researcher needs to get a better understanding about a phenomenon that has been known in narrow extent, or when obtaining in-depth knowledge is not possible by quantitative measures. As the MOOC is a very new phenomenon in higher education with many unknown aspects, therefore, the qualitative research method was found suitable to apply in order to obtain in-depth understanding about the nature, characteristics and challenges of MOOCs.

Two data collection techniques were used, the focus group interview and face-to-face interview; the focus group interview with students and face-to-face interviews with academic staff at TLU. The focus group interview lasted 4 hours with 13 pre-designed questions, in order to understand the students' expectations and perception toward different aspects of MOOCs. The participants included nine students of International Master in Digital Library Learning (DILL), plus two Erasmus students who joined to this program.

Face-to-face interviews were conducted with six members of TLU's staff to understand their experience and perception about MOOCs and to find out whether they are interested to contribute to the development of MOOCs at TLU. The semi-structured format was used with 9 pre-designed questions. The staff was selected from different departments: a researcher-lecturer from the Institute of Informatics; a researcher-lecturer from the Centre for Educational Technology; a lecturer from the Institute of Educational Sciences; an associate professor from the Institute of Information Studies; an expert from the E-learning Centre; and a reference librarian from the TLU Academic Library.

The interview questions for students and staff were designed separately. However, some questions were similar to gather data about the general aspects of MOOCs, but some specific questions were asked from each group.

It should be also mentioned that MOOCs initiative is a new paradigm in higher education and therefore only few people are familiar with it. Therefore, a purposive sampling strategy was used to identify people who were knowledgeable enough on this subject to be useful for the interviews. DILL student group was selected for focus group interview, because their field of study was closely connected to digital innovations and concept of open education; therefore it was assumed that they might have an appropriate knowledge about MOOCs. Each of the selected staff had previous experience with MOOCs and interviewing them was important for this study.

The qualitative content analysis method was used in this study (Hsieh & Shannon, 2005). Firstly, the recorded interviews were transcribed. Then a specific label was attached to each question to categorize the appropriate sections of the transcriptions. Thirteen categories were developed for the focus group interview, and nine categories for the face-to-face interviews. Precise descriptions were given to each category, which provided further detail to the

information contained in each category. In addition, each individual involved was given a number, in order to ensure confidentiality and privacy in reporting.

6. Results

The results from the focus group interview demonstrated that the students have positive attitudes about MOOCs and they were fascinated by the new educational opportunity that MOOCs offer to massive range of people. In addition, some of them were encouraged to take some courses and experience this new learning system. At the same time, it seemed that the interviewees had very high expectation of MOOCs; they had to offer high level education with well-structure content. In addition, they expected to experience very interactive and secure learning environment that can continue to be free and open for everyone in the future. Receiving a certification was another significant requirement and the students believed that if the certification is enough creditable and can be recognized by job recruitment systems, then it is one of the best advantages that MOOCs can offer to learners. Teachers' support and mastery learning were mentioned as the other significant students' demands toward MOOCs.

In summary, three main students' expectations included high quality education, receiving creditable certification and teachers' support. On the other hand, the interviewees recognized some deficiencies and limitations of MOOCs including language barrier, low quality assessment methods, lack of educational obligation, lack of socialization facilities, lack of teacher support and the low completion rate. Students emphasized that the current and future MOOCs providers should reconsider these deficiencies and find feasible and practical solutions in order to improve the quality of courses and motivate people for active participation. Moreover, the participants mostly agreed that the MOOCs could not have global impact so far, because of some limitations including lack of essential equipment for everyone, digital divide, learners' diversity, language barriers, copyright issues and blocking the contents of courses in some restricted countries. Furthermore, the interviewees mentioned that there is no possibility that MOOCs can replace the traditional education in the future. However, both educational models can support and complete each other. Further, there was a debate about the possible disciplines that can be taught by MOOCs and most of the interviewees agreed that there is no limitation for offering all topics by MOOCs. Finally, it appeared that, most of the students would rather prefer to study in traditional educational environment, because they believed that the traditional class provides more socializing opportunities, more motivation and exploring the discipline. They found that some factors have direct impact on the level of their participation in MOOCs, including their interest to the course content, the time constrains, teachers' support and the level of collaboration from other learners. The interviewees suggested some solutions for motivating learners to engage in active mode, including awarding free certification for successful students, designing more interactive platform and performing some quality assurance surveys.

The result of face-to-face interviews indicated that the TLU's academic staff had positive view to experience new method of teaching in MOOCs, if Tallinn University had this opportunity to establish MOOCs. However, designing courses in a very new style for broad range of learners was recognized as very challenging and time consuming task that divert the time of teachers from other academic activities such as research, committee services, or traditional teaching. In addition, some recommendations were provided to help TLU to offer MOOC style of courses with high quality, in order to promote its reputation and position in a wider extent. The university should cooperate with some of its partners (e.g. international networks and professional projects) and use the successful experiences of other MOOCs initiatives.

A preferable MOOCs model for the academic staff was cMOOCs, as this model is more interactive and learner-centered and participants can create the learning materials by collaborating and interacting.

Lack of teachers' support and feedback system were recognized as the main challenges of MOOCs. As there is a massive number of students in each course, then giving feedback to all students by limited number of teachers is not simply possible. This problem can lead students to loose their interest and motivation, and quit the course and the drop out rate increases. However, some recommendations were provided such as using personal blogs by students as personal learning environment and providing learning contract that is signed between students and MOOCs providers.

Two current methods of course assessment as automated grading and peer assessment were not accepted by the interviewees. As MOOCs' students are not at the same academic level, therefore the given feedbacks may not be satisfactory. One recommendation was about using a technology for assessment of courses that is called "Mozilla Open Badges," as a new online standard to recognize and verify learning outcomes.

Certification and credit points are very important issues for the MOOCs participants but the interviewees mainly believed that MOOCs have not provided clear strategies for awarding certification and credit point. Therefore, the MOOCs providers should find a practical solution regarding this important aspect.

The main motivation of MOOCs providers was identified as gaining publicity in international extent; motivations of MOOCs teachers could be curiosity to experience a new teaching method, improve their academic level and perform some research. Moreover, the most important motivations of MOOCs learners were recognized as participating in a free and high quality course and more importantly receiving certification from high-level universities.

It was indicated that MOOCs could not influence higher education in global scale because of language barrier and western style of teaching that many people might not be familiar with.

The TLU's Academic Library has learning materials in printed and digital formats to support developing of MOOCs at the university. In addition, some recommendation were expressed that using global licensing and Creative Common License can impact on developing MOOCs in a broader range.

Finally, it was indicated that TLU has a good potential and resources regarding to technological requirements but developing MOOCs is not only about having infrastructure, but also a powerful team of experts is required, including informatics department, e-learning center and educational technologists. However, some of the interviewees believed that providing technological requirements is a challenges task for the University as there are some barriers including lack of collaboration and support, lack of knowledge about the most recent technologies rather than the Moodle.

7. Conclusions

The findings indicate that TLU needs to have a very comprehensive and precise strategic planning in order to develop MOOCs. It seems that some units of the university are ready to support MOOCs, such as TLU Academic Library and E-learning Center. However, some departments need more preparation to support technological requirements including infrastructure and support staff. In summary, the university has good resources but all of them should be integrated and making a union foundation of support.

In addition, TLU should design a reasonable method of revenue and a business model that can support MOOCs. One recommendation was to cooperate with some partners of Tallinn University (e.g. international networks and professional projects) and use the successful experiences of other MOOCs initiatives. Furthermore, Tallinn University needs to offer MOOCs with very high quality compared with the current MOOC initiatives, because both students and academic staff indicated their interest to participate, but they expected an improved version of MOOCs that should be free of the current limitations and deficiencies.

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