THE MOOC BUSINESS MODEL: THE E-BUSINESS AND AUTONOMOUS WORK INFLECTION POINT IN HIGHER EDUCATION?

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Abstract: Distance learning, which co-exists with traditional classroom education, was definitely not born in the "cradle" of the Internet, though it is true that the World Wide Web has brought about significant changes in the portfolio of education tools. One of these changes is the appearance of Massive Open Online Courses (MOOCs), which were launched a few years ago, offer unrestricted participation and free online access to university courses to millions of students and spread like a virus. Our paper attempts to answer the question of whether an MOOC is a major technological innovation or a new business model is being born.

Keywords: MOOC, e-business, wikinomia, e-learning, distance learning, online learning

INTRODUCTION

Distance learning, which co-exists with traditional classroom education, was definitely not born in the "cradle" of the Internet: according to Pomerol's 2015 book, the sending of audio and video cassettes, television, radio and, finally, the Internet are all links in a "chain of development". So far, each info-communication technology has met with the active acceptance of those who study in different places and/or at different times [1].

We know many examples to the spreading of the use of the Internet in education: education institutes integrate nearly all ICT tools into their processes, in the form of electronic pupil's books of school records, lecture books, computer-based exams, the digitized presentation materials of lectures, and so on.

But as the Internet has become integrated into the corporate value creating process (e-business), which is not the equivalent of e-commerce or online marketing, the question has by now become rather specific in education: is an MOOC just another technological innovation, i.e. the integration of web2 into the practice of distance learning or are we facing a new business model, which will eventually also transform the value creating process of education institutes?

MATERIALS AND METHODS

The concept of Massive Open Online Courses (MOOC) has by now become clear in professional literature written in English: MOOCs are courses accessible via the WWW that offer unrestricted participation and online access via the Internet. Besides, compared to traditional course materials (e.g. classroom videos, presentations, texts and case studies), they also offer a wide range of additional interactive forums to users, thus supporting knowledge sharing, group work and communication between students, teachers and the education support staff. MOOCs began to be used in Anglo-Saxon university practice in 2008 but became a popular learning platform only in 2012. Taking both the theory and practice of distance learning into account, MOOCs can be considered as a topical and widely researched area of development also in distance learning curricula [2]. Autonomous works outside the school and individual learning strategies play a significant role in this scenario. The positions of traditional education vs. distance learning are shown in *Figure 1*:
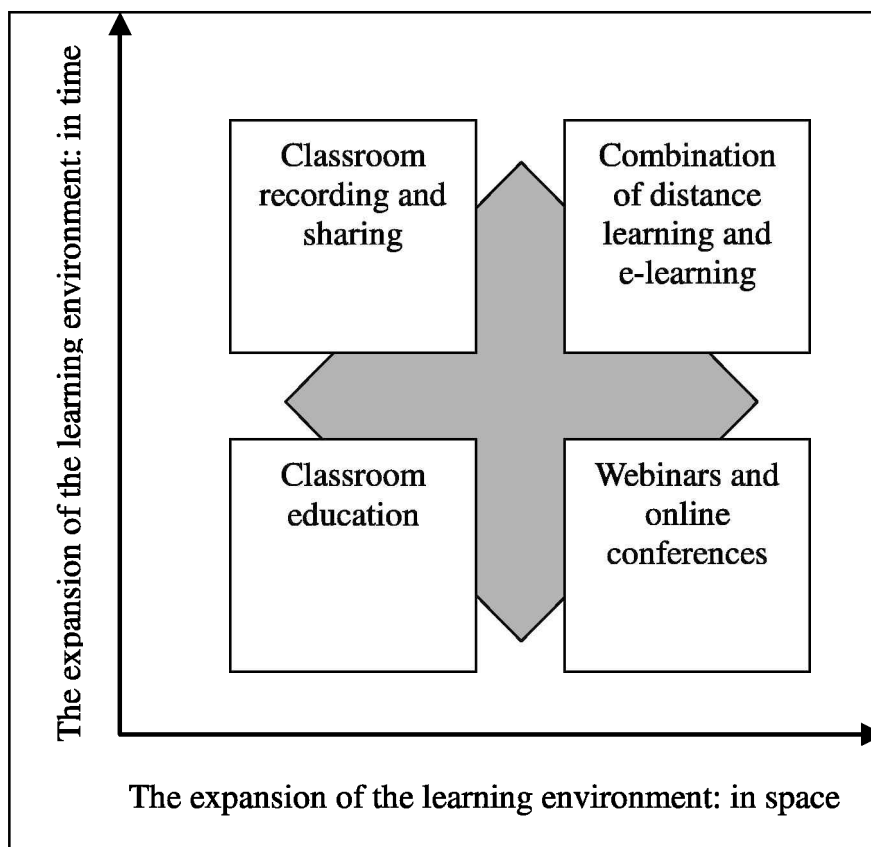

Figure 1: The expansion of the learning environment in space and time

Source: created by authors

According to the chart, MOOCs can also be integrated into the modern distance learning, e-learning frame, as a next technological building block.

Though this aspect, i.e. "mass" course attendance (i.e. by as many as thousands of students), is valid, we consider that the buzzwords "open and free" are not sufficiently explained in this model.

At the beginning, MOOCs would often highlight features related to open access like open access to content, structure or learning aims with an eye to supporting the repeated utilization and processing of resources. Many MOOCs created later also offered "closed" licenses for education materials, which do offer free access by students but only after registration [3]. According to Zemsky, the MOOC method has already reached its peak: "They came, conquered a little, and are now facing far poorer prospects".

RESULTS
Major platforms, successful service providers

Many organizations, universities, institutes and even corporations offer massive open online courses. Based upon the number of users and associated institutions, the most successful major service providers (platforms) are Coursera, Edx, Udacity and Udemy [4], which include both profit oriented organizations and NGOs, pay and free courses. Platform and associated institution numbers are continuously growing: according to the data of Class Central (class-central.com), platforms in English take the lead, and the most massive development was achieved by British Future Learn last year. The fact that there are platforms offering over a thousand, while others a couple of hundreds or a few dozens of courses clearly indicates that players are scattered according to the "long tail theory", a popular term used in e-commerce [5]. On the online higher education market, in addition to global players with millions of site views, initiatives targeting a niche or partial market also exist and survive. Examples include the Turkish, Italian or the Czech and Hungarian national platforms, which also experienced growth in 2015.

Motivating factors: from glory to a course certificate award

In our opinion, the "open and free" approach described in the first part of this paper can be classified into those discourses of the information society whose aim is to make knowledge and contents available to all: besides the markets of films, music and digitized books, several such initiatives have appeared also on the market of education contents over the past decade. Moreover, a number of economic models have been created to identify the underlying factors. In addition to the fact that glory is not a negligible aspect when a lecturer is followed by as many as thousands of students on a web platform, in the so-called "freemium business model" the basic product, i.e. the course content is free. According to some authors, selling content for money would be a tragedy. However, making a price list for premium services (like the issuance of a certificate or diploma) is a valid option but only after the content has been "consumed" [6].

The developers of an MOOC could, for example, charge license fees on institutions that use the course's materials. In recent years, the highest revenues have come from introductory or "luring" and healing related courses. Free introductory courses recruit new students, who can continue their studies after the completion of the introductory course, at fee-based lessons. Platform service providers pay a "commission" to lecturers for the recruitment of students. And students can pay to get recognizable credits.

Technological challenges: can the monitor be the new schoolbook, and what is an online exam like? On the one hand, many MOOCs use video materials for teaching purposes: they often digitize classroom lectures and other classic education scenes [7]. Many consider videos and other contents produced by MOOCs as the next generation of schoolbooks. The term "MOOC, the new schoolbook" is in widespread use [8]. However, the findings of a research by edX about students point out that students' attention cannot be maintained for a long time if they sit before the monitor: the simple recording of a classroom lesson may also be a dead-end street. Students who apply for a certificate of completion usually stop videos after 6-9 minutes. According to another set of research data, half of students watched at least 4.4 minutes of 12-15-minute video materials [9]. On the other hand, due to mass enrolment, an MOOC requires a technical background which, besides interactions, also offers tools for mass feedback supply, i.e. checking or testing. Owing to innovative education theories and methods, two approaches have spread in recent years: 1) self-checking and group cooperation by student communities; 2) automated feedback: online tests and automated grading of complex written exams [10].

In the online environment, the hardest nut to crack is assessment: creating and maintaining trust and the use of online assessment methods are rather different from the classic assessment methodology.

For this reason, special attention is paid in MOOCs to supervision and the identification or prevention of potential cheats [11].

Group checking (checking by other students) is based upon sample answers or multiple choice questions: these enable the person who performs the checking to easily decide how many points to give for different answers.

It should be noted that, in group checking, the portfolio of assessment methods cannot be so broad as if checking were done by a professional education staff.

The advantages of group checking include the facts that students who check others learn while they perform their work and that, as a result of this activity, they become more committed to the course [12]. Exams can be supervised in regional exam centers, or as alternative, technical tools for home exam monitoring can be applied (use of webcams, mouse usage or typing habits, algorithmic recognition of patterns).

Special technologies have been developed recently, including the adaptive testing method, with which the actual test is tailored to the actual student, based on his/her former answers, by asking easier or harder questions, depending on the given student's knowledge.

Business modeling: a proposed e-business-based approach

In relation to this topic, we consider that MOOCs are worth examining from a manager's angle and that the current situation ought to be analyzed with a model that reflects changes in business life. The e-business model used for our analysis has been assembled of the factors defined in the related book of Nemeslaki, András, who identifies change indicators as follows [13]: 1) market expansion; 2) dynamic pricing; 3) value-added services; 4) networking, strategic alliances; 5) mass tailoring; 6) customer authorization; 7) changing the supply chain; 8) aggregation and mediation; 9) innovation; 10) improvement of corporate operation. According to the author, the added value generated by e-business in the operation of companies can be identified and described along these dimensions. When, for example, a commercial company builds a "web-shop", it is these capabilities of that company that change: among others, it expands its markets in space and time, it can dynamically modify prices depending on actual demand and it can classify its customers into categories where items of consumer feedback play a value adding role.

Taking the above aspects into account, we consider MOOCs suitable for the creation of a new higher education e-business model, in which students start their studies in a node of a network (e.g. campuses) but they are provided with education contents by all elements of the network and pay fees for the courses completed and the services taken by them at the Campus. Our opinion is that if we "crossbreed" these dimensions with higher education, we get the following "result" (*Table 1*).

DISCUSSION AND CONCLUSION

From an economic point of view, MOOCs appeared primarily as a solution to reduce costs in American education [14]. The largest platforms that have resulted from efforts to this end mainly started as start-up organizations, received capital investments and had no fine-tuned business model whatsoever. It was later that "MOOConomics" [15] came to existence, with products like course certifications, specializations and "nanodegrees". The higher education e-business model presented in our paper can further support "MOOConomics". If an institution is consciously transformed, a new higher education e-business model can really take shape, which, in our opinion, is closer to the "surfing" lifestyle of the young Y or Z generations than the classic classroom education model and practice. In this respect, the business success of MOOCs does not depend on whether purely online or hybrid courses are launched or if a synchronous or an asynchronous learning method is applied but, rather, on whether educational and institutional networks can reach a critical mass that has a higher potential.

Table 1

The e-business model of higher education

factor	adaptation in higher education	extent of change (low, medium, high)
networking, strategic alliances, value adding services	students can attend courses of any universities at the same time, course supply depends on the network's size	**high:** former practice was based on a finite number of participants (e.g. semesters at other universities, double-degree)
total tailoring	courses can be launched at any time, not only in September	**high:** former practice of "fixed" course start and end times
dynamic pricing	open source code approach, free joining, free course enrolment	**high:** former practice made tuition fee payment a prerequisite for participation
market expansion	for the 6-99 age group, in the "living room" instead of the "classroom", from any place in the world	**medium:** former practice has primarily applied the classroom approach and experienced a high level of churn during semesters
customer authorization	autonomous work takes precedence: individual time scheduling and progress, with continuous self-checking	**high:** former practice was based on a fixed timetable and was primarily built on final checking (exams)
improvement of operation	documentation of courses' content elements. Students are not students in the traditional sense: they learn not only from teachers/lecturers, but also from each another	**high:** interactive lessons replace verbally delivered lectures
permanent innovation	renewal of the "learning" concept, development and application of new learning techniques and methods	**medium:** higher education has always worked as an adaptive system

Source: created by authors according to [13]

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