MASSIVE OPEN ONLINE COURSES (MOOCS): EDUCATION TO CHANGE SOCIETY?

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ABSTRACT

Massive Open Online Courses or “MOOCs” is the current catchphrase of the online education sector. There are many supporters of MOOCs as a tool to provide high quality learning globally. Similarly, there are many cynics who have weighed in on the MOOC debate arguing that these are simply standalone courses that lack a business plan to make them sustainable.

This paper provides an overview of the development and evolution of MOOCs with a view to looking at possible future directions that might be available for these types of courses.

KEY WORDS: Disruptive innovation, MOOCs, Online education

INTRODUCTION

Online education is not a new phenomenon. An increasing number of universities have embraced the online education opportunities. Essentially, online learning is simply a method that has been developed to deliver educational products to the end user via technology. As we have seen with many other sectors of the economy technological advances have driven substantial innovation and enhanced productivity. Specifically, advocates of online learning suggest that the benefits to this model include more flexibility in respect to the delivery itself as students can access a course at a time suitable to their needs. In addition, the model affords efficiency gains as distance (and travel) is no longer an obstacle for learners. There have been significant changes both internationally and domestically in the United States as online learning has evolved.
Internationally, the Global Universities In Distance Education (GUIDE) association was founded by Marconi University in 2005 and it now has more than 140 members on all continents. The aim of GUIDE is to “develop and support international cooperation and open and distance learning worldwide. By strengthening the role of higher education institutions as innovation and development drivers, GUIDE promotes the implementation of innovative results, insights and best practices in order to identify present, emergent and future needs of regional and international stakeholders and highlight potential areas for strategic partnerships and transnational cooperation” (GUIDE, 2014). Fundamentally, GUIDE is a network of international universities that share best practices and techniques to improve the quality and use of online learning.

In the United States, the Sloan Consortium has conducted an annual survey in each of the last ten years. The most recent survey highlights the following:

I. The number of students taking at least one online course increased by over 570 000 to a new total of 6.7 million.

II. The online enrollment growth rate of 9.3 percent is the lowest recorded in this report series.

III. The proportion of all students taking at least one online course is at an all time high of 32.0 percent.” (Sloan Consortium, 2013)

As reported in the Sloan survey there is an increasing number of students that have already made the decision to take online courses. Hence, the adoption of online learning in the US continues unabated.

**Challenge and Change in Education**

One of the main reasons that we see driving the interest in online learning is the enhanced flexibility and affordability enabled by technology. From desktops, to laptops, to handheld devices we see that e-learning is continuously improving and meeting the needs of consumers. Education can now be more responsive to the consumer who is looking to build on their skill sets while often working, raising a family or doing other things. In the past there was one way to get an education which, of course, meant physically attending a school. This mode of education is contrary to many of the methods society has adopted to conduct business. By definition, this requirement means that many are simply not able to attend and develop the skill sets necessary for the increasingly competitive workplace of the 21st century. The opportunity cost alone of traditional education makes online learning a very viable option for many to consider.

As online learning was rolled out in the late 20th century there were critics who challenged the rigor and quality of this delivery mode versus traditional on ground experiences. However, there have been incremental improvements made to the learning management systems, the courses themselves including the content, the use of metrics to manage the student experience and to the instructors that have assisted in addressing many of the initial concerns (Zucker, 2010). As with many new innovations, it has taken time for online learning to gradually improve and to be accepted by the main stream of society.

Clearly, as we see in the Sloan Consortium (2013) report consumers are “voting with their feet” and
they are increasingly embracing online learning. Equally, there appears to be increased acceptance of online learning by employers. (Zucker, 2010).

**The History and Evolution of MOOCs**

One of the new trends that have caught the attention of many with respect to online learning is the introduction of massive open online classes or MOOCs. Many colleges and instructors have resolved to test the online waters by offering individual courses online. Indeed, the New York Times called 2012 “the year of the MOOC” (Papanno, 2012). The introduction of these types of courses has raised considerable interest in the future of online learning. Specifically, MOOCs as individual courses raise questions about the future of teaching, the value of a degree, and the effect technology will have on how colleges operate.

**SO WHAT ARE MOOCS?**

MOOCs are online classes that usually attract a large number of students as they offer free classes with no hassle enrollment. On average, a MOOC has 33,000 students in a class with some classes exceeding 100,000 students and the largest class at 180,000 students (Kolovich, 2014). In a recent study (Christensen and Alcorn, 2014) of more than 400,000 Coursera students conducted by the University of Pennsylvania, we see a number of trends important to consider as we assess the impact of MOOCs. Specifically, it is interesting to note that “these courses are not providing the revolution in access that proponents claim. Two-thirds of participants come from the developed world - the United States and other members of the Organization for Economic Cooperation and Development, the club of leading industrialized countries. This is despite the fact that these 34 countries only account for 18 percent of the world population. And 83 percent of MOOC students already have a two- or four-year diploma or degree, even in regions of the world where less than 10 percent of the adult population has a degree. Meanwhile, 69 percent of them are employed (Christensen and Alcorn, 2014). These data seem at odds with the often stated goal of MOOCs to make education globally available as a fundamental way to improve society.

To assist with accessibility, there are no prerequisites for courses and courses usually can be completed in eight weeks. Courses do not have any credit. Usually, the courses themselves include readings and video lectures and often intra class interactions are the responsibility of teaching assistants. Most assignments are auto graded or peer graded to reduce the hands on component of the instruction. There is very little if any direct interaction with instructors.

**WHY ARE MOOCS SEEN AS A GAME CHANGER?**

Supporters of MOOCs argue that they provide a low cost way to educate society without regard to national boundaries and socio-economic background. For the most part, MOOCs are made available by the leading academic institutions in the world. Clearly, the online and free nature of the courses affords considerable global access. However, there are skeptics.

In a recent survey of US University Presidents involving 889 respondents many noted that MOOCs were not a panacea. As illustrated in Figure 1, many Presidents appear to have significant concerns about the ability of MOOCs to address many of the fundamental challenges impacting US universities today.
Specifically, the respondents are particularly skeptical of the ability of MOOCs to improve the quality of learning and the ability to solve the financial challenges facing many academic institutions.

Obviously, as leaders in the academic sector the views of university Presidents are important in the ongoing evolution of MOOCs.

Other survey data confirms that Presidents view “MOOCs and open courses, as least favorable innovations; whereas, hybrid courses that blend face-to-face learning with online learning, and adaptive learning that uses technology to adjust lessons based on the needs of the student are seen as positive innovations” (The Chronicle of Higher Education, 2014).

Some institutions have big ambitions with respect to MOOCs, and that makes some college leaders nervous. They are especially worried about having to compete with free courses from some of the world’s most exclusive universities. Of course, we still don’t know how much the courses will change the education landscape, and there are plenty of skeptics.

**ARE MOOCS SIMPLY A FORM OF OPENCOURSEWARE?**

A number of years ago, the Massachusetts Institute of Technology started a widely publicized initiative called OpenCourseWare. The intent was to make all MIT course materials available free online. For the most part these materials are notes only. There are no assignments or interactive components. Also, there are no testing mechanisms in these OpenCourseWare components.

**ACADEMIC CREDIT?**

A common question about MOOCs is related to academic credit. Often students ask “if you take tests, do you get any credit”?

To date, the answer is primarily no. However, there are a number of changes including the approval of five MOOCs for college credit by the American Council on Education. Although, “the council’s endorsement alone does not mean students can expect to save money by redeeming
their Coursera certificates - evidence that they have passed its courses - for credit toward a traditional degree. But if some colleges follow through, the council’s recommendations could go a long way toward straightening the crooked path from free college courses to valuable college credits.

Simplifying that process could make the economic significance of MOOCs more tangible” (Kolowich, 2013). Also, Coursera is expanding their “signature track” offerings which are designed to assist in promoting courses that are “verified” on a fee basis. In part, these changes are designed to improve the quality of MOOCs and to improve the rates of completion (Emerson, 2013).

WHO ARE THE PLAYERS IN THE DEVELOPMENT OF MOOCS?

Several start-up companies are working with universities and professors to offer MOOCs. Meanwhile, some colleges are starting their own efforts, and some individual professors are offering their courses to the world. Right now three names are the key providers:

**EDX**

EdX was founded by Harvard University and by MIT. It provides interactive online classes and MOOCs from a number of the best universities in the world (EdX, 2014). There are more than 200 courses in a variety of subjects being taught by more than 400 faculty and support personnel. EdX is a non-profit online initiative.

**COURSERA**

Coursera is perhaps the most well-known of the MOOC providers. It is a for-profit company founded incorporated in April, 2012 by two computer-science professors from Stanford University. It has received venture capital from a number of key partners. Specifically, many see “... Coursera as fast becoming an investor’s pet with a new $43 million round of funding ... raised from investors such as Laureate Education Inc., the World Bank’s investment arm, LearnCapital Venture Partners, GSV Capital and venture capitalist Yuri Milner” (Korn, 2013).

The model of the company is to invite certain colleges who must agree to use the Coursera platform and offer free courses that will allow them to share a specified amount of any revenue. Currently, there are more than 110 high-profile institutions, offering more than 735 free courses to more than nine million courserians (Coursera, 2014). The mission of Coursera is “We envision a future where everyone has access to a world-class education. We aim to empower people with education that will improve their lives, the lives of their families, and the communities they live in” (Coursera, 2014).

**UDACITY**

Another for-profit company founded by a Stanford computer-science professor. The mission of Udacity is “to bring accessible, affordable, engaging, and highly effective higher education to the world. We believe that higher education is a basic human right, and we seek to empower our students to advance their education and careers” (Udacity, 2014).
The company, which works with individual professors rather than institutions, has attracted a range of well-known scientists. Udacity primarily focuses on courses related to computer science and related fields.

**THE FUTURE OF MOOCS**

There are a number of for-profits and not-for-profits behind MOOCs. Funding to develop MOOCs has come from venture capital and from foundations. One source active in supporting academic innovation including MOOC’s is the Bill and Melinda Gates Foundation. Most recently, the foundation announced the final recipients of grants for research and development specific to massive open online courses (MOOC’s).

Of the $3 million total in grant money, $550 000 has been dedicated specifically to schools that will develop MOOCs for “gateway courses” - introductory courses that serve as the foundation for a major (Coursera, 2013). In addition, there are numerous other sources that have been active in funding the development and launch of courses including the World Bank and the Laureate Education Group (Korn, 2013).

As we (Youngblood, 2012) see there are a number of common concerns related to MOOCs as follows:

I. There is really no business case associated with the development of MOOCs. Currently, MOOCs are one-off courses that have captured the imagination of the popular press and the public at large. However, to date these are not designed in a fiscally sustainable manner. These free courses do not generate any credit nor do they permit any to actually certify with any certainty that any real learning has been accomplished. The lack of a sound business case can mean that the discipline required in addressing issues like enrollment, course quality and outcomes remains a crucial issue and more thought needs to be included in developing a model that can monetize MOOCs.

II. As one-off courses there is no consistent way to actually develop and “certify” a body of knowledge for a student. Each participating university simply develops a course and they do not align well in terms of a program or an area of study.

III. MOOCs do not have student entry standards with respect to a course. In that regard, the lack of standards helps drive big enrollment numbers in any given course. However, the lack of proper standardization leads to wide variability in respect to the capabilities and background of participants in the course. Indeed, current estimates are that less than 10% (Kolovich, 2013) of registered students actually complete the course. In part, this figure may represent a lack of suitable skills and training related to some participants. In fairness, Coursera suggests that “…most students who register for a MOOC have no intention of completing the course. Their intent is to explore, find out something about the content, and move on to something else,” said Ms. Koller (Kolovich, 2013).
In summary, MOOCs have certainly moved the issue of online learning to a higher level of global use. In particular, MOOCs have added to the understanding of the value of online learning and it has accelerated improvements and innovations in the application of online tools and techniques such as blended models of learning. However, there are clearly concerns about the actual impact of MOOCs. Indeed, “… MOOCs were once hailed as the next big disruption to traditional higher education, opening the door to a college education to anyone, anywhere in the world. But the low percentage of students who complete such classes on their own, and the fact that most people who sign up for MOOCs already have a college degree, have educators rethinking how the new format for college coursework can best be put to use” (Calvert, 2014). At best MOOC’s remain a work in progress.
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