Structural implications of MOOCs: low-grade tremors?

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Introduction

As we move through 2015, we are three years hence from the advent of the MOOC phenomenon. Many would argue that MOOCs have been and gone with little effect on HE (higher education); indeed, as we look around, we find little evidence of institutions disappearing or indeed of any type of disruptive revolution in HE. It may be that the education sector is not as easily disrupted as the music industry was. However, it is also true that, below the apparently calm surface waters of HE, there is an enormous amount of turbulence and change which may yet rip up a storm on the surface. For us who work within the august institutions that have navigated their way through many decades and hope to do so through many more, we need to understand these underlying forces and how they can have an impact on us for good or for bad.

In this chapter, I offer a framework to help analyse and understand the forces working on us and an interpretation of the nature of innovation and disruption and the role of MOOCs within this. In so doing, I first refer to the insights the work of Clayton Christensen shed on the role of MOOCs as evidence of profound and long-term changes to the HE landscape, but themselves only being a small part of that change. I then use Michael Porter’s five forces model as a tool for systematically analysing the operating environment for HE and assessing the risk and opportunity this throws up for universities.

Sustaining and disruptive innovations

Innovation can be classified in two ways according to Clayton Christensen [1]: as sustaining or disruptive. With sustaining innovation, industry continues to innovate in its attempt to keep a loyal client base that finds its products and services meet their changing needs and expectations. Disruptive innovation, on the other hand, is very different. It is normally characterized by a new technology or technological approach that offers a different set of values from the established products and services that cost less and are often technologically inferior, but it is a technology that establishes itself with a group of new customers who find that it meets their needs adequately for their purposes. At first, the incumbents disregard the new technology as it does not seem to be taking away any of their customer

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base and is in any case inferior. However, once established in this new customer set, it rapidly evolves and improves and starts to woo previously loyal customers away from their previous preferred product or service. When this becomes apparent, it is often too late: the incumbent companies have not built up their expertise in the new technology even if they are familiar with it, and they rapidly become obsolete. Christensen has documented this effect through many industries, and in his and Henry J. Eyring’s 2011 book *The Innovative University* they warned the HE industry that it too faced disruption, without ever mentioning the word MOOC [2]. In this sense, we can understand the phenomenon of MOOCs as a symptom of something bigger going on: a slow, but irresistible, disruption of the sector.

We already see how these changes are working themselves into the thinking of established campus-based universities around the world. Georgia Tech [3] was one of the first to introduce a MOOC-inspired Masters programme that reduced the fee for the programme to 20% of the original. Similarly, we see in the Institute Wide Task Force [4] report from MIT (Massachusetts Institute of Technology) evidence of a complete rethink of how MIT approaches teaching and how it organizes its curriculum, faculty and physical resources to allow the sort of flexibility and access inspired by MOOCs. The report identified several key trends that should be taken account of in its new form: massive scale of adoption, increased potential and demand for disaggregating and unbundling products, the blurring of boundaries, and affordability and access. One of the key questions asked in the report is how MIT can widen access to its programmes tapping the increasing numbers of good applicants that are being turned away currently, but also how a more flexible approach can bring a range of benefits. Increasing modularization would allow unbundling and rebundling of component parts of the curriculum in new and interesting ways:

“the momentous rise of digital learning, on campus and beyond, enabling learning anywhere at any time, inspires us to imagine what MIT’s facilities for the future could be – combining online activities with inperson interactions and hands-on experience.” [4]

**The competency model and the contracting model**

In a report published in 2014 in *Times Higher Education*, Steven Ward [5] examined two distinct models of evolution for universities: one where the professors became more independent and the university itself fades into the background, and an entirely different model where the professor fades into the background and the institution takes prominence. Both of these models already exist. The first is the model represented by the competency model of such institutions as Western Governors University in Utah or the online Capella University. This model, Steven Ward claims, is supported by such powerful allies as the Gates Foundation and the Lumina Foundation. The contracting model, on the other hand, is represented by a Vermont start-up called Oplerno, which centres its model on the professors who retain 80% of the tuition fees from the online courses and keep complete control
of the intellectual property. Constant experimentation is taking place; where this work will lead us is an open question. One very positive result of the wave of innovation is an evident revalorization of teaching. A preoccupation with league tables and the pre-eminence of research and research reputation have over the years leached crucial resources and interest away from the teaching agenda.

Ward concludes that:

“such radically different models mark the extreme boundaries of the coming brave new world of tertiary education in the US and, perhaps, elsewhere – higher education with no professors, only competencies, and higher education with no universities, only professors. Perhaps they will be replaced with something even more radical – a type of Pearson U, Blackboard U or Walmart U – where there are no longer either professors or universities, only pure, for-profit corporate information delivery systems and credentializing platforms. For this bit of free-market utopianism, we may not have to wait too long.” [5]

There is therefore plentiful evidence of experimentation and change, often inspired by MOOCs and fuelled by technological change. The danger for universities is to dismiss these as transient fads and therefore to miss the bigger picture sketched for us in Christensen’s analysis of profound change affecting our sector that starts as slightly irrelevant, but swiftly outpaces the incumbent institutions.

**Michael Porter’s five forces model**

Universities need to consider how they can engage with this positive stream of development in new and exciting ways to broaden the teaching agenda. When conceiving a strategic approach, a useful tool for understanding how the sector is developing is to use Michael Porter’s five forces model [6]. This model conceives of institutions as existing in a dynamic and changing environment where they not only compete with similar institutions, but also need to respond to pressures on their work from new entrants, such as Coursera, to substitute products, such as badging or competency models, as well as changing expectations from the ‘customers’ (primarily the students) and the pressure from ‘suppliers’ whether they be agents, pathway providers or academic journals. Mapping this dynamic interplay helps a university think through the capabilities it needs to build to maintain or build its position in the sector. Thus it is not enough to look at near competitors who inhabit the central part of the model, but to look at how the other four forces are likely to have an impact in the future.

One of these dimensions is the bargaining power of buyers in Porter’s model. Clearly, there have been many well-documented changes in recent decades in student needs and expectations. The chief among these was the development of widely used search engines in the 1990s that engendered a revolution in how information was sourced and a radical re-appraisal of the teacher role. The development of MOOCs has taken this further and has made possible the move to ‘just-in-time’ learning rather than ‘just-in-case’ and indeed has made available higher learning in bite-sized chunks available whenever and wherever students
need it. This has profound implications for student expectations. A student who has experienced the high-quality video-based learning materials available free of charge on most MOOCs is unlikely to be impressed by the standard tired lecture/tutorial format at their own university. Everybody’s game needs to be upped.

Similarly, the second of Porter’s five forces concerns the bargaining power of suppliers. In established universities, it is common to believe that this does not apply and that the university deals directly with students without the need for suppliers of educational goods to come into the mix. However, this is a model that is being eroded on many fronts. Increasingly, students do not arrive at the university independently, but come through a pathway provider of some sort who provides students with support on their journey into the university. Many of these suppliers are teaching language and academic skills and starting to be involved in year 0 or year 1 academic provision. In the U.K., a recent report points to the increasing number of international students who are entering U.K. universities after a period doing transnational education overseas. Another form of educational service is around library, text books, supplementary materials and curriculum content. Traditionally, a professor is the link that co-ordinates all of these into a manageable diet for students, but this may not remain the case. In order to obtain a glimpse of the future of materials development, it is instructive to visit the Macat website [7] which has a completely new approach to the development and provision of high-quality analysis that sits somewhere between the library and the professor and may increasingly challenge the need for professors to be involved in the development of curriculum materials at all.

The third Porterian force is threat of new entrants. Clearly, companies such as Coursera fall into this category. In three years, Coursera have moved from being a start-up to commanding a registered market of nearly 10 million users. Conventional universities are quick to say that this is not detracting at all from their conventional students as MOOC users are older, more educated and looking for a different value proposition than conventional undergraduate students. However, will this remain the case? As mentioned above, the nature of disruptive innovation is that the initial products are often seen as in some way inferior to existing products and usually start by attracting very different audiences with their own set of values and needs which are very different from those of the incumbents’ key audiences. But, as the disruption progresses, this distinction erodes as customers start to desert the incumbent for the new products. Currently, MOOCs are more threatening to continuing or lifelong education where the competition has already taken its toll. However, they are also in competition with Masters programmes and, in the last month, Coursera has announced its first MOOC MBA.

The fourth force is threat of substitute products or services. Probably the only monopoly most universities keep is their ability to grant degrees. There are small inroads being made into this area, but ones that universities would be well advised to watch closely. The signature track that Coursera offers gives a more valuable certificate than the pure completion certificate and there are a number of experiments on credentializing MOOCs that add value from a student’s perspective. There are also a number of non-MOOC experiments on credentials that need to be considered, the games-influenced badging system used at the Khan Academy is a case in point.
The fifth force according to Porter is the rivalry among existing competitors. This is the most familiar force for us and is often the one taken most seriously as we compete with other institutions for students or position in the various rankings.

Using Porter’s model is a good way to systematically and thoroughly evaluate the evidence of change in our sector and thus the challenges and opportunities we face now and in the future. Benchmarking ourselves against competitors, Porter’s fifth force, is only a part of the picture, but all too often is the dominant environment scanning that institutions employ. When the whole sector is at risk of turbulence, as the music and publishing industries have experienced, being better than your near competitors is not enough; it merely means you will lose your customer base slightly more slowly than they do. The lesson is to be familiar and in touch with other types of change too.

A way out of the innovator’s dilemma

Clearly, with the rapid evolution of online delivery, and the enormous amount of experimentation taking place in MOOCs and elsewhere, many universities will want to strengthen their ability to observe and learn how these experiments can benefit them in the future, but also future-proof their endeavours. Christensen’s work warns us that it is hard for incumbent institutions to develop the innovations of the future as they are trapped into the needs and expectations of their current students and stakeholders. One way out of this ‘innovator’s dilemma’ is for an incumbent institution to develop an independent subsidiary that is autonomous enough to be able to freely learn and innovate working with groups of users that are different from the main institution. It was perhaps with this lesson in mind that the Open University in the U.K., rather than developing their own MOOCs, set up a separate organization, FutureLearn, to be the platform for all this development as well as a wider collaboration with universities in the U.K. and beyond.

The vast majority of innovators in our sector have not set up autonomous subsidiaries to offer MOOCs and other types of innovation. Some, such as the University of Edinburgh, have made MOOCs a central plank in their university strategy. Others experiment at the fringes. Christensen would worry that, in this way, we are only likely to achieve what he calls sustaining innovation that will help universities to continually develop new ways of learning that increasingly meet their students’ needs, but do not protect the institution from waves of disruptive innovation that question the basis of the educational offer from head to toe. Only the future will demonstrate how true this is for the HE sector where the thesis is untested and the underlying factors and motivations are far more subtle and complex than most free-market sectors such as the music industry.

The case of the University of London

In the case of my own institution, the University of London, we have a range of reasons for taking MOOCs and the evolution of flexible education very seriously. The University of London is arguably the leading U.K.-based provider of
transnational HE with 54,000 students studying for our degrees in virtually every
country in the world [8]. Students are able to study alone or through the network of
recognized local teaching institutes covering more than 40 countries. The network
of supporting institutions is itself a unique resource. Public, private, small and large
institutions in countries such as Singapore, Russia, Malta, Peru, Malaysia and Ghana
play a role in supporting students on University of London programmes. Over the
years, many such institutions have grown to become iconic institutions themselves.
The University of the West Indies, Raffles College (which became the National
University of Singapore) and the University of South Africa all shared their early
days with University of London programmes and this trend continues with universi-
ties such as Help University in Malaysia and the University of the Seychelles sharing
their own pasts with the University of London. This is a unique and historic flexible
learning system that has existed for over 150 years. Among the hundreds of thousands
of graduates of the system are heads of state, ministers, heads of justice systems, Nobel
laureates, lawyers, accountants, historians, computer analysts and teachers [9].

We launched a series of MOOCs for various reasons. One of the main
reasons was to ensure that we were a part of the innovation and not a victim of it. As
we expand our range of MOOCs on offer and reflect on the lessons from the first
series, some of this learning is already establishing itself in our main programmes.
We are an institution driven by an access mission and thus have always kept our cost
base, and hence our fees, as low as possible. MOOCs are helping us improve support
to students at scale, but without incurring large variable costs that need to be passed
on to our students. MOOC-inspired discussion fora and other innovations are
helping us do this. Our MOOCs have experimented with many different academic
team setups and pedagogical approaches, and the learning from these activities is all
crucially important for an institution that is all about flexible learning. Meanwhile,
many students try out our MOOCs and then join our degree programmes. As we
are able to offer our degree programmes flexibly anywhere in the world, it is simple
to move from being one of our MOOC students to being a full degree student. In
this way, our MOOC mission is fully congruent with our main mission [10].

The University of London has been awarding its degrees to students
across the world for over 150 years. These students come from all walks of life and
social classes, but are united by a desire to better themselves through education.
Clearly, technological change has provided a number of tools that make learning
at a distance easier, and we expect these advances to continue so that learning can
become increasingly integrated into learners’ lives. MOOCs have been enormously
popular as they represent a step in this direction of helping accessibility to exciting
and relevant educational material in a coherent programme format. The MOOCs
we have offered have brought us in front of new audiences as well as supplementing
the offer we make to our current students. We have learnt a lot from working with
MOOCs and expect this innovation to continue in the future.

The future

No-one knows what the future will hold. However, the seeds of tomorrow’s HE
sector are already starting to grow, and an astute observer can discern patterns.
What is sure is that teaching tomorrow will be different from today and it is clearly important for institutions to be developing in ways that will stay in tune with the learners of tomorrow. Part of this awareness is about being up to date with the dynamic forces that continue to shape our sector and using Porter’s analysis can help us conceptualize and understand these influences and how they are shaping our future. Experimentation is a crucial part of our ability to grow and learn. Offering MOOCs is a step along the way, but institutions need also to be aware that other forms of innovation will come and go. The lesson from Christensen’s work is that sometimes the least likely looking development may grow to be the type of disruptive innovation that can outmanoeuvre the incumbents, so it pays to be aware of the various experimental models of HE, however unlikely they may look today.

References

8. http://www.londoninternational.ac.uk
10. http://www.londoninternational.ac.uk/coursera