

To MOOC or not to MOOC: that is the question

Lecture

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It is an honour to speak to such a distinguished audience and I am very grateful to the Vice Chancellor Prof Dato' Dr Ho Sinn Chye and Prof Madhulika Kaushik for the invitation. The Commonwealth of Learning has shared a very close relationship with the Wawasan Open University since its very inception, not least because your first Vice Chancellor Tan Sri Raj Dhanarajan was also our former President. My topic today is 'To MOOC or not to MOOC: that is the question'.

I will first look at the context of higher education and how the various imperatives of demand, costs and technology have generated creative responses, including the MOOC phenomenon. Finally, I will look at the implications that the rise of MOOCs have for institutions in developing countries.

But first the context.

Let me briefly touch on 3 factors that impact HE today: the unprecedented demand, the escalating costs and the unimaginable pace of technological change.

In 2007, there were 150 million tertiary students globally, a 53% increase over 2000. We find that the number has increased to 165 million in 2012 with an estimate that this is expected to rise to 263 million in 2025.

What does this mean in real terms? If we are to accommodate the children who will reach enrolment age between now and 2025, we will need to build four universities with a capacity of 30,000 every single week.

Tertiary enrolment in Asia has grown rapidly over the previous decade and this trend is likely to continue.

Except in some countries such as Malaysia, where the growth has peaked.

Compared to the data for South Asia on the one hand and East Asia and the Pacific on the other, Malaysia has done well in tertiary education with GERs of 36 %.

In spite of this huge expansion in Higher Education, the APRs in the developing world are far below those in the OECD countries. For example, in South Asia and sub Saharan Africa the percentage is well below 20.

Second, the costs of HE have risen exponentially. An article in *The Economist* asks whether higher education is still worth it? The costs of higher education have risen way above inflation rates in the past three decades, making HE increasingly unaffordable. This may be the American situation but quality HE is still beyond the reach of many in the developing world.

Have the increased costs resulted in better quality higher education? A 2011 study found that 36% of college graduates in the US did not show any significant cognitive gains over four years and that half the employers surveyed said they had trouble finding suitable graduates to hire.

The gap between what we teach and what the job market requires is a global issue. The youth unemployment rate globally is over 12 %.

The data are not very different for Malaysia which is comparable at about 11 %. But what is significant is the high rate of unemployment among those with tertiary education. At 27%, this is higher than the South Asian average.

At the Malaysian Education Summit, Dato Seri Idris bin Jusoh, the Hon Minister of Education, cited several reasons for this—poor command of English; poor personality and unrealistic salary expectations. But one of the key reasons was mismatch of skills.

The Bank Negara Malaysia also found that over 775 graduates did not have the necessary skills for employment. What do higher education institutions need to do to close this gap and provide the education that is relevant and responsive to the changing needs of our societies? Is technology the answer?

We have seen an unprecedented growth in technology. Yet there is a digital divide between the different regions of the Commonwealth. Compare the internet access of over 80 % in Europe and North America with the 10% in Asia and Africa.

If we look at the growth of technology in the last decade in East Asia and the Pacific, we find that while fixed broadband would cover about 10 out of 100 people and the number of internet users would touch about 40 per hundred, the area which has seen the most radical growth is mobile telephony with nearly 100 % coverage.

We find a similar pattern repeated in Malaysia, with mobiles exceeding the regional average of 100%.

This unanticipated and rapid rise of cell telephony and affordable tablets, are making a contribution towards turning the digital divide into a dividend.

As governments and policy makers seek to expand access to relevant higher education, reduce costs and improve standards, it is clear that alternative approaches are needed. Traditional brick and mortar solutions cannot be enough.

As governments and policy makers in the Commonwealth seek to expand the reach of higher education and to cut the costs, they are investing in open universities. The last 40 years have witnessed the emergence of mega-universities such as the Open University, UK, the Indira Gandhi National Open University in India and others.

Asia alone has over 70 open universities and the largest number of adult learners in the world and the numbers continue to grow.[\[1\]](#) The new wave of growth is emerging in Africa.

With more access to technologies, both campus and distance learning universities are embracing online learning, especially in the developed countries. In 2012, nearly seven million students were taking at least one online course accounting for nearly 33% of all US Higher Education students.

This trend is not restricted to North America alone. Interestingly, Asia has the highest annual growth rate at 17.3% with **Vietnam Malaysia** and Philippines leading the continent in elearning. Of the top ten countries with the highest elearning growth rates globally, you can see five are from Asia.

The past four years have seen the rise of the Massive Open Online Courses or MOOCs which have generated a great deal of interest internationally both in the media and in higher education circles. According to the evolving definition on Wikipedia '... a MOOC is a type of online course aimed at large scale participation ...MOOCs are a recent development in the area of distance education....'

Many universities in both the developing and developed worlds have felt compelled to join the MOOC movement. The big three MOOC platforms edX, Coursera and Udacity, all operated from the USA. FutureLearn, launched last year, is designed and operated by the OU UK.

An article in *Nature* examined the subject matter of MOOC courses (July 2013) which shows that about 28 percent belong to arts and humanities. Predominance of STEM and Business topics is along the expected lines and the presence of a significant number of arts and humanities courses is worth noting. This shows that there are no subject-related barriers to MOOC offerings.

In Asia, notable MOOCs are being offered by China, India and Pakistan. Tsinghua University, which is one of the top research universities in China is offering MOOCs in cultural studies in Mandarin and these courses are free and meant for self-enrichment rather than certification. Here then are two models: one for self-enrichment, the other that leads to certification.

The NPTEL project in India is led by the government to provide job-related skills to young people in the STEM subjects. These are free and students only pay about \$35 if they appear for an exam towards certification. The NPTEL course, launched in collaboration with the industry, attracted over 50,000 registrants, of whom 15,000 were active participants. 1200 received certificates which are recognized by the industry.

The Virtual University of Pakistan is making the MIT Open Courseware available through their web portal for their students.

The UPOU is offering MOOCs to provide training in skills related to call centre services and basic nursing

XuetangX is a MOOC consortium of 9 top universities in China. It is led by Tsinghua University which is among the top 50 research universities in the world. The other member universities are also of high standing. Current courses are in the areas of basic and advanced computing and enterprise management. But if you want a certificate you would go to TopU.com, a MOOC provider that offers job-oriented as well as advanced courses in IT and language skills with faculty drawn from many universities.

Why have MOOCs become popular in China? Prof Wang identifies four reasons: one, that professors want to give back to their societies; two, universities wish to be part of elite groups; three as members of consortiums, universities can exchange courses and allow their students to carry credits to other institutions and four, ministries are urging institutions to offer innovations.

One of the common objectives for adopting MOOCs in developing countries is to democratise access to higher education. As your Minister has encouraged Malaysians to leverage new technologies such as MOOCs to democratize access to higher education. The Indian government also wishes to use MOOC platforms to reach the unreached segments of society such as working class people and housewives.

A course on Global Entrepreneurship being offered as a MOOC by Taylors University

Anyone in the world can take up the course on Malay Arts being offered by Universiti Putra Malaysia.

The ability to reach across borders and to large masses makes MOOC a very attractive option. The MOOC effect can be phenomenal. 270,000 people signed up for the Computer Science (CS) course offered by Udacity which is much larger than the total number of learners who aspire to do CS courses in nearly 3000 degree granting institutions in the USA.

What is the profile of the typical MOOC registrant? A recent Harvard study shows that this was likely to be a male with a bachelor's degree and over the age of 26. 35% of those who enrolled never engaged with the content and only 5 % completed the courses.

It is interesting to note that of the learners signing up for the MIT-Harvard MOOCs, 72 % were from outside the US. The University of Pennsylvania MOOC drew 15% from the BRICS— Brazil, Russia, India, China and South Africa. While MOOC's may not yet have caught up in

Africa, their viability for emerging economies is becoming clearer. MOOCs are giving universities a global profile and more and more learners from developing countries are enrolling.

But are we really reaching the unreached? According to Sreenivasan, at the moment MOOC weren't reaching the unreached in Africa but those on Wall Street through a course on Financial Engineering and Risk Management. Vignare says that so far MOOCs have only reached those with degrees. How can we reach the millions who aspire to enter higher education and earn degrees?

Why do universities offer MOOCs? Recent research shows that extending their reach is one driver, while building the brand is another. It is significant that universities are investing in MOOCs to lead innovations in teaching and learning. This is an important and welcome development as the focus is on good teaching rather than only on research. What are the implications of these developments for universities? Let us look at the impact on three areas: pedagogy, services and credentialing.

COL in partnership with IIT-Kanpur offered a MOOC on mobiles-for-development. This interdisciplinary open course attracted over 2200 registrants from 116 countries, 62% of whom were active participants. The six-week course was completed by over 400 participants.

M4D was rated highly by the learners as is evident from an exit survey. According to an external evaluation, this was because the content was from highly competent experts. Also, the learner-mentor interaction online was regular and frequent. These two taken together imparted much strength to the MOOC. It was made stronger through the adoption of simple and effective online pedagogic practices- such as chunks of videos, frequent assignments and quizzes.

What did we learn? It is important to provide high quality materials combined with good teaching. Keeping the learners engaged is essential and the IT platform must be reliable. This can be achieved without branded platforms and quality can be delivered at lower costs.

What are the implications of MOOCs for universities? Let us look at the impact on three areas: pedagogy, services and credentialing.

Will MOOCs transform the way we teach and learn? A significant difference that is often cited in MOOC-based learning is the emergence of the flipped classroom as the standard practice. There is a greater emphasis on peer-to-peer learning.

The use of Learning Analytics, a component of the MOOC platform, can help us to collect and analyse data about how learning is taking place. Because of this, predictive systems can be developed to identify potential dropouts and provide the necessary support to help them overcome their difficulties. It can also highlight those areas where many students struggle so that the tutors get the feedback to take remedial measures.

Another significant development contributing to teaching is the availability of huge masses of learner data that can be analysed for continuous improvement and better outcomes.

MOOC is a highly media-centric platform; it is also an event management platform. Faculty who are more used to the print medium or TV/radio in some Open Universities will need a fair amount of support to adjust to the requirements of handling the new medium. Working in teams with people of different skills will be essential. They also need to appreciate that an effective hour of MOOC learning material delivery requires 10-20 hours of authoring and production effort. On a six week course with about 25 hours of delivery, the investment required would be about 500 hours.

Service provision is an integral part of MOOC management. MOOC developments provide new ways to solve older concerns. One of them is to be able to assign a unique ID to a learner, who can be identified across courses- something paper-based procedures are not good at yet. MOOCs also offer tested and affordable techniques to manage learner and mentor records which can be moved across platforms when necessary.

MOOC platforms today provide for excellent online networking opportunities among the learners and between the learner and the tutor. In addition, good quality OER can enhance the learner-content interaction by providing access to a library of supplementary learning materials.

Increasingly, MOOCs are viewed as not just knowledge enrichment opportunities. Carefully designed assessments are now demanded by learners who are keen to be certified as well. Proctored exams are thus becoming regular in many MOOC offerings, such as Udacity, or in the NPTEL-India courses. Considerable expertise in exam center management is called for. Companies like Pearson are emerging as key players globally.

Credentiailling was not a consideration when MOOCs were launched. However, it is a serious consideration now. A number of approaches are being deployed. The practice of “badges” which allows a learner or mentor to accumulate credit and reputation is gaining currency. Invigilated exams and certificates derived from them are also becoming more current because widespread recognition of Badges does not yet exist. This is clearly an important area where rapid changes are taking place and universities will need to find flexible and open ways in which this can be done.

HE institutions are divided about offering credit to MOOC learners. A survey conducted by the Chronicle of Higher Education asked the professors running the MOOCs if they believed that students who succeed in their MOOCs deserve course credit from their institution, 72% said no. What does this say about the quality, rigour and perceptions of the MOOC offerings?

But since MOOCs are offered globally, and to a diversity of learners, the question is, can one size fit all? What of student verification and academic integrity? Is a peer-reviewed assessment acceptable?

The FutureLearn, a private company of the OU UK is a consortium of 38 institutions and provides a model of what other open universities could initiate. FutureLearn offers 29 courses which have attracted over 750,000 students.

Universities can ‘unbundle’ their services and offer smaller more needs-based options. We can see a delinking of the institutions which teach and the institutions which credential. It will be possible for learners to construct their own courses based entirely on OER and carry their credits from one institution to another.

Open Universities are well placed to engage with MOOCs. They have been strong in both contemporary pedagogy and services management. Student support services can be strengthened by adapting MOOC technologies.

A National Policy for MOOCs can provide an enabling environment for institutions wishing to offer MOOCs. A framework for QA and credentialing in this new medium needs to be evolved. MOOCs for skills development is as important as MOOCs in Higher Education--an example is NPTEL in India. The policy needs to address the importance of a robust IT infrastructure for institutions as they by themselves cannot create or own one. The use of OER or free content can reduce the cost of building a MOOC.

While paying attention to a National Policy for MOOC, it is useful to anticipate the rapid rise of new players. The Higher Education sector will not be the only player. The business sector is emerging as industry associations want to promote MOOCs to improve the job readiness of graduates. FICCI, a powerful grouping of business associations in India, recommends MOOC as an informal training channel for re-skilling thousands of industrial workers. So are leaders in the agricultural sector who want to train lead farmers by the thousands in new farming techniques using MOOC platforms.

Offering MOOC requires institutions to provide orientation to faculty. There is also a need to sensitise administrators about the credentialing process. Faculty and administrators should be able to market a MOOC to ensure mass outreach. Teams with varied expertise in IT management, media production, instructional design need to come together to offer a MOOC. As a partner of COL put it, “offering a MOOC should become as easy as taking one”.

To conclude, contrary to what Thomas Freidman says, MOOCs are not a revolution but an evolution of existing principles and practice. At present, MOOCs are being used for continuous professional development and training in the developing world and have the potential to offer lifelong learning opportunities for all. The MOOC technologies provide us with the opportunity to transform our pedagogic practice and finally, MOOCs will complement and supplement rather than replace existing higher education institutions. The real advantages of MOOC for development would be in skilling at scale with speed.

Thank you for your kind attention.

[1] C Latchem & Insung Jung: Distance and Blended Learning in Asia, NY London: Routledge, 2009, p.xiii