

# MOOCs IN MALAYSIA: A PRELIMINARY CASE STUDY

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## I. INTRODUCTION

Massive open online courses (MOOCs) in Malaysia are a very recent development. At the time of writing of this case study, there are only six higher education institutions that have embarked on a MOOCs initiative. The first Malaysian higher education institution announced its pilot MOOC offering in March 2013. In 2014, five more higher education institutions – four of them public universities and one, i.e. Open University Malaysia (OUM), a private open and distance learning (ODL) institution – began offering MOOCs on two different platforms. At the moment, these initiatives represent a preliminary phase in MOOCs, where Malaysia's approach can be described as exploratory, focusing less on reaching the widest possible audience, making a significant mark globally or competing with established providers like Coursera, edX and Udacity, but more on learning to use web-based technology to complement current educational delivery systems at the higher education level and introducing MOOCs to the general Malaysian audience.

In addition to the idea that MOOCs can reach the widest possible audience, the following are common reasons for their adoption in higher education institutions:

- Democratising education, i.e. MOOCs as a means to provide quality education for anyone who seeks it;
- Promoting an institution's brand;
- Attracting new learners to enrol at an institution;
- Potential for collaborating with other institutions;
- Potential for research and development in online education; and
- Transforming traditional teaching and learning approaches.

These reasons can be interpreted as potential benefits and they have compelled Malaysia's own initial exploration of MOOCs in this country, although this case study will show that Malaysian MOOCs are not necessarily carbon copies of the more established global examples.

Currently, MOOCs adoption in Malaysia is developing in tandem with several important national plans, e.g. the upcoming 11th Malaysia Plan (2016-2020), the National Economic Model, Economic Transformation Programme and the anticipated Malaysian Education Blueprint for Higher Education; the last of which has specifically addressed MOOCs in its preliminary discussion document. Online learning, as an essential component of the delivery mechanism in MOOCs, is also addressed in the soon-to-be-released Blueprint.

MOOCs in Malaysia are likely to see various developments in the next several years, as we can anticipate greater involvement from higher education institutions in response to the Malaysian Government's recent statements that have revealed several national objectives for MOOCs in the next few years.

If the Malaysian Government and local higher education institutions intend to adopt MOOCs on a large scale, this will inevitably have significant repercussions on the entire national higher education landscape, especially if they are made a part of the delivery approach in higher education institutions (as currently explored by public universities), as a means for branding and internationalisation, or even as part of the advancement of online learning and ODL. Most importantly, however, is the observation that the 'arrival' of MOOCs in Malaysia has prompted higher education institutions to acknowledge that age-old, traditional approaches to teaching and learning need to be evaluated and rejuvenated to respond to the fast-paced, connected, technologically-driven environment of the 21st century.

That being said, any novel, national-scale initiative in education calls for a mindful and pragmatic approach. It will be wise not to overlook global trends in MOOCs in any discussion regarding the future direction of MOOCs in Malaysia as they will inevitably affect the actions of the Government and relevant institutions.

The subsequent sections of this case study will describe the following key areas in MOOCs development in Malaysia:

- Background of MOOCs in Malaysia, with relevant information pertaining:
  - Adoption of information and communication technology (ICT) in Malaysian education; and
  - Awareness of and readiness for MOOCs amongst Malaysian people and institutions;
- Policies on MOOCs adoption in Malaysia, with relevant information pertaining to:
  - The Malaysian Government's objectives and goals in relation to MOOCs; and
  - National plans and strategies that have addressed MOOCs;
- Current practices of MOOCs in Malaysia, which will describe:
  - The six current MOOCs initiatives in the country; and
  - Approaches, strategies and technological systems; and
- Issues and future direction of MOOCs in Malaysia, which will provide a critical review of the current initiatives and comments on the potential prospects for further MOOCs development in Malaysia.

## **II. BACKGROUND**

The use of ICT in the Malaysian education system is relatively modest. Many plans to introduce ICT at the school-level were announced at the onset of the establishment of Multimedia Super

Corridor<sup>1</sup> (MSC) in 1996, such as the “Smart School” project – an effort to encourage ICT integration in school-based learning; the “SchoolNet” initiative – a project to provide broadband Internet to Malaysian schools; and “EduWebTV” – a YouTube-based portal for educational videos for consumption by school teachers and students (see MSC, 2011). Since the late 1990s, other private or non-governmental initiatives were also introduced, e.g. establishment of private and Chinese smart schools nationwide (see Chan, 2003). Currently, ICT Literacy is a compulsory subject taught at all national schools in Malaysia.

At the higher education level, Siti Rafidah *et al.* (2009) found that ICT resources were modest in both public and private higher education institutions, although usage of ICT, either for communication or information retrieval, was common amongst faculty members and students. The level of ICT proficiency amongst faculty members was good, although those in public universities tended to be more cautious and resistant to use ICT in their teaching activities. These observations demonstrate that to notable extent, technology has played a relatively limited role in teaching and learning, both at the school and higher education levels.

Nevertheless, it is useful to note at this point that there are several open universities and ODL institutions in Malaysia that fully leverage on ICT as part of their delivery system as well as for administrative and operational activities. These institutions, including OUM, Wawasan Open University (WOU), Asia e-University (AeU), International Centre for Education in Islamic Finance (INCEIF) and Al-Madinah International University, have developed e-learning platforms and systems that are used in a blended learning pedagogy, which often combines online learning with synchronous study sessions and self-managed/independent learning. Additionally, several public universities, such as Universiti Sains Malaysia (USM) and Universiti Putra Malaysia (UPM), also offer programmes via distance education, using delivery methods similar to those of full-fledged ODL institutions. These institutions demonstrate the potentially fundamental role ICT can play in education in Malaysia.

In order to understand cultural influence and acceptance of technology in education and MOOCs, it is useful to examine general ICT adoption amongst the public. In 2014, the Malaysian Communications and Multimedia Commission (MCMC, 2014) reported a broadband penetration rate of 24.9 per 100 inhabitants; and a cellular telephone penetration rate of 145 per 100 inhabitants. Compared to other ASEAN countries, Malaysia falls only behind Singapore in terms of fixed broadband penetration per 100 inhabitants, although we have some ways to go if we are to match the much higher penetration rates in advanced countries like Japan and South Korea.

However, Internet usage is widespread across Malaysia. In its 2012 report, MCMC revealed that almost 19 million Malaysians (or close to two-thirds of the population) consider themselves Internet users. More than 72% of them are under 35 years of age, with a significant majority (more than 80%) who are still studying or are educated (40.7% have tertiary education

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<sup>1</sup> MSC is a special economic zone in Malaysia that was introduced to leverage on technology and a knowledge-based society framework to accelerate national development and transform Malaysia into a modern and fully developed nation by 2020.

qualifications). These findings indicate that many Malaysians are equipped, aware and relatively updated when it comes to using the Internet. However, urban Internet users outnumber rural users by about three to one, which indicates that infra- and infostructures, as well as access and individual capacity are more limited in many rural locations in Malaysia (all figures from MCMC, 2013).

This is not a revelatory finding for Malaysia. The urban-rural divide is a common problem in many developing countries and this has been acknowledged by the Government, which has launched efforts to bridge this digital divide and improve Malaysia's technological readiness in various aspects of life. One example that shows Malaysia's efforts to improving growth in the digital landscape is the "Communications Content and Infrastructure" sector under the Economic Transformation Programme (ETP)<sup>2</sup>, which spans content, network applications, services and devices to provide easier access to the Internet and allow all Malaysians to experience the benefits of an interconnected life (Performance Management Delivery Unit (PEMANDU), 2013). Some of the initiatives under this sector that are currently in progress are:

- Ensuring broadband for all;
- Establishing e-learning for students and workers; and
- Extending reach (in rural areas).

However, these developments do not unequivocally indicate that Malaysia is socially, culturally or technologically ready to fully adopt MOOCs as an important approach to education. While in many ways, the country and its people are generally receptive to ICT, its use in an educational setting is quite limited as Malaysia is currently still focusing on improving infrastructure and access to bridge the urban-rural digital divide.

That being said, recent findings by the Association of Chartered Certified Accountants (ACCA) reveal some interesting observations. Among 120 surveyed members of Malaysian academia, an overwhelming 92% believed learning models must change to suit technology and student needs. 97% strongly agreed that technology is a compulsory tool for 21st century learning, although views were split about whether online learning will replace traditional forms of learning (42%); or it will instead co-exist with traditional methods (53%) (see ACCA, 2014). In general, these findings point to some very positive impressions regarding the role of ICT in education.

The initial interest in MOOCs within the last two years suggests that we are open to exploring the use of MOOCs in higher education, although currently there is no indication if Malaysian MOOCs will take the form of currently prominent platforms such as Coursera, edX and Udacity. This is not necessarily a negative observation, as the adoption of MOOCs in Malaysia may have very different connotations than those of the North American-based providers.

As mentioned in the introductory section, the traditional higher education model is ripe for disruption. This is something that has been widely discussed, especially since the rapid growth

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<sup>2</sup> ETP is a national plan formulated as part of Malaysia's National Transformation Programme. Its goal is to elevate the country to developed-nation status by 2020 through 13 key economic sectors.

in ICT, which has revolutionised the way we live, from the retail industry (e.g. online shopping) to communication (e.g. social networking), disaster management (e.g. satellite- or broadband-based emergency networks) and various mundane tasks like navigating traffic. The pervasiveness of ICT, which has had its own tremendous impact in higher education, is a disruptive force that cannot be ignored. Higher education institutions must learn to adapt and innovate to ICT, or run the risk of being rendered obsolete or irrelevant.

We view MOOCs as one such positive disruption that can hopefully lead to a modernised, effective and compatible higher education model in Malaysia, although it must be acknowledged that the greatest contention at this point is whether or not the Malaysian academia can deal with the threat of such an innovation that is represented by MOOCs.

### III. POLICIES

There are currently few Government policies that specifically address MOOCs in Malaysia. The only clear exception at this time is the anticipated Malaysian Education Blueprint for Higher Education, which was released by the Ministry of Education (MOE) as a preliminary discussion document at the end of 2014 and is expected to be officially launched this year. The Blueprint has preliminarily addressed MOOCs under the 10th chapter (or Shift) called “Globalised Online Learning”. In this Shift, MOE declares Malaysia’s intention to leverage on MOOCs as a way to take advantage of technology to improve quality and widen access to education (see MOE, 2014) and also states that MOOCs as an online learning approach can offer the following benefits for Malaysia:

- An interactive and engaging delivery that encourages high-degree collaboration and international interactions;
- Global visibility of and access to Malaysian expertise in niche areas (e.g. *Islamic Finance* and *Tropical Diseases*); and
- An opportunity for Malaysian higher education institutions to showcase their best programmes and research areas.

The Shift lists seven key initiatives related to MOOCs development in Malaysia, i.e.:

1. **Infrastructure:**  
Establish dedicated independent infrastructure network for Malaysian higher education and any technology necessary for delivering globalised online learning;
2. **Awareness:**  
Launch MOOCs in subjects of distinctiveness for Malaysia, targeting 50% international enrolment, and promote MOOCs initiatives to the Malaysian public;
3. **Capacity building:**  
Improve training programmes for academic and support staff to enable effective utilisation of the best pedagogical models;
4. **Governance:**

Promote online programme development by establishing a national platform, shared services and coordination of MOOCs development and building partnerships;

5. **Policy:**

Provide implementation framework for successful deployment of globalised online learning based on international best practices; establish online learning as an integral component of higher education, with 70% of courses using blended learning by 2025;

6. **Credit transfer:**

Establish mechanism to allow credit transfer of courses completed by students via MOOCs and other online learning platforms; and

7. **Lifelong learning:**

Develop a common platform to enhance the utilisation of MOOCs for lifelong learning.

In October 2014, Second Education Minister Datuk Seri Idris Jusoh declared Malaysia as the first country in the world to implement MOOCs for all public universities and we are also currently the only country where MOOCs are implemented at a national scale through the Government (Rajendram, 2014). This announcement was made in relation to the September 2014 launch of four pilot MOOCs by four public universities (in respective parentheses), i.e.:

- *Islamic and Asian Civilisations* (UPM);
- *Ethnic Relations* (Universiti Kebangsaan Malaysia (UKM));
- *Entrepreneurship* (Universiti Teknologi Mara (UiTM)); and
- *ICT Competence* (Universiti Malaysia Sarawak (UNIMAS)).

MOE has targeted 15% of all courses offered by public universities in Malaysia to be delivered via an online platform by the end of 2015; and increasing to 30% by 2020. The four institutions listed above have been tasked by MOE to coordinate and develop the official portal for MOOCs by public universities (known collectively as Malaysia MOOCs). Later last year, Datuk Seri Idris Jusoh also announced that MOE is proposing a budget of MYR500 million (USD138.6 million) to encourage this initiative under the upcoming 11th Malaysia Plan (2016-2020) (The Star, 2014).

Taylor's University, Malaysia's first institution to launch MOOCs in 2013, adopts an approach where MOOCs are offered as mini courses that serve as a sampler for full university programmes. Additionally, Taylor's University also aims to give its faculty members the opportunity to explore new delivery methods through the use of technology (Digital News Asia, 2014), thus also creating an opportunity for the institution to enhance and improve its programmes. All MOOCs by Taylor's University, UPM, UKM, UiTM and UNIMAS are offered via OpenLearning, a MOOC platform based in Sydney, Australia.

OUM is currently the sixth Malaysian higher education institution that has embarked on a MOOCs initiative, which was launched in November 2014. Unlike the five other institutions offering MOOCs, OUM has collaborated with Apple to offer MOOCs via iTunes U, available for iPad and iPhone users. OUM considers MOOCs as a platform for promotion and branding as well as part of the university's continuing efforts towards widening access through ODL. The

MOOCs initiatives by Taylor's University and OUM are focused not only on academic courses, but also on non-formal and informal interests, such as visual and culinary arts.

#### **IV. CURRENT PRACTICES**

As stated in earlier sections of this case study, six higher education institutions are currently involved in MOOCs development in Malaysia. They are:

1. Taylor's University;
2. The four public universities under Malaysia MOOCs (i.e. UPM, UKM, UiTM and UNIMAS); and
3. OUM.

The current development of MOOCs in Malaysia is exploratory, both by public and private higher education institutions. The broad short-term objectives are to:

- Promote MOOCs and increase public awareness;
- Provide the general public with an opportunity to explore and try out courses;
- Promote non-formal and informal courses as part of the lifelong learning initiative; and
- Leverage on ICT to complement traditional higher education courses.

As iterated in the previous section, MOOCs as a very recent development have yet to be given much highlight in Malaysia. Thus, there are no explicit long-term goals related to MOOCs in Malaysia in addition to the Government's target that 15% of all courses offered by public universities in Malaysia must be delivered via an online platform by 2015; and increasing to 30% by 2020.

The brief timeline of MOOCs development in Malaysia is as follows:

- March 2013: Taylor's University announces the launch of two pilot MOOCs. By the end of 2014, Taylor's University was hosting 15 MOOCs via the OpenLearning platform.
- September 2014: The four public universities under Malaysia MOOCs also begin offering four MOOCs via OpenLearning.
- October 2014: Pre-launch of Malaysia MOOCs by MOE and OpenLearning; with the announcement that Malaysia targets to make online learning an important component in courses at public higher education institutions.
- November 2014: OUM launches its own MOOCs initiative under iTunes U.
- December 2014: MOE releases a preliminary discussion document for the Malaysian Education Blueprint for Higher Education, which includes MOOCs as a key initiative in Malaysian education from 2015 to 2025.

At the moment, there are a total of 36<sup>3</sup> MOOCs currently offered by the six abovementioned higher education institutions in Malaysia (i.e. 15 by Taylor's University; four by Malaysia MOOCs; and 17 by OUM). For public universities, plans for furthering MOOCs development have been outlined in the preliminary Malaysian Education Blueprint for Higher Education and MOE's announcement that online learning initiatives will receive budget allocations under the 11th Malaysia Plan (2016-2020). For private higher education institutions like Taylor's University and OUM, embarking on MOOCs projects are an institutional commitment that requires investments in funding, manpower, infrastructure, content development, and other relevant areas. For example, Taylor's University allocated MYR100 million (USD27.7 million) in a five-year e-learning strategic plan between 2012 and 2016 (Singh, 2013), through which its MOOCs initiative was developed.

A majority of the target audience is students in public and private higher education institutions, although both Taylor's University and OUM have reported that their MOOCs have attracted the attention of an international audience (Digital News Asia (2014); Mansor, Woo, Mazlan, Fathinirna & Nurhisyam (2014)). Content and learning materials have been developed in-house. The four courses under Malaysia MOOCs are based on compulsory core courses that are commonly offered by all public universities in Malaysia. Taylor's University and OUM both deliver MOOCs based on their current course offerings.

As the 36 MOOCs currently on offer are Malaysia's first MOOCs, it is unsurprising that the approach to instructional formats and pedagogies is relatively conventional. Lessons are delivered via video lectures, PDF or PowerPoint slides. Learners are assessed through various course activities such as forums, discussions, quizzes and practices. In the case of OUM, the lessons are structured around repurposed learning materials that have already been developed for full-fledged courses at OUM. The learning materials, e.g. open educational resources (OER), YouTube videos, podcasts, learning segments from the OUM's internet radio (called iRadio) and audio books for the visually impaired, are included in each course.

Institutions involved in developing MOOCs commonly require the expertise of instructional designers, graphic designers, video lecture developers, editors, and multimedia programmers to work alongside faculty members to produce the learning materials. For OUM's MOOCs, these materials must be produced in formats that are compatible with Apple devices. Apple also plays the role of 'gatekeeper' to ensure quality and copyright compliance. Taylor's University opts for instructor-guided courses with concise, short videos, automated assessment and peer-reviewed assignments and activities.

Taylor's University's MOOCs, as well as those under Malaysia MOOCs are hosted by OpenLearning, which offers a learning management system package that helps institutions to create customised online courses. OUM chose iTunes U as its MOOCs platform, which offers a

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<sup>3</sup> For a full list of the courses, see:

- <https://www.openlearning.com/taylorsuniversity>;
- <https://www.openlearning.com/malaysiamoocs>; and
- <https://itunes.apple.com.my/institution/open-university-malaysia/id871805186>

similar package although currently limited to iPhone and iPad users. In all cases, facilitators are appointed to manage the courses and examinations are often machine-graded.

At this point, it is too early to summarise any quality assurance, assessment and accreditation for MOOCs offered by the abovementioned six institutions. In the case of Malaysia MOOCs, all four courses currently on offer are compulsory core courses for students in public universities, which indicates that assessment and grading is a necessary component. Students who complete a full MOOC from Taylor's University are given certificates of completion. On the other hand, OUM is still looking into developing the assessment and recognition component of the 17 MOOCs currently on offer.

## V. ISSUES AND FUTURE DIRECTION

Due to the recent introduction and exploratory nature of the MOOCs initiative in Malaysia, it is clear that there are many issues to identify and gaps to close if Malaysia is to seriously consider online learning as a viable, large-scale approach to higher education. The three defining characteristics of MOOCs, i.e. "massive", "open" and "online", represent three key factors to determine whether or not MOOCs have or can achieve considerable impact in Malaysia, and what Malaysia needs to address in order to discover how best to leverage on this innovation to bring a fresh perspective to teaching and learning in Malaysian education.

At this juncture, three questions can lead to a broad overview of MOOCs in Malaysia and their present issues and challenges. Subsequently, these questions can point to the potential future direction and prospects for further MOOCs development in this country. These questions are:

- How "massive" are MOOCs in Malaysia?
- How and to what extent can MOOCs in Malaysia be considered "open"?
- What is the extent and effectiveness of "online" technology in MOOCs offered by Malaysian higher education institutions?

It is evident at this point that the six higher education institutions cannot yet lay claim to the massive potential of MOOCs. Courses from OUM (see figure 1 below) have attracted several hundred views on iTunes U (Mansor *et al.*, 2014), while the 19 courses on OpenLearning indicate current enrolments between 20 and more than 22,000 (see figures 2 and 3 below).

In comparison, numbers recorded by prominent North American platforms demonstrate how truly massive MOOCs can become – *Introduction to Artificial Intelligence*, the first MOOC offered by Udacity in 2011 successfully registered more than 160,000 people from 190 countries (Udacity, n.d.). Additionally, Jordan's (2014) analysis of the initial trends in MOOCs' enrolment and completion shows that many MOOCs offered by Ivy League institutions demonstrated similarly high enrolment numbers, e.g. *Introduction to Machine Learning* (offered by Stanford University) had 102,000 registrants; *Circuits and Electronics* (offered by Massachusetts Institute of Technology (MIT)) had almost 155,000 registrants; and *Introduction to Computer Science I*

(offered by Harvard University) had 150,000 registrants. Many courses reached an average of 43,000 students (Jordan, *ibid.*).



Figure 1: A screenshot of OUM MOOCs on iTunes U.



Figure 2: A screenshot from 4 February 2015 showing the number of registrants in four MOOCs by UPM (22,244), UKM (17,104), UiTM (10,292) and UNIMAS (5,652), respectively.

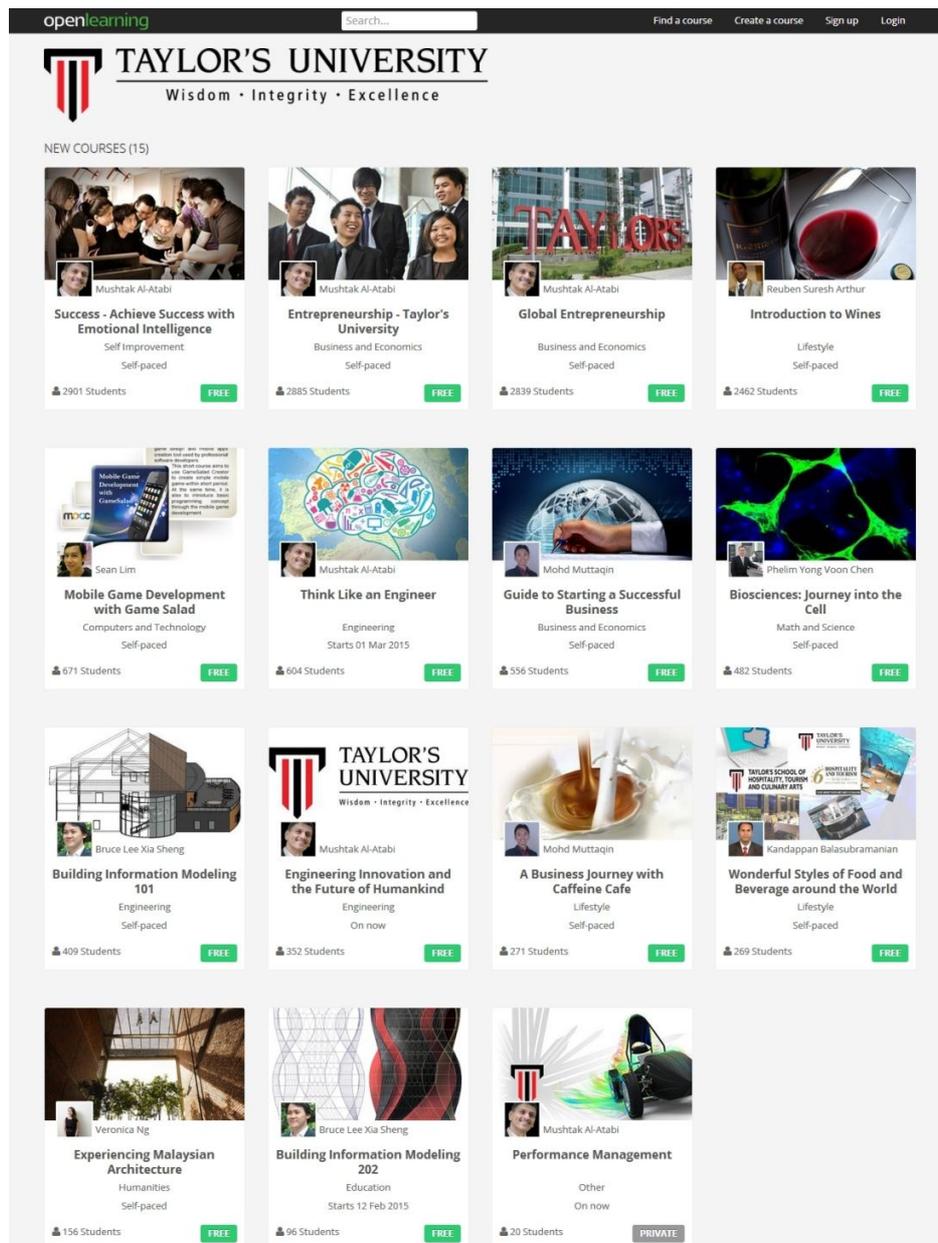


Figure 3: A screenshot from 4 February 2015 showing the number of registrants in 15 MOOCs by Taylor's University (ranging from 20 to 2,901).

Whether or not Malaysian MOOCs can attest to “openness” must take into consideration who actually enrolls for these online courses. Kolowich (2012) made the early observation that 41% of more than 14,000 registrants surveyed from Coursera’s inaugural course, *Introduction to Machine Learning*, identified themselves as professionals who held current jobs in the technology industry. This suggests that MOOCs often attract working adults and those outside the sphere of formal undergraduate studies; which implies that MOOCs have immense potential in contributing to professional development and work-based learning and also echoes the thoughts of Daphne Koller, co-founder of Coursera, who was quoted as saying “our target

*audience is people who are primarily working adults and are not currently candidates for traditional forms of education. That's the vast majority of our audience and they keep coming to us."* (Knowledge@Wharton, 2015).

However, the situation in Malaysia is different. Although some respectable enrolment numbers have been recorded, caveat must be applied at this point. For example, while a majority of Taylor's University's MOOCs have registered about 2,000 participants in each course, many of them are full-time students currently enrolled at the physical campus of this private institution. Similarly, the higher numbers of registrants recorded for the four courses under Malaysia MOOCs (ranging between 5,600 and 22,000 students) cannot attest to a wide reach to all Malaysians as they are compulsory core courses that must be taken by students at public universities in Malaysia. This involves two key observations, i.e.:

- Malaysia's initial approach to MOOCs does not entail similar goals as the aforementioned global examples. This has been emphasised in the proposed Malaysian Education Blueprint on Higher Education, which declares Malaysia's intent to leverage on MOOCs to highlight local expertise in niche areas and to use online learning to create a blended pedagogy at higher education institutions, rather than focusing on widespread global reach; and
- While all four Malaysia MOOCs courses are currently open to anyone who wishes to enrol, they are only categorically relevant to students at public universities, thus indicating that they are targeted at a narrow group of potential learners and not the general public. This reflects the Government's focus that MOOCs will revolve around complementing the delivery methods at public universities.

That MOOCs are essentially online courses relates directly to the delivery approach employed by ODL institutions. Having developed online learning systems that involve learning materials, learning management system, online support and infrastructure, assessment system and other relevant criteria, ODL institutions are likely to have considerable advantages when it comes to developing MOOCs. However, currently only one Malaysian ODL institution is actively offering MOOCs. It is crucial to highlight that OUM's MOOCs are unlike those by Taylor's University and the four public universities as OUM is currently using MOOCs as a platform to showcase the institution's multimedia learning materials without any assessment structure; an approach closer to the concept of open educational resources (OER). This was the initial stage of development at the end of 2014. At the time of writing, OUM is looking into training faculty members to manage courses on iTunes U and revisiting the model to determine how to leverage on MOOCs to contribute to ODL development in this country.

At the moment, gaps in the current MOOCs initiatives show that there is plenty of room for improvement. In his commentary on Malaysia MOOCs, Tan (2014) identified several evident issues, including the varying layouts, quality and structures of courses offered by the public universities, which points to the need for some means of standardisation; the narrowed audience of public university students; and the need to close the digital divide still present in

many parts of rural Malaysia, which affects access to learning materials, especially those requiring high bandwidths.

Additionally, the current MOOCs offering need to be objectively reviewed to ensure that they are relevant not only to Malaysian higher education, but to other aspects of learning, including lifelong learning and professional training and development in order to maximise the gains of this innovation. The limited contribution of ODL institutions that are already universally associated with online learning and blended pedagogies also hints at untapped resources that can further the MOOCs cause in the country.

One imperative in determining issues and possible solutions is to understand the actual uptake of MOOCs in the country. Malaysia needs to identify several key trends, e.g. who are enrolling for MOOCs, what their motivations are, and how they fare in terms of completion and dropout. This is necessary to provide a clear and realistic account of MOOCs and ICT adoption in education, which in turn, should be addressed in all relevant national educational policies and plans in the future.

One such trend that warrants analysis is completion rates. For instance, Taylor's University has reported a high initial completion rate of its inaugural course on Entrepreneurship (600 of 2,337 sign-ups from global participants) (Digital News Asia, 2014), although at this rather early point, only time will tell if this success can be replicated in other courses, by other institutions, or in elective/non-credit bearing MOOCs at public universities.

In discussing the future direction and prospects of MOOCs in Malaysia, Bhandari's (2014) five questions are an excellent starting point as they relate to MOOCs specifically in the context of developing countries like Malaysia. While the pilot initiatives by Taylor's University, UPM, UKM, UiTM, UNIMAS and OUM certainly represent a positive beginning to MOOCs development in Malaysia, MOE, the Government and other relevant agencies and institutions would be wise to consider how we may answer the questions she has posed, i.e.:

1. Does the infrastructure exist for MOOCs to succeed in Malaysia?
2. Can MOOCs play a role in providing non-formal education in Malaysia?
3. Can MOOCs help close the gender gap in education?
4. Will MOOCs transform the role of the teacher?
5. Can MOOCs be globally accessible yet locally relevant?

In contemplating the potential answers, Malaysia needs to acknowledge the following:

- Access to the Internet in rural and remote areas is still inadequate and will likely be a significant infrastructural stumbling block for potential MOOCs students;
- The relevant authorities should consider developing an approach to MOOCs that can incorporate not only higher education courses but non-formal and informal courses as well, especially as a response to the lifelong learning initiative which was unveiled as a

national Blueprint in November 2011, and to the educational needs of working adults; and

- By focusing on locally-relevant subject matters, these initial MOOCs indicate that a global phenomenon can be adapted to suit local needs. However, there is no reason why this cannot be expanded to provide learning opportunities for the masses, in areas and subject matters that go beyond higher educational curricula.

While focusing on national priorities, it is crucial for Malaysia not to overlook global trends in MOOCs. Many of the prominent providers have openly acknowledged that despite the early hype, MOOCs have had significant issues, especially in terms of completion (Jordan's (2014) study reported an average completion rate of only 6.5%), as well as feelings of isolation and an impersonal learning process. Critics have also noted that despite the noble aim of using MOOCs to democratise learning opportunities, the poor or underprivileged, as well as those in rural areas and/or without the necessary infrastructures, devices and access are often left out of the MOOCs landscape. One such observation was made by Alcorn, Christensen and Emanuel (2014), who noted that "*a disproportionate number of MOOC students are already well-educated. Globally, they're predominately male and currently employed. ... Far more enrollees view them as a diversion than they do as a means to a college degree or a new job.*"

The absence of proper accreditation and certification as well as the issue of how MOOCs should translate into actual qualifications are two problems that have also been widely discussed. Additionally, facilitating MOOCs require ICT-savvy faculty members and adequate infrastructures. From Malaysia's perspective, these will be major challenges that need to be emphasised in future development of MOOCs, and they relate to the broader issues of the digital divide as well as existing technophobia and resistance amongst traditional faculty members.

That being said, there are several aspects to MOOCs development in Malaysia that deserve praise. The introduction of MOOCs is a positive disruption that we welcome as a first step towards modernising higher education, and we also see MOOCs as a way to empower self-directed and deep-seated learning as well as encouraging Malaysians how to learn with various tools and ICT. The recent introduction of non-formal/informal subject matters (e.g. *Introduction to Wines* by Taylor's University; and *Green Tourism* by OUM) is a positive development that hints at the possibility of using MOOCs for professional development and training as well as to encourage non-formal and informal learning. Focusing on local expertise and niche areas is an excellent idea that may contribute to global branding of Malaysian higher education. Finally, the incorporation of MOOCs in the upcoming Malaysian Education Blueprint on Higher Education demonstrates the country's determination to seriously explore the role of technology in education.

To varying degrees, all these developments have repercussions on larger educational goals, where several strategies can be employed not only to further the cause of MOOCs in Malaysia, but also to benefit other relevant educational initiatives. These strategies may include the following:

- Tapping into all potential local resources to further develop MOOCs to suit the needs of the Malaysian audience, which should include sharing of curricula between faculties and institutions, and strategic academia-industry partnerships;
- Leveraging on the concepts of open entry (OE), recognition of prior learning (RPL) and accreditation of prior experiential learning (APEL)<sup>4</sup> in establishing a national assessment and accreditation structure that can recognise MOOCs qualifications;
- Engaging the relevant ministries and agencies to develop and adopt MOOCs for professional development purposes and other non-formal or informal subject matters to draw a wider learning audience; and
- Exploring means to close the digital divide between urban and rural areas to ensure all Malaysians have the opportunity to participate in MOOCs.

The potentially significant role MOOCs can play should be acknowledged in the larger context of lifelong learning. This is crucial not only to determine the best move forward where MOOCs are concerned, but also to leverage on MOOCs as an innovation that can boost the lifelong learning cause in this country. Malaysia has declared lifelong learning as the third pillar in human capital development: an educational agenda equally important to the school and higher education systems and one that emphasises the creation of learning opportunities for the entire population, whether for formal, non-formal, or informal learning interests. We believe that MOOCs may hold the key to intensifying lifelong learning efforts and we hope to see that future developments will go beyond the needs of higher education and university students.

In light of the developments that have taken place in Malaysia, we can conclude that while MOOCs are a valuable tool for introducing novel educational approaches, Malaysia needs to identify a sustainable approach that can ensure long-term success in terms of quality of courses, engagement with all relevant stakeholders, teaching and learning practices and scalability. At this early stage, we acknowledge the introduction of MOOCs as a positive disruption that can hopefully augur the transformation and modernisation of higher education, although we also concede that MOOCs in Malaysia are seen as a complement to current practices, and not a replacement or total substitution. It remains to be seen what their impact will be, and to what extent, although at its most basal level, we believe MOOCs can have social advantages in that they can attract and bring together like-minded Malaysians who have a vested interest in education and learning.

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<sup>4</sup> OE, RPL and APEL are processes that involve the identification, documentation and assessment of past learning and work experiences to determine the extent to which an individual has achieved the desired learning outcomes, for enrolment to a particular programme of study and/or for award of credits. These processes allow individuals who lack formal academic qualifications to pursue studies at higher education institutions through a less stringent enrolment process. For further information, see <http://www.mqa.gov.my/apel/en/index.html> and <http://www.oum.edu.my/oum/capl/>

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