Massive open online courses

A typology and analysis of elite university approaches in the UK

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Abstract

This thesis explores university responses to the massive open online course (MOOC) phenomenon. While some have engaged MOOCs from the beginning, others have engaged later on. Still others have decided to not engage at all. When and how they engage MOOCs is an important question for both universities and governments. While issues such as reputation and innovation tend to be key factors for universities, governments tend to emphasize lifelong learning and economic competitiveness. However, the problem is that our knowledge of university approaches in this rapidly growing field of research is limited. Relying on both primary and secondary sources of data, this thesis aims to address that problem in two ways. First, it proposes a typology based on the approaches of the 24 members of the United Kingdom's Russell Group. Second, it analyzes three possible MOOC responses which were identified from the typology. This thesis concludes with a recommendation that further university engagement in a variety of forms be encouraged by policymakers.

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List of Abbreviations

EU	European Union
HE	Higher education
HEI	Higher education institutions
MOOC	Massive Open Online Course
OER	Open educational resource
RG	Russell Group
UK	United Kingdom

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Introduction

Universities across the world have responded to the massive open online course (MOOC) phenomenon. Some have assumed leading roles by engaging MOOCs right from the beginning. Many have engaged later on. In fact, few elite universities in the United Kingdom (UK) have not engaged at all. The stage at which universities decide to engage MOOCs and the nature of that engagement, if any, is an important decision for both universities and governments. However, our knowledge on how they have responded remains limited. By developing a typology of elite UK university approaches to MOOCs, this thesis explores how universities have responded to this increasingly common form of open education and online learning. Stemming from those UK approaches, an analysis of three possible options which interested universities face, and other literature, this thesis concludes with a recommendation that further engagement in a variety of forms be encouraged by policymakers.

This thesis is divided into four main chapters. The first chapter includes the problem specification and research design. Here, the research puzzle and methodology are provided and justified. The puzzle includes the identification of knowledge gaps for both policymakers and scholars. The former gap is evidenced by several UK and European Union (EU) documents and projects. Although evidence for the scholarly gap is touched on in this section, it is more thoroughly examined in the second chapter. An outline follows of how this research puzzle is addressed. It primarily features qualitative methods, including interviews with representatives from four Russell Group (RG)¹ universities.

¹ See Appendix for list of all 24 members.

The second chapter presents key concepts in technology and higher education (HE) and situates this research within the wider MOOC literature. It ends with a selection of key contributions to the literature on MOOCs and HEIs. The third chapter presents the following typology: *leaders, early joiners, later joiners, non-joiners/open* and *non-joiners/less open*. The fourth chapter analyzes the three options which interested HEIs face, and then considers these options from a policymaker's perspective. Finally, the thesis concludes with a recommendation and identifies potential areas for further research.

This thesis is meant for two audiences. It is first intended for those policymakers who seek to gain a better understanding of university MOOC approaches. Ultimately, with more complete information and analysis to rely on, policymakers could potentially leverage MOOCs to boost competitiveness, reduce barriers to access to education, and achieve better educational outcomes. UK and EU interest in further MOOC involvement is evident and will be discussed in greater depth later on. This thesis is also intended for academia as a unique contribution to the ongoing scholarly discourse on the relationship between higher education institutions (HEIs) and MOOCs.

1. Problem Specification and Research Design

Research Puzzle

The recent emergence of MOOCs in HE has caused much debate in academia and beyond. While many governments are eager to know how they can most effectively leverage MOOCs to their national or supranational advantage, HEIs debate how they might stand to gain or lose from MOOC engagement and further. While much has been written in little time about this aspect of open education and online learning, our knowledge on how universities have responded to them remains limited.

Several conditions have facilitated the emergence of open education, which in turn, allowed for the emergence of MOOCs and the debate surrounding them. Among them are globalization, increasing demand for HE (especially lifelong learners), increasing access to personal technology and social media, and cost pressures (Yuan and Powell 2013: 15). Specific to MOOCs, European HEIs expect their government's involvement to be predominantly driven by the need for e-skills and jobs, improving the quality of learning, and globalization and internationalization (Jansen and Schuwer 2015: 31). Given the promise of MOOCs to deliver free online courses to an unlimited number of people without restrictions across the globe, it is no surprise that interest in MOOCs has risen rapidly in this context.

It is widely believed that the reaction to MOOCs has been at least partly stimulated and influenced by hype. Predictions of a disruption or revolution in HE were not uncommon in the early literature. Examples of media headlines include *Come the Revolution* and *Yes, MOOC is the global higher education game changer* (Friedman 2012; Marginson 2012). A British think tank published a report authored by employees of Pearson² called *An Avalanche is Coming: Higher Education and the Revolution Ahead* (Barber et al. 2013). The former Vice-Chancellor of the UK's Open University (Bean 2013) further contributed to the hype as well, stating

...when the internet comes along and disrupts an industry, it doesn't go away. In 2012 that wave of disruption hit higher education. By the end of the year, 18 of the top 20 universities in North America were offering

² A large education and technology company now benefitting from partnerships with two major MOOC platforms (i.e. <u>FutureLearn</u> and <u>Udacity</u>)

MOOCs... Millions of students around the world were signing up... tens of millions of dollars were being pumped into MOOCs... Change has come and we, as a university and as a sector, have to embrace it.

That Bean framed the MOOC phenomenon as an inevitable disruption is to be expected given his leadership role in launching the UK-led MOOC platform FutureLearn. Despite elements of possible bias and flare in the MOOC debate, the evidence of rapid change which Bean highlights is considerable.

These aforementioned conditions and hype are key to understanding the surge in interest by governments and HEIs. Particularly for the UK and EU, interest in exploiting the potential of MOOCs is made clear in official government documents. It is noteworthy that this interest is often connected to concerns about lifelong learning and economic competitiveness. Moreover, the recent rise of MOOCs offered by European HEIs has made these open online courses ripe for study by both government and academia. A central aim of this project is, therefore, to address the challenge faced by HE stakeholders to make evidence-based decisions on these fast moving developments.

Clear evidence of UK interest in MOOC involvement is outlined in the Department for Business, Innovation and Skills' strategy, *International Education: Global Growth and Prosperity* (BIS Policy Paper 2013). The Strategy focused primarily on the economic opportunities for the UK education sector at the global level. Given its size, the education sector forms a key part of the UK economy. In 2011, UK education exports were estimated to be valued at £17.5 billion (BIS Policy Paper 2013: 5). Only two MOOC-related options for the UK were identified in the Strategy: individual institutions could join one of the US-based MOOC platforms, and/or they could collaborate around FutureLearn, a private MOOC platform whose development was led by the UK's Open University (BIS Policy Paper 2013: 48). The Strategy revealed the government's intent to "actively encourage and promote these developments" (BIS Policy Paper 2013: 49).

EU interest in MOOCs appears logical when considering both the reasons which draw participants and European HEIs to MOOCs and also the goals of prior Communications. On one hand, MOOC participants tend to be driven largely by desires to advance in a current job and satisfy curiosity (Christensen et al. 2013: 5). Another study finds that many such participants are teachers (Ho et al. 2015). It is thus plausible to conclude that one perceived benefit of MOOCs is gaining or enhancing job-related skills after completion of formal education. In 2001, the Commission stated its aim to create a European area of lifelong learning, identifying lifelong learning as an essential part of making Europe "the most competitive and dynamic knowledge-based society in the world" (Commission Communication 2001: 3).

On the other hand, increasing international visibility and reputation has been found to be far and away the most common motivation for MOOC engagement by European HEIs (Gaebel et al. 2014: 54). In 2010, the EU's growth strategy for 2010-2020 highlighted the need to "enhance the performance and international attractiveness of Europe's higher education institutions..." (Commission Communication 2010: 13). Given shared aims of academia and government, it thus appears reasonable that MOOCs were later identified as a tool to achieve EU goals. Unmistakable evidence of EU interest in MOOC involvement was outlined in the 2013 European Commission Communication, *Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources* (Commission Communication 2013). The Commission (Communication 2013: 2-3) set out the EU's education agenda based on the premise that

EU education is failing to keep pace with the digital society and economy... ...and yet technology provides the opportunity to increase efficiency and equity in education.

The Communication then suggests that a "disruptive innovation like MOOCs has the potential to transform higher education..." and further, that strategic partnerships represent the best means to exploit their potential (Commission Communication 2013: 4).

Transforming those beliefs into action, the Commission supported the European Association of Distance Teaching Universities (EADTU) in launching OpenupEd³, an online aggregator of pan-European MOOCs mainly provided by distance universities using their own learning platforms. The Commission has also funded multiple MOOC-related projects⁴, including OpenEdu. Lasting from 2013 to 2015, OpenEdu first aims to better understand how universities open up and second, how policy mechanisms might aid those processes (Joint Research Centre 2015). This thesis explores the first aim by narrowing the scope to a group of 24 universities and also by considering a single form of opening up, MOOCs. The second aim is also explored in this thesis, but to a lesser extent, and only after completion of the first.

³ See <u>http://www.openuped.eu/</u>

⁴ See http://www.openuped.eu/15-news/74-mooc-projects-in-europe

UK and EU interest in the promise of MOOCs, as evidenced by official government documents and ongoing projects, indicate the presence of a research gap (i.e. limited knowledge on university approaches to MOOCs) and show its importance as a policy area. However, it is the sweeping expansion of MOOCs worldwide, and in Europe particularly, which lead to a seemingly constant flow of new data on MOOC approaches. It follows that such data provides a solid basis for new analyses.

The most recent available survey data shows that nearly 14% of American higher education institutions (HEIs) either offer or plan to offer a MOOC (Allen and Seaman 2015: 33) while the same figure for European HEIs is even higher (Gaebel et al. 2014: 51; Jansen and Schuwer 2015: 8).

Figure 1. below shows the growth of European versus non-European MOOCs from May 2014 to April 2015. European MOOCs (provided by any European HEI on any platform) more than doubled to 1,339 while growth of non-European MOOCs increased steadily to reach 3,057. These numbers show that MOOC involvement by HEIs has increased considerably in less than a year.



Figure 1. Growth of European vs. Non-European MOOCs (2014-2015)

Figure 2. below reveals the variation of MOOC growth across European countries. The widespread use of MOOCs across Europe is notable, as is the enthusiasm shown by Spain and the UK. The database, from which these figures were produced, contains courses that finished, remain in progress, are forthcoming, or are repeated for another round.

Source: Open Education Europa 2015



Figure 2. Distribution of MOOCs per country as of 8 April 2015

Source: Ibid.

Recent launches of MOOC platforms from some of Europe's most-populous countries likely enabled a significant portion of the MOOC expansion outlined above. They include: FutureLearn (UK), *France Université Numérique* (France), iversity (Germany), and *Miríada X* (Spain). Research based on such recent developments would not only serve as a meaningful contribution to the ongoing scholarly discourse on MOOCs, but it would also support the decision-making of university leaders and policymakers.

Methodology

This thesis aims to address the puzzle on university responses to the MOOC phenomenon by exploring in-depth the approaches of elite UK universities. To do that, a typology of approaches by RG members is developed. The purpose of the typology is to simplify and organize a complex and fragmented HE environment in such a way that highlights options for HEIs and their possible consequences.

The following research question has been formulated to guide the research and fill the knowledge gap: *how have Russell Group members responded to the MOOC phenomenon?*

This research question is answered in the process of developing a typology whose types are differentiated according to the following three criteria:

- 1. When, if ever, the RG member joined a major MOOC platform
- 2. The extent to which the RG member is engaged with MOOCs
- 3. Level of openness towards future MOOC engagement

The first step in understanding the responses was to divide all 24 universities into two groups: those which joined a major MOOC platform and those which did not. To find out whether or not a university joined a major MOOC platform, data was collected from the websites of RG universities and major MOOC platforms and then organized on a Google Spreadsheet⁵. A simple search of "MOOCs" on each university's website, cross-checked by a search for the university's name under the list of partner institutions on the websites of major platforms, quickly revealed whether or not a RG member had joined. It soon became apparent that FutureLearn and Coursera were the only major MOOC platforms to partner with RG universities.

⁵ See link to view Spreadsheet in the Appendix

The second step involved separating those *joiners* into three types (i.e. *leaders, early joiners, later joiners*) according to when they joined a major MOOC platform and the extent of their engagement. The number of MOOCs offered by these institutions was then used as the main indicator of engagement. For both the first and second criteria, the figures presented in this thesis were collected in August 2014 for all universities except the University College of London (UCL), which did not join a major MOOC platform until 2015.

After a closer examination while collecting data for the third criteria, the third step meant further dividing the approaches of the *non-joiners* into two types: *non-joiners/open* and *non-joiners/less open*. This division serves to highlight varied levels of openness towards both current and future MOOC engagement. Mostly, high level representatives from the seven *non-joiners* were targeted for semi-structured interviews⁶ to find out if they were in fact engaging or planning to engage MOOCs in any unforeseen way. Publicly available MOOC-related statements from high level university officials were used in cases in which interviews were unavailable.

Upon gaining a clearer understanding of RG approaches, the options available to interested universities became apparent. Thus, the answer to this first research question helped to formulate the second: *what options do interested HEIs and what impact might each have?* Beyond interviews and the collection of data from websites of platforms and RG universities, this thesis relies on various sources of secondary data, including: journal articles, authoritative reports, the media, blogs and books.

⁶ See list of interview questions in the Appendix

UK HEIs were selected for a number of reasons. First, the UK HE system has a long-held reputation for excellence in not only Europe, but also the world. Today, it is the second most popular destination for the world's internationally mobile students (UNESCO Institute for Statistics 2015). It follows that both positive and negative lessons could be drawn from a worldwide leader in HE. Second, a relatively large amount of data exists on UK responses to MOOCs. Launched in December 2012, FutureLearn enabled significant data generation by partnering with twelve UK HEIs, including eight from the RG (Parr 2012). Third, according to a survey conducted in late 2013, HEI approaches to MOOCs in the UK portrayed a relatively balanced mix of supportive and critical positions towards MOOCs, especially in comparison to the disproportionately supportive Spanish HEIs and the disproportionately critical German HEIs (Gaebel et al. 2014: 52). Furthermore, the UK clearly embraces the same logic as the EU in its desire to support MOOCs.

The Russell Group, an association of 24 public research universities, was selected because of the elite status it extends to its members. Much interest and activity in MOOCs appears to be associated with top universities. It has been found that smaller or less prestigious institutions have not strongly engaged with MOOCs due to the absence of interest, capability, and/or opportunity (BIS Research Paper 2013: 4). In fact, major MOOC platforms such as edX, Coursera, and FutureLearn are highly selective (to varying degrees) of the institutions with which they agree to partner. That ²/₃ (8 of 12) of the founding partners of FutureLearn were RG members supports this claim. While research on less prestigious HEIs has the potential to serve as a valuable contribution, it lies outside the scope of this research.

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Before presenting the typology and analysis of options, a literature review of current knowledge on MOOCs is required.

2. Literature Review

This chapter uncovers what is currently known about the MOOC movement and the responses it has provoked. The aim of this chapter is to situate this research into the ongoing debate on institutional responses to MOOCs. However, before highlighting key works on HEIs and MOOCs, relevant HE and technology concepts are defined and a brief history of MOOCs and disruptive innovation is provided.

Higher Education and Technology Concepts

Every year it seems that new technological concepts force their way into the vocabulary of the mainstream media before subsequently being entered into Google's search engine by the puzzled masses. Today it could be argued that "big data" and "cloud computing" carry the most clout, but three years ago, many would argue that MOOCs held that position. In fact, the New York Times captured the hype of the time by naming 2012 the "Year of the MOOC" (Pappano 2012). Given how confusing it can be to debate ideas and policies using newly formed concepts, particularly when they overlap into the fragmented sphere of HE, the aim of this section is to clarify any ambiguities surrounding MOOCs and several related terms which help to place it into context. Concepts to be defined include: HE, distance education, online learning, lifelong learning, open education, open educational resources and of course, MOOCs.

The level of education most disrupted by MOOCs goes by many names. It is sometimes understood as tertiary, post-secondary, or even third-level education, although slight differences distinguish each term from the other. For example, third-level education appears to be exclusive to a single country, Ireland. On the other hand, post-secondary education appears to be the most inclusive term. Under the post-secondary education umbrella, colleges and universities are joined by 'informal learning for personal goals' and both military and workforce training and development (Computing Research Association 2013: 2). While tertiary education is the term of choice for the World Bank, EuroStat and a wide range of countries, *higher education* is used here primarily because it seems to be more commonly used in MOOC literature. Furthermore, it bears mentioning that for the purposes of this thesis, HEI is used interchangeably with university despite the fact that universities often meet different standards.

MOOCs can be considered to form a part of *distance education*, a service offered by many HEIs. Encompassing any instruction in which the learner and the instructor are physically separated (Means et al. 2014: 8 as cited in Kennedy 2014: 10), *distance education* goes beyond online education or e-learning by also taking into account methods of instruction which are not internet-based (e.g. television, radio, the postal service). It is true that some approaches to *distance education* even include face-to-face interaction (University of York 2015), although the common aim of such programs to highlight the attractiveness of flexible study limit the use of this method. In any case, massive open "online" courses are best linked to *distance education* as one aspect of online learning.

An increasing number of academic leaders from American HEIs (70.8% in 2015) consider *online learning* as "critical to their institution's long term strategy" (Allen and Seaman 2015: 4). Means et al. (2014: 6 as cited in Kennedy 2014: 11) define *online learning* as a "learner's interaction with content and/or people via the internet for the purposes of learning." This definition differs from the previous concept in that an instructor is not always necessary for learning to occur. For example, a learner may utilize various internet-based educational resources while collaborating online with other learners. Compared to distance education, this concept also seems to allow for more informal learning. Nevertheless, *online learning* is commonly viewed as a part of, or alongside, distance education. Given its well-established hold in the field, *online learning* is preferred in this thesis over other frequently used (e.g. web-based learning, cyber learning, and e-learning) and recently proposed (e.g. connected learning, Computing Research Association 2013) terms.

Indeed, the MOOC movement has been identified as a major trend in how universities use *online learning* (Means et al. 2014: 46 as cited in Kennedy 2014: 11). Two other major trends include blended learning and learning analytics. In many cases, the distinction between these trends is blurred. For example, MOOCs have played a role in producing data for learner analytics (McKay 2013) and as regards blended or hybrid learning, a number of institutions have experimented with MOOC technology in traditional on-campus courses (LaMartina 2013; Gaebel et al. 2014; Griffiths et al. 2014; Ho et al. 2015). Even the U.S. Department of State has experimented with MOOCs in a blended learning format, facilitating discussions at U.S. embassies and other locations in over 60 countries for more than 4,000 participants in its first year (MOOC Camp 2015). Although MOOCs represent only

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one trend in the use *online learning*, their applicability to other aspects of *online learning* in the field is notable.

More broadly, and as mentioned previously, MOOCs also have the potential to contribute to *lifelong learning*. In 2001, the Commission (Communication 2001: 9) defined *lifelong learning as*,

All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective.

Using this definition, an emphasis is placed on often informal learning by nontraditional students. That is, students who may be employed and/or are not of the typical university age. A recent study on MOOC participants by Harvard University and the Massachusetts Institute of Technology (MIT) found that, on average, 69% of its participants had at least a Bachelor's degree and that nearly half were aged 30 or above (Ho et al. 2015). Further showing the link between MOOCs and lifelong learning, the website of one RG university cites the contribution of MOOCs to lifelong learning as one of the benefits received by the wider society (University of Sheffield 2015).

MOOCs are also a key concept within the *open education* movement. Generally, open education is about eliminating barriers to knowledge exchange and creation. Other key concepts within *open education* are open access publishing, open licensing, and open educational resources (OER).

UNESCO (2015) defines *OER* as "any type of educational materials that are in the public domain or introduced with an open license." That the first 'o' of MOOCs is frequently utilized as 'free to participate in the course' and not 'open license to use/reuse in any way' suggests that most MOOCs cannot be considered as OERs. In part for such reasons, it has been argued that MOOCs have been a distracting and confusing influence on open education (Russell Group University D). However, at least one RG university aims to have its MOOCs' course contents made openly available for use as OERs or in other contexts (NOOCs and MOOCs Strategy 2015). By highlighting this distinction, the tension caused by commercialization within the *open education* movement is illustrated.

According to one of its advocates (Weller 2014: 17), *open education* could follow one of two paths: first, it could be

the means by which higher education becomes more relevant to society by opening up its knowledge and access to its services - by which higher education adapts to the changed context of the digital world.

Alternatively, *open education* could be "the route by which commerce fundamentally undermines the higher education system..." Indicating the presence of strong support for the former path, hundreds of organizations and thousands of individuals called for making *open education* a high priority among HEIs and governments in the Cape Town Open Education Declaration (2007).

Finally, a definition for MOOCs⁷ is needed. **Figure 3.** below shows the difficulties in creating a single definition. Each constituent letter of the acronym is subject to debate. "Open", as noted earlier, is particularly troublesome. For instance, whether

⁷ To view course listings from various platforms, see Class Central: https://www.class-central.com/

or not a MOOC is still a MOOC if access is initially restricted to residents of one country is just one of many questions to which there seems to be no universal consensus. Nevertheless, to guide this project, this thesis utilizes the following definition recently proposed as part of a Commission-funded MOOC research project (OpenupEd 2015):

MOOCs are courses designed for large numbers of participants, that can be accessed by anyone anywhere as long as they have an internet connection, are open to everyone without entry qualifications, and offer a full/complete course experience online for free.



Figure 3. What is a MOOC?

Source: Plourde 2013

According to this definition, a *MOOC* which is accessible to residents of only one country satisfies the condition of being meant for a large number of participants, but

it would not (at least initially) meet the condition of being available to anyone anywhere with an internet connection.

Furthermore, it bears mentioning that MOOCs are hosted and run on MOOC platforms (also known as MOOC providers). Major platforms are characterized by possessing a total number of registered users near or above the one million mark. At about 800,000 in December 2014, FutureLearn appears to be on the verge of joining four other major MOOC platforms in registering over 1 million users (Shah 2014). As of June 2015⁸, the largest MOOC platform, Coursera, featured more than 13 million users, over 1,000 courses, and 121 partnerships with educational institutions. These educational institutions (e.g. HEIs, international organizations, companies, and museums) provide the content and deliver the MOOCs.

In summary, MOOCs can be viewed as operating in different contexts. Perhaps above all, they are considered as one aspect of online learning, an activity which many HEIs include as part of their distance education offer. Similar to OER, they can also be considered, however controversially, as a form of open education. Moreover, MOOCs are viewed as useful tools in lifelong learning. Now that MOOCs have been situated into its educational and technological context by defining key concepts, a brief history of the term and disruptive innovation is introduced.

MOOC History and Literature

This section begins with a brief history of the MOOC phenomenon. It details how it first emerged in Canada in 2008 before gaining significant traction from initiatives in Northern California and Boston. It continues by detailing different areas of a growing

⁸ See: https://www.coursera.org/

MOOC literature and reveals what is already known about university approaches to MOOCs.

Only four years before the so-called "Year of the MOOC", Canadian researchers George Siemens and Stephen Downes created and delivered the first MOOC, *CCK08: Connectivism and Connective Knowledge*. The course focused on and was a model for a theory of learning networks, which both instructors helped to develop, called *connectivism*. Branded as a "learning theory for the digital age", connectivism is claimed to address the shortcomings of well-established learning theories (i.e. behaviorism, cognitivism, and constructivism) as "learning moves into an informal, networked, technology-enabled arena" (Siemens 2015). Approximately 2,200 people joined the first course, including more than 20 for-credit students from the University of Manitoba (Downes Interview 2013).

Although a colleague of Siemens and Downes is widely credited for coining the term MOOC during a conversation about the course, Downes is responsible for creating the cMOOC and xMOOC classifications displayed previously in **Figure 3.** (Ibid.). The 'c' in 'cMOOC' stands for connectivism and emphasizes knowledge which is created and shared through connections made within a community and across multiple platforms. On the other hand, the 'x' in 'xMOOC' was inspired by initiatives such as HarvardX, MITx, and TEDx and emphasizes knowledge transfer from the few to the many.

Such a distinction was deemed necessary following the early 2012 attentiongrabbing launches of three major MOOC platforms. The for-profit Coursera and

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Udacity originated from Stanford University while the not-for-profit edX grew from a joint-initiative out of Harvard and MIT. All three platforms received substantial early financial backing, especially edX which benefited from \$60 million worth of capital (Yuan and Powell 2013: 7).

A simple exploration of the search interest for the website category "Massive Open Online Course" from January 2008 to June 2015 using Google Trends, as seen below in **Figure 4.**, suggests that MOOCs only gained widespread interest after the launch of these platforms. This exploration also shows that the popularity of MOOCs, at least in terms of internet search interest, seems to have peaked in late 2013 and achieved relative stability thereafter. However, it bears repeating that European MOOCs increased rapidly in number from 2014 to Spring 2015, thus indicating an upward trend in interest at the institutional level.

Figure 4. Google Trends plot of relative search Interest in MOOCs (2008-2015)



Source: Google Trends 2015

The creation of *CCK08: Connectivism and Connective Knowledge*, and the major platforms which followed them, would not have been possible without the open education movement. **Figure 5.** below provides a useful visualization of the history of MOOCs in the context of the open education movement from 2000 to 2013.





Source: Yuan and Powell 2013: 6

The timeline begins with a focus on OERs in the early 2000s and ends with the establishment of multiple MOOC platforms. This shift in emphasis seems to highlight a claim made by a representative from one RG university that MOOCs have stolen OER's thunder (Interview Russell Group University C).

Extending beyond debate on 'c' and 'x' classifications, MOOC literature has developed past its initial stages. A widely cited literature review (BIS Research Paper

2013: 17) usefully divides the critical and informed writing into three areas: journalistic coverage from a general or specialist interest; learners; and HEIs. The first area mainly concerns articles from the mainstream media in which individuals either promote MOOCs as a positive, game-changing force in HE, or criticize its undeserved hype. The second area mainly concerns the characteristics and motivations of MOOC participants (See Christensen et al. 2013). However, given the nature of the research puzzle in question, these two areas of MOOC literature are of only secondary importance. The 'how' and 'why' of university approaches to MOOCs is most appropriately situated under the area covering institutions.

In the literature on HEIs and MOOCs, the adjective 'disruptive' is frequently utilized. This terminology stems from a vastly popular concept in business and technology circles called *disruptive innovation*. The theory of disruptive innovation was first developed in the 1990's by Harvard Business School Professor Clayton Christensen (Christensen and Bower 1995; Christensen 1997). According to Christensen's website (2015), disruptive innovation is a:

> process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors.

Examples of disruptors to disruptees include personal computers to mainframes/minicomputers and Wikipedia to traditional encyclopaedias. That MOOCs have emerged rapidly and that many of their participants are considered lifelong learners, suggests that MOOCs meet the needs of the bottom of the market. However, despite displaying some characteristics of a disruptive innovation, it is commonly agreed that it is still too early to tell if MOOCs will ever attain that status.

Those universities which decide to engage MOOCs are instead more likely to consider them as a sustaining innovation in Christensen's model. That is, that offering a MOOC would not displace universities, but rather help them to gain or maintain a competitive edge in the HE market.

In a recent article in the New York Times, Christensen and colleague Michael Horn (2013) opined that "for MOOCs to really fulfill their disruptive potential, they must be built into low-cost programs with certification of skills of value to employers." Education and technology scholars Yuan and Powell (2013: 14) expressed a similar view when they suggested:

If MOOCs can be developed to the point whereby learners can complete full degrees and gain qualifications it may impact on enrolment at traditional institutions and contribute to a reshaping of the HE market in the future.

These two quotations raise two very important issues in the development of MOOCs: accreditation and business models. As both are widely viewed as essential parts to the future of MOOCs, it follows that experiments in these areas are underway. For example, edX partnered with Arizona State University (ASU) to launch the Global Freshman Academy⁹ in August 2015, a program in which verified participants are expected to earn ASU-awarded credit for the first year of studies at a lower price than ASU's in-person or regular online courses (edX 2015). While the impact of this academy remains uncertain, it represents another important step in the evolution of MOOCs.

⁹ See Global Freshman Academy's website: <u>https://www.edx.org/gfa</u>

Charging participants for verification, certification or academic credit are not the only means of raising revenue and contributing to a coherent business model. In one framework for organizing business models, the payers are divided into five groups: states, students, employers, sponsors and other platforms, and the services or products were divided into four: course content, data and analytics, platform activity and complementary services (Dellarocas and Van Alstyne 2013). In one scenario, employers pay platforms and/or universities to recruit talented MOOC participants or develop custom courses for its current employees. Another obvious example would be for companies to sponsor courses, although it is not clear to what extent this option has been pursued as yet.

It thus seems that MOOCs are disruptive, only not disruptive in Clayton Christensen's sense of the term, at least not yet. Their disruption is evidenced by hundreds of top universities having considered MOOC engagement in recent years, and hundreds having subsequently taken the leap to actually offer them. However, understanding the varied nature of these university responses to MOOCs has challenged scholars and the policymakers who wish to exploit them.

University Approaches

Two studies which have made significant contributions to the literature on MOOCs and HEIs investigated recent developments in European HE. The first study analyzed surveys from 249 HEIs of 38 European countries and was conducted in October-December 2013 (Gaebel et al. 2014). While this study's scope extended to e-learning generally, a considerable portion was dedicated to the early institutional take-up and experiences of MOOCs. The rationale for and against MOOC involvement was one of many topics covered in the study. Issues of cost and quality, unclear benefits, lack of expertise and preferences for other forms of e-learning were some of the main reasons preventing MOOC engagement (Ibid.: 56). The most unique and important contribution of this study, however, concerns not *why* HEIs decided to engage or not. Instead, it concerns the factors which influence *how* HEIs decide to engage.

One noteworthy finding, which is supported by a later study (Jansen and Schuwer 2015: 31) is that governments and other external parties have generally played only a minor role in stimulating engagement (Gaebel et al. 2014: 57). Generally, then, after deciding to engage MOOCs on their own, HEIs choose a platform with which to partner (e.g. US vs European) or engage by other means. The following are some of the factors which Gaebel et al. (2014: 62) have identified as influencing the approach: platform selectivity, target audience, language, control over the MOOC, and cost and funding opportunities. Regarding the last-mentioned factor, the authors suggested that European platforms *Miríada X* and iversity used financial incentives to entice its university partners to develop MOOCs.

The second study, focusing exclusively on MOOC strategies, analyzed surveys from fewer institutions (i.e. 67) in fewer European countries (i.e. 22) and was conducted a year later in October-December 2014 (Jansen and Schuwer 2015). Perhaps the authors' most significant contribution was to integrate and rank the institutional objectives behind MOOC engagement of various studies (Allen and Seaman 2015; Gaebel et al. 2014; Hollands and Tirthali 2014a; Yuan et al. 2014) into the following four clusters:

- 1. Using MOOCs for reputation / visibility reasons
 - a. student recruitment, marketing potential / reach new student
- 2. MOOCs as innovation area
 - a. improve quality of on campus offering, contribute to the transition to more flexible and online education, improve teaching
- 3. Responding to the demands of learners and societies
- 4. Using MOOCS for financial reasons
 - a. reduce costs, generate additional income

The above clusters are ordered according to their institutional relevance. Whereas the first cluster (i.e. reputation/visibility) was found to be most clearly relevant to European HEIs, the fourth cluster (i.e. financial reasons) was found to be least relevant (Jansen and Schuwer 2015: 24). This integration of objectives and measure of their relevance adds much needed clarity to the debate on what drives HEIs to engage.

Other recent studies have offered initial categorizations of approaches. Yuan et al. (2014: 15) contributed to this debate by identifying the following seven strategic choices which universities could take:

- Offensive to become a leader in online learning
- Defensive to be ready if/when MOOCs (online learning) take off
- Marketing to market the university, e.g. to translate free access
 MOOC students into paying students, or to reach international students
- Enhance existing provision to provide blended learning for existing students, e.g. to develop online components for existing courses
- Change existing provision to focus more teaching time on two-way learning conversations with students rather than one-way lecturing the so-called 'flipped classroom'

- **Research** to explore MOOCs/online learning in practice and in greater depth and become a leader in MOOC research.
- Financial to reduce teaching costs and hence the price to students

The above categorization, based on purposes behind MOOC engagement, is relatively straightforward. Understanding a university's decision to engage MOOCs in terms of these strategic choices would likely allow for a more accurate determination of whether or not, and/or to what extent, the engagement was successful. As each choice centers on a main goal, indicators could be created for, and used in, an evaluation. On the other hand, these choices merely represent how a university response *could* be categorized. Yuan et al.'s study fails to further explore this topic by identifying universities which have made these choices. This could be at least partly attributed to the difficulty in assigning a single purpose-based category to describe a university's approach. For example, it is plausible that a university which aims to be a leader in online learning (Offensive) also aims to be a leader in MOOC research (Research). Similarly, and whatever its motivation, any university which engages MOOCs is also likely to be at least partly motivated by the opportunity to promote its brand to an international audience (Marketing). Another key aspect which this study fails to consider is the strategic choice to not engage with MOOCs.

Relying on literature and 82 interviews from 62 primarily North American HEIs, Hollands and Tirthali (2014b: 49) created the following framework of approaches: producers, consumers, producer and consumers, wait-and-see approach, decided against official form of engagement, and lack of interest from faculty members. Compared to Yuan et al.'s seven choices, a few advantages stand out. First, it includes institutional decisions not to engage. Second, the framework takes into

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account the role of universities as "consumers" of MOOCs. This label intends to convey a HEI's decision to use a MOOC which is produced by another institution. A third advantage is that it provides examples of universities which fit under each category. On the other hand, the variety of purposes which drive MOOC "producers" is not well captured by Holland and Tirthali's framework. The authors instead elect to devote a significant yet conceptually separate portion of their research towards building a categorization of purposes.

In short, although Hollands and Tirthali's framework compensates for Yuan et al.'s more narrow and underdeveloped strategic choices, it still lacks nuance in potentially capturing the varied purpose and extent of MOOC engagement. For example, under Hollands and Tirthalis' framework, a MOOC leader such as MIT fits under the same category (i.e. producers) as UCL, which only officially joined a major MOOC platform in 2015. Furthermore, the inclusion of "consumers" and "lack of faculty interest" seems to indicate that these approaches are on the same level as the others, when in fact, the number of such approaches remains severely limited.

This chapter has defined key HE and technology concepts so as to facilitate the debate on MOOCs and HEIs. It has also provided a brief history of MOOCs and situated this thesis within the wider MOOC literature by revealing what we currently know about the 'how' and 'why' of university responses. This thesis seeks to contribute to this debate by proposing a more developed typology which examines elite UK university approaches.

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3. Approach Typology

This chapter narrows the scope of university approaches, as outlined above, to those taken by the 24 elite UK universities in the RG. It places their approaches into five distinct types: *leaders, early joiners, later joiners, non-joiners/open* and *non-joiners/less open*. These approaches are visualized below in **Table 1.** and **Figure 6.**

MOOC Approaches	Russell Group Members (Total #)	Dates First Joined MOOC Platform	# of MOOCs Offered ¹⁰
Leaders	U. of Edinburgh, Southampton U. (2)	7/17/2012 12/14/2012	5 to 6
Early Joiners	U. Birmingham, U. Bristol, Cardiff U., U. Exeter, King's College London, U. Leeds, U. Warwick (7)	12/14/2012	1 to 3
Later Joiners	Nottingham U., Queen's U. Belfast, U. Sheffield, U. Glasgow, U. Liverpool, U. Newcastle, U. Manchester, U. College London (8)	2/18/2013 5/2/2013 10/2/2013 10/23/2013 13/5/2015	1 to 5
Non- joiners/open	Durham U., Queen Mary U. London, U. Cambridge, London School of Economics and Political Science, U. York (5)	N/A	N/A
Non-joiners/less open	Imperial College London, U. Oxford (2)	N/A	N/A

 Table 1. MOOC Approach Typology of Russell Group Members

¹⁰ These numbers are derived from the author's review of the websites of FutureLearn and Coursera during August 2014



Figure 6. MOOC Approach Typology of Russell Group Members

Before describing each of the above approaches and highlighting select cases of MOOC responses, it is worth mentioning the rationale behind the deliberate omission of the adjective 'adopt' in describing those approaches. As the use of 'join' is more specific, the typology benefits from greater clarity. Also, 'engage' is preferred over 'adopt' to describe the unique approaches of certain *non-joiners* given that 'adopt' tends to imply a more permanent, official university position.

Leaders

The University of Edinburgh and Southampton University fall under the *Leaders* type due to having partnered with major MOOC platforms at an early stage and to a great extent. Edinburgh was the first RG member to offer a MOOC, joining Coursera in

July 2012. Edinburgh later joined FutureLearn in 2013. No other RG member is currently partnered with both Coursera and FutureLearn. Despite being one of eight RG members to become founding partners of FutureLearn in December 2012, Southampton also merits placement under the *Leaders* type given that the extent of its engagement, as indicated by the number of courses offered (i.e. 6), was greater than that of its fellow founding RG members. Further supporting its position within this type, Southampton played a role in developing FutureLearn's platform (Hoare 2014).

Early Joiners

All of the eight founding RG partners of FutureLearn except Southampton fall under the *early joiners* type¹¹. Their placement in this type is the result of having joined a major MOOC platform at an earlier stage than most other RG members. Months before delivering the University of Warwick's first MOOC on FutureLearn, Vice-Chancellor Nigel Thrift (2013) bluntly revealed why his institution decided to engage MOOCs, stating,

We are not doing it because we think that otherwise the university will go the way of all flesh. We are not doing it because we are in a panic about the competition. We are not doing it because we think that bucketloads of money are there to be made. We are doing it because we think MOOCs can become another generally benign way that universities can extend their influence and general visibility while realizing some of the benefits of university education for those who might not otherwise receive it.

This straightforward statement reflects an attempt by Warwick's Vice Chancellor to distance itself from some of the criticism targeted at the initial hype surrounding MOOCs. Indeed, influential individuals from other elite institutions have provided

¹¹ U. of Birmingham, U. of Bristol, Cardiff U., U. of Exeter, King's College London, U. of Leeds, U. of Warwick

such critiques. Warwick's approach may in fact be a microcosm for a large number of universities which offer MOOCs. As cited earlier in the Literature Review (Jansen and Schuwer 2015), the most relevant motivation behind MOOC engagement is increased visibility/enhanced reputation while the least relevant motivation concerns the ability to raise funds or reduce costs. It also bears mentioning that Thrift highlights that MOOCs provide element of HE for those who would not otherwise access it, such as lifelong learners.

Later Joiners

*Later joiners*¹² is comprised of all RG members who joined either Coursera or FutureLearn in 2013, with the exception of UCL which did not join FutureLearn until 2015. The University of Manchester is the only *joiner* to not have partnered with FutureLearn, partnering instead with Coursera. Overall, although these universities appear to have taken a more cautious approach than the nine which preceded them, similarities in their approaches remain.

A review of the University of Glasgow's first two MOOCs (Kerr et al. 2015) supports the view highlighted above by Warwick's Vice-Chancellor. The review concludes that MOOCs are not to replace existing provision, but rather form part of a new provision to "widen participation" and "enhance reputation" among other objectives (Ibid: 46). However, one university within this group stands out for its unique approach to MOOCs.

¹² Nottingham University, Queen's U. Belfast, U. of Sheffield, U. of Glasgow, U. of Liverpool, U. of Newcastle,

The University of Nottingham's approach is striking largely because of its use of NOOCs (Nottingham Open Online Courses) alongside MOOCs. Open to all staff and students across their UK, Chinese, and Malaysian campuses, NOOCs serve as "an internal mechanism for capacity building within the Nottingham community" (University of Nottingham 2015). It has been suggested that NOOCs, running on their internal learning environment Moodle, may be used as a platform from which Nottingham could evaluate a MOOC learner's performance and award credit (Interview Russell Group University C). That is, a FutureLearn MOOC participant could complete a course on the FutureLearn platform before proceeding to enter the corresponding NOOC platform to undergo an evaluation and possibly earn academic credit.

Non-joiners/open

While joining a MOOC platform represents the principal form of MOOC engagement, it is not the only form. Perhaps the most interesting responses to the MOOC movement have emerged from those five RG members which have not yet officially joined a major platform¹³, but either consider doing so, or engage already with MOOCs in another way.

Durham University

Durham University does not offer MOOCs, but is currently in discussions with BlackBoard and FutureLearn about offering a MOOC as a pilot research project. The MOOC

¹³ Durham U., Queen Mary U. London, U. Cambridge, London School of Economics and Political Science, U. York

would be for a very specific purpose as part of a [major] research project to assist the dissemination of its results.... it may be the case that a MOOC would allow us to share the results, particularly with industry. That would help the whole 'research impact' agenda. If Durham does become a MOOC provider longer term, that's the type of project where I could see it being a very useful medium (Interview Russell Group University B 2015).

Durham's approach, therefore, does not appear to follow prevailing trends. Not principally motivated by promises of reputation enhancement or improving teaching and learning on campus, Durham instead views the value of MOOCs for itself as a tool to support research.

University of Cambridge

Although governments have generally played only a minor role in stimulating MOOC engagement, that is not the case for Cambridge or *later joiner* UCL. Funded by the UK government's ministerial department responsible for HE, Tech City UK launched the Digital Business Academy¹⁴ in late 2014. Cambridge, UCL, and education technology company Founder Centric have developed eight digital-business oriented MOOCs to be delivered through UCL's online learning platform (UCL News 2014). However, whether or not these courses could truly be defined as MOOCs is debatable given that their initial availability is restricted to residents of the UK. This initiative appears to be a central means by which the UK government achieves its goal to "actively encourage and promote" MOOC developments, while also representing a potential path forward for the EU generally to "keep pace with the digital society and economy" (BIS Policy Paper 2013: 49; Commission Communication 2013: 2-3).

¹⁴ See Digital Business Academy at http://www.digitalbusinessacademyuk.com/

London School of Economics and Political Science (LSE)

Despite not officially partnering with any major MOOC platform, LSE has engaged MOOCs. LSE appears to have first become involved with MOOCs by supporting the World Bank in the design and facilitation of a 4-week Coursera MOOC which began in March 2015 (Coursera 2015). The course was also supported by three other institutions: the Overseas Development Institute, Participedia, and CIVICUS. In short, LSE has taken a unique approach to MOOC engagement through the participation of LSE academics as collaborators in MOOC development and delivery.

Queen Mary's University of London (QMUL) and University of York

On QMUL's website¹⁵, MOOCs are defined as "a particular kind of distance learning course..." and recognizes Coursera, edX, and FutureLearn as the main players. Though not currently partnered with any such platform, QMUL has confirmed that a tentative plan is in place to offer a MOOC during the 2015/2016 academic year (Personal correspondence 2015). While York has similarly not offered a MOOC, it is currently considering doing so (Interview Russell Group University 1 2015). Its approach thus far could be aptly described as "conservative" or "cautious" given its decision not to become a founding partner of FutureLearn in 2012. Put another way, York's approach seems to best fit under Hollands and Tirthali's (2014b) "wait-and-see" category. Questions about the concept of "open" and maintaining quality were key concerns in its decision-making process, especially given the reputation it has built for its existing distance learning offer.

¹⁵ See QMUL E-Learning Unit, Distance Learning and MOOCs,

http://www.elearning.capd.qmul.ac.uk/enhancing-your-teaching/distance-learning/

Non-joiners/less-open

Non-joiners/less open is comprised of the two RG universities which have neither engaged MOOCs in any way nor appear likely to engage them in the near future. Both the University of Oxford and Imperial College London (ICL) fit into this type.

While most RG members (21 of 24)¹⁶ have either engaged MOOCs in some form or are planning to offer them, Oxford has not, taking a publicly cautious approach towards MOOCs. Professor and Pro-Vice-Chancellor (PVC) for Education at Oxford, Sally Mapstone, has been one of Oxford's leading voices on MOOCs. Only months before FutureLearn launched its first MOOCs, Mapstone was quoted warning of the danger of a "lemming-like rush" towards MOOCs (BBC 2013). A year later in 2014, Mapstone expressed her view that MOOCs could damage an institution's reputation, but also mentioned that the emergence of MOOCs had "led research-intensive universities to pay greater attention to their role as educators" which reopened a debate at universities on teaching (as opposed to research) (Parr 2014a). In a letter published by the Financial Times, Oxford's PVC for Research joined Mapstone in referring to Oxford as an "ambitious digital pioneer" whose "ambition is greater" than MOOCs (Mapstone and Walmsley 2014). Indeed, Oxford's engagement with OER and other open education initiatives is clearly extensive (Highton 2013). Despite active involvement in related areas of open education and acknowledgment of MOOC's wider benefits, the aforementioned statements seem to indicate that Oxford is unlikely to offer a MOOC in the near future.

¹⁶ Includes all 17 universities which have joined at least one MOOC platform and Durham U., U. Cambridge, LSE, and QMUL.

Professor and Vice Provost for Education at ICL, Debra Humphris (2014: 1 minute 17 seconds), explained her institution's policy to not offer a MOOC by asserting that "strategy must lead these decisions, I believe, at the institutional level." Humphris (2014: 23 minutes 56 seconds) expanded further on that statement, saying that ICL is "going to be driven by strategy, not by platform." It thus appears that ICL's position towards MOOCs is similar to that of Oxford.

In summary, the approaches taken by RG members have plainly varied. At first glance, it is obvious that most universities (17 of 24) have engaged MOOCs by joining a major MOOC platform. Upon closer examination of those universities which have not joined such a platform, it became clear that universities can and do engage MOOCs in other ways. In fact, of the seven RG members which have yet to join a major MOOC platform, five are either engaged with MOOCs in another way or are considering doing so. Developed in such a way so as to be applicable to the HE sectors of other countries or regions, this typology has simplified and organized the complex and fragmented responses of elite UK HEIs to the MOOC phenomenon. The typology represents an outgrowth of existing literature in two ways: first, it includes the approaches of non-engaged universities (see Yuan et al. 2014) and second, it adds greater nuance to the various types of MOOC producers (see Hollands and Tirthali 2014b) within a single framework. In developing this typology, three possible options for elite HEIs have emerged. The next chapter is devoted to analyzing these options against each other.

4. Analysis of Options

While distinguishing *leaders* from *early-joiners*, and *early-joiners* from *later-joiners*, and so on is primarily useful as a contribution to scholarly debate, these approaches do not necessarily reflect the options which interested universities now face. Therefore, the following three options have been identified from the typology above: 1) join a major platform, 2) engage MOOCs by other means, or 3) maintain the status quo.

1. Join a Major Platform

The most visible and common form of MOOC engagement is partnering with a major MOOC platform. For RG universities, this has meant partnerships with FutureLearn, Coursera or both. Despite the lack of clarity surrounding the exact benefits of offering a MOOC, a large number of elite institutions have exhibited their interest in doing so by joining major platforms. Of course, to be driven by the plans of your peers or platforms rather than strategy, as hinted at earlier, are not optimal policy drivers. Yet, mounting evidence in Europe and beyond seems to suggest that MOOCs do prove useful in helping HEIs achieve parts of their strategies. Jansen and Schuwer (2015: 22) found that greater than 75% of its EU MOOC-offering respondents believed that MOOCs were meeting some, most, or all of the their institution's stated objectives. The rest reported that it was too early to tell.

Also, many recent self-reported experiences with MOOCs and platforms are positive. In describing their first experiences offering MOOCs through Coursera, the University of Melbourne (Sheil and Kennedy 2014) stated that it was "incredibly rewarding" while the University of Edinburgh (2013: 31) reported of a "complete vindication" of their decision to offer MOOCs at such an early stage. In explaining their decision to partner with Coursera rather than develop their own platform, Edinburgh (ibid.) stated,

it gave us greater speed to explore new educational techniques, and it provided a better opportunity for greater reach for our courses. We also gained access to an expanding peer community of institutions which were developing these new courses.

However, given that institutions are both reporting their own experiences and reputation-minded, there is concern that success is deliberately emphasized over other areas. Furthermore, even though MOOCs may help HEIs to meet their objectives, this does not necessarily indicate that these same objectives cannot be achieved more effectively or efficiently by other means.

Other concerns also merit consideration. First, it is argued that HEIs face the risk of a damaged reputation for producing a poor quality MOOC (Mapstone et al. 2014; Russell Group University B 2015; Russell Group University C 2015), although the extent to which a university might suffer from this is debatable. Second, the amount of time and resources required to deliver a successful MOOC can be substantial. With wide variation, FutureLearn MOOCs cost about £30,000 on average to develop (Parr 2015). Major institutional cost drivers include: people (e.g. faculty, administrators); videography; nature of delivery platform; technical support for participants; programming for special features; and analysis of platform data (Hollands and Tirthali 2014b: 134). Finally, as the interviewee from Russell Group University B (2015) pointed out, the time and resources which are required to offer an effective MOOC need to be balanced against the needs of other areas, such as the on-campus student experience.

2. Engage by Other Means

As evidenced by certain approaches within *non-joiners/open*, partnering with a major platform is not the only way to engage MOOCs. Two other means of engaging MOOCs are thus apparent: first, delivering MOOCs in collaboration with other organizations or institutions, or second, hosting a MOOC on the university's own platform.

Both LSE and Cambridge are experienced in the collaborative delivery of MOOCs. In Spring 2015, LSE collaborated with civil society organizations under the leadership of an international organization to deliver a MOOC on civic engagement through Coursera. Without adopting a firm position towards MOOCs via official partnership, LSE staff were able to learn about the design and delivery of MOOCs first-hand. The main advantages of this route appear to be the reduction of risk and cost. Though perhaps not achieving the same increase in visibility by officially partnering with a major platform, the risk to LSE's reputation is likely to have been reduced given its secondary role. It is also unlikely that LSE faced substantial costs given the participation of other organizations. At Cambridge, a partnership was struck with another RG university, a government-funded agency, and a private sector organization. The main advantage of engaging MOOCs in this way may be the opportunity to participate in a more ground-breaking MOOC initiative than joining an established platform, and by extension, accelerate the innovative possibilities of MOOCs.

In addition to collaborative delivery, universities could decide to deliver their MOOCs on their own platform. Open edX, the technology which powers the not-for-profit edX platform, also powers unique institutional MOOC platforms for a large number of organizations from all over the world (Shah 2014), including the previously mentioned *France Université Numérique*. Using Open edX, George Washington University offered a MOOC in collaboration with members of Southampton University and two other universities (Barba 2014). For this course, the lead instructor's stated aim was to "offer a MOOC without surrendering our IP to for-profits nor subjecting students to creepy data mining" (Ibid.). Indeed, Oxford's Mapstone led a study which highlighted the idea that 'platforming' in it of itself could be a viable business model (Mapstone et al. 2014).

3. Status Quo

Non-engagement is the third option. This includes the current approaches of three *non-joiners/open* (i.e. Durham U., QMUL, U. York) and all *non-joiners/less open*. An obvious advantage of maintaining the status quo is the promise of gaining a clearer picture of the market so as to make a more informed decision. Indeed, for at least one RG member which has yet to offer a MOOC, the tangible benefits remain unclear (Interview Russell Group University B 2015). Another advantage could simply be framed as avoiding the costs and risks identified under the first option. For example, by not offering a MOOC, an institution could maintain whatever flexibility it had previously to direct limited resources towards areas of greater certainty, such as building maintenance, study/research grants, or its existing distance education offer. In general, it has been argued that elite universities which do not engage MOOCs face the risk of being "left behind" (Ingolfsdottir 2014; Parr 2014b). However, the exact impact of being "left behind", either currently or in the future, is also unclear. In fact, one interviewee opined that no RG university is suffering from not offering a MOOC (Russell Group University D 2015).

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Given the above, it is reasonable to expect that the first two options are not pursued by *every* elite institution. Put simply, the institutional benefits to MOOC engagement, in addition to the institutional risks or costs of not engaging, remain underdeveloped and ill-defined. Nevertheless, the conditions which have facilitated the emergence of open education and MOOCs do not appear to be weakening. If elite universities decide to navigate through this changing landscape without MOOCs, then other open education initiatives such as OER will likely demand attention.

On the other hand, should a HEI decide to engage, the options available have been shown to be more diverse than simply joining a US-based MOOC platform or collaborating around FutureLearn as suggested in 2013 by the UK's Department for Business, Innovation and Skills (BIS Policy Paper 2013: 48). As seen by the second option, collaborative delivery and offering a MOOC through an internal platform present unique opportunities. Other opportunities likely feature greater disruptive potential, such as the credit-bearing MOOCs of edX and ASU's Global Freshman Academy or the MOOC to NOOC possibility at Nottingham.

That MOOCs may not be for every institution should not discourage policymakers from encouraging further MOOC engagement in a variety of forms. Indeed, the only way to realize their potential and define their impact is through diverse engagement and analysis. As a means to support lifelong learning and improve educational outcomes, government interest in MOOCs appears to be warranted. A significant proportion of MOOC participants tend to be 30 or older (Ho et al. 2015). In addition, one voice which has tended to be critical towards MOOCs recognized and welcomed the effect MOOCs appear to be having - a renewed focus on the quality of university teaching (Parr 2014a). At the very least, these factors signal a link between lifelong learning, improving educational outcomes and MOOCs.

Yet, universities are responsible for making their own strategic decisions regarding online learning and open education, and even without direct governmental intervention, many RG universities have decided to offer a MOOC. Why, then, should policymakers encourage further university involvement in MOOCs?

One obvious reason is to steer MOOC engagement towards areas of greater public interest. Such is the case with the creation of the Digital Business Academy. Government-funded Tech City partnered with Cambridge University, an institution which had not previously engaged MOOCs, to develop open online courses which aim to enhance the skills of those seeking to run, start or join a digital business. In this case, the area of greater public interest is the attainment of e-skills, and without Tech City's intervention, it is unknown what other role Cambridge would have played in promoting such skills.

This raises another important reason why policymakers should consider encouraging further university involvement. As not all elite HEIs are involved, the extent and pace of data generation, experimentation and all related benefits is diminished and reduced. By exploiting the capabilities of more HEIs, or doing so to a greater extent with currently engaged HEIs, the rate of progress and innovation is likely to increase. Further, the desired rate of development depends on the government's perceived need to innovate, and for the UK and EU, that need is apparently urgent. Two main

consequences of the acceleration of data generation and experimentation stand out. First, it would facilitate evidence-based policymaking at the institutional, national, and supranational level, and second, it would enhance access to HE.

Conclusion

This thesis explored how elite UK universities have responded to the MOOC phenomenon. Commonly viewed as one aspect of online learning and open education, MOOCs often form part of university distance education programs. Though the initial hype appears to have stabilized, MOOC engagement by European HEIs continues to rise. The interest they have provoked in both academia and government is undeniable.

This research aimed to contribute to a better understanding of university responses to the MOOC phenomenon by categorizing the responses of elite UK universities and analyzing the available options which emerged as a result. The proposed typology divided university approaches into five types: *leaders*, *early joiners*, *later joiners*, *non-joiners/open*, and *non-joiners/less open*. This thesis argued that this typology simplified and organized a complex and fragmented HE environment better than previous attempts. Within a single framework, it includes the approaches of non-engaged universities while also adding greater nuance to the various types of MOOC "producers" (see Hollands and Tirthali 2014b). Moreover, the typology could be applied to the HE sectors of other countries or regions. Finally, the typology also served to highlight options which interested HEIs now face, and which policymakers may choose to encourage.

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The three options faced by HEIs are: 1) joining a platform, 2) engaging by other means, or 3) maintaining the status quo. Each option has unique institutional advantages and disadvantages. While the first two options seem to provide more attractive outcomes for the wider public, the choice ultimately falls under the university's remit. Given the ambiguity in benefits of engagement and risks of non-engagement, it is reasonable to expect that not every elite HEI pursue MOOCs. Given that most RG universities engage MOOCs in some form without direct government support, it is worth questioning whether or not the government should get involved at all. In answering why the government should encourage further university engagement in a variety of forms, two main reasons stand out. First, as is the case with the UK's Tech City, the government can steer MOOC engagement towards areas of greater public interest. Second, policymakers could possibly increase the rate of progress and innovation in the field of MOOCs and HE if they were to encourage more universities to engage, or encourage the ones that do, to do so more extensively.

The lingering challenge is thus to find an appropriate solution which combines the aims and capabilities of both HEIs and government. Funding the collaborative delivery of a MOOC by universities from two distinct EU member states is only one possibility which could benefit from a more thorough analysis. Also, while comparing the cost-effectiveness of MOOCs to other institutional tools in achieving various goals (e.g. marketing/brand promotion strategy) was not a central focus of this research, it clearly merits further study. Indeed, even though MOOCs may help HEIs to meet their objectives, additional research is required find out if this is could be achieved more effectively or efficiently than other means. While these answers might

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eventually be found without government support, policymakers could certainly play a positive role in ensuring that they are found.

Appendix

Google Spreadsheet of Russell Group MOOC Approaches

Click on link: http://tinyurl.com/opdoyf4

Interview List

Institution (s)	Number	Role	Date	Place
Russell Group	1	Pro-vice-chancellor	19/5/2015	In person
University A				
	2	Learning	2/6/2015	In person
		Technologist		
Russell Group	1	Faculty	1/6/2015	Google
University B				Hangout
Russell Group	1	Director	17/6/2015	Skype
University C				
Russell Group	1	Director	18/6/2015	Telephone
University D				

Interview Questions

- 1. Does your institution offer, or plan to offer, a massive open online course, otherwise known as a MOOC?
- 2. Has your institution adopted a position towards MOOCs?
- 3. What are the reasons for not offering MOOCs at your institution?
 - 1. What are the main barriers to offering a MOOC?
 - 2. What is the biggest drawback to MOOCs?
- 4. What are the main objectives behind MOOC?

What is the greatest value of MOOCs?

5. Would your institution consider partnering with FutureLearn or another MOOC platform in the future?

List of Russell Group Members

- 1. University of Birmingham
- 2. University of Bristol
- 3. University of Cambridge
- 4. Cardiff University
- 5. Durham University
- 6. University of Edinburgh
- 7. University of Exeter
- 8. University of Glasgow
- 9. Imperial College London
- 10. King's College London
- 11. University of Leeds
- 12. University of Liverpool
- 13. London School of Economics and Political Science
- 14. University of Manchester
- 15. Newcastle University
- 16. University of Nottingham
- 17. University of Oxford
- 18. Queen Mary University of London
- 19. Queen's University Belfast
- 20. University of Sheffield
- 21. University of Southampton
- 22. University College London
- 23. University of Warwick
- 24. University of York

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