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University of Southampton

Faculty of Physical Sciences and Engineering

Electronics and Computer Science

Exploring stakeholder perspectives on the development of MOOCs in higher education – a case study of the University of Southampton

by

Steven White

4th September, 2014

A dissertation submitted in partial fulfilment of the degree of

MSc Web Science

University of Southampton

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1 Abstract

Many higher education institutions have engaged with massive open online courses (MOOCs) since their emergence in 2008, often presenting these courses as a means to increase access to education. These courses have subsequently evolved and diversified substantially in terms of their form and pedagogy. Numerous predictions have been made about the purposes for which MOOCs have been developed and their possible impact on teaching, learning and the structure of HE more generally. However, few studies have investigated the perspective of MOOC creators and facilitators on the purposes and potential of these online courses. This study uses grounded theory analysis of interview data to explore motivations behind MOOC creation and implementation at the University of Southampton from the perspective of internal stakeholders in the development process. The results confirm previous research which identify a reputation-building aim underlying MOOC development, the perception of which is broadly shared by participants in this study. The study also reveals how stakeholders feel the institutional momentum behind the development process can be exploited to achieve changes in educational practices amongst university staff and students. The paper concludes that MOOCs are primarily perceived as a dynamic for internal change and external engagement in the interests of the institution and its stakeholders, rather than as a means to pursue objectives of open education and open access more generally.

2 Introduction

2.1 Background of MOOCs

Massive open online courses (MOOCs) have made a significant impact in higher education since they were first conceived in 2008, and have changed, diversified and evolved considerably since their inception. Researchers and commentators from many backgrounds have focused attention on them, and studies which investigate the potential influence of MOOCs on pedagogy, learning analytics, education policy, participation, accreditation, disruptive innovations, and even politics and economics have been conducted (Ebben and Murphy, 2014).

Much discussion of MOOCs in the grey or popular media is considered 'hype', but there is little doubt that they have generated abundant interest in and discussion of the status and future of higher education (Daniel, 2014). The potential of MOOCs to contribute to the opening up of access to and participation in HE globally seems to be a primary source of interest in these courses, coupled with the linked ability for MOOC providers (or their backers) to gain access to very high ('massive') numbers of learners. Both these goals are made possible by the web technologies which underlie MOOCs, and their potential for co-creating dynamic networked connections between resources, learners, and expert instructors. It is with this in mind that Siemens (2013) claims that "*MOOCs represent and reflect the angst of educators and administrators in attempting to understand the role of the university in the Internet era*" (Siemens, 2013).

The University of Southampton is a member of the FutureLearn consortium (a profit-making venture, with a current membership of 34 MOOC-producing universities and institutions; FutureLearn, 2014). Southampton currently runs 7 MOOCs, mainly in "*leading subject areas*" (University of Southampton, 2014) and were able to prepare MOOCs (in Archaeology, Web Science and Oceanography) in readiness for the launch of the FutureLearn platform in September 2013. However, MOOC development at Southampton was initiated in conditions of uncertainty regarding the nature, purpose and likely consequences of participation. Those contributing to the project did so without the guidance of a formal policy or established processes as a point of reference for their work.

2.2 Aims and research question

Although research into the MOOC phenomena is well underway (especially in terms of the learner perspective and broad institutional strategy), it seems that "*neither the creator/facilitator perspective nor the technological aspects are being widely researched*" (Liyanagunawardena et al., 2013a). Davis et al. (2014) have explored institutional motivations behind MOOC development via literature review, but made no systematic analysis of stakeholder views. As a result, this case study aims to explore the process of developing a MOOC at the University of Southampton from the perspective of key internal stakeholders in the development process.

Using grounded theory (Glaser and Strauss, 1967), this dissertation explores stakeholder perspectives on this development process in order to establish how those responsible for creating and implementing these courses at Southampton understand the aims and possible consequences of MOOC development, and the degree to which these aspirations and understandings are shared. As a closely related theme emerging from the grounded theory analysis, it also attempts to identify insights into the potential influence of MOOCs on teaching and learning in HE from the various perspectives of those involved in their production.

2.3 Scope and limitations

Because of constraints of time and resources, the paper focuses on the case of the University of Southampton, and internal stakeholders involved in the MOOC development and implementation process. The intent is to provide a rich, detailed qualitative understanding of the stakeholder perspectives on the issues – no quantitative data collection or analysis has been undertaken. An important limitation of the study is the exclusion of students and MOOC platform providers (FutureLearn in this case), and future studies will be needed to understand their perspectives on this subject.

2.4 Dissertation outline

After reviewing the relevant literature on MOOCs and institutional innovation and change, the methodology (grounded theory analysis of interview data) is discussed and findings presented. The discussion section highlights a broadly shared understanding of the reputation-building aims of the university amongst stakeholders, but also reveals how stakeholders feel the institutional momentum behind the development process can be subverted to achieve changes in educational practices amongst university staff and students. The paper concludes

that MOOCs are primarily perceived as a dynamic for internal change and external engagement in the interests of the institution and its stakeholders, rather than as means to pursue objectives of open education and open access more generally.

3 Background/literature review

In order to fully explore stakeholder perspectives on the development of MOOCs, research in a number of areas needs to be considered. This literature review (mainly conducted at a late stage of data analysis in accordance with the procedures of grounded theory) covers the following themes:

- MOOC definitions and pedagogies
- Developmental context of MOOCs
- Aims of MOOCs
- Educational technology, organisational change and innovation
- Disruption / sustainability
- Impact on teaching and learning
- Challenges facing MOOCs

3.1 MOOC definitions and pedagogies

It can be difficult to define MOOCs precisely as the extent to which they are massive open courses varies according to different understandings of these terms (some courses encourage face-to-face meet ups which do not, therefore, even qualify as fully online). Anderson (2013) analyses these issues in some depth, explaining how student numbers on MOOCs can vary widely, and demonstrating that registered student numbers differ significantly from numbers of active participants or those who complete courses. These courses are open in the sense of free of charge and participation, but less so in permitting users to reuse or remix the learning resources on them (Anderson, 2013; Rodriguez, 2013; Yuan and Powell, 2013).

A further complication in understanding MOOCs lies in the different forms of courses which can be "*so distinct in pedagogy that it can be confusing to designate them by the same term*" (Daniel, 2012). The underlying pedagogies used in MOOCs are often, therefore, used as a basis for distinguishing them. A relatively simple distinction is often made between cMOOCs and xMOOCs, representing two different approaches to the design and implementation of courses. This distinction forms the basis of Ebben and Murphy's categorisation of two key phases of MOOC scholarship between 2009 and 2013. cMOOCs use a "*network-based*" connectivist pedagogy (Daniel, 2014) in which knowledge is viewed as generative and distributed, within a limited course structure covering weekly topics or themes (Siemens,

2012a). In this kind of course, learning objectives are specified, rather than particular "*learning paths*". In contrast, xMOOCs are seen as having a more "*content-based*" approach (Daniel, 2014), relying on a combination of cognitive, behaviourist, and social constructivist pedagogical foundations (Rodriguez, 2012). This results in a more instructor-focused and instructor-led experience, resembling more traditional types of university teaching which rely on "*teacher as expert*" and "*learner as knowledge consumer*" (Siemens, 2013).

Critics of this cMOOC – xMOOC distinction claim that it is simplistic and "*inadequate*" to describe the varieties of courses available and the uses learners make of them (Conole, 2013). More recent work has produced a more nuanced view of MOOC types, such as Clark's eight part taxonomy of MOOCs which considers differing approaches to course preparation, time constraints, personalisation, and the learning activities used. Bayn and Ross (2014) go further, identifying contextual factors (such as institutional teaching culture, disciplinary influence, and degree of focus on gathering analytics) as important influences on MOOC pedagogy in the UK. This, they claim, necessitates more attention to MOOC pedagogy as a "socio material and discipline informed issue". It is hoped that this study of MOOC stakeholders might reveal more understanding of these contextual factors.

3.2 Developmental context of MOOCs

In order to understand the development of MOOCs more fully, it is important to recognise the social, political and economic context in which they have arisen. In terms of education, MOOCs can be seen to derive from developments in distance and online education (Siemens, 2013), and in particular the Open Educational Resources (OER) movement (Liyanaguawardena, 2013a). Although such attempts to increase access to education and promote social inclusion have been widely linked to MOOC development, much scholarship has emphasised other factors as significant. Yuan and Powell (2013), for example, cite growth in adoption of Internet technologies, changing funding models in HE, and the resulting search for new business models to exploit these changes as significant influences on the development of MOOCs. Such changes in funding have, according to Scanlon and Issroff (2005), created a contradiction in the way HE staff come to view students as both "*person to be educated*" and "*source of revenue and profit*", and this seems likely to have affected the development of MOOCs.

Conole (2013) reviews current "*drivers impacting education*" and highlights growing demand for HE, reflection on current educational offers, competition among providers, and an increasing willingness to engage with online education as important factors. Further, she argues that changing knowledge demands in the digital economy "*from knowledge recall to development of skills to find and use information effectively*" has created a need to foster new digital and information literacy skills. The affordances of online technologies, and the uses made of them have helped inform thinking on opportunities for new forms of education. Siemens (2008, 2012b) takes a socio-technical view which highlights (among other factors) the changing roles of teachers and learners in the context of networked knowledge, where access to a variety of resources and tools might change the way teaching and learning is approached. He argues that the context in which learning occurs has changed, and that HE needs to take an approach which represents and exploits the participative affordances of the Web. MOOCs can be seen (at least in their more cMOOC-oriented form) as a response to this changing context, both in education and the wider world, although some have questioned the degree to which this view accounts for the need to support learners in what can be quite chaotic Web environments (Kop, 2011).

3.3 Aims of MOOCs

As with defining MOOCs and explaining the context for their development, understanding the motivations behind MOOC development is a complex task. Ossiannillson (2014:110) takes an optimistic view, stating that MOOCs were created to form "*a new learning paradigm, with personalized and open learning as essential for the current digital context of education*", though it should be noted that this is a view drawn from grey, rather than academic literature on the topic. Yuan and Powell (2013) also cite this attempt to open up education as a motivating factor, but add that commercial and strategic concerns later diluted this initial ideal. In his review of early developments in MOOCs, Daniel explains that openness characterised initial attempts "*to make knowledge the common property of humankind*" (UNESCO, 2012; in Daniel, 2012) but that institutions also needed "*to find a business model that generates money for doing it*". Davis et al. (2014) attempt to summarise the motivations behind MOOC development, and identify the following as relevant:

- Strategic growth
- Marketing
- Strategic collaboration
- Organic growth / evolution (of OERs/openness)

- Response to learners demand for 'networked interaction'
- Learner analytics
- Educational enhancement

It should be noted that the (somewhat vaguely defined) notion of educational enhancement is interpreted as "*either a sub-objective or a happy consequence of MOOC participation*". Yuan, Powell and Olivier (2014) link the aims of MOOC development to improvements in education and access more directly:

> *The key opportunity for institutions is to take the concepts developed by the MOOC experiment to date and use them to improve the quality of their face-to-face and online provision, and to open up access to education.*

However, this focus on improving quality and access to education does not exclude more pragmatic concerns from their report, with 'a strategic approach' and 'revenue models' occupying a significant position in their analysis. Davis et al. (2014) also note that extensive media coverage and 'hype' following the rapid growth of MOOCs may also be driving further development.

This complex combination of motivations in times of uncertainty and change may explain the more flexible, responsive approaches to MOOC development which put less emphasis on exhaustive analysis of the educational context as a precursor to action. Instead, some institutions are relying on a "*ready, fire, aim*" approach to decision making in this area which allows institutions to repeatedly refine and develop their online offer to some extent (Marshall, 2013). Drawing on his experience in education (rather than empirical evidence), Daniel (2014) captures the complexity of the motivations behind MOOC development in his comment that "*traditional functions of universities are teaching, research and service*" but that "*MOOCs touch on all three aspects of this mission without being fully aligned with any one of them*".

3.4 Educational technology, organisational change, and innovation

Research suggests that innovations in educational technology can be difficult to effectively implement and promote within HE institutions. Technologies can be made available to staff and students, and yet a "*digital disconnect*" can remain which separates rhetoric from actual use of technology (Selwyn, 2007:1). The importance of social factors in the uptake of

technology has long been recognised (Geoghegan, 1994), as "*constellations of academic and professional goals, interests and needs*" must be considered along with more technical considerations.

In order to successfully foster a "*diffusion process*" in which learning technologies are adopted by mainstream users (in addition to the innovators and early adopters identified in Rogers' work on *Diffusion of Innovations*), certain barriers to adoption must be overcome. A "*lack of a compelling reason to adopt*" on the part of users is one such barrier (Geoghegan, 1994). In relation to e-learning in particular, Laurillard identifies further barriers to 'embedding' innovations in institutions, focusing on "*uncertain leadership, lack of true innovation, and lack of professional expertise*" as fundamental (2004; in Salmon, 2005). Work by Salmon (2005) supports these ideas, identifying the need for "*considerable individual and institutional change, beyond the provision of technology*" for the successful implementation of e-learning innovations. More recent studies (including Brown, 2010), indicate that these barriers to the introduction to e-learning technologies persist despite the spread of Web 2.0 in other areas of university administration and promotion.

In the pre-MOOC era, Salmon observed the complex ways in which aims and mission of institutions can interact with individuals, groups and e-learning technologies. This, she believes, renders inadequate a "*substitutional approach*" in which existing pedagogies can be directly transferred online (2005:202). This view supports Siemens critique of the way some xMOOC providers reproduce the existing educational system, by opting to "*transfer it online rather than transform it*" to meet current needs and conditions (2012a). Salmon's (2005:202) analysis was also prescient in identifying the influence of "*pedagogical approaches, defined along disciplinary lines*" which Bayn and Ross (2014:8) would later identify in a study of UK MOOC pedagogy. Salmon goes on to recommend a 'resource based' approach to e-learning innovation strategy which exploits the particular strengths and abilities of an institution, but which also align with its mission and objectives (2005:209). Although discussion of organisational change and innovation in regard to MOOCs is relevant to this project, it is also important to consider the potential of MOOCs as disruptive technologies in HE.

3.5 Disruption / sustainability

Considerable attention in academic and grey literature sources has focused on the question of whether MOOCs constitute a disruptive innovation – an innovation which creates a new

market and value network, thus displacing existing markets, value networks or innovations (Christensen, 1997). Marshall (2013) considers this well-established "*narrative of disruptive innovation and the call for transformative change stimulated and sustained by new technologies*" in his study of MOOCs in HE. He finds that MOOCs may be a "*low end disruption*" (which strip out all elements of 'added value' of university study except the learning itself), but that (well known) barriers to MOOCs exist in the form of uncertainty over the credibility and usefulness of accreditation. More importantly, perhaps, is his insight that early adopters of MOOCs in the USA (e.g. Harvard, Stanford, MIT) have implemented strategies which "*are shaping the perceptions of many stakeholders in higher education*" and creating further barriers ('minimum quality thresholds') for potential new entrants in the market. He contends that this "*shaping strategy*" promotes early action on the part of institutions and protects them from "*strategic paralysis*" (Christensen et al., 2008; in Marshall, 2013) rooted in a tendency to thoroughly analyse situations first, then formulate policy.

Kolowich (2013) expands on the issue of accreditation as barrier to MOOCs as a disruptive innovation in highlighting the institutional power which HE institutions hold over accreditation. This monopoly position forces new entrants to the education market (private or third sector bodies) to work with existing universities, rather than compete with them. The need to distinguish between institutions such as universities and businesses which produce and sell commodities has recently been highlighted in more mainstream media by Lepore in *The New Yorker* (June 23, 2014). Yuan and Powell (2013) reflect these concerns by identifying a range of complex contextual factors which cast doubt on the potential of MOOCs for genuine disruption as defined by Christensen. For this reason, they argue that "*using disruptive innovation to explain the phenomenon of MOOCs should be applied with caution*". This warning is relevant to much discussion of MOOCs as disruptive innovation, where loose definitions of 'disruptive' can be unhelpful. Conole (2013), for example, provides an inadequate representation of disruption as "*something that fundamentally changes the way we do things*" in her discussion of learning and quality in MOOCs. As a result, her conclusions which call for reconsideration of current educational offerings and "*more informed design decisions*" need to be seen as characteristic of sustaining innovations, rather than disruptive, as seems to be implied. This is an important distinction, as sustaining innovations allow existing markets and value networks to change and develop whereas disruptive innovations allow incumbent institutions to be supplanted. Indeed, Yuan and

Powell (2013) indicates that MOOCs are likely to act as sustaining innovations which allow institutions to reflect on and adapt their missions, business models, degree of openness and pedagogy.

Even Kelly (2014:35), arguing from a pro-business perspective which often champions disruption and further marketization of HE, recognises that "*MOOCs are neither the cataclysmic disruptor that advocates predicted nor the flash in the pan their critics were hoping for*". Because of their potential as sustaining innovations, researchers have also investigated the possible affordances of MOOCs for their more conventional courses and registered students. Indeed, it is argued that HE institutions can adapt and strengthen the range and depth of their offers by "*leveraging the best of MOOC technologies*" (Kolowich, 2013), as will now be discussed.

3.6 Impact on teaching and learning

An important aspect of developments in MOOCs is their relationship to existing educational activities within HE institutions, and the possible relationships between them. Daniel (2014:iii) argues that MOOCs have "*stimulated greater reflection about the purposes and pedagogy … of higher education than any other phenomenon in recent times*" and calls for further research into ways MOOCs can enrich open and online education in general. Previous work by Salmon (in her work on e-learning innovation and change) is relevant here. She argues that technological and policy development cannot be the sole focus of planning for change, claiming that "*human dimensions*" of technology use must be accounted for, especially the "closely situated" nature of individuals and groups within departments and their influence on pedagogy. This attention to the characteristics and influence of social groups (such as university departments) is echoed in the findings of Bayn and Ross who note the impact disciplinary groupings have on pedagogy. Yuan and Powell (2013) also suggest close attention to the interplay of learning technologies and user groups, suggesting that creative, innovative and flexible educational offers can be developed from experiences with and affordances of MOOCs.

Anderson (2013) sees this potential for flexibility and innovation in the possible "*unbundling and rebundling*" of existing and new course elements. This idea is taken further by Siemens, in seeking to exploit the enormous capacity of the web and the agency it confers on users. He believes that cMOOC course designs "*offer a middle ground for teaching and learning*

between the highly organised and structured classroom environment and the chaotic open Web of fragmented information" (2013:6).

If designed appropriately, MOOCs can undoubtedly challenge the balance of power between teachers and learners (Siemens, 2013), but Bayn and Ross demonstrate in their study of UK MOOCs that teachers retain an important role in courses. Despite the "*disaggregated*" teaching functions in MOOCs, the potential for automation of processes, and emphasis on social learning (Bayn and Ross, 2014), research shows that learners still value the visibility of teachers on MOOCs and the "*'teacherly' moments*" they can provide (Ross et al., 2014:64). This interplay of conventional and novel aspects of teaching and learning, and the need to firmly ground new learning technologies within specific institutional contexts perhaps explains recent attempts to "*embed*" MOOCs in existing university courses.

Waldrop (2014) cites the need to consider the institutional context and technological affordances of MOOCs in order to "*integrate and embed digital learning into the fabric of the entire university*". This represents an attempt to leverage affordances of technology, but also to recognise distinct strengths of face-to-face and online education (Fisher, 2014; Waldrop, 2014). Such analyses reveal the potential for new blended learning designs which involve embedding MOOCs as 'flipped' components of existing face-to-face courses. These 'wrapped courses' facilitate interaction between registered (fee paying) students of an institution and external learners, and thus potential access to considerable network and community building benefits. Siemens (2013; cited in Daniel, 2014) considers this to be a fundamental benefit of MOOCs, as it permits the "*creation of a temporary and bounded event that allows for engagement between communities that would not normally associate with each other*". Siemens' approach is one that favours a connectivist design, but MOOC providers using more traditional pedagogy also see opportunities for broader (online and offline) developments in teaching.

In a study of a more xMOOC-type course, Bates (2013) refers to the intention of edX institutions (such as Harvard) to "*improve on-campus, class-based learning in all disciplines and formats*". More systematic research was conducted by Bruff et al. (2013) who used a Stanford MOOC as a component of a face-to-face course at Vanderbilt University (US) and evaluated the results. Although student and instructor reactions were broadly positive, they found that "*more complex forms of blended learning in which course materials are drawn*

from multiple MOOCs, as well as from other online sources" may be required to achieve an appropriate level of fit into their own course. Synthesising ideas from recent research on MOOCs, Yuan, Powell and Olivier argue for an approach which explores the affordances of both "*community*" and "*content-based models of learning*" (2014). MOOCs, they argue, offer possibilities for experimentation which exploit changing learner and teacher roles, flexible learning, and new approaches to online education which involve lecturers, departments or even institutional collaborations.

3.7 Challenges facing MOOCs

This report focuses on perspectives on the process of MOOC development, so an in-depth discussion of all aspects of MOOCs is beyond its scope. However, it should be noted that certain challenges to MOOCs have been widely recognised in the literature, and may have a bearing on the direction and form of MOOC development projects. Important challenges include the cost of development, access and political issues, completion / drop-out rates, pedagogical issues and accreditation of courses.

3.7.1 MOOC costs and sustainability

Most e-learning projects tend to have high start-up costs (Salmon, 2005), and MOOCs are no exception. Altbach (2014) claims that the development of MOOCs can be expensive, and sustainability is identified as a key challenge in Yuan and Powell (2013). It should also be noted that resources are also required to run and update courses, and Daniel (2014:iii) observes that "*most MOOCs still rely on a small institution-based team of overworked (and often overwhelmed) instructor trying to provide some order to a complex operation*". It should be noted, however, that (like much research into MOOCs) this comment is based on anecdotal rather than empirical evidence. Such demands on resources raise questions of whether universities in developing nations can hope to produce quality courses in the face of competition from more developed countries. Altbach (2014) believes that this situation risks limiting the capability for academic voices, perspectives and philosophical traditions from developing nations to be heard. Siemens (2013), however, rejects characterisations of MOOCs as neo-liberal as misguided, believing that they simply represent "*society's transition to a knowledge economy*", and are not "*at all neo-liberalist*". Both arguments perhaps give insufficient attention to socio-technical forces which can work to shape artefacts in the interests of designers or users (Halford et al., 2010).

3.7.2 Access and participation

In terms of access for students, Liyanagunawardena et al. (2013b) note that technical access, language barriers and lack of computer literacy pose significant obstacles for learners from developing nations to benefit from MOOCs in their current form. Others argue that many individuals (regardless of nationality) lack the learner autonomy skills to engage successfully with MOOCs (Bali, 2014; Beaven et al., 2014; Brown, 2013). It is possible that lack of independent learning skills contribute to the high drop-out rates of MOOCs, and a number of studies have highlighted the patterns of learner engagement and participation within MOOCs as problematic (Clow, 2013). However, learner motivations and methods of using MOOCs are likely to be more complex than sampling wanting to participate (and pass) each section to achieve completion (Davis et al, 2014).

3.7.3 MOOC pedagogy

The pedagogy used in MOOCs has been the subject of recent scrutiny in the literature, and strengths and weaknesses of approaches in any MOOC can be identified. Anderson and Dron, for example, critique the three broad approaches to distance education pedagogy (cognitive-behaviourist, social constructivist, and connectivist), and find that "*high-quality distance education exploits all three generations as determined by the learning content, context and learning expectations*" (2011:8). Traditional 'transmission of knowledge'-based approaches used in xMOOCs have been criticised as ineffective (Daniel, 2012; Davidson, 2012), but also defended as scalable, and fit for certain purposes (Anderson, 2013). In contrast, connectivist methods are praised for their ability to exploit and reproduce existing network structures of the web (Siemens, 2008, 2013), but are criticised for placing heavy demands on independent learning (Kop, 2011) as connectivist courses are "*paradoxically, plagued by a lack of connection*" (Anderson and Dron, 2011:89).

3.7.4 Accreditation of MOOCs

A final and serious challenge to MOOCs is in the area of accreditation. Many studies recognise the potential problems of plagiarism (Davis et al., 2014), valid and reliable marking of non-automated tests (Yuan and Powell, 2013), and the credibility and value of MOOC certification in general (Daniel, 2012; Marshall, 2013). It seems that certification is a key issue for the future (and perhaps the disruptive capabilities) of MOOCs, and that the search for "*programs that lead to useful and credible credentials*" goes on. These issues of costs, access, participation, teaching and accreditation are relevant to discussion of MOOCs, and this paper explores them from the perspective of stakeholders in the MOOC development process at Southampton.

4 Methodology

In order to systematically explore stakeholder perspectives on the development of MOOCs, this study employs a grounded theory analysis of interview data. This section covers the following elements of methodology:

- Rationale
- Semi-structured interviews
- Constructivism / epistemology
- Grounded theory
- Case study approaches
- Sampling
- Coding

4.1 Rationale

This case study explores perceptions of MOOCs by interviewing certain stakeholders in the MOOC development process at the University of Southampton, and analysing the data produced in the interviews. As previously noted, formal policies or statements of strategy regarding MOOCs have yet to be produced by the university. Consequently, an exploratory research design was created, using grounded theory to allow important concepts and possible theories to emerge as the research progressed. The aim of this design is to generate a better understanding of how various stakeholders perceive the aims and outcomes of MOOC development at the university, and so provide useful information and insights into the affordances and challenges of MOOCs from the various perspectives of those involved.

4.2 Semi-structured interviews

Semi-structured interviews were chosen as a way to analyse interaction and the development of thematic content during interviews in which both interviewee and interviewer play an active role (Edwards and Holland, 2013). This decision to use interviews as a research tool draws on constructivist understandings of knowledge production as resulting from interaction between participants on certain topics in which meaning is "*collaboratively produced*" (Silverman, 2011:151). This perspective seems well-suited to this research question, as the lack of firm policy statements on the aims, uses and benefits of MOOCs allows for a more exploratory focus on stakeholder attitudes and perceptions to inform understandings of MOOC development. Silverman (2011) notes that a constructivist philosophy provides a suitable underpinning for interview studies exactly because of this ability to focus on participant perceptions.

The themes for the semi-structured interview (see appendix 2) were developed by reviewing literature on the implementation of educational technologies (Geoghegan, 1994; Salmon, 2005). Interviews were transcribed and anonymised in accordance with the ethical approval guidelines of the University (see appendix 3).

4.3 Constructivism / epistemology

Constructivists claim that interactions between interviewer and interviewee produce accounts which can be studied as a topic in their own right, and from which underlying or implicit attitudes and values can be identified (Silverman, 2011). However, interview data is not seen as containing neutral or objective fact as "accounts are not simply representations of the world, they are part of the world they describe" (Hammersley and Atkinson, 1995:107; in Silverman, 2011). According to Charmaz (2011:360), these views which recognise the historical, social and situational influences on behaviour (and the active role of researchers in shaping data collection and analysis) are often embedded within constructivist approaches to grounded theory.

4.4 Grounded theory

Grounded theory is a systematic, inductive approach to constructing theory in the social sciences (Charmaz, 2011:360) which emphasises interactive and comparative methods in research. Grounded theory can help generate "*overarching explanatory concepts*" and their relationships with the aim of creating 'mid-range theory' (Corbin and Strauss, 2008) which can develop abstract explanations for actions or processes relating to specific groups or situations (rather than more generalized formal theory). Again, this approach seems suitable to the study of perceptions of MOOC development amongst a specific group (stakeholders) at the University of Southampton.

Grounded theory approaches aim to generate theory by collecting and (almost simultaneously) analysing and comparing data in order to identify underlying and significant themes. In this approach, data are compared, coded and (where appropriate) tentative categories created. Further research and analysis on key themes is conducted (known as theoretical sampling) until no new issues or categories emerge (theoretical saturation). At this stage, it may be possible to identify important concepts from major categories and generate middle-range theory from the analysis (Charmaz, 2011; Silverman, 2011). At each stage of the analysis, researchers test and check their emerging categories for their validity using the

aforementioned technique of theoretical sampling. In this study, the research process (involving interviews of 10 separate participants) was conducted over a period of 2 months, so time for data analysis, identification of key themes and testing and checking of them was possible as the data collection and analysis proceeded.

As the study progressed, theoretical sampling (Silverman, 2011) was employed in order to further pursue information from the emergent categories until theoretical saturation was reached (no new categories were emerging from the data). Such theoretical sampling helped sharpen and focus the research on issues of motivations behind and purposes of MOOC development, sources of motivation, perceptions of changes in the educational culture at Southampton, and perceptions of the role of stakeholders in this process of change.

Literature review activities are left until late in the data analysis phase of grounded theory studies in order to avoid 'forcing' the categories and allowing them to emerge from the data itself (Corbin and Strauss, 2008). Critics claim that "*implicit theories*" are bound to influence early stage work, and this seems a valid point. However, Pidgeon (2003; in Charmaz, 2011) recommends attempting "*theoretical agnosticism*" and notes that every researcher is likely to be influenced by a variety of theoretical frameworks in any work that they undertake. In the case of this study, the literature on MOOCs is fast developing but still fairly limited on this relatively new subject area. This is especially the case in relation to research into MOOC development and the creators on MOOCs, and review studies have shown that more research is required in this area.

4.5 Case study approach

Limitations of time and resources meant that this study focused only on stakeholders in MOOC development at the University of Southampton, rather than across HE institutions more generally. An advantage of the case study approach is that it permits an in-depth and detailed analysis, allowing important issues and concerns to be revealed inductively (Bryman and Bell, 2003; in Chapleo and Simms, 2010). Although legitimate concerns exist about the generalizability of findings from case studies, Silverman (2011) highlights the value of such an approach for providing insight into local practices, falsification and testing of hypotheses, and producing 'thick' descriptions of complex phenomena. This study aims to take advantage of these aspects of case studies in producing a detailed and intensive understanding of the

local practices of MOOC stakeholders, and how their perspectives and practices are shaped in a complex socio-technical context.

4.6 Sampling

Although early-stage literature review is discouraged in grounded theory, it was necessary to investigate literature on stakeholders in public organisations in order to identify potential participants for interviews. The classic definition of stakeholders as "*any group or individual who can affect or is affected by the achievement of the organisation's objectives*" (Freeman, 1984) is derived from work on private sector companies. However, perhaps more relevant to higher education is the idea of stakeholders as "*a constituency of an organisation*", and in particular to an innovation in educational technology as "*those that are affected by it*" (Wagner et al., 2008). These understandings of stakeholders, though rather broad, were used to help select relevant stakeholders for the study. After data collection and analysis, two articles on MOOCs (Conole, 2013; Marshall, 2013) were found to refer to stakeholder groups and these broadly confirmed the selection of relevant stakeholders for this study (though they included groups external to the university such as employers and governments). In addition, preliminary discussions were held with experts in the field of MOOCs and educational technology more generally, which produced useful suggestions (chain sampling) for the identification of relevant stakeholders. This study uses Chapleo and Simms (2010) 2 stage technique of 'identification by experts' to establish an initial list of all stakeholders, then prioritisation of stakeholders according to stated criteria (in this case, their level of involvement with MOOC development or implementation).

Table 1 shows the stakeholder groups represented in the study, the number of participants in each group, and the codes which replaced their names for the purposes of anonymisation. Individuals within each stakeholder group share a common group code ('M' for management decision-makers, for example) and an individual designation (M(i), M(ii), and M(iii) for each of the three individuals in that group).

Table 1

	Management decision makers	Content providers (subject specialists)	Learning designers	Course facilitators / trainers	Library / resource specialists
Number of participants	3	2	2	2	1
Participant code	M(i) M(ii) M(iii)	C(i) C(ii)	L(i) L(ii)	F(i) F(ii)	R(i)

Interviewees were initially contacted by email or phone to elicit their consent to participate in the study. Interviews were conducted either in person at the University of Southampton, or by VOIP (Skype), and took between 30 and 45 minutes to conduct. All interviews were transcribed by the researcher, using the simplified transcription system outlined in Silverman (2011).

4.7 Coding

Charmaz (2006:43) defines coding as "*naming segments of data with a label that simultaneously categorizes, summarizes, and accounts for each piece of data*". The process of coding and analysis begins after the first data are collected (Corbin and Strauss, 2008) and involves two main stages:

1. Initial coding
2. Focused coding

Initial codes are "*provisional, comparative, and grounded in the data*" (Charmaz, 2006:48) and the process involves breaking interview data into fragments of lines, phrases, or words, and creating labels for actions or processes in the data (using gerunds). This basic analytic work precedes linking the codes to theories at this early stage in order to 'stay close to the data'. "*Constant comparative methods*" (Glaser and Straus, 1967) can then be used to help analyse the data (for example comparing data both within and between interviews) and helps

produce an analysis with good "*fit and relevance*" (Charmaz, 2006:54). This study used NVivo (v.10) software to assist the coding process and facilitate analysis and comparison of the initial codes used.

Focused coding is more selective and involves identifying the most significant and perhaps most frequently used codes to focus the analysis further. Comparisons are made between data and data, then data and codes, and finally between codes in order to test and focus the codes. The focused codes in this study were identified from the initial coding results in NVivo, which permits relatively easy analysis and comparison of codes and the data to which they refer both within and across interviews. These codes were checked across the interviews to ensure that the most significant codes were present across the majority of the sample and accurately represented.

Theoretical coding follows, which investigates how the focused codes may be linked and perhaps "*relate to each other as hypotheses to be integrated into a theory*" (Glaser, 1978:72; in Charmaz, 2006:63).

5 Findings

The semi-structured interviews (see Appendix 1 and 2) explored participant perspectives on personal, social and institutional issues in MOOC development, and their thoughts on the influence of MOOCs on teaching and learning in HE. In accordance with grounded theory procedures, close analysis of data from early interviews yielded certain common and significant themes in participant perspectives on MOOC development, which were pursued more in subsequent interviews as part of the theoretical sampling process. The main findings centre on concepts derived from the following tentative categories:

- Leading from the top
- Changing the educational culture
- Embedding MOOCs into face-to-face courses
- Identifying massiveness as the distinctive feature

Before detailing the findings related to these categories, common general characteristics and attitudes of participants are presented.

5.1 Common characteristics and attitudes of participants

Almost all (9, n=10) participants readily self-identified themselves as "*early adopters*" of technological innovations, and seemed familiar with other categorisations of users (innovators, early majority, late majority, laggards - as used by Rogers, 2003), with the remaining participant self-identifying as part of the "*early majority*" in practical teaching work, but perhaps an early adopter in some ways. One participant (R(i) distinguished between early adoption of innovative "*approaches and practices*" (with which R(i) associated) and to "*specific hardware devices*" (with which R(i) did not).

There was a broad consensus on the distinctiveness of MOOCs lying in their massiveness as a development over other forms of online education. A recognition of the resource intensiveness of MOOC development projects was also common to the group (regardless of whether participants felt that projects they were involved in were well-resourced).

Despite having a variety of personal interests in educational technology, all but one participant (F(i), a PhD student) attributed their involvement in MOOC development as resulting from the dictates of their role at the university. No particular resistance or negativity, however, was expressed to participation in MOOC development. On the contrary, most interviewees expressed broadly very positive attitudes toward MOOCs and their potential, with only one participant [F(ii)] expressing a more cautious optimism toward their contribution to knowledge and education, focusing on online learning more generally.

5.2 Leading from the top

5.2.1 Management decision making

All participants directly attributed the motivation behind MOOC development at the university to decisions made by the Vice-Chancellor to participate in the FutureLearn consortium (a profit-making venture, with a current membership of 34 MOOC-producing universities and institutions; FutureLearn, 2014). The sentiment was encapsulated by participant [M(ii)] in stating "*I was told by my Vice Chancellor that we were going to do MOOCs, so that's how it started*". References to the influence of leadership figures also extend to Martin Bean, the initiator of the FutureLearn project (and VC of the Open University) in a number of interviews. A sense of the project being led or initiated in a 'top-down' manner was discernible in all of the interviews, including significance being attached

to "*official sanction*" [L(i)], with one participant opining that "*I'm not sure I had a choice*" [L(ii)].

This sense of hierarchy and authority was further supported in a practical sense by discussion of decision-making in relation to deadlines, and the project being "*embraced and accepted by most departments*" [F(ii)] involved. Many participants indicated approval of this situation for pragmatic reasons in that it created a kind of momentum for activity, innovation and possible change:

> *what it has enabled me to do is make things happen, because of the deadline for the MOOC, things have happened. They probably wouldn't have happened otherwise because they're things that without that kind of a deadline people would say 'oh yeah we'd love to do that', but they wouldn't actually get round to doing it.* [C(ii)]

This concept of momentum could at times be linked to the idea of 'hype', especially in media coverage of MOOCs, but also in terms of attention and interest from government and business sources. The perception that MOOCs "*have this hype and buzz around them*" [M(i)] fed into the sense of momentum, justification and need for action or change in many accounts.

5.2.2 Fear of missing out

Every participant perceived institutional motivations for involvement in MOOCs as an attempt to compete with rival institutions and avoid 'missing out' on change and development in higher education. This sense of 'keeping up' and competing was variously related to international education markets, the university's reputation for technological innovation, the impact of the university and, in a more negative sense "*being left behind*" [F(ii)] or a fear of uncertainty and the unknown. One participant summarised the VC's thinking as:

> *there's something happening here, we either join it, actually join it and leave it, get involved right at the beginning and become one of the*

> *innovators, or we find out where it goes and join the queue later in life and look rather slow off the mark* [M(ii)]

5.2.3 Marketing, branding, and mission

All but one participant made direct reference to marketing and branding concerns as institutional motivations for MOOC development, and the theme was consistently given prominence in all interviews. Ideas of visibility, discoverability, outreach, promotion, cachet, reputation, prestige, and many other similar concepts were widely cited, as were raising levels of awareness, exposure and the profile of the university. Two stakeholders (both from the management group) likened MOOCs as partially functioning as an "*advert*" [M(iii)] or "*commercial*" [M(ii)] for the university. One participant linked MOOCs to marketing even more directly by speculating that the marketing budget had paid for the MOOC development projects. Another interviewee linked the overall mission of the university (to develop and disseminate new knowledge by various means) to this underlying concern with marketing:

> *this is a really easy way for us to fulfil that mission, and for us to be very publicly fulfilling that mission and for our, for understanding of our expertise to be, you know, to get out there*.[M(i)]

It should be noted that a number of references were made to the relationship between MOOCs and the university's mission, but most took a pragmatic view which saw contributions to the public good via MOOCs as positive, but no more than a "*side effect*" [M(ii)] of MOOC development. This view was reflected in a number of interviews across stakeholder groups which consistently ranked reputation-building activities above other concerns of mission or opening up access to education:

> *The motivations are publicity and mission, uhh, democratisation. In this order, by the way.* [F(i)]

The idea that benefits of MOOCs should flow first to the university, and then to other parties was broadly present in all stakeholder accounts, though three stakeholders (from content provider, learning design, and facilitation stakeholder groups respectively) did make reference to the value of open education or democratisation of learning.

5.2.4 Recruitment

In addition to marketing, stakeholders see recruitment of students as a linked concern in terms of the university's motivations. All participants referred to this consideration, whether in terms of "*bums on seats*" [L(ii)] or "*students through the door*" [C(ii)]. More detail was added by some, who perceived an opportunity to attract different kinds of learners and to recruit in a different way than conventional techniques. A direct connection was also made to the monetary value of recruitment with references to testing the viability of MOOCs via the number of students they attract.

Some participants expressed uncertainty over the university's ability to accurately measure the impact of MOOCs on recruitment figures, but nevertheless acknowledge that some courses have been developed strategically to be "*absolutely aimed at recruitment*" [M(ii)].

5.2.5 Macro and micro levels of reputation building

Overall, the concepts gathered under the tentative category 'leading from the front' can be broadly related to reputation building activities of the university. These issues received substantial comment from stakeholders in the management group [M(i), M(ii), M(iii)]. However, some non-management stakeholders seemed to make a distinction between broader or macro 'brand' and reputation building for the university as a whole, and more micro level awareness raising activities of individual academics or courses.

All participants indicated their willingness to accept their roles in MOOC development (as dictated by the university hierarchy). Although no participants explicitly objected to the use of MOOCs for broad reputation-building activities around the Southampton 'brand', the language used by many (non-management group) participants functioned to distance themselves personally from a commitment to this use of MOOCs. Often, participants clearly attributed agency to senior university figures or those in the marketing department, and implied a lack of choice on their own part. However, when discussing the importance of MOOCs for individual academics, courses or departments, non-management stakeholders seemed more comfortable with the idea of MOOCs as awareness raising or reputation building devices. Participants mentioned the potential to "*take advantage of the already existing outreach programme at the university for marketing particular courses*" [R(i)], or to highlight particular courses of which departments are "*proud*".

This seems to be in line with the general sense of prioritisation of university interests, but from different stakeholder perspectives on those interests.

5.3 Changing the educational culture

All stakeholder groups acknowledged the potential for MOOC development and proliferation to change the educational culture at the university, but this was perceived in a variety of ways by stakeholders, and there was variation in the degree to which this was seen as an aim or subsidiary benefit of MOOC development.

5.3.1 MOOCs as training for educational change

5.3.1.1 Preparing for a digital future

Many participants believed that engagement with MOOCs in general could help the university and many of its stakeholders to "*evolve, to adapt … to a more digital world*", in relation to which the "*whole education sector basically, needs shaking up*" [C(ii)]. MOOCs, it was claimed, provide new ways to engage with the public and deliver courses outside of face-to-face contexts [M(i)]. This also includes raising awareness within the university of available learning technologies or techniques such as blended learning or flipped classrooms, or even simply reinvigorating academics' interest in their own subjects. One participant claimed that the MOOC project has brought awareness of these new educational technologies or techniques into the mainstream :

> *now when you hear when you hear the VC talk about that stuff [blended learning, flipping etc], he's in the, when he talks about MOOCs, or when he has talked about MOOCs, those things are in in a way that I don't think they were initially*. [C(i)]

5.3.1.2 Developing a practice culture

Almost every participant made reference to MOOC development as a way to create an environment in which many stakeholders – students, academics, learning designers, management – can engage and experiment with online tools, learning materials, courses, or methods. According to [M(i)], "*The MOOC has been the simplest step, if you like, for the University to get tooled up in this area*". MOOC development, it is claimed, helps spread awareness of the affordances of online tools for teaching and learning, and perhaps

encourages their use. The learning design and facilitator stakeholders emphasised the value of building up experience and practice in actually constructing and engaging with online education. They also valued the chance to demonstrate models of good online learning and provide support for academics and others to develop their own online materials.

Even outside of the broader aims of the university in relation to MOOCs, this aspect of the experience is seen as very important:

> *even if the main outcome of MOOCs is that more people, more educators start dabbling with creating online courses, even if that is the only result that comes out of MOOCs, that will have been a gain that wouldn't have happened without MOOCs.* [F(ii)]

5.3.1.3 Responding to demand for online learning

Many participants made reference (directly or indirectly) to the changing context of education in terms of the needs and demands of learners. A growing demand for more flexible and perhaps modular courses was frequently mentioned (especially by management stakeholders), as a result of increased interest in lifelong education where individuals cannot (for various reasons) choose longer-term, residential educational options.

Participants perceive an appropriate response to these changes in demand to be providing more online learning opportunities, and MOOCs are cited as a "*stepping stone for the institution to move into a new phase of online learning*" [M(iii)]. In this sense, MOOC development is seen as a way to develop and test educational technologies and teaching methods, and to respond to the changing expectations of both face-to-face and online students.

This demand for online learning is related by participants across stakeholder groups to an increased sense of activity in the digital economy, and they feel that MOOCs are a way to enable the university's "*transition into a much more online economy*" [M(i)]. MOOCs are also seen as an online "*shop window*" [C(i)] for the work of particular departments or academics.

5.3.2 Exploiting MOOCs for research purposes

Eight participants referred to the potential for MOOCs to generate either useful feedback from learners, or data for subsequent research studies. All stakeholder groups contained appreciative remarks regarding the learner feedback generated from MOOCs, whether it was broadly positive or more "*robust*" criticism [L(ii)]. Learner comments and feedback were perceived to be very useful for academics, course designers and other stakeholders in terms of gaining an understanding of student expectations and preferences, but also for providing insight into how learners perceived certain subjects:

> *people have kind of accidentally asked questions that are giving us loads of information about how people perceive archaeology, without us expecting it, so there's research benefits there*. [C(i)]

> *it helps you to understand what's going on in the students' heads.* [L(ii)]

Those involved in running the live MOOCs were able to respond in "*real time*" to learner requests or problems with course materials, and also to "*add value*" [C(ii)] to courses with supplementary explanations or materials. As a result, "*people felt that their ideas had been taken into account and they actually been addressed all within the space of a couple of days*".

Content provider and learning designer stakeholder groups provided most comment on the potential for exploiting research data from MOOCs. Kinds of research data mentioned ranged from learner analytics (and the development of a 'tutor dashboard' for monitoring activity), learning activities specifically designed to yield useful data in a particular field, or MOOCs as the focus of undergraduate or postgraduate research. A particular affordance of MOOCs was the potential to generate a large amount of research data ("*way in excess of what you'd get through any other means*" [C(ii)]) in comparison to other data collection methods. Learners on MOOCs are also perceived to be more heterogeneous than those on face-to-face courses (because of the reduced financial, social, geographic and temporal restrictions on participation). On one course, for example, the research was "*tapping into a much wider pool … [in which] people answering the questions had some really surprising expertise, which they would never have been able to tap into otherwise*" [C(ii)]. Academics and learning designers especially perceive potential benefits in terms of generating publications based on

data derived from MOOCs [C(i), C(ii), L(i), L(ii)]. This was highlighted by one content provider as the "*key to making them more socially acceptable*" [C(ii)] among academics.

5.3.3 Building online networks and communities via MOOCs

The majority of stakeholders perceived MOOCs as offering new ways to engage learners, develop learner autonomy, and build online communities. Access to large, heterogeneous groups of learners, many of whom are often highly educated was cited as an advantage of participation in MOOC development for Southampton staff, students and non-Southampton learners on MOOCs. The potential to cross reference between MOOCs, and to question traditional methods of teaching and learning (and the content of courses) was also highlighted.

Seven of the ten participants touched on the concept of developing learner autonomy, especially within a world where information resources are relatively abundant. They stressed the need for flexibility in the provision of learning opportunities, in particular in response to the ways learners use online resources (many participants admit to starting but not finishing MOOC courses themselves, and note that this is not necessarily a negative outcome). The "*endgame*" of education in this respect, according to one comment, was to develop "*self-starter*" learners [M(ii)], who are able to seek out and evaluate knowledge independently, by forming new connections, communities and networks online. One participant suggested, however, that learners (including Southampton face-to-face students) need to first explore ideas of information and digital literacy in order to develop "*resources about how to be a successful learner within a MOOC*" or online more generally. [R(i)]

In addition to fostering learner autonomy, the potential for network or community building was also emphasised by 8 of the 10 participants. Participants felt that by creating a collective or "*cohort*" [M(i)] experience, and providing quality content supported by discussion and interaction, a "*real community*" [C(i)] could develop online. Indeed, participant C(i) hopes to recreate this sense of community within lecturers and students in his own department by incorporating MOOCs into the structure of face-to-face courses. This interaction of face-to-face and online students allows access to and interaction within a heterogeneous body of learners, many of whom are enthusiasts in the subject, who can benefit from peer learning and also provide an audience for the work of lecturers at the university. However, some concerns were expressed about the ability to foster full involvement and interaction between

such large numbers of learners, and also about the challenges some learners may face in adapting to extensive use of social media, if required [M(ii), L(i)].

5.3.4 Impacting teaching and learning in HE

Extensive comment was made on the way that MOOC development and implementation could impact teaching and learning at the university itself. Participant L(i) noted that "*the university is also very interested in the fact that the skills that we develop with these things [MOOCs] are transferable to other education here*" and this idea was discernible in the interviews of all other stakeholders (recall the idea of MOOCs as a "*stepping stone*" [M(i)] toward new kinds of online learning). It may be for these reasons that some "*believe that the educational intervention that happens in the department that does a MOOC is very powerful*" [M(ii)]. Similarly to the concept of 'practising' for a digital future, the theme of 'experience' of online learning was held to be important. Engagement with MOOCs was perceived to raise awareness of the affordances of online tools for education (not just in MOOCs), and this experience was thought to be "*spilling over*" [L(i)] between MOOC development projects and subsequently spreading into the disciplinary areas involved in content provision. The technical and social support provided for MOOC development was thought to help academics engage with online education methods and tools, sometimes through "*knock back*" [F(ii)] effects on knowledge of blended learning and flipped classrooms.

Participants frequently mentioned exposure to MOOCs as a catalyst which helped academics consider blended learning and flipped classrooms as more useful and "credible" [C(ii)] options than previously. A number of participants reported a change in attitudes to online educational technologies occurring over the past 12 months [M(ii), C(i), D(i)]. What's more, exposure to MOOCs was often cited as a spur to reflection on the most appropriate teaching and learning methods to use:

> *there's a bit more questioning about traditional ways of teaching and learning, traditional lectures, seminars, linked to students and what we're actually teaching them*[F(ii)]

> *it makes them realise that actually some stuff can be done really rather better than standing in front of a class of 100 people, waving* [M(ii)]

> *just developing a MOOC has made them [academics] much more interested in the things that they teach* [M(ii)]

In addition to generating awareness of educational technology more generally (sometimes as an "*unintended consequence*" of MOOC development), MOOCs "*act as exemplars more widely across the university*" and encourage actual use of new techniques amongst academic staff who were previously more sceptical:

> *whereas you know a year ago that would have been 'oh, we couldn't possibly do that', now people are saying 'oh, okay, let's give it a go'* [C(ii)].

This perceived increase in willingness to engage with online tools is perhaps influenced by the potential for reuse or repurposing of much digital material created for MOOCs or already held by disciplinary departments. Reuse and recycling of materials was also linked to increasing quality levels in MOOC teaching materials. Participants noted that a significant risk factor in involvement with MOOCs was to the reputation of the university if MOOC provision was flawed or of poor quality. This engendered increased pressure for quality control and scrutiny of materials which are likely to be seen by large numbers of learners. For this reason, it is claimed that in Southampton MOOCs "*there's a huge amount of thought that is put into it, and I think that vastly exceeds anything we do face-to-face*" [C(ii)], and this can "*result in, in better quality, in education of better quality*" [M(i)].

5.4 Embedding MOOCs into face-to-face courses

All participants mentioned embedding MOOCs into existing face-to-face courses at Southampton as an important way that MOOCs can influence teaching and learning. Participants identified a number of potential benefits of embedding MOOCs, including promoting "*flagship programmes*" (such as Web Science or Oceanography), enriching existing courses, providing fee-paying students with more value, and consolidating the sustainability of MOOCs.

Strategic choices were highlighted more by the management stakeholders, but most participants perceived value in using existing or newly developed MOOC resources to enhance course materials on fee paying courses.

Embedding was also seen to give Southampton students the chance to engage with online learning tools and techniques, whilst also accessing a pool of knowledge and experience amongst the wider MOOC learning community and developing knowledge networks independently of teaching staff. This reflects an aim among learning technologists at the university to "*support increased advantages of technology in education for students on campus and registered in our usual programmes*" [R(i)]. Other participants also saw value in interaction between Southampton and external MOOC learners, and the importance of experimenting with and learning from the interaction of online and face-to-face forms of education [M(i), M(ii), C(i), C(ii), F(i), F(ii), R(i)].

In terms of sustainability, embedding MOOCs in existing courses is seen as a way to "*kill two birds with one stone*" [F(ii)] by delivering value to Southampton students whilst continuing to run reputation-building MOOCs for the public. The cost of MOOC development was acknowledged to be high by all participants (though disagreement still existed on the adequacy of resources and support in place), but the reuse and repurposing of online materials was seen as a way to justify and reduce these costs. Embedding courses was perhaps the most often cited method from which to achieve "*added bang for your buck*" [C(ii)], and was seen to have numerous benefits as noted above. The fact that Southampton MOOCs were designed to be (and were being) repeatedly reused (whether as part of embedded courses or not) was also widely acknowledged by participants, who recognised that "*they have got to be sustainable*" [M(ii)]:

> *we always made sure that whatever we did with these rather expensive MOOCs could then be reused on our existing programmes*" [C(ii)]

Further strategic thinking was evidenced in plans to embed MOOCs or materials derived from them "*at Highfield or in one of our satellite campuses*" [M(iii)].

5.5 Identifying massiveness as distinctive feature of MOOCs

Most stakeholders (seven of ten) saw massiveness as the distinctive feature of MOOCs compared to other online educational technologies - "*they're big news because of the numbers*" [C(i)]. This distinctiveness was most often defined in terms of media attention, but also as a technological innovation in terms of attempts to effectively deal with large numbers of learners on an online course:

> *I don't think that MOOCs are terribly innovative pedagogically, I think the innovation is around that online and massiveness*[R(i)]

It should be noted, however, that two participants believed that the 'massive' element of these online courses is rapidly becoming less significant or even present in many MOOCs which, they believe, are becoming more specialised, and generally experiencing lower enrolment figures [F(ii), R(i)].

6 Discussion

Analysis of the findings reveal a number of important issues which underlie the perspectives of the stakeholders. These centre on attitudes to the reputations building function of MOOCs, use of MOOCs to foster change in educational practices, and attitudes to the interaction of online and offline pedagogies.

6.1 Degrees of comfort with MOOCs as reputation building

Overall, the stakeholders share an understanding of the use of MOOCs as a primarily strategic and reputation-building tool at institutional level, despite the open education-oriented origins of MOOCs. This function of MOOCs is widely recognised in the literature (see section 3.3: Davis et al., 2014; Daniel, 2012; Yuan and Powell, 2013), but this study demonstrates that different stakeholder groups seem to associate with particular levels of reputation building activity. Management stakeholders are more comfortable with this institutional-level reputation building, whereas most others project a sense of 'distance' from using MOOCs in this way. However, analysis of non-management stakeholders reveals no objections to reputation building through MOOCs on personal, course, or departmental levels. A more nuanced view of the reputation-building function of MOOCs might be required as individuals seem to have different levels of acceptance to it depending on their role and perspective, or the specificity of the marketing effort.

Nevertheless, it seems that all MOOC stakeholders are comfortable with the use of MOOCs in some way to further the interests of the university (in addition to broader concerns with the general mission of creating and disseminating knowledge), rather than as purely a tool for open education. This reflects Scanlon and Issroff's observation that academic staff are required to view students as both "*person to be educated*" and "*source of profit*" (2005), and

the challenges posed by uses of Web technologies which increasingly rely on the free provision of content (Bali, 2014). As such, attitudes to the aims behind MOOC development revealed in this study may reflect Siemens' observation of "*the angst of educators and administrators in attempting to understand the role of the university in the Internet era*" (2013:5). The study helps show that as socio-technical artefacts, MOOCs are unlikely to align neatly with any particular aim or purpose in education. Rather they shape and are shaped by the technologies, institutions, individuals and groups with which they interact (see section 3.7: Halford et al., 2014).This shaping process is reflected in Daniel's (2014) comment that "*MOOCs have stimulated greater reflection about the purposes and pedagogy … of higher education than any other phenomenon in recent times"* (see section 3.7).

6.2 Using momentum and authority to create internal educational culture change

Much of the literature (and wider media coverage) has discussed MOOCs in terms of one of three considerations which are broadly focused on factors external to institutions:

- Tools for reputation-building (Daniel, 2012, Yuan and Powell, 2013)
- Threats to the macro-structure of HE (Conole, 2013, Marshall, 2013)
- Forces for openness and democratisation (Liyanagunawardena, 2013b; Rodriguez, 2013)

However, more recent research focuses on the potential for MOOCs to influence face-to-face and online learning provision within universities (see section 3.6: Fisher, 2014; Waldrop, 2014; Yuan et al. 2014). The findings of this study seem to reflect predictions in this area, in that stakeholders making decisions about, and contributing to the construction of MOOCs have a clear concern with influencing the internal educational culture of the university. What's more, the interviews reveal a sense of momentum behind MOOC development which stakeholders are attempting to channel toward these aims of influencing teaching and learning at Southampton in order to create more engagement with the affordances of digital technologies. These attempts to harness the affordances of MOOCs to strengthen and develop the educational offer at Southampton can also be interpreted as an indication that stakeholders see MOOCs as a sustaining rather than disruptive technology in HE (see section 3.5: Kolowich, 2013; Yuan and Powell, 2013). Attempts to embed MOOCs into existing university courses might be taken as further evidence of this view.

HE is traditionally resistant to educational innovation and change (Salmon, 2005), and particular obstacles often limit such innovations (Geoghegan, 1994; Laurillard, 2004). The interviews show that a range of stakeholders are involved in MOOC development (Bryson, 2004), and that human as well as technical support is being provided (Geoghegan, 1994; Salmon, 2005). Further, the barriers to innovation and change in e-learning cited by Laurillard (lack of leadership, true innovation, and professional expertise), are not highlighted in interview responses. Indeed, all participants specifically noted leadership as a driving force in MOOC development, and the authority and resources supporting the project permit the involvement of subject, learning design, technical and facilitation experts. Most participants also recognise MOOCs as innovations (especially in their massiveness and potential for connectivity, if not for pedagogy).

It seems, therefore, that stakeholders perceive changing the educational culture at Southampton to be more than simply a 'happy consequence' of MOOC development (Davis et al., 2014), but rather hold a deliberate aim to achieve such change partly via the MOOC project. The lack of policy on MOOC development aims also enables MOOC developers to shape the artefacts and approaches they produce, taking advantage of the "*ready, fire, aim*" approach to development, as well as responding to the shaping effect other prominent universities have already had on the context of development (Marshall, 2013). All stakeholders referred to this reactive aspect of MOOC development, citing it as an important influence on institutional decision making on involvement in MOOCs.

Determining whether the project teams constitute the "*winning coalition*" (Bryson, 2004) of stakeholders required to achieve successful change more broadly in the organisation (see section 4.5) is beyond the scope of this study. It is notable that most identify themselves as 'early adopters' of technology, so whether the necessary social structures exist to allow MOOCs to "*cross the chasm*" (Geoghegan, 1994) into mainstream use at the university remains to be seen. However, this study develops our understanding of the complex interactions between institutional aims and mission, and individuals, groups and learning technologies identified by Salmon (2005).

6.3 Interaction of online and offline pedagogies

Analysis of stakeholder perceptions can also reveal the particular ways in which participants feel that MOOCs can influence or change the educational culture at Southampton. In terms of

pedagogy in MOOCs, Bayn and Ross (2014:57) contend that "*negotiated and emergent*" forms can arise independently of the platform used. These forms of pedagogy are strongly influenced by contextual factors, in particular the disciplinary area of those creating MOOCs (see section 3.6). The interviews revealed distinctive content and styles of delivery between MOOCs produced at Southampton – the archaeology MOOC, for example, placing emphasis on the reuse and repurposing of digital resources with maximum access to these for the learners, sometimes using online tools external to the platform. The teacher presence was also significant in this MOOC, something which is acknowledged as important in recent studies (Bayn and Ross, 2014; Ross et al., 2014) and may have contributed to high completion and retention rates on this course.

The stakeholders recognised that strategic choices were made in selecting MOOC subjects for development as 'flagship' courses. This echoes Salmon's (2005) recommendation for a 'resource based' approach to implementing e-learning innovation which exploits institutional strengths whilst accounting for mission priorities (see section 3.4). However, stakeholders perceived extensive possible 'spill-over' benefits to other forms of courses (whether online, blended or face-to-face) which reflect ideas in exploratory research in this area (Fisher, 2014; Waldrop, 2014; Yuan et al. 2014). Participants were aware of the opportunity to develop a 'practice culture', producing skills potentially transferable to other areas of university teaching. Indeed, the project was seen by some as 'stepping stone' or method of getting 'tooled up' for a more digital future in HE. Once again, this highlights the conception among stakeholders of MOOCs as a means to spark reflection, development, quality improvements and innovation in teaching practices and attitudes to learners. They also serve to foster action whereby resistance to change is overcome.

6.4 Embedding MOOCs to exploit Web affordances

An advantage of the stakeholder approach to analysis is that it helps to reveal the range of contextual factors that are likely to influence those involved in and affected by MOOC development. Content providers (lecturers) are well placed to understand the affordances and challenges related to MOOC use and development which might motivate or discourage other lecturers and students. Learning designers occupy a position between lecturers, management staff, and technical experts and have to attempt to balance the needs, expectations and preferences of each. As such it is possible to identify the particular elements which

stakeholders consider significant in influencing how "*socially acceptable*" [C(ii)] MOOCs become in the institution.

It seems stakeholder perceptions particularly converged around embedding MOOCs in existing Southampton (face-to-face) courses as a way to most effectively exploit MOOC affordances in the interests of university stakeholders. Amongst other benefits, the following were highlighted:

- Efficient reuse of resources
- Access to network benefits
- Valuable learning opportunities for registered students
- Opportunities for reuse on satellite campuses
- Rich sources of research and learner feedback
- Innovation in teaching (flipping, blending)
- Exemplars of quality online teaching and learning

Most notably, perhaps, embedding MOOCs may serve as a way to help academics and other stakeholders understand MOOCs as a "*middle ground between the highly organised and structured classroom and the chaotic open Web of fragmented information*" (Siemens, 2013). The values which stakeholders identify above may help other stakeholders appreciate how MOOCs can be "*reflective of the participatory nature of the Web*" (Siemens, 2013), whilst also implanting Web technologies within established teaching frameworks (see section 3.6).

Particular examples of benefits cited in the study include collection of learner feedback on student perceptions of academic subjects (giving insights for future teaching methods), and the ability for lecturers to include research tools as activities in MOOCs, thus producing extensive and valuable data. The ability for registered Southampton students to interact with diverse groups of learners from outside the university was also prioritised. Although these benefits further the interests of university stakeholders in general, they do so as part of a trade-off for the 'free' provision of MOOCs to the wider public, and to some extent represent engagement with more modern Web 2.0 business models (Bali, 2014; Davis et al., 2014). Speculation in the literature has touched upon 'freemium' business models for MOOCs and concern about creating a two-tier system of education (where higher quality learning is only available to those who pay - see Daniel, 2012 for example). Further research might investigate the degree to which embedding MOOCs into existing university courses

represents such a freemium approach to educational offers, and the implications of this approach.

7 Conclusion

This paper contributes a systematic study, based on an established research method, which explores motivations and dynamics in the MOOC development process (building on previous research which has relied more on personal analysis of developments in the field). In the literature, MOOCs are often seen as primarily a way to reach outward either in opening access to new learners or in enhancing the reputation of an institution. All stakeholders in the study displayed a positive attitude toward MOOC development and sought to use the momentum, authority and hype which characterises the MOOC movement, and the affordances of Web technologies to advance the interests of the institution in some way.

However, this study shows that MOOCs are also broadly perceived by stakeholders as a dynamic for internal institutional change and development (rather than solely for some kind of external impact) - a sustaining, rather than disruptive technology in Yuan and Powell's (2013) terms. This use of MOOCs is starting to receive more attention (see Yuan et al., 2014, for example), most of it broadly positive. In the case of Southampton, it seems stakeholders are attempting to use MOOCs as a device to realign teaching and learning methods with wider processes and concerns in a Web-connected world – in terms of both the digital economy and digital education.

Embedding MOOCs in existing (fee-paying) courses was seen by all participants as a way to change the educational culture at Southampton. In addition to enjoying the backing of university management, this approach seems sensitive to the various 'human factors' highlighted as significant for the uptake of educational technologies by Geoghegan (1994), Laurillard (2004) and Salmon (2005). Furthermore, this approach may provide a means by which to exploit the affordances of Web technologies available in MOOCs which benefit staff and students at Southampton, and the external learners who give these courses their distinctive 'massive' quality.

The technique of stakeholder analysis itself seems to have the advantage of producing a broad and nuanced picture of the various contexts within which stakeholders work, and the possible

motivations and attitudes of both stakeholders themselves and their wider professional communities in relation to MOOCs. This is shown in the analysis of stakeholder interviews which highlights a broad range of ways in which MOOCs might impact the educational culture at Southampton in particular. In terms of evaluating the potential impact MOOCs may have on the institution, the learners it serves, and the wider public, it seems appropriate to take stakeholder views carefully into account.

7.1 Further Work

As with any qualitative study of particular institutions or groups, it is difficult to generalise the findings more widely to other contexts. This might particularly be the case here, where social factors and disciplinary influences are deemed to play an important role in shaping MOOC development. Further studies could also benefit from a wider sample of stakeholder groups, especially ones which include representatives of FutureLearn, the university marketing department, and students. In this case the limitations of time and resources prevented a wider sample being taken. As noted in the discussion, the fact that all stakeholders identified themselves as early adopters of technology is likely to influence their perceptions and attitudes (Geoghegan, 1994). More extensive future studies might extend to other institutions, investigate the perceptions of stakeholders who do not identify themselves as early adopters, and possibly explore impacts on or changes to their attitudes to MOOCs over time.

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9 Appendices

9.1 Appendix 1: Interview transcripts and recordings

Because of limitations on the length of this paper (60 pages), it is not possible to include all interview transcripts here.

In accordance with the ethical regulations associated with the university, the transcripts of interviews and audio recordings have been anonymised and are securely stored in a password protected computer.

Should any reader wish to access the anonymised transcripts or recordings, they should contact the researcher at stw1g13@soton.ac.uk

9.2 Appendix 2: Interview guide

Interview guide: Exploring stakeholders perspectives on the development of MOOCs in HE

Personal views on MOOCs: What are your personal views on MOOCs as a development in educational technology?

- Why do you think MOOCs are currently such big news?
- Have you ever participated in a MOOC as student?
- Why did you decide to get involved in MOOC development?
- What's your personal attitude to educational technologies?
- Do you think that participation in MOOC development worthwhile / would you recommend it to others?

Social context: How far does social context influence MOOC development?

- What prompted you or influenced you to get involved in MOOC development?
- To what extent do you think your involvement in MOOC development influence others?
- What levels of awareness are there of MOOCs in your academic / professional culture or network (? You direct colleagues, your wider academic community)?
- What attitudes to MOOCs exist/predominate in your academic / professional culture or network?
- What attitudes to educational technology exist/predominate in your academic / professional culture or network?
- Would you consider yourself to be an innovator or early adopter in terms of MOOCs? (or part of the majority, or a laggard, in terms of Rogers' 'Diffusion of Adoptions' categories, 1983)

Institutional context: Why do you think Soton and other HE institutions have committed to MOOC development at this time?

- how would you typify [the] institutional motivations [at Southampton/your institution] to become involved in the development of MOOCs
- Why do you think Soton has committed to MOOC development now?
- How do you feel MOOCs can benefit higher education institutions?
- Do you think the resources to support MOOC development are adequate? (technical, social, pedagogical, economic)
- To what extent do you feel participation in MOOC development is risky? (especially to institutions)
- Do you think MOOC development in HE is sustainable?

Disruptive technology

- How disruptive do you think MOOCs will be in HE?
- Do you think MOOCs are part of a revolutionary or evolutionary change?

Motivations: What do you think is the most compelling reason to develop MOOCs?

- What do you think is the most compelling reason to develop MOOCs?

- To what extent do you think the costs associated with MOOC development justify the outcomes?
- Do you think there are any subsidiary / unexpected benefits or drawbacks of MOOC development?
- Do you think the value provided by MOOCs worth the effort?
- What do you think is the most important feature of a successful MOOC?
- What do you think makes some MOOCs successful and others less so?

Teaching and learning: How influential do you think MOOCs will be in teaching and learning in HE?

- What do you see as the difference between MOOCs and other forms of online learning?
- How do you feel about the quality of pedagogy used in MOOCs? (appropriate, valid, new, uniform?)
- How do you feel MOOCs can benefit teaching and learning in HE?
- What do you think are the benefits or drawbacks of MOOCs over other online learning methods?
- Do you think MOOCs can help bring about improvements in other educational contexts (face-to-face, blended)?
- Do you use/refer to MOOCs in your face-to-face or online teaching?

9.3 Appendix 3: Consent and participant information

Participant Information

Ethics reference number: **ERGO**/FPSE/**11388**	Version: 1.0	Date: 2014-07-08
Study Title: Exploring stakeholder perspectives on the development of MOOCs in Higher Education: a case study of the University of Southampton		
Investigator: Steven White		

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form. Your participation is completely voluntary.

What is the research about? This is a student project which aims to inform understandings of stakeholder attitudes, understandings and motivations in participating in the MOOC development process. The study will involve semi-structured interviews, in which participants will discuss their views on the topic in a friendly environment.

At the end of the study, you will receive an email attachment containing the study findings and see how your data was used.

Why have I been chosen? You have been approached because you have been identified as a relevant stakeholder in the MOOC development process in Higher Education. You are part of a chain sample.

What will happen to me if I take part? You will participate in an interview with the investigator, which will take about 45 minutes in total. The questions will relate to your attitudes to and understandings of MOOC development in higher education.

Are there any benefits in my taking part? It is expected that the study will add to current knowledge about MOOCs which could (for example) contribute to university policy formulation on the subject.

Are there any risks involved? There are no particular risks associated with your participation.

Will my data be confidential? Your data will be held on a password protected computer, and used only in accordance with the Data Protection Act (1998). In addition, the data will be anonymised by separating identifying data. Your data will be linked to your consent form by an anonymised code. Your data will solely be processed/analysed/edited by the researcher and/or their supervisor(s). Audio recordings will be edited/processed/analysed in the researchers' own personal PC (password protected). Processed/edited/analysed audio recording and their transcriptions will be encrypted and stored in the researcher's personal PC. Decryption will take place in the researcher's PC. Upon degree completion, data will be encrypted before being destroyed using one of the well-known file deletion information security standards.

If you would like to access your data after your participation, change it, or withdraw it, please contact the investigator (e-mail: stw1g13@soton.ac.uk) or the project supervisor (e-mail: saw@ecs.soton.ac.uk) who will arrange this.

What happens if I change my mind? You may withdraw at any time and for any reason. You may access, change, or withdraw your data at any time and for any reason prior to its destruction. You may keep any benefits you receive.

What happens if something goes wrong? Should you have any concern or complaint, contact me if possible (investigator e-mail: stw1g13@soton.ac.uk), otherwise please contact the FPSE Office (e-mail: fpse-student@soton.ac.uk) or any other authoritative body such as Dr Martina Prude, Head of Research Governance (02380 595058, mad4@soton.ac.uk).