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Chapter
Perspective Chapter: Approaches to Quality Assurance and Technological Innovation in Higher Education Institutions

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Abstract

Literature from the wider field of management research is ambiguous with respect to the relationship between quality management and innovation, with some arguing that quality management supports innovation while others claim it is a hindrance. This chapter focuses on the relationship between QA and innovation in higher education, specifically the development of massive-open-online-courses (MOOCs). Analysis of interviews and documents shows that QA does not support innovation; universities focus on the quality of conventional in-person courses, but less on new innovation like MOOCs. The particular characteristics of MOOCs (e.g., diverse learners and light content) make the application of existing QA procedures difficult. Also, analysis shows that the most relevant quality approach for MOOCs is a combination of the conventional approach to QA in higher education and a new QA approach that takes into consideration the characteristics and features of MOOCs. The findings of the study provide suitable empirical evidence to support a cogent argument about the capabilities and qualifications of MOOCs in higher education with regard to QA, further defining the role of MOOCs in higher education.

Keywords: quality assurance, innovation, MOOCs, higher education, United Kingdom

1. Introduction

The aim of the chapter is to contribute to the emerging debate on the relationship and interplay between innovation and quality management. It explores how innovation and quality assurance (QA) interact in organizations, using massive open online courses (MOOCs) as a context to understand this phenomenon. Literature indicates that QA is considered a crucial part of any higher education system. QA improves the programs of higher education [1], and contributes to identifying problems and finding solutions [2]. QA is necessary to prove that the standards are sufficient and harmonize with global market needs [3], and it is the condition that indicates how effective learning can take place [4]. However, there are significant arguments about the relationship between quality management (including QA) and innovation. Some studies indicate that quality
management supports innovation [5–8]. Others have questioned this relationship, suggesting QA might hinder innovation [9–12]. In this regard, few studies have been conducted on the QA of technological innovation, and studies stress that QA is one of the greatest challenges to MOOC programs [13]. Studies also indicate that there is no clear view of the requirements and processes of QA and no standards for the quality of MOOCs [14], or the way of assessing the quality of these courses [15]. MOOCs, therefore, lack QA of the type commonly used in higher education, even though academic literature continually highlights the importance of QA.

The early attention to MOOCs emerged from the idea that these courses can be a relevant solution to the challenge of the global massive demand for education [16]. MOOCs also arose as a result of perceived shortcomings in the quality of distance education and developed through an increase in expertise in using distance learning and open education [17]. However, one of the main differences between the new online innovation (MOOCs) and traditional online courses more generally is that MOOCs are available to any learner, and they are under open access agreements, whereas most online courses are not available to learners who are not enrolled at a particular institution [18].

Despite criticisms of the quality of MOOCs, universities have developed and offered these courses. For example, the University of Edinburgh considers MOOCs to be one of its “strategic priorities” to support teaching and learning [19]. In fact, the Heads of eLearning Forum (HeLF) has created a steering group of MOOCs activities in the UK, and there are many universities listed as members of the steering group, as well as more than 140 “nominated Heads” from these institutions who participate in the activities of eLearning and aspire to enhance technologies of learning [20]. However, in reviewing the findings of the steering group, it appears that MOOCs confront both technical and educational challenges. For instance, MOOCs have a limited impact pedagogically due to characteristics, such as the use of short videos, self-evaluation, and absence of “conversational framework,” as well as the use of formative assessments [21].

Although the QAA welcomes MOOCs as an advocate for quality in education, it expresses some concerns about the current limitations of these technologies. The auditing process of the QAA does not cover MOOCs, and MOOCs generally do not offer credit. Thus, it can be said that the QAA only reminds students that they must be aware of the importance of accreditation in their certifications [22].

Studies argue that the challenges of MOOCs must be addressed through the development of several approaches to ensure the continuance of MOOCs in higher education. The wide range of eLearning undoubtedly gives the potential for reliability that can reduce the risk of low-quality standards. MOOCs, however, still need to find solutions to other eLearning matters, such as developing assessment, curriculum, learning, and teaching [23, 24].

Woodgate [25], for example, suggests two approaches that help to ensure the quality of MOOCs. The first is “academic course development,” which encourages the use of quality templates according to a subject and a team view, including the experiment of platforms. The second is “community and transparency,” which focuses on four points: talking to peers and asking for feedback; development of teams—not individuals; encouragement to think about resources beyond MOOC space; and sharing the practice, such as where useful resources are to be found.

Therefore, the primary focus of this chapter is the relationship between technological innovation and QA. Specifically, it aims to determine how QA can be adopted to help develop technological innovation in higher education. Although the literature review indicates that quality management, generally, cannot be separate from
innovation, certain studies have questioned this relationship, suggesting that QA may impede, and the relationship seems to be more complex with regard to technological innovation that is applied in higher education ([11]; [10]).

2. Technological innovation “MOOCs” in higher education

The beginning of MOOCs in higher education led researchers to consider the year 2012 as a “hype year.” The Gartner Group also describes MOOCs as a “Hype Cycle,” because these new technologies are considered a “technology trigger” on the “slope of enlightenment” [26]. Gore [27] writes that 2012 was in fact “a year of rapid change for education” as a direct result of the “breakthrough” of MOOCs into higher education. Horn and Christensen [28] explore why universities widely adopt MOOCs. The authors believe that despite disruptive innovations initially not looking attractive or prestigious to companies, the leaders of universities realize the importance of “disruption theory,” and how to identify the best opportunities. That is, they accept that innovation may involve disruption (as a by-product) and they embrace it anyway. However, subsequent studies try to understand MOOCs more accurately. For example, Langen and Bosch [29] contest the view that MOOCs are “disruptive innovations” in higher education, although they might “disturb the present state.” MOOCs, therefore, might be disturbing inventions rather than disruptive innovations. Furthermore, studies prove that MOOCs are not disruptive innovations but rather sustaining innovations that can improve the current higher education market. Flavin [30] indicates that MOOCs do not offer new practical forms of learning and teaching and, therefore, they can be a sustaining innovation in “technology-enhanced learning” that enhances existing online provision (p. 640). Al-Imarah and Shields [31] stress that the current developments of MOOCs are different from the characteristics of disruptive innovation. The disruptive innovation assumptions do not support MOOCs in relation to both performance and benefits, and there is only limited support in relation to the market. However, the literature on MOOCs mainly confirms that the new innovation can enhance campus-based educational programs [19, 23, 30, 31]. It is no surprise that MOOCs will substantially change the conventional ways of delivering higher education.

3. Quality management in higher education

The term quality is of central importance in contemporary global higher education, and the conception of quality sets benchmarks and criteria for teaching, learning, assessment, and research. Quality in the new millennium reflects “the management philosophy” as a result of the increased pressure associated with competition [32]. Quality management in higher education is an “integral part of academic life and will not go away” ([10], p. 556).

Academic literature on higher education identifies different quality management approaches for supporting learning programs in higher education. Studies agree that the main quality management approaches used in higher education are total quality management (TQM) and QA [10]. Although these two approaches use different methods and tools, they both clearly seek to achieve similar aims, such as continuous improvement and supporting students and other stakeholders. However, the focus on QA has increased since 2000 in the academic literature on higher education, while studies in the prior two decades focused on TQM. The work of Hoecht [10] highlights
several characteristics of TQM, which show it does not match the needs of higher education. These characteristics provide some evidence that higher education should adopt a QA approach rather than TQM. Moreover, Jauch and Orwig [33], examine three factors to prove that TQM is inconsistent with the higher education processes. These three factors are continuous improvement, customer focus, and integrated management system, which are explained as follows:

- The continuous improvement element of TQM reduces variability in the transformation process of the product. However, reducing variability in the learning model can be “counterproductive,” because students can learn effectively in different ways, and teachers can vary their styles according to the needs of different students.

- The customer aspect of TQM does not match the nature of higher education, because it is difficult to determine who the customers are.

- The principles of TQM consider management as an ideal system with regard to main resources, such as human resources. The principles of TQM also assume that employees willingly share the quality philosophy. In contrast, faculty members of higher education have authority in several areas of the production process, such as the design of the curriculum, research projects, and courses.

Thus, the major focus of this chapter is on QA rather than TQM. QA is a system that consists of interconnected mechanisms that can promote and change higher education [1]. Enders and Westerheijden [34] report on how QA provides several benefits for higher education institutions and the needs of students. They examine the importance of QA in European higher education, where it is considered a tool to “re-focus, modernize, and harmonize higher education provision and curricula for the new requirements of international mobility and employability, transparency and accountability, and of strengthening Europe in the competitive world-order.” Akalu [35] finds out that QA can be seen through the “academic rigor” and “hard work” that is largely associated with “academic excellence,” and maintaining academic standards. It can also be seen through the commitment to knowledge and the recruitment of the best students and the provision of the best learning experiences. Furthermore, the academic literature indicates the importance of the comprehensive process of QA, which ensures rigorous procedures are applied to supporting higher education programs [36]. Therefore, QA develops according to the needs of higher education and offers a very wide scope through its processes, tasks, and diversity of its aspects, which thereby supports higher education.

4. The quality assurance and technological innovation

In higher education, there are also contradictory views about the relationship between innovation and QA. While Mueller and Carter [8] describe TQM as a managerial innovation, Hoecht [10] criticizes the view that quality management promotes innovation in higher education, suggesting quality management may be accompanied by bureaucratic control. Furthermore, QA of eLearning is still a subject of controversy, and studies argue for different quality criteria around eLearning. Indeed, studies confirm that online education still needs much more development of QA [37, 38]. Marcy [11] declares that there has been much debate about the use of
technology in higher education as a result of the development of MOOCs. The quality of new technologies in higher education, in particular MOOCs, could be affected by the limitations of the QA of eLearning. This is because MOOCs, in some cases, still use the same methods as eLearning programs.

Although the academic literature on MOOCs stresses that these innovations serve a number of functions for higher education rather than only the higher education institutions (e.g., marketing, reputation, blended learning, etc.), there is a need to understand why QA is necessary for MOOCs. Firstly, despite skepticism about their contribution, MOOCs are most relevant to the globalization and internationalization of higher education. The massive numbers of students that join MOOCs around the world, and the international higher education institutions that join the MOOC platforms, clearly reflect these dimensions and the need for QA. Secondly, the literature on MOOCs suggests that these courses are able to support higher education by producing hybrid courses that are used to supplement campus-based teaching [39], and may lead to “many positive changes” in higher education ([40], p. 2). Therefore, MOOCs, as a part of higher education, which enhances teaching and learning, should require QA. Thirdly, the literature indicates that academic professionalism seeks to enhance academic pedagogies in higher education [41], and as MOOCs are described as courses “based on [the] pedagogical principles” of higher education [23], one would expect that they reflect these professional values, which, therefore, reflects the need for QA. Fourthly, the literature on higher education proves that institutions adopt QA in support of their missions and goals. MOOCs, in this respect, can support the goals of higher education institutions, including helping students to obtain a competitive advantage in the labor market. As they support the mission of institutions one might expect the involvement of QA. Thus, analyzing MOOCs from the perspectives above suggests that they cannot be a part of higher education teaching and learning program without some involvement of QA processes. The processes and criteria of QA should be offered to MOOCs in the same way as it is to campus-based higher education.

Studies stress that MOOCs are designed for autonomous learning and the current approaches to the QA of MOOCs are still limited [42]. Some advocates of MOOCs have argued that the quality of provision is very high, claiming they “set a higher standard of quality” than campus-based education ([29], p. 224) or that they produce “high-quality products” ([17], p. 403). However, these claims are largely made without empirical evidence, and therefore evaluation of the current quality of MOOCs remains largely speculative. Moreover, Horn and Christensen [28] declare that MOOCs are disruptive innovations that will change quality definitions in the marketplace. For instance, they argue that the rewards of most faculty depend on the quality of their research. However, they believe that MOOCs could offer courses based on employer demand and support the quality of teaching in higher education. The authors, according to their view, see the scope for MOOCs to be much more than “marketing and edutainment” and, therefore, these courses could be developed to be a “scale business.”

5. The objectives and scope of study

This study explores whether QA supports or hinders innovation (MOOCs) in the higher education environment. It also explores the QA approaches that can be adopted to improve the quality of technological innovation represented by MOOCs. Thus, the study aims to contribute insights into the relationship between quality management
In social sciences, qualitative research approaches can include both case studies and topical studies. The topical studies focus on activities that are “a less distinctly bounded area,” while the case studies focus on “holistic situation in real life of setting, and to have set boundaries of interest,” such as particular organizations ([43], p. 99). The case study also suits multiple data collection methods, such as interviews, electronic sources, and documentation. Likewise, case studies can help researchers understand relations of cause and effect, and investigate “the complex dynamic and unfolding interactions of events” ([44], p. 181). Moreover, Scholz and Tietje [45] state that the case study approach is much more appropriate for educational purposes, and it allows for diversity of interpretations. It also suits a situation in which “a new program or discomfort with the current program precedes the need for evaluation,” specifically in relation to educational issues. They also advocate the appropriacy of a holistic case study as a qualitative method for evaluating complicated programs where “a case may be treated from different perspectives.” The case study approach is appropriate to describe a new phenomenon that has varying characteristics. Also, multiple cases target multiple contexts and complicated problems [45] and generate diverse perspectives on the phenomenon [46].

Therefore, semi-structured interviews with academic staff were the main source of data, and documentation is the second source of data in this study. In order to maintain the anonymity of the five case study institutions, documents are paraphrased rather than quoted directly. Five UK universities were selected for various criteria that may influence the QA of MOOCs. Studies show differences in QA according to the size and age of institutions. The universities that were approached to participate in the study due to their characteristics are: case A: young, small university, England; case B: young, small university, England; case C: old, big university, Wales; case D: old, medium university, England; and case E: older, medium university, Scotland.

6. Design process and quality procedures for MOOCs

The five universities indicated that while they use rigorous procedures of QA for their conventional programs, they do not use similar procedures for MOOCs. The universities provide MOOCs according to the guidance and criteria of MOOCs platforms rather than the approval procedures used in conventional courses. The universities see MOOCs as a new system that has a different style to that which they are used to, and thus they find it difficult to apply the same QA procedures that they use for their conventional courses to MOOCs. However, MOOCs pass through some steps that are already used in conventional academic courses in some universities, such as defining learning outcomes of courses, but the universities indicated that these steps do not follow the same procedures used in their conventional courses. For example, although the central MOOCs team is responsible for checking the quality of MOOCs, the QA procedures are only general and simple procedures (such as checking the text, subtitles, and videos). Other universities believe that the quality of MOOCs, and the improvement of these courses, is basically not their job, but rather the platforms’ responsibility. Also, there is no quality guidance that addresses the academic requirements, and that is why the QA procedures for MOOCs are still not rigorous enough.

Furthermore, the approval process for MOOCs at universities is not equivalent to the approval process for conventional courses. For example, the approval process for conventional programs considers the requirements of QA (e.g., breadth and depth of
subject content, engaging students in monitoring and influencing the curriculum ... etc.) and it aligns with both the indicators of QAA and the strategy of the university. The universities describe their process of conventional courses as a rigorous process that relies on the appropriateness of standards for the level and title of the degree. The process for conventional courses may differ from one university to another; however, the requirements and steps used to design each course. In contrast, the five universities use similar main steps in the MOOCs’ approval process, which seem to be derived from the platforms’ guidance. These steps start by choosing the main topic around which to create the courses, followed by designing the content and assessment, the technological design step, and the approval of the courses. Figure 1 shows the consensus of the universities regarding the main steps in the MOOCs design process.

The majority of universities, however, indicated that the approval process for MOOCs is “lighter” than the process for conventional courses, which is described as a “rigorous” process. In University A, the reason that MOOCs do not need to have a rigorous approval process is that the university does not “make any money out of it.” Also, respondents found the current approach of QA used for conventional processes “too heavy-handed” for MOOCs. Similarly, University B uses “a lightweight program approval form” because, if the process goes through more stages and more phases, then it “potentially would put off people” designing MOOCs. A “very rigorous program approval process” is used for conventional courses at University C, because the university takes into consideration its market position and “what resources students need,” while the approval process of MOOCs is “a lot faster” and relies on “a different kind of criteria,” because the learners of MOOCs are not the real students of the university. In contrast, Universities D and E have contradictory views on the approval process for MOOCs. On the one hand, the universities indicated that they use “exactly the same” approval process for MOOCs as conventional programs. This is because MOOCs share common considerations such as “accessibility and usability as well as academic rigor,” even if they should be looked at through a digital lens. On the other hand, documents from University E indicated different thinking on the features of the

Figure 1.
The main steps of the designing process and quality procedures for MOOCs at the universities.
approval process for MOOCs, indicating that although all MOOCs are reviewed through university course validation channels, the processes of QA are still “lighter” than the quality process for conventional courses. University D also indicated that there is a big difference between the process for MOOCs, which are more orientated to the general public, and the conventional process, which is more relevant to credit-bearing courses, so the process for MOOCs is affected by their aims. There are, therefore, contradictory views on the rigor of the approval process for MOOCs at Universities D and E.

The platforms’ review process is described as “quality review” and it is “quite useful” in terms of enhancing the QA of MOOCs. Some of the universities, however, indicate that the platforms’ reviews seem to represent the aims of platforms on MOOCs rather than the higher education approaches, such as the focus on videos that can help to support the reputation of the platforms themselves. In this context, University C criticizes the platform’s focus on the quality of images, videos, and subtitles, as these are not the same as the kind of academic review that is commonly used in higher education. Therefore, while the universities use the platforms’ guidance to enhance the quality of MOOCs, they indicate that these procedures on their own are insufficient. Furthermore, the other universities do not rely only on the platform reviews, but they use additional ways to enhance the external review of MOOCs, even if these are still limited. University A reviews its courses externally, using people with subject knowledge who are not part of them. These external review procedures of the universities precede the platform review in order to make sure that the new MOOCs meet the platform’s criteria. The other external reviews are therefore considerable depending on the platforms’ instructions that are already criticized by most of the universities.

As a result, the internal QA procedures and the external review applied to MOOCs are derived from the guidance and criteria provided by the MOOCs’ platforms. These do not enhance technological innovation enough and do not raise the common level of QA applied to academic courses and programs in higher education institutions.

7. Quality assurance approaches

Studies on higher education argue that there is no ideal model or system of QA that can be relevant to all academic programs [47]. In practice, the majority of universities involved in this study stated that the platform approaches are not sufficient to provide the QA of MOOCs. Also, the universities seek to improve the quality of MOOCs, but they are not convinced of the adequacy of their current procedures. However, the universities recognize different approaches to the enhancement of the quality of MOOCs. Therefore, there are three different views on the QA approaches that should be adopted to improve the quality of MOOCs, which are as follows:

- The traditional approach to QA that is commonly used for conventional courses;
- A new approach to QA designed specifically for MOOCs;
- The QA approach indicated by MOOCs’ platforms.

These three approaches differ in processes and procedures, and the preference of universities for the use of these approaches depends not only on the procedures they entail but also on the objectives and purposes of MOOCs at the universities. Figure 2 illustrates these three approaches and how the universities look at them.
The first approach (the usual procedures for QA that are commonly applied in higher education) seems to be the option that University D intends to implement. This university believes MOOCs are like other academic programs and should be subject to the same QA criteria as are applied to all their academic courses. The university expects MOOCs to include the same requirements as for courses that are provided in the classroom. MOOCs should therefore pass through the same common QA approach as for academic courses, such as designing content, engagement, accessibility, and student interaction.

The second option is to develop a new approach that can be used specifically with MOOCs. In this context, University A believes that neither the platforms-based quality procedures nor the current approach to QA in UK higher education is appropriate for MOOCs unless they are modified. Even if the requirements are the same, MOOCs have a different process and need less stringent requirements, while the current procedures for QA in higher education are too heavy-handed. In tandem with this, the current quality procedures in the MOOC platforms are not enough to develop MOOCs, despite the fact that University A still provides its courses according to these procedures. The best way to enhance the quality of MOOCs in their view, therefore, is to design new criteria that can take into consideration the characteristics of MOOCs directly. This new approach seems to help in the achievement of different objectives, including the academic purposes that MOOCs can offer.

Thirdly, the platforms-based QA procedures seem to be the only approach that University B uses to develop the quality of MOOCs. The university believes that the platforms’ staff have the knowledge of what criteria need to be met for MOOCs to be accepted as appropriate courses for both learners and the higher education institutions.
that provide these courses. The university is convinced that the criteria of the platform are enough and cover several areas that MOOCs need, such as the features of content, the time of the course, and the learning requirements. However, the university recognizes that the QA requirements for the academic courses that it offers are much more rigorous than those for the MOOCs. The university, therefore, aims to apply only the platforms’ criteria. MOOCs, therefore, only need to clear the current process rather than others, which can be beneficial to achieving its market objectives.

However, both Universities C and E agree that the current approach to QA that is commonly used in higher education can be relevant to MOOCs if that approach is modified. For University C, even if MOOCs have academic features, these are not completely the same as the academic features in conventional higher education programs. To maintain MOOCs as academic programs, therefore, these courses should be subject to one system of QA, and that is why a convergence between the current quality approach in higher education and the specific needs of MOOCs is required. In tandem with this, the evidence from University E on the need for convergence in these approaches is that, on the one hand, MOOCs are similar to the development of online distance learning (e.g., in terms of their processes) and the university already offers many such courses that are subject to the conventional QA approaches. On the other hand, the features of MOOCs cannot be ignored, and thus there needs to be a focus on assuring their accessibility and usability, as well as their academic rigor. The best option to develop the QA of MOOCs at both universities C and E, therefore, is a mix of a new approach to QA embedded within the MOOC requirements and conventional QA approaches. This means that the need for a new approach of QA is lingering, but it must take into account the current approach of QA, blending each with the necessary modifications. MOOCs, therefore, should pass through a new process that considers both the current (traditional) approaches and new approaches that take account of the characteristics of MOOCs.

As a result, the majority of universities involved in the study agree that the current criteria (approach) of the platforms are not enough to enhance the quality of MOOCs. The conventional approach of QA in higher education is still seen as a critical element that should be used to enhance the quality of MOOCs. There is a need, however, to consider the features and characteristics of MOOCs in the QA process. Developing a new quality approach that takes into consideration these features and characteristics as required, and blending the new approach with traditional ones may be more beneficial to the quality of MOOCs.

8. Discussion

Although studies argue that quality management cannot be separate from innovation, some studies have questioned this relationship, suggesting that QA may impede innovation. However, the relationship seems to be more complex concerning technological innovations that are applied in higher education. The analysis does show that there is some flexibility in how QA is envisaged and applied toward MOOCs, but it also shows many more areas in which the approach to QA hinders MOOCs.

The common procedures of QA, such as the approval process, peer review, and external review, offer some support for innovation. The approval process for MOOCs passes through some steps and conditions, including the approval of departments, schools, and vice-chancellors, which are generally similar to the requirements used in conventional courses. Peer review is also used to enhance the quality of MOOCs.
However, the procedures for QA seem to be applied in different ways for MOOCs than for conventional courses. These procedures for MOOCs seem to originate from the guidance of platforms rather than the processes, indicators, and criteria used for other courses. There are, therefore, some quality procedures and support that the platforms offer to MOOCs, but these procedures are limited and do not conform to the methods of QA used in conventional higher education programs. This is partly consistent with the finding of studies that stress that quality management supports and enhances innovation (e.g., [5–7, 48]). However, the findings do not reveal the kind of highly supportive relationship that this literature suggests because it is restricted by the platforms’ criteria.

The universities realize that the criteria applied by the platforms are not enough to ensure adequate QA of MOOCs for several reasons. For example, these criteria focus on education for the general public, and the acceptable level of content in these criteria is lower than that usually accepted in higher education. Also, the interaction of students is very low, and the real value of courses is still unknown. The universities, therefore, seek to enhance the quality of MOOCs by using their own procedures, but these QA procedures are still light and are not based on specific criteria, but rather based on MOOCs’ staff judgment.

The current procedures applied to MOOCs do not meet “the policies and mechanisms” of internal QA, and “the standards that apply to higher education in general or to the profession or discipline in particular” ([1], p. 34). These procedures do not focus so much on the conventional QA requirements for higher education programs that must respond to the market needs, such as the quality of content and assessment and learning outcomes. Instead, they focus on the quality of images, videos, and subtitles. Therefore, the external reviews on MOOCs do not enhance the quality of MOOCs in the way that studies indicate. It is good practice in the quality process to include rigorous academic procedures for external reviews [36].

Studies stress that the positive or negative relationship between quality management and innovation can be affected by the attributes and environment of organizations and the technologies adopted in institutions [49]. The universities’ approach to QA does not appear to be related to reputation or age, although many universities that offer technological innovation are highly reputable institutions. Even if the age and reputation of universities affect their QA, in general, there is no clear evidence that it is a critical attribute in the QA of MOOCs. Thus, these findings contrast with studies that have argued that the age of institutions is correlated with their quality management [50, 51].

Furthermore, the regulator strategy with respect to technological innovation is often unclear on the future of MOOCs and how they can be effective in the higher education sector. MOOCs are provided because they look like a new academic innovation that the universities should be involved with to keep up with other similar institutions. The formulation of MOOCs’ strategy, however, seems to reflect the strategy and priorities of individual universities rather than the policies set by the regulator in the higher education system. That is why universities provide varying numbers of MOOCs with significant differences in their budget for them. Therefore, the QA of technological innovation is influenced by universities more than the higher education system.

The QA of content, learning, and assessment are influenced by the characteristics of MOOCs (e.g., the diversity of learners, the level of their background, the short duration of courses, etc.). In this respect, higher education programs require “breadth and depth of subject content” that need to be negotiated between the higher education institutions and individual students and to be consistent with the context of the mission and strategies of the individual universities [52]. The platform's criteria,
however, force universities to design light content (i.e., short videos and easily read text) in their MOOCs, suitable for learners who are not at university, which causes the universities to question the academic rigor of MOOCs. Furthermore, learning through MOOCs is designed for general knowledge that can be covered in the limited duration of the courses. This shortened process of learning does not ensure a high level of learning outcomes. That is why the universities questioned what the overall outcome of the program would be, what sort of interests, what kind of education level, and how learning outcomes can be assessed, etc. Furthermore, the quality of learning essentially develops independent thinking and leads to improved learning outcomes. That is, learning is the heart of education and the quality of courses is defined by providing the best learning process [36, 53]. Thus, the procedures with respect to the learning and learning outcomes of MOOCs were not consistent with the findings of the studies. Even if some universities seek to improve the quality of assessment, they are obliged to offer an assessment based on the MOOCs environment and, therefore, the assessment does not reflect the outcomes and quality of learning and performance, because it is designed for different types of content and learning programs that have different feature and characteristics.

The QA approach used in conventional programs is considered too heavy-handed for MOOCs, and this is the main reason why some universities suggest designing a new approach for MOOCs. Moreover, the aspirations to develop the process of MOOCs, specifically in relation to content, learning, and assessment was a critical reason that led other universities to suggest adopting the common approach of QA. Furthermore, the benefits of MOOCs, in particular, the market benefits, seem to be a major reason to use only the platform criteria to enhance the quality of MOOCs, because these criteria already support the universities to attract students from abroad to join their conventional programs. In this respect, Horn and Christensen [28] indicate that MOOCs can change the “quality definitions” in the marketplace because MOOCs can offer courses based on employer demand. The most accepted quality approach for MOOCs, however, is a combination of the conventional approach to QA in higher education and a new QA approach that takes into consideration the characteristics and features of MOOCs. That is developing a new quality approach is not enough to enhance MOOCs, as long as the universities seek to use technological innovation to enhance their conventional programs. Also, MOOCs can represent a new development in online and distance learning, and they differ from conventional programs only in the depth of the process and requirements, and the need to assure their accessibility and usability. Therefore, the universities seek to maintain rigorous procedures that enhance the quality of all their programs, including MOOCs, to harmonize with the global market needs. This view is consistent with the findings of several studies that the higher education system has been affected by the globalization of QA, and QA is moving toward international standards accepted in cross-border higher education [1, 34, 54].

9. Conclusion

This chapter considered the common concern of QA in higher education institutions. It specifically argues the relationship between QA and technological innovation in the context of MOOCs, that is, whether QA serves to enhance MOOCs or whether it hinders the development of this technological innovation at institutions in the United Kingdom. This chapter, therefore, supports arguments found in the literature that QA may inhibit innovation. The study also highlights the importance and influence
of the characteristics of the innovation on this relationship, because the quality management support can depend on the type of innovation rather than innovations in general [6, 9, 55]. Furthermore, this chapter allows higher education institutions to understand the interplay and integration between their conventional programs and programs using new technologies, represented here by MOOCs.

The characteristics of MOOCs (e.g., the nature of content, assessment and the types of learners) present critical challenges that impede the application of common QA processes and criteria. For example, the nature of MOOCs as technological innovation is the lack of common features of learning, such as face-to-face student discussions and the clarity of learning outcomes. The enhancement of MOOCs quality, therefore, needs to address the characteristics of technological innovation represented by MOOCs. Finally, this chapter might be used to develop a theoretical framework for the QA of technological innovation in higher education.

Additional information


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