Research Article

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Massive Open Online Course (MOOC) service quality assessment: Issues and instruments

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Abstract

This paper seeks to explore the issue influencing MOOC platform adoption and usage and reviews the existing literature on measuring users' perceptions about quality in the online platform. It is a concern about how MOOC platform service quality affects the quality of e-learning process. This paper proposes that a proper MOOC service quality assessment would portray the success of the delivery and design of the platform, especially by understanding the platform's limitation and users' preferences.

Keywords:

MOOC; service quality; assessment; issues; instruments

1   Introduction

E-learning is a rapidly growing phenomenon in the education sector, where it caters to the needs of modern-day learners (Arora, 2015). Approximately 5.5 million students worldwide are taking at least one class online (Hickey, 2014). In Malaysia, e-learning has become a significant part of teaching and learning experience to both instructors and students (Luaran, Alias, & Jain, 2014). The Ministry of Education Malaysia launched the "Dasar e-Pembelajaran Negara 2.0" (DePan version 2.0) in 2011 (Ministry of Higher

Education Malaysia, 2011), a policy focusing on refining the branding of Malaysian education, revolutionizing education, enhancing human resource efficiency, reducing learning expenses, and encouraging lifelong learning. Aligned with the mentioned policy, Massive Open Online Course (MOOC) was proposed under the third domain: Online Pedagogy. Malaysian universities are required to develop and conduct MOOC courses in their respective universities (Ministry of Higher Education Malaysia, 2011).

Malaysia is the first country in the world to implement the MOOC's initiative for public universities (Bernama, 2014). Through this medium, MOHE anticipates that it offers a better direction on career option and education, balances students' morality and knowledge that prepare students for employment and challenges in the future. With MOOC courses, the instructors will no longer be the primary source of courses information. This leads to changes in conventional methods of teaching and learning in Malaysia. Although MOOC is new, the finding shows an affirmative acceptance of MOOC in teaching and learning by students (Jalil, Ismail, Bakar, Azizan, & Nasir, 2016). However, despite the funding and publicity, there is still a multitude of critics who believe that MOOC is underachieving; it fails in revolutionising education for the masses. The participation in MOOC after enrolment, as well as the completion of the courses, have been widely criticized. To learn more about why this platform might not reach its full projected potential, this paper first identifies the issues regarding MOOC acceptance and usage, then proposes different types of measurement to assess the quality of MOOC services.

2 What is wrong with MOOC?

As MOOC has become more popular, its problems have become more pronounced. First, those high enrolment numbers may be deceiving. Many researchers argued that large numbers of students enrolling in MOOC courses never received any personal knowledge or advice to encourage them to complete the courses (Konnikova, 2014; Quora, 2017). These behaviours are arising as there are no specific obligation, warning or penalty that encourage them to complete the MOOC courses they enrolled in (G2 Collective, 2011). Besides, most of the students who have completed MOOC are usually undergraduate students. They enroll as fulltime or part-time students at a particular university, which raises the questions of how many non-undergraduates students might have completed MOOC courses (Ubell, 2017).

Second, it is difficult to address the particular needs of your learners, limiting MOOC's developers to a one-size-fits-all approach. MOOC instructional design, layout, and contents might be too generic and not suitable for worldwide learning. In addition, MOOC content design may not be ideal for certain courses such as religious topic, or specific demographic profiles (Rivard, 2013; Wannous, 2018). For example, Asian students find it is uncomfortable to open debates and argue in every discussion, unlike Western students where it is common for them to do so. Besides language barrier and high level of MOOC contents, MOOC is mostly taught in English in which can be a

problem to students with a low level of proficiency in English language and their first language is not English (Calonge, 2017).

Another most prominent problem with MOOC is its impersonal nature; as thousands of students enroll in a single section with a single instructor. Also, MOOC does not provide a mentor, a coach, or a guide, to connect with the students (Kim, 2017). Hence, there are no interaction, relationship and accessibility between the instructors and students. Besides, the instructors function as the course creators, and probably will be the facilitators for that course. However, they will not be available all the time (Kim, 2017; Quora, 2017). Besides, the lack of interaction between students and the facilitators and lack of in-depth discussion may affect students' motivation, excitement, and sense of being a part of a learning community (Littlefield, 2017; Quora, 2017; Swain, 2015).

3   The Quality of MOOC

The emerging discourse about MOOC reflects questions on the platform's service quality and questions of what MOOC should offer besides an underlying online learning platform to enhance the service quality. Besides service quality, information quality and system quality could affect students' intention to use the technological platform. Service quality refers to the comparison between customers' expectations of what an organization should deliver and the perceived service performance (Parasuraman, Berry, & Zeithaml, 1988). Thus, the key to measuring and understanding service quality is from customers' judgment of how the service is perceived and the overall impression of organization performance and its services (Zeithaml, 1988). Therefore, an e-service quality can be identified as a content-centred, interactive, and internet-based customer service which combines with the support of technologies and systems offered by service providers, which aims to support the relationship between the service providers and customers (De Ruyter, Wetzels, & Kleijnen, 2001). E-service quality is also known as customers' judgments and evaluation regarding the quality of an e-service delivery on a website (Santos, 2003). Besides, an e-service is different from a traditional service as it is based on interactive information movement between service providers and customers (Li & Suomi, 2009).

The limited study on MOOC platform capabilities in offering superior services to learners and how it affects their experience and performance reflects the need for further exploration. It is important to note that MOOC could be sought after by all kinds of people, with or without a proper understanding of what MOOC offers. Viewing the possibility of such situation, MOOC providers should pay more attention towards the perceived image of MOOC, the e-learning service quality, actual students' experience, and their continuance intention of completing MOOC courses. In addition, there has been a considerable discussion among academia regarding what constitutes the service quality of e-learning and how it must be offered and maintained in online education. Also, the adequacy of student support services and the missing element of direct interaction with the lecturers and fellow students are another vital issues. As compared

to traditional classes, both quality and quantity of interaction with instructors are crucial to the success and affect the experience of students in online classes.

4   e-Service Quality of MOOC: Available Measurement

There is a limited available platform to assess the service quality of online learning platform such as MOOC. Initially, Web quality (WebQual) has been developed through application in various areas, including Internet auction sites and Internet bookstores (Barnes & Vidgen, 2002). WebQual is focused on the purchasing process, it has 12 dimensions which are (i) ease of understanding; (ii) intuitive operations; (iii) information fit-to-task; (iv) tailored communications; (v) trust; (vi) response time; (vii) consistent image; (viii) online completeness; (ix) relative advantage; (x) visual appeal; (xi) innovativeness; and (xii) emotional appeal (Loiacono, Watson, & Goodhue, 2002). The latest WebQual version is WebQual4.0, yet, it still lacks specific application and validation as reviewed by (Ladhari, 2010). Besides, after adapting WebQual in a research titled "The impact of website quality on online purchase intention of organic food in Malaysia", the result shows that there was no significant correlation between website quality and online purchase intention of organic foods in Malaysia which shows that it could not be used in all online settings (Hasanov & Khalid, 2015).

Next, a Multiple-Item Scale for Assessing Electronic Service Quality (E-S-QUAL) was developed by Parasuraman, Zeithaml, and Malhotra (2005) which is particularly made for e-services that sell physical goods. There are four dimensions identified in E-S-QUAL; efficiency, fulfilment, system availability, and privacy. The result shows that efficiency and satisfaction are the most critical, and equally essential and system availability facet of websites is also a crucial contributor to customers' perceptions of overall quality, value, and loyalty intentions, however, privacy is the least critical of the four E-S-QUAL dimensions (Parasuraman et al., 2005). Yaya, Marimón, Casadesús, and Llach (2015) adapted the scale and measured it on three different sectors agencies (e-travel, e-supermarket, and e-banking) using survey method. As a result, the four dimensions were confirmed solely for e-supermarkets as the scale appears to be very unbalanced in other sectors where three dimensions are for online banking and only one dimension is for the e-travel agencies. Thus, Yaya et al. (2015) disagreed that the four dimensions of E-S-QUAL can be used to measure e-service quality in any sector.

5   Service Quality for Higher Education

There are four dimensions for e-Service Quality for Higher Education which is an extension from the model by Grönroos (1990). The dimensions are core business (teaching), facilitative or administrative services, support services and user interface (Martínez-Argüelles, Blanco Callejo, & Castán Farrero, 2013). All of the dimensions are focused on the administrative, students, and teaching methods. Besides the study by Martínez-Argüelles et al. (2013) on e-Service Quality for Higher Education, Kim-Soon, Rahman, and Ahmed (2014) in their studies proposed a single dimension with six elements of measurement for evaluating the quality of e-service that supports learning,

communication, and research in the education sector. These elements are: 1) e-service is always available; 2) overall it is very convenient to use; 3) the user interface has a well-organised appearance; 4) makes it easy to find what is needed; 5) the e-service has met needs and experience, and 6) e-service assures schedule flexibility. However, the result shown that there was no relationship between the quality of e-service supporting for learning, research, and communication with the consistency of the use for contents storing. Kim-Soon et al. (2014) concluded that the quality of e-service is related to the frequency of the use of e-services provided by universities.

Meanwhile, Higher Education Service Quality (HiEduQual) was developed to measure the level of service quality in higher educational institutions in India. The exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) show that service quality is made up of six dimensions which are: Teaching, Administrative Services, Academic Facilities, Campus Infrastructure, Support Services, and Internationalization (Annamdevula & Bellamkonda, 2016). Moreover, finding by Singh (2016) also shows that HiEduQual is an excellent tool that fits the Indian higher educational institutions after an investigation between the expected service quality and perceived service quality conducted.

However, the conclusion from the focus group discussion with the students, parents, employees, and lecturers summarises three significant limitations that appear from HiEduQual which are: (1) existing studies focused only on the students for generation of questionnaire items. The study takes into consideration other stakeholders to develop a measure for higher education service quality provided to students; (2) existing studies neglect the fact that how the level of service in education has changed over time; and (3) the current research finds leadership as a significant dimension of quality in higher education (Latif, Latif, Farooq Sahibzada, & Ullah, 2017).

6   Limitation of Service Quality assessment in Higher Education

The experience concept has been extended to the context of online learning in higher education. Previous researches (such as Chua, 2004; De Oliveira & Ferreira, 2009; Pariseau & McDaniel, 1997) focused on the service quality in higher education by adopting the SERVQUAL model. However, due to criticism of the application of the generic model in higher education, alternative models were developed, and measurements such as HiEduQual by Annamdevula and Bellamkonda (2016). They measured the level of service quality in higher educational institutions in India that abandons how the level of service in education has changed over time. Meanwhile, HEdPERF proposed by Abdullah, Abg Abdurahman, and Hamali (2011) focuses on the staff, physical facilities, academic staff, while the attributes of the institution are neglected.

Nevertheless, students' satisfaction in e-services of online learning in higher education requires attention as well. Moreover, both public and private universities need valuable information regarding relationships between e-learning service quality, students' experience, and continuance intention (a hierarchical modelling approach) to

understand the factor that can impact their students' perception or experience or satisfaction towards their services. In brief, this study suggests that the MOOC program's security, layout and instructional design (physical environment quality), MOOC contents delivery style and the role and interaction of MOOC instructors/lecturers with the students (interaction quality) can contribute to the success of the MOOC platform. Students in higher education form their perceptions towards e-service based on the contents in MOOC courses that they enrolled in (e-learning quality) and the knowledge and skill that they acquire (learning outcome quality) also influence students' perceptions towards overall service quality.

7   Conclusion

As MOOCs is still in its initial stage of implementation, it poses certain challenges to students. Attitude change and technological literacy would help them to gain confidence and successfully use the platform. When it comes to online learning, many approaches are possible, although some may ultimately benefit students with deep and diverse needs. As of now, the use of MOOC may impact students differently. For advanced learners, MOOC may be considered as a terrific option, but not to some academically challenged students as they might need a classroom with teacher's support. Future designs of MOOC should consider some improvements in the current learning design as compared to the early versions of MOOC. MOOC's designers must ensure good instructional quality by using the right pedagogical approaches; this is likely to improve student engagement with MOOC, especially when students experience learning while using it.

8   About the Author

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