

A SWOT ANALYSIS ON ACCEPTANCE OF MOOC IN MALAYSIAN HIGHER EDUCATION: THE LEARNERS' PERSPECTIVE

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ABSTRACT

The purpose of this study is to explore the strengths, weaknesses, opportunities, and threats (SWOT) perceived by the learners regarding the acceptance of MOOCs in Malaysian universities. Quantitative research method was used and the descriptive data related to satisfaction, perceived service quality, and attitude toward the use of MOOCs were collected from the second-year undergraduate students (n = 622) at five universities in Malaysia. The positive results showed in this study are that the students in Malaysian universities are highly interested and willing to accept MOOC that facilitates wider access to high-quality higher education provision; however, the lack of the learner skills and experience and the heavy workloads of MOOC are the weaknesses and threats faced by learners when using MOOC. The significance of the paper is to inform instructors, decision makers, and researchers about the SWOT perceived by learners toward accepting MOOC which can help recommend strategies and policies for the future development, adoption, and success of MOOC in the context of higher education in Malaysia.

Keywords: Massive open online course, MOOC, Malaysia, SWOT.

INTRODUCTION

Massive Open Online Course (MOOC) is increasingly considered to be an opportunity for millions of people who want access higher education for free or at low cost. MOOC represents one of the most recent evolutions within the online learning domain, in which courses from a range of institutions, including elite universities, are made open and freely accessible to the world (Albelbisi, 2020).

MOOC has the potential to change the teaching and learning pathway in higher education as it makes high quality education more accessible and decreases the costs of higher education (LeOn-Urrutia, Cobos, & Dickens, 2018). However, some studies have highlighted that MOOC cannot yet completely replace traditional education (e.g. Ovaska, 2013). Some studies have indicated that MOOC has challenges related

to scalability, sustainability, and educational quality (e.g. Albelbisi, Yusop, & Salleh, 2018). Other studies have shown that MOOC reports high dropout rates and generally attracted already well-educated learners (Macleod, Haywood, Woodgate & Alkhatnai, 2015).

On the other hand, literature in recent years has indicated that there is a dearth of research and insight from countries in Asia and Africa (Manalo, 2014) and participation in MOOC from these world regions is relatively few compared with the vast participation from North America or Europe (Liyanagunawardena, Adams, & Williams, 2013).

In the Malaysian context, learning through MOOC is admired as a hundred thousand people are already learning through MOOC (Goh, Wong, & Ayub, 2018) primarily through the OpenLearning platform. However, MOOC is still in its growth phase and very little research has been focused on investigating acceptance of MOOC at universities in Malaysia (Nordin, Norman, & Embi, 2015).

While more scholarly literature reviews of the SWOT of MOOC are beginning to emerge (e.g., Schuwer et al., 2015), the current state of thinking about MOOC, and particularly the research landscape, in Malaysia remains relatively immature. To fill this gap, this paper presents results of a SWOT analysis by examining descriptive data about satisfaction, perceived service quality, and attitude of the learners regarding acceptance of MOOC in the Malaysian universities. This research study would help us to understand what students in Malaysia think of this massive rise of this online education innovation (MOOC).

Significance of the Study

This study explores the perception of learners on their acceptance of MOOC, their perceived strengths, opportunities, as well as exploring the weakness and threats faced by learners in their current educational environment and recommended solutions that may develop the acceptance of MOOC. It is assumed that addressing these concerns may help policy makers suggest strategies for enhancement in the acceptance of MOOC in Malaysian higher education and prompt the success of MOOC as Malaysia intends to be a key player in online learning domain.

LITERATURE REVIEW

Studies have suggested that MOOC has opportunities to improve learners' knowledge and build their experience (Albelbisi & Yusop, 2019). MOOC experts emphasized that MOOC is one of the most interesting and challenging transformations that has occurred in higher education systems in years (LeOn-Urrutia et al., 2018) and has the ability to enhance both the academic and the skill-based learning (Al-Adwan, 2020; Albelbisi, 2019; Miller, Haller, Rytz, & Odersky, 2014).

Today, MOOC has a widespread system aim at offering high quality education to interested learners all over the world (Albelbisi, 2020). MOOC has attracted millions of learners around the world. In 2016, over 23 million students signed up for at least one MOOC, taking the total number of learners to 58 million, and the total number of MOOC courses to 6,850 offered by over 700 universities (Albelbisi & Yusop, 2020). In recent years, universities have begun accepting MOOC for credit with faculty approval or by completion of an assessment examination given by the university itself in order to receive credit there (Albelbisi & Yusop, 2020). The University of Helsinki, Finland, is one institution that adopts this model.

On the other hand, many countries around the world have launched their own MOOC platform (Albelbisi et al., 2018). Each country tries to strengthen its MOOC by providing the ability to cover different subjects to attract massive numbers of participants. For example, Jordan launched a non-profit Arabic platform for MOOC in May 2014 called Edraak, meaning "realization" in Arabic. Edraak has more than one million registered learners (Albelbisi & Yusop, 2020).

In Malaysian context, the Ministry of Higher Education (MOHE) has been very proactive in initiating and overseeing MOOC implementation at Malaysian public universities since 2014 (Albelbisi & Yusop,

2020). In efforts to continuously improve the education system, the Ministry of Higher Education (MOHE) has given serious attention to reforming higher education by launching its own Malaysia Education Blueprint for Higher Education (2015-2025) in 2015 (Ministry of Education Malaysia, 2015). The blueprint indicates that MOOC, as an online learning approach, can offer an interactive and engaging delivery, which increases the levels of collaboration and international interactions (Mohamad & Rahim, 2018).

Consequently, the Ministry has outlined three key initiatives to initiate the efforts for MOOC, (1) creating a national e-learning platform called Malaysia MOOC, (2) enhancing existing administrative structures, including its academic capabilities, and (3) cyber infrastructure (Ministry of Education Malaysia, 2015). Malaysia's intention to leverage MOOC is promoted as a way to improve the quality of learning and to extend Malaysian access to education (Ministry of Education Malaysia, 2015). A total budget of MYR 500 million (USD138.6 million) was proposed to support this initiative through the upcoming 11th Malaysia Plan, 2016-2020 (Albelbisi et al., 2018). To date, all 20 public universities in Malaysia have their own MOOC courses made available to all Malaysians as well as people around the world.

Literature about MOOC in Malaysia indicates that learners have positive attitudes toward MOOC as they point out that learning via MOOC makes the learning more interesting and easier for them (Jamaluddin, 2018). MOOC learners prefer the unstructured learning tasks and show that learning via groups, where the learners can collaborate with one another, is better than that of individual learning (Albelbisi et al., 2018).

However, research shows that implementing MOOC in Malaysia higher education faces challenges. For instance, a study by Ghazali and Nordin (2016) notes that self-efficacy is a main challenge facing MOOC that could be undertaken if there is management support through training and funding to improve the quality of the contents and technology applied. Nordin, Embi, and Norman (2016) also reveals that one third of Malaysian students enrolled in MOOC courses express anxiety in using MOOC in learning. Kumar and Al-Samarraie (2018) investigated the challenges faced by instructors when using MOOC in Malaysian. The study shows that lack of facilities and experience, incompetent knowledge in designing and development MOOC courses, and insufficient leadership are the main challenges faced by instructors when using MOOC in Malaysian higher education.

Consequently, this SWOT study is expected to provide data that supports successful adoption of MOOC in Malaysian universities.

SWOT Analysis

SWOT is a brainstorming and communication method used to determine the strengths, weaknesses, opportunities, and threats related to specific issues. As Gilb and Finzi (1988) suggest, SWOT can be associated with the concerns, possible limitations, and characteristics of any stakeholders such as the students, educators, and any others. SWOT analysis can be a useful tool to analyze the situation and stakeholder perceptions in different settings.

SWOT analyses are widely used in educational settings for strategic planning and decision making. For example, SWOT analysis is used in e-learning settings (e.g. Zhu & Justice Mugenyi, 2015) and MOOC contexts (e.g. Schuwer et al., 2015) to give a better understanding about the strong and weak points of these new technologies as well as the opportunities and threats that they may face.

This study focuses on the perceptions of learners toward the acceptance of MOOC in higher education. Learners are the main stakeholder in using MOOC, thus the results can be considered as a foundation for relevant university policies for adopting MOOC for learners.

METHOD

Research Design and Instrument

The research questions whose answers have been sought in this study were:

RQ1: What is the current status of MOOC, the satisfaction, perceived service quality, and the attitude of the learners for implementing MOOC in Malaysian higher education?

RQ2: What are the strengths, weaknesses, opportunities, and threats (SWOT) perceived by the learners regarding the implementation of MOOC in Malaysian higher education?

To provide answers to these questions, a quantitative research method using cross-sectional research was conducted.

To answer RQ1, the participants were asked to complete a survey to report their satisfaction, perceived service quality, and learner attitude toward MOOC. The survey consisted of 22 Likert-scale items measuring learners' satisfaction, service quality, and attitude. The items were revised from the research of Albelbisi (2020); Ozkan, Koseler, and Baykal (2009); and Rhema and Miliszewska (2014) (Appendix 1). The survey also included open-ended questions (RQ2) in order to provide in-depth understanding of the problems. The open-ended questions reflected the participants' perceptions of the SWOT of acceptance MOOC.

Participants

The online survey was administered through the Chat feature in the OpenLearning MOOC platform to 1000 undergraduate students at five Malaysian universities (i.e. UKM, UPM, UiTM, UNIMAS, and UTeM). The participation was voluntary. Six hundred twenty-two responses were returned with a response rate of 62%.

Data Analysis

The descriptive analysis method via SPSS software was used to analyze the data of this study. The reliability of the study factors has been calculated through Cronbach's alpha. Alpha (α) values of all scales exceeded 0.70, which are higher than the recommended value of reliability (Hair, Hult, Ringle, & Sarstedt, 2014).

For the open-ended questions, the content analysis approach was employed to generate the main categories of the concepts that were mentioned by the respondents. Content analysis provides a suitable summary on a specific issue (Bryman & Hardy, 2009). The data obtained from the open-ended questions were transcribed and reviewed based on the research aim. Next, certain themes were identified in order to interpret the findings.

Studies by Schuwer et al. (2015) and Zhu and Justice Mugenyi (2015) have been used as references for the current study to test the reliability for classifying the data reported by learners as strengths, weaknesses, opportunities, and threats.

FINDINGS

Demographic Data

The summary of demographic data results is shown in Table 1.

Table 1. Demographic data result

Variable	Category	Frequency (n=622)	Valid percent (%)
Gender	Female	397	63.8
	Male	223	35.9
	Not specified	2	0.3
Age group	Less than 20 years	284	45.7
	20-30 Years	337	54.2
	31-40 Years	1	0.2
Ethnicity	Malay	462	74.3
	Chinese	99	15.9
	Indian	32	5.1
	Others	29	4.7
Experience	Limited to current course	257	41.3
	1-2 courses	267	42.9
	3-4 courses	68	10.9
	More than 4 courses	30	4.2
University	UiTM	134	21.5
	UKM	126	20.3
	UNIMAS	127	20.4
	UPM	137	22.0
	UTeM	98	15.8

Analyzing the demographic data reveals that there were more female participants (63.8%) than male (35.9%). This percentage is in line with the number of female and male students in Malaysian higher education institutions. With regard to age group, the majority of those respondents were between 20 and 30 years old (54.2%). Most of the participants were Malay (74.3%) followed by Chinese (15.9%). Regarding the participants' experience in MOOC, 41.3% of the participants have had limited experience with current courses. The highest number of participants was from UPM (22%) while UTeM had the lowest number (15.8%) from the target sample.

Normality of the Factors

The normality of the data was tested using the skewness and kurtosis statistical method as shown in Table 2.

Table 2. Normality test for the factors

	Satisfaction	Attitude	Service quality
Skewness	-0.36	-0.84	-0.078
S.E of Skewness	0.09	0.09	0.09
Kurtosis	0.38	1.15	0.34
S.E of Kurtosis	0.19	0.19	0.19

The factors used in this study had values within the two absolute values -2 and +2 that show good normal distribution (Pallant, 2010).

The Results of the Descriptive Analysis

The participants' responses regarding their satisfaction, perceived service quality, and attitude toward MOOC are represented in Table 3.

Table 3. Participants' responses to the survey

Code	Mean	Std. D	Code	Mean	Std. D
Satisfaction			Attitude		
SA1	3.89	0.80	AT1	3.71	0.83
SA2	3.80	0.88	AT2	3.78	0.91
SA3	3.73	0.82	AT3	4.07	0.74
SA4	3.80	0.82	AT4	3.99	0.81
SA5	3.72	0.81	AT5	4.02	0.78
SA6	3.39	0.96	AT6	3.94	0.80
SA7	3.55	0.90	AT7	3.79	0.80
SA8	3.56	0.91	AT8	3.82	0.86
Service quality					
SRQ1	3.85	0.77	SRQ4	3.61	0.81
SRQ2	3.82	0.75	SRQ5	3.49	0.84
SRQ3	3.93	0.74	SRQ6	3.86	0.94

First of all, the respondents reported their satisfaction toward MOOC, and the results showed a good level of satisfaction (means between 3.39 and 3.89 on a 5-point Likert scale). For example, the learners indicated that taking a course via MOOC is wise (SA3, Mean = 3.73, SD = 0.82). The learners reported a positive intention to take as many courses via MOOC as they can (SA6, Mean = 3.39, SD = 0.96). They also stated that a great number of learners were satisfied and ready to use MOOC (e.g. SA1, SA4).

With regard to perceived service quality, the learners rated the instructor's attitudes as being good towards learners (SRQ1, Mean = 3.85, SD = 0.77), friendly (SRQ2, Mean = 3., 82, SD = 0.75), knowledgeable enough about content (SRQ3, Mean = 3.93, SD = 0.74), easy to contact (SRQ4, Mean = 3.61, SD = 0.81), and that they did not experience any problems during registration to use MOOC (SRQ6, Mean = 3.86, SD = 0.94).

Next to satisfaction regarding MOOC and the perceived service quality, the respondents were also asked to rate their attitude toward MOOC. The learners reported that they enjoyed using MOOC in their studies (AT2, Mean = 3.78, SD = 0.91) and were interested in using MOOC (AT8, Mean = 3.82, SD = 0.86). They also pointed out that using MOOC helped them to acquire new knowledge (AT3, Mean = 4.07, 0.74), enhanced their learning experience (AT4, Mean = 3.99, SD = 0.81), and increased the quality of learning (AT6, Mean = 3.71, SD = 0.83). They also reported the convenience of using MOOC (AT5, Mean = 4.02, SD = 0.78) and were satisfied to use it (AT7, Mean = 3.79, SD = 0.80).

The results of the data from the survey and the open-ended questions were summarized in the next section, re-arranged based on the Strength-Weaknesses-Opportunities-and-Threat (SWOT) framework.

SWOT Analysis Results

Perceived Strengths

In the open-ended questions of the survey, the learners reported four main strengths of using MOOC in a higher education context. First, the learners were interested and willing to use MOOC in their study. The willingness of most of the learners to use MOOC is a strength. Several respondents indicated that using MOOC helped them to acquire new knowledge and enhanced the learning experience. Second, the participants reported that the support from the instructor was very important. The respondents indicated

that the instructors were knowledgeable enough about the content, and their attitude was friendly and good for learners. Third, it was also stated that the majority of learners were quite satisfied to use MOOC and they believed that using MOOC in their studies was interesting. Fourth, very importantly, the learners also commented that they had the intention to take as many courses via MOOC as they can. All these points are stated as strengths of acceptance MOOC in higher education settings.

Perceived Opportunities

The learners highlighted three opportunities about acceptance of MOOC in universities.

First, in the survey, most of the learners stated that MOOC provided high-quality learning. Second, the participants in open-ended questions mentioned that MOOC can reach numerous learners in more efficient ways. A wide range of individuals in the community can adopt MOOC because of the availability of computers and the Internet. This opportunity is important, especially for the worker learners, as they can improve their knowledge by taking courses via MOOC while they are still working. In addition, learners can access MOOC through laptops, mobile phones, and tablets. Third, MOOC also had the advantage of providing fast communication by facilitating the interaction among peers and the instructors-learners interaction. Most of the respondents mentioned that MOOC enhanced and eased the contact with instructors. Some learners indicated that the collaboration in the MOOC forums can encourage them to participate without being shy as in face-to-face settings.

Perceived Weaknesses

Two weaknesses have been highlighted. First, the respondents stated that there were limitations related to inadequate skills and experience in using MOOC. The learner's ability to use MOOC effectively was a serious issue. Although the majority of the learners were familiar with using technologies in general, they may still have a lack of the necessary skills and experience to use MOOC efficiently. For example, some students from rural regions may show a lack of basic computer skills to engage in MOOC. Secondly, the respondents in the open ended- questions also mentioned that non-proficiency with the English language could be a weakness as it causes of the misinterpretation of the MOOC videos and other MOOC activities.

Perceived Threats

Findings from the survey highlighted a number of threats. First, there was some doubt about the seriousness of some learners when they were learning via MOOC. Some learners showed a lack of motivation to learn through MOOC. The lack of some learners' motivation to use MOOC was reported as a threat. Secondly, findings from the open-ended questions revealed that some MOOCs assigned heavy workloads for learners to fulfill many activities, homework, quizzes, and projects for the MOOC course. Thirdly, although the majority of learners indicated high level of positive attitude toward MOOC, in the open-ended questions, some learners mentioned negative attitudes toward the new technology. These learners favored the traditional ways of teaching and preferred listening to the instructor in the classroom as they might not focus on learning when conducted online.

DISCUSSIONS

Perceived Strengths

The positive results we found in the survey as well as in the open-ended questions indicates that most of the learners report willingness to use, and have a positive attitude toward using, MOOC. The results of the descriptive analysis corroborate with the literature that learners have a positive attitude toward using MOOC (e.g. LeOn-Urrutia et al., 2018; Soffer & Cohen, 2015; Yang & Su, 2017). A high level of positive attitude will lead towards greater learning satisfaction (Albelbisi, 2020; Soffer & Cohen, 2015; Yang & Su, 2017) and sustain interest in lifelong learning (Al-Adwan et al., 2020; Ghazali & Nordin, 2016; Goh et al., 2018; Nordin et al., 2015).

The role of the instructor is also an important factor for students' acceptance towards MOOC. In particular, instructors' motivation to teach via MOOC, their experience in teaching and developing MOOC, and the satisfaction in teaching MOOC have been found to positively influence students' acceptance (Evans & Myrick, 2015; Najafi, Rolheiser, Harrison, & Håklev, 2015).

Perceived Opportunities

Analysis of the data obtained from the open-ended questions reveals that if MOOC is delivered efficiently, it can provide the opportunity for high quality learning as documented by other researchers (Al-Adwan, 2020; Albelbisi, 2020). Opportunities for interactions among a great number of learners also contributes towards high quality learning as students are able to receive a high level of peer support and feedback on their work in the MOOC environment (Al-Atabi & DeBoer, 2014; Mohamad & Rahim, 2018).

Perceived Weaknesses

The data also provides insights into some limitations of MOOC. The lack of learner skills and experience in basic technologies and navigating through a MOOC platform may limit their quality learning experiences. This finding is consistent with the Albelbisi and Yusop (2020); Kennedy, Coffrin, De Barba, and Corrin (2015) study, which highlighted that limited prior knowledge and skills can greatly influence students' learning success in a MOOC environment. Thus, there is a need for arranging training to improve learner ability to use MOOC efficiently. With proper training and support, learners would be able to build competence in successfully adopting MOOC.

The respondents to open-ended questions also mentioned that some learners, who are non-native English speakers are facing some issues with English language proficiency. This has led towards limited ability or even misinterpretation of the MOOC videos and inability to complete the online learning activities. This finding is supported by the Abeer and Miri (2014) study that highlighted that the main learning skills that have a significant effect on participation in MOOC are: (1) learners' English language skills, (2) communication skills, (3) prior knowledge of the subject matter, (4) open-mindedness, (5) self-efficacy, and (6) self-regulation. Thus, MOOC providers should keep this issue in consideration when designing MOOC and improving the skills on how to deliver the knowledge to non-native English speakers (Hollands & Tirthali, 2014).

Perceived Threats

Regarding the threats, some learners mentioned lack of motivation to use MOOC as they believe that taking courses via MOOC is not a good idea. Other learners in the open-ended questions stated that the heavy workloads of MOOC are considered a threat. These results are consistent with studies such as Zhong, Zhang, Li, and Liu (2016) and Hew and Cheung (2014) who noted that students dropped out from MOOC due to a variety of reasons such as a lack of motivation, insufficient prior knowledge, a lack focus on the discussion forum, failure to understand the content and having no one to turn to for help, ambiguous assignments and course expectations, and lack of time due to having other priorities and commitments to fulfill. It would help to explore various approaches to face these threats such as diminution of the workloads of MOOC to increase motivation and decrease the dropout rate of MOOC. Albelbisi et al. (2018) confirmed that the more motivation learners have, the lower the risk of dropout.

IMPLICATIONS, LIMITATION, AND FUTURE WORKS

Investigating SWOT as perceived by learners regarding acceptance of MOOC is vital for the university leadership in order to get a comprehensive picture of the strong and weak points related to the use of MOOC in a higher education context. This paper intends to provide some useful insights for university administrators and decision makers when formulating suitable and sound policies regarding acceptance MOOC in higher education context.

The universities need to provide support for learners and competence development. Therefore, studying SWOT perceived by learners regarding acceptance of MOOC will be beneficial for encouraging more learners to adopt and use MOOC effectively.

This study focuses on the perspective of learners regarding acceptance of MOOC and does not include the views of other stakeholders, such as instructors, university leaders, and administrative staff. However, the findings of the study could be useful to provide in-depth data for other relevant stakeholders. One limitation of this study is that the participants in this study were studying many different MOOCs and the subjects of the MOOC courses were not determined. However, the insights obtained from this study can be employed as recommendations on what issues need to be addressed when the higher education plans to adopt MOOC in their institutions. The results also offer a basis to look at the common limitations and issues faced by universities on its development stage of MOOC.

We hope future works may investigate attributes that will actually make MOOC more effective for use among learners. In addition, future studies may also look in determining the important factors that would really affect the participation, completion, and success of both learners and instructors in the MOOC environment.

CONCLUSION

In summary, this study has been conducted to explore the SWOT perceived by learners to accept MOOC at higher education institutions in general and in the Malaysian context specifically. The survey data reports learners' satisfaction, perceived service quality, and their attitude toward MOOC, while the open-ended questions provide the learners' perspective of the SWOT of acceptance MOOC in Malaysian higher education context.

Common strengths and opportunities show that the attitude and satisfaction toward using MOOC is high; however, there are still some limitations in terms of lack of learner's skills and experience in using MOOC, lack of motivation, and heavy workloads of MOOC. The findings also documented that acceptance of MOOC is seen as an excellent tool to access the high-quality learning and is seen in a positive light. However, the weakness and the threats highlighted deserve attention.

The insights gained from this study may reveal information that could be useful to the researchers in identifying the key antecedents that would actually influence the participation in MOOC and forming a general view on how to evaluate MOOC. This study can be used as recommendations on what issues need to be addressed when implementing MOOCs in the context of higher education.

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