TECHNOLOGY ACCEPTANCE OF MOOC AMONG STUDENTS AT PUBLIC UNIVERSITY: A CONCEPTUAL FRAMEWORK

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Abstract: As technology grows, the process of teaching and learning can be achieved by using a variety of tools to enhance the learning process, especially as we move to Industrial Revolution 4.0 (IR 4.0). This means that IR 4.0 will not only affect industries, but consequently will transform the way jobs and education change. This will result in the evolution of education 4.0. Nowadays, MOOC has been used broadly as an online learning method that turn as a tool in teaching and learning. The use of Massive Open Online Course (MOOC) has been widely spread, especially at a higher learning institution as well as the other popular method and tools through social media such as Facebook application and Instagram. MOOC also can promote educational information, autonomous learning and lifelong learning. Nevertheless, the research on the acceptance of this technology at a higher learning institution was less. Thus, this study attempted to propose a conceptual framework on the acceptance of MOOC among Universiti Kebangsaan Malaysia (UKM) students in teaching and learning within their campus. The design of these studies, including the theoretical framework of the MOOC literature using Unified Theory of Acceptance and Use of Technology (UTAUT). The proposed framework of this study would make an understanding of the technology acceptance of MOOC especially at a higher learning institution in education area.

Keywords: MOOC, conceptual framework, technology acceptance, higher learning institution

1. Introduction

Massive open online courses (MOOCs) are a recent concept which applies basically for online learning. Since 2008, MOOCs have been run by a variety of public and elite universities, especially in North America (Liyanagunawardena et al. 2013). MOOC are a relatively new phenomenon that widespread higher education globally. They could be affiliated with a university, but not necessarily (Kennedy 2014). Furthermore, as technology advances, MOOC under Step 9, Globalized Online Learning, is one of the agendas in the Malaysian Education Development Plan 2015-2025 (Higher Education) (Azmi & Rasalli 2015). Nowadays the use of MOOC widely spread, especially at a higher learning institution either public or private universities. As more and more technologies are introduced in the field of education, this treasure of knowledge can provide and disseminate information and knowledge globally (Ismail et al. 2018). MOOCs in Malaysia are likely to see various...
developments in the next several years, as we can anticipate greater involvement from higher education institutions in response to the Malaysian Government’s recent statements that have revealed several national objectives for MOOCs in the next few years (Fadzil et al. 2016). It sounds good if the method of online learning can be a long lasting strategy especially in Malaysia. MOOCs are developed by instructors or lecturers based on the needs set by their institution (Kumar & Al-Samarraie 2018). Essentially the MOOC course in Malaysia was developed around 2014 by each e-learning section of the public university as a result of the recommendation from the Ministry of Education Malaysia. According to the Director General of Higher Education, Prof Dr. Asma Ismail, MOOC is a new educational experience in Malaysia that will be embraced by computer literacy in the country (Hudiya et al. 2017).

2. Literature Review

2.1 MOOC
MOOCs can be define as web pages that provide free and high quality educational content cleansed of geographical and time limitations to learners regardless of their physical locations and educational backgrounds (Altinpulluk & Kesim 2016). As technological developments take place in a swelling process, the term MOOC was also passed through various evolutions before maturing (Altinpulluk & Kesim 2016). MOOC is an online course which is massively open to everyone and everywhere in a large scale environment (Haron, Hussin, Rizal, et al. 2019). The first MOOC was “Connectivism and Connective Knowledge (CCK08)” in 2008 by George Siemens and Stephen Downes at the University of Manitoba, with 2200 participants from around the world, which was designed on the cMOOC model (Altinpulluk & Kesim 2016). In other word, the connective’s MOOCs or cMOOCs which is the learning system based on a connectivism theory developed by informal networks (Al-Shami et al. 2018). The cMOOCs involves groups of people learning together rather than being delivered by an individual instructor. Compared to cMOOCs, xMOOCs which is a second category follow a more traditional understanding, and are less interactive due to the high number of students. The most well-known examples of xMOOCs are Coursera, Edx, Udacity, Futurelearn, Codecademy and Udemy (Altinpulluk & Kesim 2016). xMOOCs more to traditional classroom moving as online. All material will be uploaded by the instructor and learning take place as at the university level. They are characterized by straightforward structure (Haron, Hussin, Samad, et al. 2019). The innovative of MOOC at Malaysia started in 2014 where the four first MOOC take place on their major courses of the university programmes (Haron, Hussin, Yusof, et al. 2019).

2.2 Technology Acceptance Model
As MOOC can be categorized as an educational system or tools in the concept of online learning at a higher learning institution, the understanding of the technology acceptance of these types of technology is very important. One of the theories used is a Unified Theory of Acceptance and Use of Technology (UTAUT) which is an integrated model used to identify consumer acceptance of the technology. Previous studies have found that there are many acceptance studies that apply the UTAUT model in various fields. However, studies applying the UTAUT model in Education in Malaysia are limited (Hamdan et al. 2015). It is because the use of Information Communication and Technology (ICT) in the Malaysian education system is relatively modest (Fadzil et al. 2016). Research on individual acceptance and use of information technology (IT) is one of the most established and mature streams of information systems (IS) research (Venkatesh et al. 2016). The UTAUT model which aims to explain technology acceptance, is based on eight technology acceptance theories or models (Khalid et al. 2014). Venkatesh, Morris, Davis, and Davis (2003) synthesized the model of the
technology acceptance and models based on the theory of planned behaviour (TPB) to explain and predict user acceptance and use of information technology (IT) into the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al. 2016).

UTAUT focuses on four independent variables which is (i) performance expectations (PE), (ii) effort expectations (EE), (iii) social influence (SI), and (iv) facilitating conditions (FC). In addition, behavioural intentions (Intentions) will be identified whether they affect the use of technology (Usage). Venkatesh et al. (2003) also emphasized the important role of each of the intermediary or moderator variables: (i) age, (ii) gender, (iii) experience, and (iv) voluntary variables on behavioural intention and technology use. Figure 1 illustrates a UTAUT Model:

The UTAUT model emphasizes that performance expectations, effort expectancy, social influence and facilitating conditions theoretically and empirically influence behavioural intention of using a system or technology. While behavioural intention and facilitating conditions determine the use of the system or technology (use behaviour). Other than that gender, age, experience and voluntariness act as moderator to these models. While UTAUT focuses on technology adoption in general, when considering the adoption and usage of e-learning systems such as MOOCs, additional factors need to be taken into account. In previous literature, MOOC came from a theory of Connectivism and behaviourist where a learning model takes place in this situation. The theory of Connectivism indicates that each individual is responsible for their own learning as in comics, each learner structures and manages their own learning (Kesim & Altınpulluk 2015). Comics may be considered extensions of personal learning environments (PLE) and personal learning networks (PLN) (Kesim & Altınpulluk 2015).

Nonetheless, in this study, both theories will be put into consideration which might be a factor that influence the adoption and use of e-learning system. As several researchers have extended UTAUT to study technology acceptance in the context of e-learning, this study will follow suit and extend UTAUT with relevant variables found to be significant in e-learning adoption or acceptance and use (Fianu et al. 2018). The next section, the framework of this study will be presented.
3. Methodology

In this study, a conceptual framework has been proposed in order to make an understanding of technology acceptance of MOOC especially at higher learning institutions. The framework will follow suit the basic UTAUT model as presented before in the literature, but then will be extended by adding other relevant variables. The following variables as illustrated in Figure 2 will be used to extend UTAUT which are course design, delivery, interactivity and assessment, media usage, motivation and interest since they have been found to be significant in influencing e-learning adoption and use of the system from several studies. Thus, the proposed conceptual framework for the acceptance of MOOC for this study take place as following.

![E-Learning Environment](image)

**Figure 2: A Proposed Conceptual Framework**

4. Discussion and Conclusion

From the proposed conceptual framework, the UTAUT consist of performance expectancy which is the amount to which individuals feel better and comfortable to use MOOC in order to achieve greater results. Effort expectancy refers to the user's awareness of the ease of using MOOC and understanding its content. When students feel comfortable and skilled in using MOOC and feel that the content of the course is easy to absorb and understand, then their willingness to use MOOC may be high. Social influence is the amount to which an individual identifies that important others believe he or she should use the new system. Meanwhile, facilitating condition is the amount to which an individual trust that an organizational and technical infrastructure subsists to support the use of the system.

Incidentally, several variables added in this framework are course design, delivery, interactivity and assessment, media usage, motivation and interest which is considered as a factor that influence behavioural intention and use of MOOC. MOOC take place as online platform and every learner are responsible to their own pace learning. Thus the course design, the way how the course is delivered, the interactivity and assessment use are very important
in order MOOC to be accepted as e-learning method at a public university. Furthermore, learner need motivation and interest while use MOOC. The Oxford Dictionary (Oxford University Press, 2014) defines "motivation" as "desire or willingness to do something or passion". In simple terms, motivation is a force that motivates us to do something effectively (Shah 2018). Moreover, the use of MOOC especially among academics helps increase the motivation and interest among students who are still fading in e-learning (Ismail et al. 2018). From the framework itself, its show that the UTAUT and non-UTAUT factors might be influencing behavioural intention of using a system or technology. In this context is a MOOC especially at higher learning institutions.

As for the conclusion, the proposed framework makes a pre-study of technology acceptance of MOOC among students at a public university as a whole. MOOC is an online platform which sometime will be used as a blended learning in teaching and learning. As well as the variables from the UTAUT itself, other factors might be important and can take into consideration as long as MOOC is acceptable and can be used for a long time and for the future. As we move towards Industrial Revolution 4.0 (IR 4.0), the method of teaching and learning should be tallied with the technological growth. Nevertheless, the acceptance of using technology is a main issue as people act and react with those technologies. Thus, from the proposed framework also, the factors that might be influencing the behavioural intention to use technology or not can be examined for further research and investigation.

References


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