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Research paper

The readiness of Indonesian toward MOOC system

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Abstract

Learning through digital environment has become both trend and necessities for today's education. One of the latest virtual learning trends is the Massive Open Online Course (MOOC). MOOC is spotlighted internationally and locally. Not only the internationally well-known, MOOCs, such as Coursera, edX, and Future Learn, many countries, including Indonesia, are also building their own MOOCs. However, how could this MOOC mode suitable for Indonesian learning culture? How would MOOC fit the Indonesian act of National Education System? In attempt to answer the questions, content analysis method would be used within the research through primary and secondary resources in the domain of MOOCs to see whether MOOC is potentially implemented in Indonesia based on the readiness of Indonesian learners to conduct self-study in digital environment and analysis on the act of National Education System.

Keywords: *MOOC; Learning Culture; National Education System; Adaptation Readiness Behavior; Instructional Design; Distance Learning; Indonesia.*

1. Introduction

Education becomes one of the keys to the success of a country's development. All resources owned by a country can be managed properly by using science and technology developed by humans within the framework of education. There must be a commitment from the government to contribute into the development of country's economy while increasing the life quality of the communities and workforce at large through the modern education system [1]. [2] states that the nicknames of humans as animal educandum and animal educandus (creatures capable of educating humans or other creatures) imply humans as beings who undergo an educated and educational process. In other words, man is a creature who is always involved in the process of education, whether done to him or done by others against him [3]. This implies that education is essentially an integral part of all human life that cannot be separated from human life as a civilized being. Humans experience the process of education throughout life (life-long education) in order to form personality and ability both individually and communally. In line with the creative and innovative human potential in all areas of life, people will always get education and develop education [4].

Education in Indonesia has a function to create and shape the personality and behavior of Indonesian to strengthen the people and nation's life. Education in Indonesia is aimed at fundamentally developing the potential of learners to be able to be human beings with positive character, belief in God, religious, spiritual intelligence, professional, entrepreneurship spirit, tolerance, social as well as being a democratic citizen and responsible for the progress Indonesia. [5] stated that the character built through education of Indonesia covers five potentials of education, namely: a) intellectual intelligence characterized by the formation of knowledgeable and creative human resources, b) social intelligence characterized by the formation of noble and democratic Indonesian human resources, c) psychological intelligence characterized by the formation of independent and responsible Indonesian human resources, d) spiritual intelligence characterized by the establishment of a faithful and devote to God the Almighty, and e) the development of kinesthetic intelligence characterized by the more productive, healthy and competent Indonesian human resources. These values are intended to build national characters which are based on morality and Pancasila as the life principles of Indonesian.

However, practically, education in Indonesia is still at the development stage and has not yet achieved the noble values underlying Indonesian education [6]. The above exposure implies the poor condition of the education system in Indonesia. Referring to the results of the Political and Economic Risk Consultancy (PERC) survey, it can be seen that Indonesia's education system is the worst education system in Asia, even compared to the other developing countries. Abdul Malik Fajar, the former Minister of Indonesian Education (2001-2004) acknowledged the PERC's assessment and said that the education system in Indonesia was the worst in Asia. This problem rose because there was a poor education system in Indonesia. There is a stigma in the Indonesian society that education is can only obtained formally through schools. This implied the problem of inequality in education when the capacity of schools could not facilitate education for all Indonesians [7].

The more sophisticated the information technology becomes, the more rapid and the more complete the information that should be received [8]; [9]. The rapid technology offers alternative innovation in delivering learning material using online system and provides open education resources [10]; [11]; [12]. The program courses covers a wide range of popular topics to capture more demands from the prospective students [13]. The MOOCs becoming popular and has been perceived as a threat for conventional education [14]; [15]. Contrast with the conventional education system, MOOCs didn't offer the face-to face learning system in delivering the content of the course [16]. Even the MOOC is open for everybody, that courses are only can be accessed with the students who are familiar with the technology [17]. Thus, MOCC is only suitable for students who are coming from the well-designed infrastructure technology countries [18].

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In this modern era, the process of skills and experiences transfer in education could be obtained quickly not limited to formal education but also by utilizing the development of information technology. Distance Learning Education system is one manifestation of information technology application in our education system and worldly known as the Massive Open Online Course (MOOC). Many renowned colleges such as MIT, Harvard, and Stanford offer online courses openly to anyone [19]. Referred to Open Educational Resources (OER), MOOC is the latest methods that offer access to distance higher learning quality [20]. In addition, MOOC also attracts public to learn and provide new perspectives to teachers and experts to look for new alternatives to many teaching methods that exist today [21]. In addition, MOOC could also be an added value to both e-learning and distance learning method that exist today [22]. MOOC as an independent learning platform became a hot trend that applied in various disciplines, especially at the college level. The independent learning method through the MOOC platform also promotes collaborative learning among the students over the online learning network [23].

There were over 3,842 MOOCs worldwide and this number is predicted to grow in the future [24]. This new platform have attracted many academician and students. Using the MOOCs, the world's leading universities upload their courses to open online platforms like Coursera, EdX, Udacity, and Open2Study. Students liked this new platform because of its simplicity without obligation to pass the entry exam. This platform is open for everyone and can be accessed everywhere at any time. By registering the online courses offered by the well-known universities, the students can enjoyed to access and possess high quality level of knowledge in specific areas.

Furthermore, MOOCs have become a component of the movement for OER. It would appear that the problem of inequality in education has been resolved with the existing of MOOCs, since anyone can attend an online course regardless of educational experience, in other words; the barrier to entry is removed for people with an internet connection. Empirical studies have shown that, online courses are mostly popular among students who already have higher education because they want to get more updated information to support their skills. MOOC also has a high level of attrition with reaches 92.5% of registered students.

One advantage of MOOC is easier to enroll and the prospect students are not required to provide verification of their ability to take a course. The challenge is, do all the students registered for a course have the same chance of successful completion? The massiveness and openness of MOOCs will make all the participants come from different backgrounds and personal characteristics. These differences will influence their academic performance by either creating barriers to learning material or, on the contrary, helping to complete the course successfully. Studies to determine which factors affect the process of dropping out in online courses show that academic performances depend on students' socio-demographic characteristics (gender and age) and level of preparation, as well as psychological parameters like metacognitive self-regulation and locus of control.

Furthermore, a positive correlation was found between the process of "surviving" and command of the foreign language in which the course is taught and previous experiences with online learning and bridging programs, which help students integrate into an academic environment by providing insight into academic plans, amount of work, etc. Studies conducted directly within the framework of MOOCs show that the success is depend on a student's individual characteristics (level of education, satisfaction with course content, and teaching style) and on the course's contextual parameters, which include its length, required workload, and degree of difficulty. Thus, it is possible to identify two aggregated levels of barriers to entry, or factors affecting success: Level 1: individual, which relates to the student's characteristics (educational experience and socio-demographic parameters); Level 2: contextual, which relates to the course's characteristics (length, academic workload, number of people registered, and number of active users) and the characteristics of the university offering the course (number of courses on online platforms and position of the university in world rankings).

Studies conducted within the framework of MOOCs have shown that contextual level factors are quite significant when taking a course. However, while predictors for Level 2 included various course's characteristics (data on which are available to the public), the only predictors for Level 1 were gender and level of education. This limited selection of individual characteristics is explained by the lack of survey data on students of open online courses. Therefore, as part of our study we will examine how ready would Indonesian learners toward the implementation of MOOCs as part of learning mode. To understand that, there are few variables being analyzed on this study including the latest development of MOOCs in Indonesia, the learning culture of students in Indonesia, and the government policy which regulates the national education system. Following is the research framework used in this study (See Figure 1).

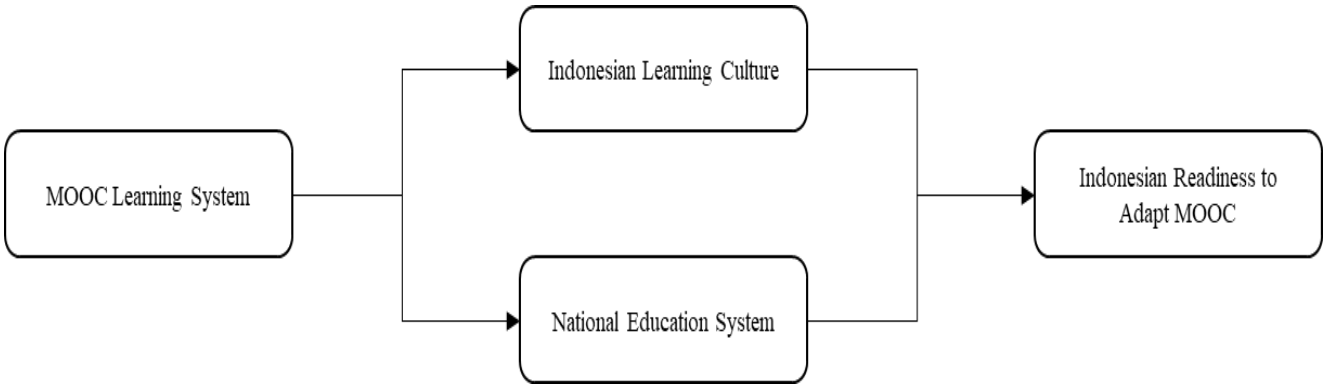


Fig. 1: Research Model.

2. Methods

This paper is using the content analysis method to analyze the Indonesia readiness to adapt MOOC. A content analysis of distance learning policy framework was made. Content analysis is used through both primary and secondary research. The primary research is conducted by the data collected from the all students of IndonesiaX. Before started the course, every students must answer the questions provided in the online questionnaire. Some questions will asked the demographic data of the students, include: gender, age, location, educational level and their frequency in accessing the course. The data will also showed the number of students who taking the final exam and passed the final tests. This final exam is mandatory and there's no obligation for the students to take this final exam. All students who are passing the exam, will receive the certificate of achievement authorized by both the IndonesiaX CEO and lecturer (depend on each course).

The secondary data was gathered by the systematic reading from all the written text books and publications related to the MOOC system and the learning culture. This paper studied all the government regulation in national education system. The Indonesian culture is also developed by observation of Indonesian behavior in common.

3. Results and discussion

3.1. The growth of MOOC in Indonesia

The concept of MOOC is basically suitable to be applied in Indonesia, particularly when contrasting the land area and the quality of the education which is inequivalent between the cities and the remote areas. The situation then makes the knowledge and skills dissemination are not spread evenly. The learners and societies in general, experience information inadequateness which would give negative impact to equitable development. On the other hands, MOOC offers a platform which is accessible massively where society, wherever they are located, could access the equally qualified materials. However, the infrastructure may be the enormous obstacle in implementing this learning system widely in Indonesia.

There are plenty MOOCs available in Indonesia, such as: Flexible Learning Innovation Program (FLIP) SEAMOLEC, MOOCs Universitas Terbuka, and IndonesiaX. However, the number of the courses offered by these three MOOCs are even less than the courses offered by the internationally known MOOCs, such as Coursera, edX, or Future Learn, alone.

IndonesiaX, as one of the MOOC developer which work closely together with various universities and companies in providing their course materials, is only having 20 courses in total. Since the first launched in August 17, 2015, IndonesiaX has already had 112,515 registrants. They are located not only in Indonesia, but also in some countries around the globe. The distribution of these prospective learners per July 14, 2017, based on the IndonesiaX database, is located in 75 countries, 943 cities, and 34 provinces in Indonesia. In term of age distribution, most of the students at 18-24 years old and 25-34 years old (each 38.4%), followed by 35-44 years old (14.7%), 45-65+ years old (6.1%) and the rest (2.4%) coming from unidentified age group. Unfortunately, from the latest data, there are only 10,875 students finished the program to final tests with only 8,558 students successfully passed the given tests. It means 21.31% of the students failed the final tests. Just like most MOOCs, students could upgrade their course and receive their certificate of achievement after paying certain amount of money. On the IndonesiaX case, there are only 3,876 or 45.29% students upgrading their course and receiving certificate of achievement. From the data, it could be seen that in general the successful number of students who enrolled certain program in MOOC is relatively low. However, those who decided to finish the program mostly could achieve the expected result. The result of the study aligned with the research conducted by [13] who stated only 0.8% of the total registered students are completing the course. Students preferred to complete the online courses offered by the accredited university [25]; [26].

However, it would not necessarily mean plenty of things. As other mode of distance learning, MOOC is having few disadvantages. Few main factors that influence the succession are instructional design and self-motivation [27]. Further, they explained that well-designed program will control the drop-out number of enrolled students. In IndonesiaX case, the mean comparison between the registered students to the graduated students is approximately 13:1. In short, only 7.6% of the students could successfully finish their program. Unfortunately, the weak instructional design and self-motivation are not the only common failure reasons. [28] found in their study that there were many more reasons for students to drop-out from their program, including job-related and technology-related reasons, besides personal and program-related reasons themselves. Thus, to increase the succession rate, the MOOCs' developer, as any other online learning developer, should pay close attention to many factors, particularly course design [29]. Furthermore, [30] mentioned in his study that a well-designed online program would provide students with prompt, systematic, and instructive feedback to let them know their actual progress. Not only that, the prospective students should also develop their learning commitment so that they could successfully complete the proposed programs well.

3.2. Learning culture

We must understand how a society learnt and the setting in which they learn [31]. Culture as a particular way of life of a society is made from the interaction among the people in the social networks [32]; [33]. Some researcher emphasized the importance of active social interaction and exchange in and for learning [34]; [35]; [36]. In most countries, the social and disciplinary norms of learning and teaching practice as part of its cultural system. The cultural system will build the orientation of the knowledge in creating more sustainable social and economic prosperity. The basic culture is first introduced in the family by establishing norms based on society's ethics and religion. In the next development stages, this culture might be fostered more purposefully in formal education.

For a community or nation to exhibit a culture of learning, such habits of mind would pervade the broadest and deepest dimensions of the society. If culture is, as [37] asserts, a "complex of ideas, notions, data and memories, [which] is the sum of all the things that a given society… has decided to record", then it follows that a learning culture needs very broad parameters in terms of its 'curriculum content'. A learning culture can be understood as sharing result, ideas, and norms among the member of the society [31]. The significance of the ideas, notions, data and memories will be shared and introduced through the formal schooling.

[38] in his National Cultural Dimensions Theory mentioned that each country has its own culture, characteristics, values and behavior. The cultural dimensions influenced how the people behavior and their relationship each other. The national cultural dimensions consist of the following dimensions: 1) Power Distance Dimensions: refer to distribution of power and the number of hierarchy established in society. The more the number of hierarchical levels, the higher degree of the power distance index. 2) Uncertainty Avoidance: show the society's reaction to minimize the uncertainty and reduce the ambiguity. Higher degree index meaning that law will be enforced as guidance for people's behavior. 3) Individualism versus Collectivism: is the degree to which individuals are connected into groups. Individualistic thinking only his own interest. Meanwhile, collectivist societies had a tight relationship and belong to their extended families. As social human being, they are connected and support each other within their communities. 4) Masculinity versus Feminism: refer to the characteristics differences between the genders. The masculine societies will be characterized by monetary rewards for every achievement. On the contrary, in feminine societies, the people focus more on quality of relationship and avoid the conflict. 5) Long-term versus Short-term Orientation: describes society's orientation about the time horizon. Long-term oriented societies will anticipate what will be happen in the future, meanwhile in short-term oriented societies related only what they are doing now and respect the tradition from their ancestors. 6) Indulgence versus Restraint: measures the feeling and emotions of the people. Indulgence societies will happy and enjoy their life because they can control their own behavior. Restraint societies will be more stressful because they can control and adapt with their emotions.

3.3. Learning culture in Indonesia

Education is part of the learning process in each individual life. Highly educated people mean better community welfare, higher salaries payment, and more economic productive nations. Therefore, people are continued to rely on formal education and equipped themselves with high levels of literacy (including the familiarization of the digital technology) and numeracy platforms. It was proven that the learning culture especially in attending the formal school is also influenced by the nation's culture.

To get better understanding about the learning culture in Indonesia, firstly we must understand the characteristic of Indonesian people,

and secondly by making more explicit the sort of pedagogical work involved in developing it more fully in the lives of the young people we teach. In his publication, Hofstede explained Indonesia cultural dimensions as follows [39]: 1) Power Distance Dimensions: Indonesia society tend to have more hierarchical power. People are afraid and must obey the orders from their superiors without any objections. People tend to avoid conflict and the communication flow will be indirect. This dimension also applied into the relationship of Teacher and Student in Indonesia. The teaching materials will be communicated in one way from the teacher to the students. The students are not familiar to give their opinion openly and directly. They must follow and obey the teacher's rule and its taboo to give critics to the teachers. What the teacher said is always correct and never wrong. The students must have highly fully respect to the teachers and treat them as the parent's representatives in the school. 2) Uncertainty Avoidance: Indonesian people liked to avoid conflict and prefer to maintain harmony relationship with their friends and families. They never showed their disappointed, dislike, or any negative feelings in front of their counterparts. 3)Individualism versus Collectivism: As a collective society, every family in Indonesia played an important role in establishing the norms, culture and values and finally will create individual behavior. 4) Masculinity versus Feminism: as a feminine country, Indonesian tends to avoid conflict and prefer harmony lives. All conflicts will be resolved in soft approach through open communication. 5) Long-term versus Short-term Orientation: Indonesian is also had pragmatic or short-term orientation, in which people believe and respect the culture that had established by their ancestors and families. The culture will be used to guide people behavior to anticipate uncertainty in the future. 6) Indulgence versus Restraint: Having restraint culture, the Indonesian felt that their behaviors restrained by social norms and ethics.

All these Indonesian cultural dimensions are having an important aspect in how the people's perspectives through education system. The parents encourage their children to pursue the higher degree in formal education. Children who were able to receive highest degree will make the parents proud and automatically will increase the parents' social values. Formal education is assumed to be a guaranteed of employability. Being educated is very crucial and the number of years spent in the formal education will assist them to be more successful in the workplace.

In schooling system, there is also a clear gap relationship between the teachers and their students. Indonesia education system is more "teacher-centered" classroom. It's forbidden for the children to express their opinion directly in rude attitude. The children should obey what the children said without any objection. Error-making may be perceived as more psychologically harmful than easy success.

3.4. The analysis of national education system in Indonesia

In implementing teaching-learning, either in formal or non-formal education, Indonesia has the Act No. 20 Year 2012 about the National Education System. This act was stipulated to guarantee the equity of the quality of education in encountering the local or global challenges. This act defined education as the conscious and well-planned efforts in developing the learners' potential (article 1, point 1). However, this act is not only managed the formal education track but also non-formal and informal tracks. MOOC could be used in either one of these three tracks that is conducted through distance education by using the support of information and communication technology (article 1, point 12 and 15; article 26, section 1).

Basically, this act does not determine the implementation of MOOC in Indonesia. However, there are few articles that is important in supporting the MOOC's development in Indonesia. Article 4, section 6, for example, it stated that the implementation and quality control of education requires the active involvement of the society. This strengthens the position of MOOCs which are mostly developed by university, community, enterprises, or consortium. Not only that, the breadth of MOOC's coverage is supported by following articles; article 5, section 1 and 5, explained that each citizen has equal right to acquire the qualified education and the life-long learning where each of the tracks is expected to complete one another (article 13, section 1) through face-to-face or distance learning (article 13, section 2).

In implementing its role in informal education, MOOC has an immense capacity to support the students' potential development particularly in knowledge, skill, and professionalism (article 26, section 2). Furthermore, as implied in section 5 and 6 in the same article, the knowledge and skill presented in MOOC could be synchronized with the formal education through certain processes. This supporting article consolidates the capacity of MOOC's development and implementation to increase the number of qualified human resources in Indonesia. MOOC offers massive openness and accessibility which is potential to accelerate the development and the equity of national education.

Furthermore, this act also managed the distance learning conception. It enabled the implementation of distance learning in any educational track. MOOC which adapts the distance learning concept could adopt the available sections in article 31 within this act. Additionally, Indonesia also has Ministerial Decree No. 109 Year 2013 about Distance Learning. Further, the article 6, section 1 on the decree regulated that the achievement of distance learning program is equal to face-to-face or traditional method. It means that the instructional design principles should be closely used in developing any distance courses, either in formal, non-formal, or informal track. Nevertheless, each program developer in MOOC, either university, institution, or consortium, must develop their quality assurance system to ensure the quality of the program. The decree also encouraged the development of accreditation and reporting system that should be conducted regularly. This will assure the developed programs meet the national human resources development needs, as emphasized in article 17, section 1 and 3.

Most of MOOCs in Indonesia, regarding the act of National Education System, are part of community participation in education enforcement. This is reflected in articles 54, section 1 and article 55, section 1. Both articles supported the active participation of community in education development based on their specializations. However, through the available regulations, the implementation of MOOC in Indonesia basically has met the needs of the nation.

3.5. Discussion

There are quite many research have been conducted which expose the benefit and the drawback of the implementation of MOOCs. This chapter of research is focusing more in the readiness of Indonesia in adopting MOOCs as another mode of learning with learning culture and government policy as consideration. Though government policy has supported the possibility of MOOCs' further development, still the social values of learning in Indonesia tends to see that good education would be gained in a formal structured learning institution as traditionally recognized as school. The students are used to structured program where teachers take control of the learning process. They are likely less committed to their learning in virtual mode of learning. They still believe MOOCs as secondary or tertiary mode of learning.

Based on IndonesiaX case study, most of the students preferred to take practical courses or courses with famous instructors. In respect of the MOOCs' certification, the students still deem that the certificate issued by MOOCs would not affect their career much. They consider that the knowledge and skill offered through MOOCs' platform are more important than the certificate of achievement itself. However, the data provided by IndonesiaX could not be used to draw sufficient conclusion why the students failed to finish the enrolled program. Further research in this subject would be necessarily conducted to see what is the main shortfall of MOOCs' development and implementation in Indonesia so that the better version of MOOCs could be generated in the later future.

Mostly the students of IndonesiaX are currently employed. One reason to take the MOOC is to equip their skills with updated information and knowledge, not to get a formal degree. This research is supported by [40] who expected that the MOOCs must offer more attractive and convenient courses for their students. As an alternative education system, the MOOCs still lacked of number of registrants. There's a low rate of completion and achievement of the course. Even the course offered the certificate upon the completion, but the acceptance and accredited of it is still questionable [41]. To attract more students to register, the content of the course must be student-centered, more combined theory and practical concepts or approaches [42]; [43] and its curriculum [44].

4. Conclusion

Even the MOOC offered the simplicity and convenience for the students; the Indonesian is still considering this system as a complementary for their formal education. Indonesian is not ready to adapt this new model of learning system. For them, MOOC will not give value added to their career, since the certificate issued by MOOC is not respected by the employers. The education system in Indonesia is much affected by the national culture, in which family acts as a decision maker in choosing the school for their children. The culture is still focus more on face-to-face communication system in delivering the learning materials. As a respect of their ancestor values, the family preferred to maintain the Teacher-Student relationship.

The rising demand of MOOCs challenge the educational organization includes university and government to create a formal and comprehensive regulation and policy [45]. The students of MOOCs must get assurance regarding the quality of the course offered. A clear regulation will assist the government to achieve a high-quality outcome target in education system. Culture is one of the factors that influence the country's education strategy [46]. The national education system is less supported in making the Indonesian more ready to adapt the MOOC system. All government policy is made to regulate the formal structured learning system start from the early childhood education to higher education system. The government should establish a clear policy to ensure the MOOC students about the prospect of MOOC as an alternative ways to get good education. The government should involve actively designing the curriculum and the course offered to the students. There must be an accreditation system to maintain the quality of the MOOC system.

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