

Systematic Review On Massive Open Online Courses Based On Primary/Meta-Analysis

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Abstract: The research conducted a systematic review on peer reviewed literature of Massive Open Online courses that encapsulated the finding of more than 40 articles, by employing the procedure of meta-analysis and primary-analysis in the bid of addressing the research question, is MOOCs a way out to African Institutions? An open code context method was applied to validate the articles for the sake of comparisons. The validation result shows a certain level of overlapping based on the Open Code Context procedure on the reviewed literature researched, which led to meta-analysis that minimized the overlap. The primary data collected have been analyzed using the primary-analysis procedure. Even though, the size of the random effect means was as minimum as 0.23, hence, a significant difference from zero statistically. A heterogeneous distribution of fixed effect model was applied to the primary- analysis and the mean effect size was 0.21 and 0.22 using the random effect model. The result, the gaps, the implication and the prospect future of the research was particularized and discussed.

Index Terms: MOOCs, cMOOCs, xMOOCs, Massively Open Online Courses, Massive Open Online Courses, MOOCs in Africa, Higher Education, MOOCs in Higher Education, Meta – Analysis, Systematic Review

1 INTRODUCTION

The yearning for the open access to higher education becomes inevitable, which was exclusive to Africa, prior to the spread of online teaching [1], yet difficult to enroll due to the inadequate access to the required equipment. The emergence of Massive Online Courses (MOOCs) put a smile to the faces of African educators for the fact that, MOOCs is designed to be suitable to African, despite the limited resources at their disposal. The speed at which the institution of higher learning in the developed countries embrace MOOCs, indicate that the institutions recognizes its potentiality of delivering qualitative education around the world [1]. In May 2013, Coursera introduced courses for K-12 teachers, team up with text book publisher to provide participants with digital course material for the courses offered and around the same time Udacity partner with AT&T to offer Master's Degree online. In June 2013, edX makes available its learning code as open source, WorldWideEd express her intention of being on the open education platform, edX join up with Indian Institute of Technology (IIT) Bombay and partner with International Monetary Fund (IMF) in training participants using the MOOCs' platform. In July 2013, Coursera broadcast the raising of funds worth millions of Dollars from a financial corporation, which led to teaming up with seven (7) institution of technology from India to offer MOOCs, and in August, 2013 Coursera announced the partnering with over 3 universities, and at that point, the President of the United State declare the interest on MOOCs (Allison L et al., 2016). In September 2013, the University of California, Irvine (UCIrvine) shows the intention of offering a MOOC through a zombies screen popularly known as "Walking Dead", and at the same time Udacity announced a partnership with many companies [2]. By October 2013, ministry of Higher Education of France announce the adoption of edX and the Brazilian company Veduca launches its Open Online MBA [1],[3].

Moreover, Coursera and edX extended their partnership to China's company and universities and also iversity (European online education platform) was launched by German Online Education. In November 2013, Coursera in conjunction with Willerer and John Ciancutti developed movie recommendation system for Netflix, and at the same time a Jordan University announced the lunch of an Arabic language portal named Edraak and edX and Udacity launched "Data Science and Big Data Track". By December 2013, MOOCs expanded in terms of partnering as well as the number of participants' enrollment and that is how the trend went on and on [3]. Tharindu [6] expressed the initiatives of MOOCs as beneficial to institutions of higher education, because, the access to higher education becomes easy for many learners. MOOCs are regarded as the means of educational democratization and makes universities to have prestige [4]. According to Pedro [6], MOOCs avoid re-inventing the wheel in educational environment and they are potential tool in Open Educational Resources (OER), and also provide universities with the opportunity of marketing themselves to eligible students. University professors express their pleasure of teaching larger classes online via the MOOCs pedagogy which increases their visibility amongst their peers, [5] as well as the general public. Students who have the ability of learning online (MOOCs) are having the potentiality of becoming independent learners and good time mangers [6]. More so, some additional skills which can transform the student to have the opportunity of taking instruction and provide a result with little or no hand-holding [7]. Enrolling into MOOCs provides the student with a greater discipline of peer learning, scheduling the appropriate time to learn and undertakes assignment on or before the due date [8]. The constant navigation of tools and various online programs by the participants provides a technological-know-how or set of new-skills capable of operating any computer or mobile devices [9]. The skills gained through the process of learning MOOC alone, are capable of providing the online business oriented companies with a valuable resource persons [10]. According to Lawton (2013) MOOCs are great advancement of higher education considering the hope expressed by the elite educational institution, and is regarded as a new "Gold Rush" in education, for it provide the educational opportunity of massive learning with no tuition required [11]. The pedagogy of MOOCs, provides learners with a positive impact considering the self-driving-mastery of the course, hence,

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freedom of studying variety of wider choice [12]. The traditional method of teaching required the students to attend the classes in the university at a part time for the academic activities, contrary to MOOCs that is at the student's opinion [13]. According to Kim (2013), most of the challenges faced by MOOCs are related to credibility, student's completion and the business model, among the problems of MOOCs which is its nature of impersonal in teaching and learning processes [14]. Learners find it difficult to handle their studies when the feedback is missing [14]. A report from an online survey by **Babson** (2014, p53) cited a professor saying; "There is no business model for MOOCs that makes sense, Elaine Allen," and also Oyo (2014, p4) was cited saying; "Currently there's no way to earn a degree by taking MOOCs" he further explain the reason for his statement saying many MOOCs providers are not in any way ready to award credit for the enrolled MOOC courses. Kelly (2014) discussed from the perspective of the instructors saying, MOOCs consume more time compared to face-to-face teaching and expressed his ordeal over the developing, teaching and the uploading the course materials without any incentive. MOOCs are categorically classified into two (Tharindu, Andrew, & Shirley, 2013): xMOOCs and cMOOCs. According to Rodriguez (2012) xMOOCs are based on the concept of behaviorist which is more of artificial intelligence, and it uses automatic testing in evaluating the students understanding. cMOOCs use the idea of Connectives in which the learning is carried out online through the web and provide the users with the opportunity of contributing their ideas. According to Daniel (2012), cMOOCs and xMOOCs are the divergence of MOOCs without further clarification. Siemen (2012), consider cMOOCs as a model that encourages learning through social network and evaluate them as autonomous that provide means of creativity. The author explain xMOOCs as model closer to the traditional mode of teaching that provides videos, presentations and quizzes. In a short form, cMOOCs is more on generation and creation of knowledge, while xMOOCs is just like duplication of knowledge (Siemens, 2013). Considering the challenges faced by African institution of crowded lectures theaters, lack of electricity, outdated curriculum, limited number of computer for students, pirated software and lack of technical knowhow, MOOCs have the potentiality of excelling in Africa with all the mentioned problem by applying the maturity of mobile technology such as cellphones [15].

2 MOOCs in Africa

According to Amenyedzi (2011), poverty play a significant role in preventing many African students access to higher education, MOOCs with the aims of mass enrollment with no tuition required, which makes it more appealing to Africa than any other continent [23]. The case for MOOCs in Africa depends on the readiness, the readiness did not lies only on the participants, but the infrastructure as well. Considering the demography of MOOCs participants presented by many research articles, very little number of students participates from Africa [16]. Some of the major issues concerning the poor participation of African MOOCs include;

Awareness: According to Benedict and Billy [37] the African elite, stakeholders and politician did not even have the idea of MOOCs, its believed that if African student would understand and have the idea of MOOCs, the number of participant will increase within a short time [17].

Access to computers: Jordan (2014) says many of the African students have no access to a computer sets which is the main problem before the knowledge of how to operate the system. According to Brabham (2013), computer training that include the teaching of programming, computer operation, databases, desktop publishing and many more, are conducted using white/black board in many higher institutions of learning in Nigerian and many African countries. Which is related to problem of either the students outnumber the available computers or the number of computers that are properly working cannot handle the training.

Language barrier: participants from African countries find it very difficult to understand the medium of communication used, not the language precisely, but the dialect or the grammar [18]. With the zeal of learning from the MOOCs, after a number of trail the participant used to give up [19].

Course Content: Course Content: some of the courses or the content offered by MOOCs providers do not reflect the need of African student for some reasons such as, the contents richness, unsuitability to the African needs or environment and many more [20].

Image Resolution: the images or videos posted on MOOCs used to have very high resolution, which makes it difficult for a system with a low processing power to upload easily, and some documents need a special software to open, some MOOCs documents cannot be access via smartphone and many issues of that kind [21].

Poor Bandwidth: Even though, there are many internet service providers (ISPs) in Africa ranging from private, community, commercial to mobile networks that provide domain name and internet access through share or dedicated bandwidth. But very little meet the required upload/download megabits per second (mbps) agreed during the contract. Which is usually a scam between the agents and the service providers in Africa that cripple the internet usage [21], [22].

Electric Power Supply: acute power failure is one of the reason why many African cannot be able to participate in MOOCs, because it requires the use of an electronic gadget for enrollment. The problems discussed above enlighten the issues deflating MOOC presence in Africa [23]. The figure 1 and 2 illustrated the level of MOOCs in Africa in terms of enrollment and participation.



Figure 1. Major MOOCs Platform and MOOCs in Africa

Based on the illustration above, no any country in Africa is enrolled into any one of the major MOOCs platform.

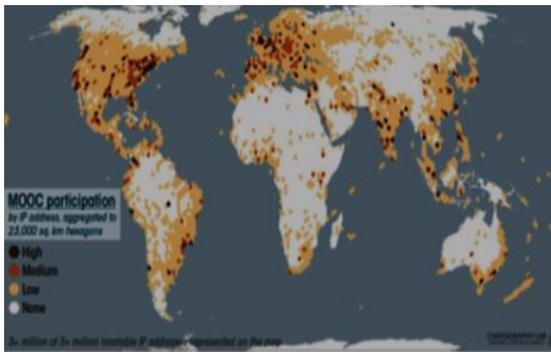


Figure 2. Poor MOOCs participation in in Africa

The above figure illustrates the poor level of MOOCs participants from Africa compared to the other continents.

3 MOOCs Strategy in Africa (Nigeria)

Event though, there are a lot of improvements in some African countries, such as Nigeria, concerning the challenges that may hinder the implementation of MOOCs in higher education [24]. Some of the improvements include the increase in electric power supply, intervention from Tertiary Education Trust Fund (Tedfund) and other government and non-government organization. Tedfund provide Nigerian higher institution with the required number of computers and also, Nigerian Communication Commission (NCC) annually donates hundreds of laptop computers to higher education institutions. The provision of cheap internet bandwidth by major mobile networks operators in Nigeria has also contribute immensely. The mass access to smartphone by individuals and technical-know-how on how to surf the net (facebook, whatapps, online-new) and also widen among Nigerians [25]. Despite the recent findings that shows some improvement regarding the shortcomings in countries like Nigeria, there are a lot of problems that pose a threat to achieving a complete MOOCs in Africa [26]. The problems has to do with the Government policies governing the conduct of higher education in Africa institution, which include accreditation and the validity of the earn certificate [26]. The National University Commission (NUC) of Nigeria has no recognition on online certificates for many reasons which include scam and impersonation [26]. For African countries to benefit from the MOOCs and shying away from the piles of problems as the time, blended MOOCs are the ways out [27]. "Blended learning will be the norm. It's not a matter of 'if'. We just have to decide 'how'." (Laura, 2013, p). Blended learning is seen as the only alternative of implementing MOOCs in Nigeria [27]. For the blended method of learning to be implemented there are lot of activities to be performed by the institutions, tutors and the policy makers of the African higher educators. The table below itemized the activities and the responsible bodies [28].

TABLE 1
STRATEGY FOR IMPLEMENTING MOOCs IN AFRICA

Activities	Responsible Bodies
MOOCs curriculum development	Academic staff
MOOCs accreditation	Policy makers
Conversion of the curriculum into digital form	Academic Staff
Offline/Online learning platform	MOOCs providers
Central MOOCs access center (HUB)	Education Ministry/ Higher Education unit
Creation of MOOCs coordination Centre	Education Ministry/ Higher Education unit

With the above table, there is a need for the analysis of the cost implication in implementing the MOOCs, which will provide government the idea of choosing the best way of implementation or phasing by starting from the most required region. Even though, MOOCs provide Africa with golding opportunities, there are a number of challenges ranging from commitment of the instructors, lack of adequate funding, limited resources currently causing mayhem on the traditional face-to-face method, problems faced by policy maker in introducing new policy to government, and the issues of privatization [29].

4 Method

The approach used in conducting the research involved the steady meta-analysis of articles followed by open code context analysis or primary- analysis on the primary data generated. The guidelines found in enhancing the processes that satisfied the objectives of the research [30].

4.1 Inclusion and exclusion strategy:

Ellis and Haugan [33] discussed on a number of techniques adopted by researchers in identifying articles to be used for a literature review, which involved the inclusion and exclusion criteria that helps in (a) provide scope of the review so as to determine the possible population involved (b) to strategized and apply the most adequate design and (c) to control the bias involved in meta-analysis during the inclusion processes. For the primary data inclusion in this research, an article was included if it:

- Addressed the initiatives, readiness, application, survey and enrollment of MOOCs in African institution and African countries ranging from the beginning of the MOOCs to date.
- Focuses on the African institution enrolled into any of the MOOCs or are partnering with any of the popular or unpopular MOOCs providers.
- Focuses on the percentages of students enrolled into MOOCs and the percentages of completion rate, reason for not completing, reasons for poor participation and the possible suggestions.

Bacon [9] argue that, a technique of identifying or selecting a paper or an article should be justified to be re-usable, so as to enable other researchers to re-apply the same approach for further research. Systematic literature review applied a transparent procedures in analyzing, evaluating and synthesizing a results of a relevant research conducted [31]. These explicit methods or procedures ensures that the exercise can be replicated. This research aimed at using the systematic literature review on MOOCs related literature with the intention of analyzing the benefit and the challenges of using MOOCs in Higher Education and to aid the understating of the phenomena for further research, and to bridges the gap in the literature and to provide the possible benefit and implication to Africa [32]. With the growing agitation of qualitative approach in research, it is believed that, systematic review approach, ease the way of tackling that challenge [32]. Amongst the number of articles gathered, some were termed relevant, may their purpose and content reflect the aims stated above.

4.2 Search Strategies

The research set the following variables for the criteria of obtaining relevant articles for the purpose of review:

- MOOCs
- Massively Open Online Courses
- Massive Open Online Courses
- MOOCs in Africa
- MOOC in higher education
- Higher education in Africa
- Online learning in Africa

The range of years for literature review serves as a constrain for the research, which is between the year 2012 when MOOC started to become popular to 2015, though the previous years (2008) can never be ignored but it is believed that some of the literature within the review period made references from the previous ones [33]. The following search tools were used;

1. Electronic databases such as; Science Direct, IEEEExplor, EBSCOhost, Scientific research, ZINC, MEROPs, EcoCyc, Academic Journals and Scopus.
2. Search using Google scholar, Google and Bing.
3. Snowballing reference list major popular articles and literature reviews
4. Web search on prominent Journal such as; Computer and education, Computer in Human Behavior, Social and Behavioral Science, Social Networks, Journal of Online Learning, and Distance Education.

The classification of the collected articles was carried out using the approach of Glaser (1956) (Constant Comparative Espoused) many Journal articles were also gathered from international journals. The research did not only consider the published articles found on the journals, it went ahead to search more information from blogs, white paper, reports from many websites similar to Tharindu et al (2013) study.

4.3 The Fusions of Meta-Analyses

Rana, Elaborates meta-analysis as a procedure of synthesizing the quantitative findings made from various literatures (Systematic literature) addressing nearly similar research question. The methodologies used can either be the same or may be absolutely different. Meanwhile, many authors discussed the synthesis of meta-analysis in various publications even though, in different disciplines. Such publications includes that of; Lipsey and Wilson (1993 & 2001) dealing with educational treatment and psychology.

4.4 Selecting Meta-Analysis and Review

Among the isolated articles from the validating processes reviewed by the researchers, 40 articles were selected to carry out the review. Among the document, 33 articles were chosen through full-text review with Cohen's $k = .81$ and the interrater agreement was 87.2%. In order to ascertain the reliable coding for the full-text review, the document where distributed amongst the researchers in which two or more researchers review the same documents independently, with the agreement resulting to interrater of 91.5% and Cohen's $k = .85$. Where the agreement felt to reach consensus, the need for the third party reviewer was employed. Based on the discussion amongst the researchers, some four (4) articles were further disqualified on the argument of meeting the absolute inclusion principles stated earlier on.

4.5 Effect Size and Standard Errors

The aggregate between the means of the meta-analysis and the control measures are regarded as effect size. This give a way of converting the effect size to percentile between the analysis and control measures for easy representations and provide a means of cutting down the problems analysis between samples being large or small. The standard error is said to occur when the variability found in the sample differs significantly from the population of the used data.

5. RESULT

In the entire practice, 43 relevant articles have been studied. They provide the result of the achievement made from the comparisons of the MOOCs article classified under the same category. The employment of meta-analysis provides a synergy between various technological approached used by many authors in driving the literature from their sources. The figure below show the separation of articles (relevant) by type and the year of publications, it is noticeable that the publication about MOOCs heat the bar or reaches the peak by the years 2012 to 2013 and the number of publications as well as the discussions decline from 2014 to 2015 and may be in the 2016 which is likely to be the secrete behind the uncertainty about the phenomena [34].

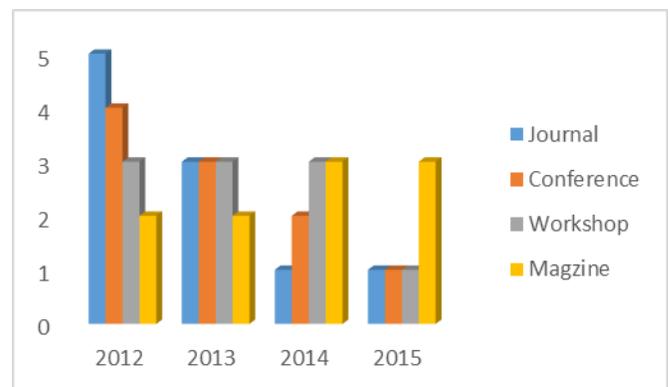


Figure 3. Articles classification by type and year of publication

Even though, the selected articles discussed much about MOOCs such as how it was coined, a little history and trend about the concept, but the research discover that most of the discussion is directed towards one of the following themes;

- XMOOCs
- CMOOCs
- Pedagogies
- Business Model
- Instructor/Learners (Participants) Experience
- Technology
- Dropout rate

The articles usually breakdown the themes in to the following attributes;

TABLE 2
DESCRIPTION OF THEMES' BREAKDOWN

Attributes	Description
Abstract Introduction	Summarizes the research A brief history of the MOOCs
Review	Discussion about the MOOCs enrollments
Educational History	The issues usually about the relationship with MOOCs and OER
Technology	Details on the pedagogy and the platforms of MOOCs providers
Dropout rate	Explanation about the number of participants that completed the course
Learners experience	Details about the possible benefit despite the lack of credibility
The provider	Explain the experience of the tutors or the affiliated body

The table below shows some of the selected articles and the categories the fall into

TABLE 3
SELECTED ARTICLES

Author/date	Article	Category	Africas' view
Gerard Escher et. al (2014)	Booting higher in Africa through shear MOOCs	Pedagogy	Yes
Benedict O., Billy K., (2015)	MOOCs for African by Africans	Technology	Yes
Liyanagunaw ardena et al., (2013)	The Rise of MOOCs	Pedagogy	Yes
Ahmed et al., (2014)	What drive successful MOOCs	Technology	Yes
Elena et al.,(2014)	Language MOOCs	Pedagogy	No
Khe and Wing(2014)	Student and instructors use of MOOC: motive and challenges	Participants' experience	No
Anoush M., Manuela B. & Allison L., (2015)	Instructional Quality of MOOCs	Pedagogy	No
Catalina U. & Anca N., (2015)	MOOCs in our Universities: Hope and Worries	Technology	No
Khaled M., Hang F., & Andrew P., (2015)	Understanding the MOOCs continuous: the role of Openness & repetition	Technology	No
Mingming Z., (2016)	Chinese Universities' acceptance of MOOCs: A self-determination perspectives	Pedagogy	No
Nina H., Allison L., & Colin M., (2015)	Context Counts: how learners influence learning in a MOOCs	Participants experience	No
Duy V., Philippa P., & Garry R., (2015)	Relational event Models for Social Learning in MOOCs.	Technology	No
Pedro J. et al., (2015)	Precise Effectiveness Strategy for analyzing the effectiveness of students with Educational Resources and Activities in MOOCs.	Dropout rate	No
Tayeb B.,	Learning outside the	Pedagogy	No

Akila (2015):	S., Classroom through MOOCs.				
Layla Sebastian & Jerry (2015)	Z., Semantically Enriched Massive Open-Online Courses (MOOCs) Platform.	Technology	No		
Oscar (2015)	L., A Factorization Approach to Evaluate Open Response Assignment in MOOCs using Preference learning on Peer Assessment.	Pedagogy	No		
Allison L et al., (2016)	L., Learning in MOOCs: Motivation & Self-Regulated	Pedagogy	No		
Willi B et al., (2013)	H., The MOOCs Business Model	Business Model	No		
Meltem (2015)	H., An Overview of the World MOOCs.	Pedagogy	Yes		
Mehmet Hakam (2015)	K., A Theoretical Analysis of MOOCs type from a Perspective of Learners	Participants experience	No		
Fatiha Henda (2015).	B., MOOC Rec: A case Based Recommender System for MOOC	Technology	No		
Ahmed M., et al., (2014)	M., What Drive a Successful MOOCs? An Empirical Examination of Criteria to Assure Design Quality of MOOC.	Technology	No		
Radu Diana (2014)	V., OER and MOOCs – The Romanian Experience.	xMOOC/cMOOC	No		
Parag Asoke (2014)	C., MOOCs in Education: A Case Study in India Context and Vision to Ubiquitous Learning	Pedagogy	No		
Anant Pooja (2014)	V., Ramifications of MOOCs for Increasing User Engagement.	Droupout rate	No		
Prashast et al., (2014)	M., MOOC: the Paradigm-Shift in Indian Education.	Technology	No		
Jun X., et al., (2014)	X., The Usability Research of Learning Resources Designing.	Technology	No		
Antonia B., et al., (2015)	B., Comparing MOOCs In M-Learning and e-Learning settings.	xMooc/cMooc	No		
Wenal S., (2014)	S., MOOCs, MOOE, and MOOR in China.	xMooc/cMooc	No		
Doraisamy G., Deepak G (2015)	G., Impact of Learning Motivation on MOOCs Performance: Transfer Vs. Made MOOCs.	Technology	No		

6 LIMITATION

Even though, a lot of unpublished reports and Blog post have been studied in this research to enhance the quality of the research by providing additional information about the topic, the research is limited the systematic review on Journals article, Conference papers, published reports and magazines because of the difficulties in ascertaining the credibility of the post, perhaps, MOOCs articles found in another language contrary to English Language are also ignored [33].

7 THE DISCUSSION

This research analysis indicates the much growing interest in MOOCs scenarios. The learner's perspectives issue is the most widely discussed MOOC's phenomena in the published articles ignoring the institutional perspective and ethical issues concerning the behaviors of the MOOCs' participants

(example, the feeling that your input is needed, rude comment, counter comment and discussions of irrelevant topics and so on.), view from the facilitator related to the learners and to the institution, the background and the cultural differences existed between the learners, which provide a wide gap in the literature of MOOCs. Most of the studies that uses data generated from MOOCs experience, limited their findings on social Medias such as Facebook, blogs, Tweeter and the traditional LMS discussions which is not considered as peer reviewed and led to the west of rich data capable of providing a reasonable information about many perspectives of MOOCs. More finding also indicates that not only LMS is holding rich data of MOOCs but other external communication Medias that support learning in distance learning, blended learning, traditional and online learning that can also lead to a research avenue. The ethical aspect of using data generated from MOOC's forums has also very little or no publications which is believed to be due to the limited awareness or guidance of how to extract and require the legal protection on how to use such data. Likewise the views of the facilitators and the learners concerning their data generated through the teaching and learning processes of MOOCs for research purposes, need to also be investigated and publicized. Another observation made from the study on the MOOCs literature, based on the demography of the participants indicates that most of the MOOCs participants were from Euro and America, very few from Asia and Africa if there is any. Even though, many did not consider this to be an issues due to the barricades existed between the contents that led to the issues of "digital divide" as well as the technological readiness and language differences. Though many articles talk most about the rate of dropout in MOOCs, but there is not any available data that say much about the rate of completion and the comparison between the rates that completed the MOOCs and the regular students of the Universities. Catching-up with the current issues regarding the discussion on MOOCs is very difficult because of the massive number of the participant that generate large volume of data within a limited time, but sightseeing the strategies applied by the constant or active participants could provide a better way of dealing with information or data overload. Also most of the active participants in one MOOCs or the other are found to be part of the active participant in another. People that are usually found in a particular MOOCs community, are a part of the other MOOCs communities. MOOCs has many record of dropout/withdraw but there is no comprehensive record of the completion rate and from all indications, the knowledge of the MOOCs completion rate has little attention compared to the information concerning the dropout, and this is another research area. There is also the need to engage the participant that dropout the courses to find out their motives and determine the differences that exist between one courses to another. Another most important aspect of MOOCs is regarding the certificate recognition and even is the accreditation, because some organisation charge fee to provide a certificate at the end of the program, but can that certificated be accepted into labour market? Yet many collaborating institutions that provide MOOCs insisted on the no college credit because of the problems of how to undertake assessment of many student that are not physically viable. The area of accreditation and certificate recognition is an interesting research avenue that need to be explored.

8 CONCLUSION

Whenever the acronym "MOOCs" is typed on a search engine, a lot of articles flips, but when analyzed carefully, it would be discovered that research focuses mainly on limited issues concerning MOOCs which are mostly the business model and the rate of dropout including some but few. Some important aspect of MOOCs such as the Ethical behavior of the participant, blended MOOCs, MOOCs in Africa and many interesting research areas are ignored. To this end, a lot has been discussed and discovered about MOOC concerning Africa which shows that MOOCs are facing big challenges in the developed countries that have been providing enrolled into the system. MOOC needed more than just 'prove' because of the policies and the shortcomings therein Africa. The only way out to African countries as of this time, are blended MOOCs which also need many activities before they take shape, but the easier in achieving the objectives of this research.

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