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A Study of 'MOOC' (Massive Open Online Courses): The New Trend of Education

• Sonal • Anu Priya • Priyanka Kumari
• Bhawna Sinha

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Corresponding Author : Bhawna Sinha

Abstract : MOOCs are available on the web, as SWAYAM that involves development of Massive Open Online Courses (MOOCs) compliant e-content (video and text) and building a robust IT platform. These guidelines pertain to the quality of the e-content produced for the SWAYAM Students are supposed to register on the websites of such MOOC to have the benefits.

The term MOOC was coined in 2008 by Dave Cormier of the University of Prince Edward Island in response to a course called Connectivism and Connective Knowledge (also known as CCK08). CCK08, which was led by George Siemens of Athabasca University and Stephen Downes of the National Research Council, consisted of 25 tuition-paying students in Extended Education at the University of Manitoba

Keywords : MOOC, SWAYAM, CCK08, HRD.

Sonal
MCA-Vth Semester, Session : 2015-2018,
Patna Women's College, Patna University,
Patna-800001, Bihar, India

Anu Priya
MCA-Vth Semester, Session: 2015-2018,
Patna Women's College, Patna University,
Patna-800001, Bihar, India

Priyanka Kumari
MCA-Vth Semester, Session: 2015-2018,
Patna Women's College, Patna University,
Patna-800001, Bihar, India

Bhawna Sinha
Head, Department of MCA,
Patna Women's College , Bailey Road,
Patna-800001, Bihar, India
E-mail : bhawna.sahay2004@gmail.com

Introduction:

MOOCs have great potential for creating new learning opportunities and rich learning experiences for participants through sustained peer-to-peer interaction. Because they are grounded in networked learning across global contexts, MOOCs make visible the ways in which knowledge can be socially constructed, especially through cross-cultural interaction. With over 400 universities offering MOOCs, many instructors have also expanded their classrooms to include MOOC content, having their students join MOOCs, watch video lectures and complete assignments within the MOOC platform. For these reasons, there has been considerable enthusiasm for MOOCs.

According to Gauri Kohli (2014), the portal for MOOCs called Study Webs of Active-Learning for Young aspiring Minds (SWAYAM) aims to offer approximately

2000 courses under a network of 80,000 hours of learning that could support on an average of 10 lakhs concurrent users and up to 3 crore learners, of these, more than 200 courses are currently available. It includes curriculum-based courses covering diverse disciplines such as Arts, Science, Commerce, Performing Arts, Social Sciences and Humanities subjects, Engineering, Technology, Law, Medicine and Agriculture.

There is a wide range of options in MOOCs so if there is a need to learn more about any specific subject or to add value to your resume, then these MOOCs have been launched by the Ministry of Human Resource Development and University Grants Commission (UGC).

Origin:

A) Precursors: Before the Digital Age, distance learning appeared in the form of correspondence courses in the 1890s-1920s and later radio and television broadcast of courses and early forms of e-learning. Typically fewer than 5 per cent of the students would complete a course. The 2000s saw changes in online, or e-learning and distance education, with increasing online presence, open learning opportunities, and the development of MOOCs.

B) Early approaches: The first MOOCs emerged from the open educational resources (OER) movement. The term MOOC was coined in 2008 by Dave Cormier of the University of Prince Edward Island in response to a course called Connectivism and Connective Knowledge (also known as CCK08). CCK08, which was led by George Siemens of Athabasca University and Stephen Downes of the National Research Council, consisted of 25 tuition-paying students in Extended Education at the University of Manitoba, as well as over 2200 online students from the general public who paid nothing. MOOCs from private, non-profit institutions emphasized prominent faculty members and expanded existing distance learning offerings (e.g., podcasts) into free and open online courses (as retrieved "MOOCs : Massive Open Online Courses", 2008).

Objectives of MOOC:

The main idea behind SWAYAM MOOCs is to achieve the following objectives:

- These online courses have been developed by a team of senior academicians and are expected to enhance the gross enrolment ratio in higher education without compromising with the quality.
- These courses will also help in bridging the digital divide in the country.
- Anyone can enroll in these courses so as to upgrade their knowledge in any particular area and often earn certificates even if they are working and cannot formally enroll in conventional courses.

What's unique about the courses:

The SWAYAM portal will host MOOCs which are highly interactive and could be accessed on computers/Laptops or even smartphones. "MOOCs have e-content, activities and assessment spread across weeks as per different credits along with other features such as introductory videos".

- The ultimate aim is to present difficult concept in a simpler way for the learners. It often uses graphics, visuals, and animations, etc. in videos. The MOOCs are the manifestation of how the technology could be used so to enhance the quality of education in the country (Gauri Kohli (2016), Self-learn with HRD ministry's free online courses).

Working of MOOC:

MOOCs work in all of the following ways:

- Watch short educational videos within the MOOC.
- Reading articles or look at info-graphics recommended by MOOC instructors.
- Participate in discussion threads or start a discussion thread about MOOC content within the MOOC.
- Participate in learning activities that involve writing short assignments, doing simple measurements, and answering a question from the instructor or other participant.

Apps related to MOOCs:

There are three platforms releasing mobile apps recently, with Coursera in the lead, though these apps are generally disappointing for students wanting to fully

engage with viewing. Also, apps do less well on the discussion forum and quiz functions.

As of this writing, Coursera has iOS, Android and Kindle Fire apps. Udacity has iOS and Android, and edX does not have any as in Robert McGuire (2014).

Which is the best MOOC provider?

Coursera, edX and Udacity each have their pros and cons. But there are a few judgments, I think, fair to make.

- Coursera is the safest bet for a general interest MOOC browser hoping to find something to catch their interest.
- edX is where I would start searching if I was primarily interested in science classes, particularly from elite schools.
- Udacity's freeware MOOCs work best for very self-directed learners who just want to watch the videos and try the exercises, particularly in skills based programming and computer science classes as in Robert McGuire (2014).

Technological profile of MOOCs:

Each system has its own unique advantages to offer:

- Content management systems with respect to the flexibility of the management and delivery of learning content
- Collaborative platforms with respect to the communication features
- Learning management systems with respect to the support for quizzes and course design.

E-learning technologies that are widely used in MOOCs include:

- High-quality indexed video
- Data capture and analytics
- Delivery platforms that combine the qualities of social networking sites like Facebook with the content delivery, discussion and grading functions of the traditional learning management system as referred by Onita et al. (2014).

Construction of Modern Educational Technology MOOC platform based on courseware storage system

Modern Educational Technology was chosen as the object of study to construct the whole MOOC platform.

1. Functional structure design of the platform: The MOOC platform includes five main functions: massive online student data management, independent course data management, pressure bearing design of course video, online test score statistics and title setting and course resource data management. The five functions need to be operated by different roles. The administrator can operate user management and maintain public information of courses. Teachers can operate course video management, course outline management, course resource management and online test management. Students only own such rights as browsing, proposing questions and answering the online test questions. According to the five-dimensional evaluation model and design features of MOOC platform, the MOOC platform based on courseware storage system includes the following four modules: user management module, course outline module, multimedia resource module, and test management module.

2. Design of each module of the platform: Demand analysis of user management module. The administrator with three roles can manage teachers and students. Teachers can publish and set courses. Students can only browse course content and propose questions online. The three roles can visit the pages within the limit of rights.

- **Main interface design of the platform**: Main interface layout of the platform is composed of navigation frame, top frame and main window frame. The top frame is mainly used to display the login information of users. The navigation frame is at the left side of the page, and it is mainly used to display the list of functions that users can operate. The left main window frame is mainly used to display the corresponding operation interface of each function.
- **Interface design of user management module**: For the whole user management module, corresponding login interface is needed. After login succeeds according to the login type of users, the operation interface corresponding to user role will appear. The

teacher is the course manager of MOOC platform. The administrator of MOOC platform owns the highest priority, and can manage teachers, such as adding and deleting.

- **Design of course outline module**: This module design aims to display course publishing result and the concrete content of each MOOC, including the corresponding results of chapters. Students can effectively confirm their learning contents according to the results. For MOOC teachers, course outline module contains such functions as; course publishing, course chapter management, course information editing and course announcement management.
- **Design of multimedia resource module**: The multimedia resource module can be added in accordance with course chapters of MOOC and bind multimedia resources uploaded by teachers with corresponding chapters. Since the course contains course chapter display, multimedia resource can appear on user operation interface in the form of a chapter. Students can choose to play and download corresponding multimedia resource according to their demand. MOOC teachers can add, modify and delete corresponding multimedia resource.
- **Design of test management module**: Test management module is used to implement the function of testing students online by teachers. This module can allow teachers to publish exercises and test questions. Meanwhile, it can also allow teachers to carry out statistics of students' score distribution as referred byJing Li (April 2017).

Present Status of MOOC:

Some of the present status regarding MOOCs are as follows:

- According to UGC guidelines institutions are requested to enroll their students at the SWAYAM portal.
- Providing better quality of education.
- Awareness is only among those group of students where institutions promote MOOC in their curriculum (as retrieved "MOOCs: Massive Open Online Courses", 2008).

Objectives of the study:

The term "MOOC" has gained importance nowadays. Students are getting more inclined towards this trend of education. It is helping students in their studies. Main objectives of our research include –

- Analysis of the key functionality of Open Source Softwares in Educational Field.; MOOC.
- Observation of the views of the users.
- Analysis of the challenges in the implementation of MOOC.

Methodology of the study:

- **Area of Study:** Survey from students at college level, various institutions and articles related to the HRD Ministry and Google forms.
- **Tools and Technique for data collection:**
  - Questionnaire / Interviews
  - Document Analysis

Observations:

The impression drawn from this research study specifies and highlights following facts:

1. **Awareness about MOOC among users:** Basically the awareness regarding MOOC is among most of the IT field students/users. About 90% of the MCA students, 82.76% of school students, 80% of teachers and 89.66% of students from B.Com and Bio.Tech are aware of it while rest are unaware (Fig. i).
2. **Registered users on MOOC:** 37% users have registered themselves on SWAYAM portal while rest of them generally prefer general online sites (Fig. ii).
3. **Number of users opting for learning and certificate courses in MOOC:** 66% students/users are using it for learning purpose while 34% students/users are using it for certificate purpose (Fig. iii).
4. **Number of users who feel every kind of learner can take advantage of MOOCs:**

30.91% users think that everyone can take advantage of MOOCs, while 69.09% thinks that it depends on where a given participant is coming from (Fig. iv).

5. **Number of users who feel that they can really get a better quality education by being a part of thousands of people online following a course:** (Fig. v)
6. **Number of users who find MOOC helpful:** 92% users find MOOC really helpful for studies while 8% didn't find it helpful as such (Fig. vi).
7. **Number of users who found MOOC solving their questions on time:** 35% users find MOOC solving their question on time (Fig. vii).
8. **Number of users satisfied with the e-contents:** 39% users are satisfied with the contents, 41% sometimes find it satisfactory while 20% are not satisfied (Fig. viii).
9. **Sites that users usually visit** : (Fig. ix)
10. **Ratings for MOOC :** (Fig. x)

Method(s) of Data Analysis:

We have processed and compiled the total research work on the basis of two basic tools of MS-Office i.e., MS-Word, MS-Excel, as well as Google forms. Subsequently, we have modified the content of our research and findings in the form of a research paper.

Challenges faced by MOOCs:

- The biggest challenge is the development of e-content that include the enriched static content through multimedia.
- Most of the people are generally not aware of the specific term MOOC as they are confused about this, especially when we move outside the town, people rarely know about it due to lack of awareness.

Future Scope:

The SWAYAM shall cover the following:

- Curriculum based course contents covering diverse disciplines in higher education domain.
- School education (9-12 levels) modules; for teacher training as well as teaching and learning aids to children of India to help them understand the subjects better and also help them in better preparedness for competitive examinations for admissions into professional degree programmes.
- Advanced curriculum and professional certification under a unified scheme to meet the demands of choice based credit system (CBCS) currently being implemented in India at undergraduate level.
- Curricula and courses that can meet the needs of life-long learners of Indian citizens in India and abroad.

Conclusion and Recommendations:

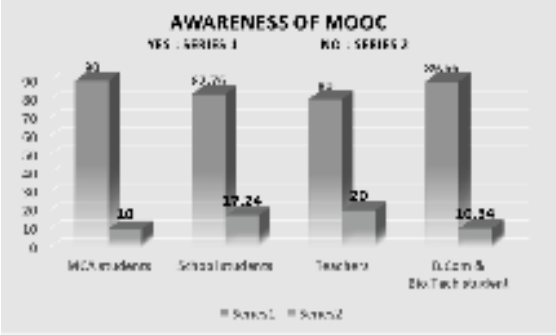
MOOCs have attracted the attention of mainstream media, educational institutions and tens of millions of people around the world. It started as a novelty or curiosity and became a necessary object of interest particularly for higher education. The negative impact of MOOCs is challenging education and is both a source of opportunities as well as concern.

We also conclude that since there are huge number of courses available in MOOC to be accessed in little time but due to poor infrastructure services it is not being utilized in the expected beneficial manner.

After doing this research paper we recommend the following:

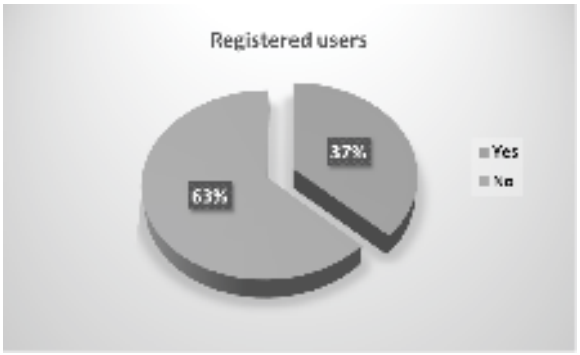
- Need of awareness: There is a requirement to create awareness regarding MOOC so that majority of the users could avail the facility for acquiring better quality of knowledge.
- Need to promote MOOC: MOOC has not been promoted like any of the available online sites such as w3schools, banker's adda, etc. so that user could know about it while surfing the internet. The basic online sites promote themselves by advertising about its features on several social media (Facebook, Instagram, etc.) that is not seen where MOOC is concerned.
- Attractive and interesting e-contents: The e-contents in MOOC needs to be attractive and interesting to satisfy its users.

Major findings of the study:



	Yes	No
MCA students	90%	10%
School students	82.76%	17.24%
Teachers	80%	20%
B.Com & Bio.Tech Students	89.66%	10.34%

Fig. i

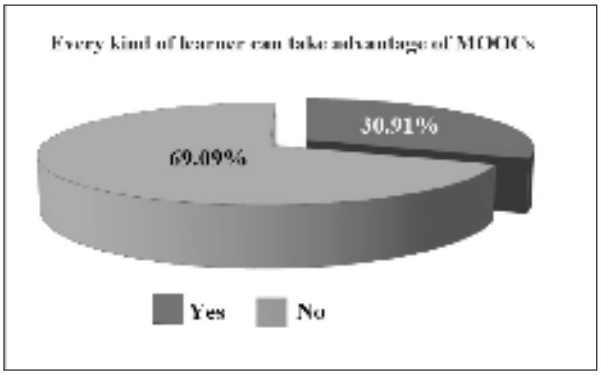


	Total	Yes	No
Users	100%	37%	63%

Fig. ii

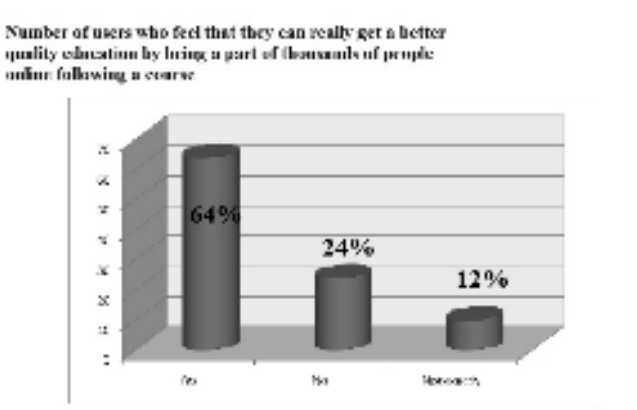
	Total	Learning	Certificate
Users	100%	66%	34%

Fig. iii



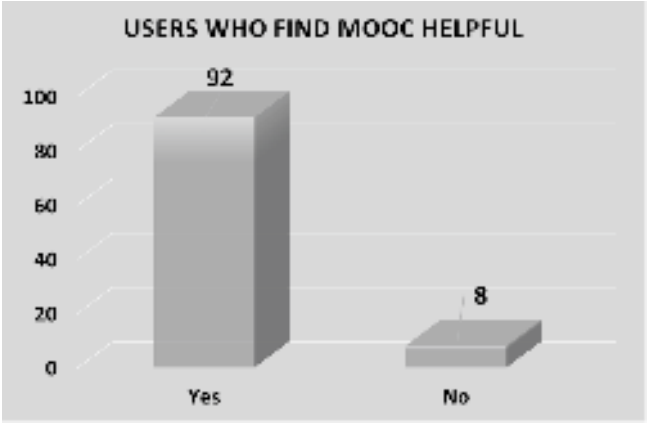
	Total	Yes	No
Users	100%	30.91%	69.09%

Fig. iv



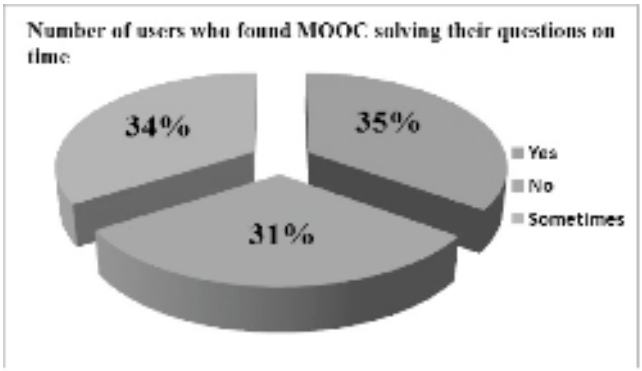
	Total	Yes	No	Not exactly
Users	100%	64%	24%	12%

Fig. v



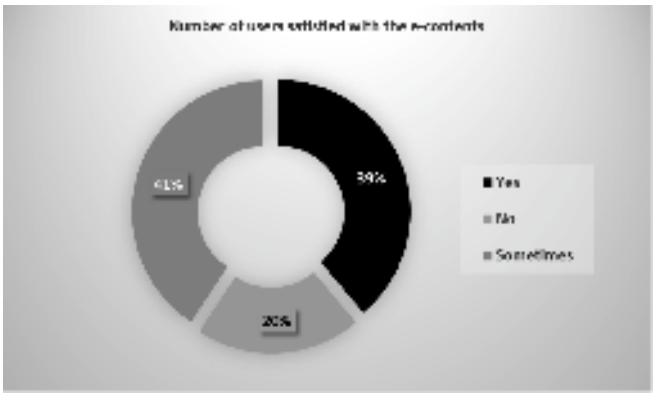
	Total	Yes	No
Users	100%	92%	8%

Fig. vi



	Total	Yes	No	Sometimes
Users	100%	35%	31%	34%

Fig. vii



	Total	**Yes**	**No**	**Sometimes**
Users	100%	39%	20%	41%

Fig. viii

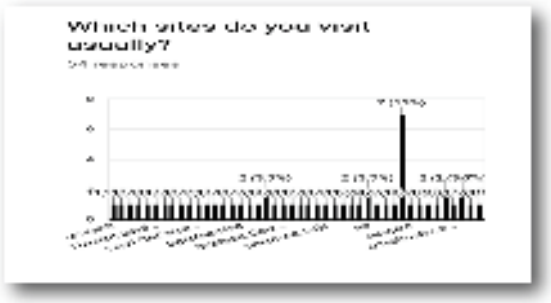
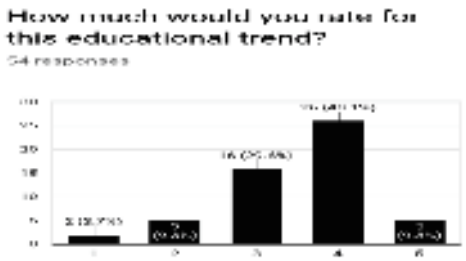


Fig. ix



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