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MOOCs: Changing Trend Towards Open Distance Learning with Special Reference to India

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ABSTRACT

This study provides an overview about massive open online courses (MOOCs), about how technology has changed over the years the face of distance learning and how relevant and beneficial these courses might be for distance learners. Studies related to MOOCs in India and world around have been reviewed. It also furnishes the details of various MOOCs platform such as The Open University, Iversity, ALISON, Open Learning, Coursera, Udacity, EdX and EduKart available free of cost to distance learners. This paper further provides availability of MOOCs in India and various institutions and companies associated across the nation providing MOOCs courses to academia. Limitations of MOOCs and their future has also been discussed. The paper concludes that MOOCs and online education has a huge potential which would help in accelerating and ensuring social cohesion and sustainable growth. With little efforts by the government of India, online education can successfully reach every individual.

Keywords: MOOCs, distance learning, Swayam, Coursera, edX, Udacity, massive open online courses

1. INTRODUCTION

A massive wave of opportunity has knocked the door of formative education in the form of MOOCs which stands for Massive Open Online Courses. This revolutionary step towards providing versatile education has yielded some impressive results. The term MOOC was derived in 2008 by Dave Cornier of the University of Prince Edward Island and Bryan Alexander of the National Institute for Technology in Liberal Education. MOOCs are of a very recent origin in distance education, started somewhere around mid of 2011. They are called 'massive' because they are available for the masses. These courses can be fully taken online aimed at unlimited participation and open access via the web.[1] Initially, the movement began in North America with its interests rapidly growing across the world. Proliferation of technology helps us to aid to the growing cost of traditional higher education as well as easy access to it. A staggering fact by the UNESCO estimates results which shows 80 million more people seeking higher education using this new technology[2].

Due to the constricted budgets of the governments across the world, amplification of MOOCs is the most viable option. It is economically, socially, and politically apt step towards curbing the upsurging number of students across the world efficiently. The universities are rapidly experimenting with online learning but the question is whether they are using a coherent strategy for the same or running downside risks. There is a large possibility that MOOCs can improve the quality of pedagogy. The pedagogic strategy of introducing MOOCs cannot be worked out impeccably because some universities are local re-distributors of online courses, adding tutorials in local language and providing a local credit certification. The MOOCs allow the learning industry to un-bundle courses to be re-bundled again and taught as internal programmes. Figure 1 shows about the clear picture of MOOCs.

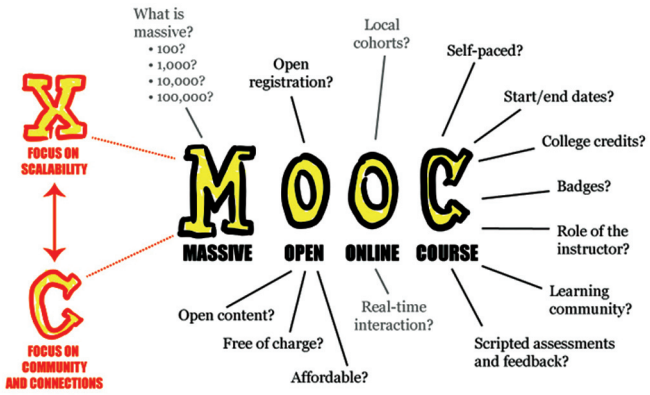

Figure 1. Massive open online course (MOOCs).[3]

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1.1 Types of MOOCs

MOOCs are broadly classified into C-MOOCs and X-MOOCs.

(i) C-MOOCs—They are based on connectivism. It is a creation for emphasising connecting learners called as connectivist MOOC and build upon the idea and platform originally visualised by George Siemens.

(ii) X-MOOCs—They have their background in the evolution of open courseware and open educational resources. X-MOOCs are generally offered by universities in collaboration with a commercial organisation/company whose aim is to gain profit. X-MOOCs are online versions of traditional learning formats (lecture, instruction, discussion, etc.) on proprietary specialist software platforms owned by independent firms. They attribute legitimate and monetary relationships between universities who create content, and technology providers, X indicates the MOOCs which are content-based and follow a more behaviourist approach. X "emphasises a more traditional learning approach through video presentations and short quizzes and testing and focus on knowledge duplication.[4] X-MOOCs are associated mostly with the three largest platform providers edX, Udacity, and Coursera.[5]

2. LITERATURE REVIEW

A number of studies had already been done worldwide during last few years on MOOCs.The 11th Annual report on tracking online education in the US by Allen & Seaman[6] explored about the nature and extent of online education. Analysis was carried out on a comprehensive sample of active, degree-granting institutions of higher education in the US Study showed that the percentage of higher education institutions that currently had a MOOC, increased from 2.6 % to 5.0 % over the past year. The majority of institutions (53 %) reported that they were still undecided about MOOCs, while under 33 % responded they have no plans for a MOOC. Only 23 % of academic leaders believed that MOOCs represent a sustainable method for offering online courses, down from 28 % in 2012. University of Pennsylvania[7] conducted a survey on MOOCs among the people working at public, private not-for-profit, and for-profit colleges and universities in the US. All alumni of the Executive Doctorate program in higher education management at the University of Pennsylvania participated in the survey. Results showed that half (51 %) of leaders at institutions that offered MOOCs were talking about MOOCs a great deal, compared with 9 % of senior administrators at institutions that did not offer MOOCs. Most respondents at institutions that did not offer MOOCs reported that their president had taken no public stance on MOOCs (77 %). When compared, 60 % of respondents at institutions that offered MOOCs reported that their president had taken a public stance in support of MOOC and more than half (57 %) strongly agreed that MOOCs may be a potentially effective mechanism for raising the institutional profile, compared with 32 % of respondents at institutions that did not offer MOOCs. Many higher education leaders were uncertain about the benefits for students or institutions and found doubtful that MOOCs can have a real impact on reducing the high costs in higher education.

Data drawn by Beaven[8], *et al.,* at Department of Languages (The Open University), UK explored the interdependence between self-determination and participatory literacy in relation to success in a MOOC. Results exhibited that a quarter of participants chose learning more about Open Translation Tools (OT12), while a similar percentage indicated that they simply wanted to learn or to complete the course and activities (15 %). Most participants had identified 'learning about translation' as their main motivation for joining the course. For some participants, the experience of taking part in the OT12 MOOC provided unexpected benefits. For one student the course had prompted a willingness 'to take up some voluntary translation on a small scale,' with another, taking 'the chance to get himself in as a translator.' Minority of respondents felt they had acquired online communication skills and gained confidence by taking part in OT12, hence increasing their participatory literacy skills. The majority, however, found that the course allowed them to discover new tools and practices and helpful in extending their networks.

Kassabian[9] explored the expectations of Columbia, Duke, and Harvard Universities with MOOCs in the areas of higher learning and how they had assessed progress towards achieving these goals. Results reported revealed that three universities expressed their interest in improved access to education, but did not focus on MOOCs as a way to achieve cost control at their own university or broadly within the higher education industry; they also did not emphasise on improvements to college completion through MOOCs. Instead, their expectation from MOOCs was to contribute towards their mission plans in the areas of education and outreach, and to study the ways in which higher education might evolve in the internet age. Another finding displayed that when it comes to MOOCs, the goals of university faculty and administration often differed. Hollands & Tirthali[10] at Columbia University investigated the objective of institutions creating MOOCs, integrating them into their programmes, and reviewed the current evidence regarding whether and how these goals were being achieved, and at what cost. The authors observed that colleges and universities have adopted several different stances towards engaging

with MOOCs and were using them as vehicles to pursue multiple goals. Costs of developing MOOCs were very high and the process demanded a great deal of personnel time and effort. Course design and delivery had shifted from a solo endeavor to team efforts including administrators in offices of digital technology, instructional designers, instructional technologists, videographers, and project managers. Faculty members themselves were also being vastly underpaid for devoting their time to develop MOOC content. While their primary intentions were to improve opportunities for the educationally underserved, they were perhaps most effectively subsidising the salaries of other employees at their own institutions or at the MOOC platform providers.

Salisbury[11] explored the impact of MOOCs on higher education institutions including UT Arlington, Stanford University, Hong Kong University, and Davidson College. He was of the view that higher education is becoming more digital and inspite of being criticised MOOCs are making a way out and playing a role of a catalyst in developing education programmes. The MOOCs have increased institutional consciousness and people are evaluating, debating, and visualising about the role of MOOCs in defining future models of higher education. MOOCs have upgraded the status of teaching and faculty were appreciated for being equipped with tremendously rich body of research on course design and learning science. For creating and designing MOOCs team-based courses were drafted with the help of Instructional designers, software developers, learning researchers, librarians, and videographers. It was also found that the organisational structures designed around MOOC creation provided safe spaces for experimentation and innovation in teaching and learning. Pujar & Bansode[12] in their study explained about the concept of MOOCs and their contribution towards library science education. They discussed the lead MOOCs providers such as Udacity, Cousera and Edx. This study also uncovered various areas such as choice-based classes, cooperation in constructing courses, flipped classrooms, continuing education, etc.,where MOOCs have an important role to play in improving LIS education. The authors concluded that inspite of being experimental in nature MOOCs would really be of great significance for librarianship and provide a scope of revamping the status and skills of library professionals by enumerating the feasible working domain in developing nations.

Clarke[13] analysed the rapid development of the MOOCs and the implications for business education. He analysed the origins, structure and orientation of the MOOCs, assessed their future trajectory and compared this development with earlier waves of e-learning. Massiss[14] examined the current discussion of MOOCs and the library's involvement in this worldwide movement. The study identified that MOOCs may offer colleges the opportunity to accept the democratisation of learning for all who wish to engage. User behaviour in the courses offered by a MOOC provider was studied by Brinton[15], *et al*. The aim of this study was to improve the quality of learning via the online discussion forums, namely by, (a) sustaining forum activities and (b) enhancing the personalised learning experience. It was observed that the teaching staff's active participation in discussion increased the discussion volume but did not slow down the decline in participation. The BIS report[16] furnished an overview of recent reports, writings and opinion on MOOCs. It assessed available literature from various sources, including academic research articles and formal comprehensive reviews; blog posts; commentary and journalistic coverage.

Wu[17] outlined the recent development of MOOCs, their unique characteristics, benefits of MOOCs on higher education, strength and weakness and analysed the potential connection between academic libraries and MOOCs by reviewing current literature and personal observations. Analysis revealed that MOOCs have the ability to produce global learning associations through which students and universities both will be benefitted. Simultaneously, it poses many challenges and opportunities before academic institutions and libraries.

3. MOOCS PLATFORM

The following MOOCs platforms are available for distance learners free of cost:

3.1 ALISON

- ALISON is considered to be the first MOOC.
- It is a non-profit world's leading provider of free online courses with certificates providing 600 courses to 4 million online learners registered worldwide.
- Commenced in 2007, it provides free, high-quality resources to help working class; students expand needed certified workplace skills.
- The mission of ALISON is to enable people anywhere in the world, to learn and get certified new skills among hundreds of free courses to adopt from business & enterprise, languages, personal development and IT using their free, interactive multimedia.[18]

3.2 Coursera

- Commercial company initiated by USA professors Andrew Ng and Daphne Koller from Stanford University in 2013. It is considered to be the largest MOOC provider.
- It collaborates with top universities and organisations in the world to offer free courses online for anyone

Figure 2. Screenshot of Coursera.[19]

with the aim to make world-class education accessible to distance learners. It is equipped with lectures taught by world-class professors, where learners may learn at their own pace, evaluate their knowledge, and rejuvenate concepts through interactive sessions. (Fig. 2)

- Their technology enables their associates to teach millions of students.[20]

3. EdX

- EdX is a non-profit online initiative taken by Harvard and MIT during May 2012 which seeks to provide highest quality education, both online and in the classroom for students and institutions through cutting-edge technologies, innovative instructions, and demanding courses.
- It offers free interactive online courses and MOOCs in collaboration with world's best universities including MIT, Harvard, Berkeley, etc., in areas of biology, business, chemistry, computer science, economics, statistics, etc. (Fig. 3)
- There are almost 415 courses available on edX till date.

3.4 EduKart

- EduKart.com is India's leading online education company started in 2011.

Figure 3. Screenshot of EdX.[21]

- It delivers high quality and industry relevant online distance learning degree, international programs and certificate courses.
- All the courses are supported by telephonic doubt-solving and certification at affordable pricing in collaboration with leading industrial bodies, so that working professionals and students pursuing higher education can easily learn relevant industry required skills and become a more valuable workforce.[22]

3.5 Iversity

- European online platform started working in 2011, and furnished a new direction to the existing teaching methods and formats by providing online interactive teaching and distance learning.
- It works in close association with universities, individual course instructors and knowledge-based companies to build high-quality open courses covering a range of subjects comprising computer science, design, economics, law, medicine, physics, and philosophy.
- Any registered individual may watch lecture videos, interact and participate in quizzes and exams and discussions may be made with fellow colleagues and professors.
- Iversity platform provides an organised course environment that features multimedia teaching materials; assessment features such as multiple choice and peer review in order to keep students occupied and provide them with quantitative and qualitative feedback; a discussion board where students can engage in peer-to-peer learning by interacting questions or sharing links, references and general observations[23].

3.6 Open Learning

Open Learning is a MOOC platform began in 2012 in Australia that allows any individual to design, run, and join a course.

- It is hosted by University of New South Wales with a mission to give learner the freedom and the flexibility to create a community, communicate his/her creativity and explore himself/herself through education.
- It supplies courses in marketing, programming and writing skills[24].

3.7 The Open University

- It is UK's largest distance learning and research University founded by Royal Charter.
- It provides high-quality distance learning to people of every age, different backgrounds whether school students, school leavers, people desire to develop or update their expertise,

and retired people who need to explore new interests and wish to acquire higher education regardless of their locality and place.

- Does not require any prerequisites for formal university founded by Royal Charter
- It provides high-quality distance learning to people of every age, different backgrounds whether school students, school leavers, people leavers, people desire to develop or update their expertise, and retired people who need to explore new interests and wish to acquire higher education regardless of their locality and place.
- It doesn't require any prequisites for formal entry to start a course.[25]

3.8 Udacity

- Udacity is a for-profit educational organisation founded by Sebastian Thrun, David Stavens, and Mike Sokolsky contributing towards MOOCs.
- Started in 2013 at USA, Udacity is the offshoot of free computer science classes offered in 2011 through Stanford University.
- Its mission is to bring accessible, affordable, engaging, and highly quality higher education to the world and seek to empower students to advance their education and careers. Udacity are reinventing education for the 21st century by bridging the gap between real-world skills, relevant education, and employment.[26] A comparative study of all the MOOCS provider/platform are shown in Table 1.

4. MOOCS IN INDIA

Connecting, informing, composing and educating would be some of the referring words that would be suitable to add when we would talk about MOOCs in the near decade. MOOCs can be the next big thing. Already down the line it has been doing some great work impressive enough to influence people. India is the only economy to have such a rapid change and one leap ahead it can be by joining hands with the futuristic idea about the MOOCs education. The biggest problem of our country now is about how to make education available to the scanty villages spread all around the nation and the solution to this problem has been seen in the form of MOOCs education system.

Birla Institute of Technology and Sciences (BITS) Pilani has collaborated with the MIT & Harvard's MOOC platform edX to offer MOOCs to its own on-campus and off-campus students as well as students outside BITS.[27] Online education company Coursera had also announced Coursera Learning Hubs which offered people physical spaces where they can access its MOOCs for free. In India, Coursera has alliance with Lady Sri Ram College (New Delhi), Learning Links Foundation and Bluebells Schools International (New Delhi). Such an initiative goes off well in India, where a large population still don't have access to reliable internet connections. Jaaga, a Bangalore-based company had begun Jaaga study, a one-year course on computer programming, which uses MOOCs from numerous sources (Codecademy, TeamTreeHouse, CodeSchool, Udacity, Stanford, Harvard and MIT) online to manage classes offline.Visvesvaraya Technological University (VTU) in alliance with Microsoft research had also started the trial of supplying free online certification to Engineering students on algorithm, design and analysis.[28] The Indian Institutes of Technology (IITs) Chennai, Delhi, Guwahati, Kanpur, Kharagpur, Mumbai and Roorkee and the Indian Institute of Science Bangalore (IISc Bangalore) as a part of a project National Program on Technology Enhanced Learning (NPTEL) funded by the Ministry of Human Resource Development (MHRD) have joined hands to deliver MOOCs.[29] NPTEL has also launched the NPTEL Online Certification (NOC) in collaboration with Google and National Association of Software and Services Companies (NASSCOM). It is equipped with two new courses at present, namely, 'Introduction to Programming in C', and 'Electrical Circuits'. These courses are unpaid. The respective IITs will provide an optional certificate for them on the basis of the scores acquired in

Table 1. Comparison among MOOCs providers/platform

Platform	Country	Year of foundation	No. of students	No. of courses	Certification fee	For profit
ALISON	Ireland	2007	4 millon	600	Yes (Nominal)	No
Coursera	USA	2013	10 million+	839	Yes	Yes
edX	USA	2012	3 million+	415	Yes	No
Iversity	Germany	2011	5 million+	300	No	No
Open Learning	Australia	2012	NA	NA	Nominal	Yes
The Open University	UK	2012	3 million+	230	Nominal	No
Udacity	USA	2013	1 million+	198	Yes	Yes
Edukart	India	2011	NA	NA	Yes	Yes

online assignments by paying small amount of fee.[30] For promoting MOOCs, The National Virtual Academy for Indian Agriculture was launched on 05 September 2014 at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) which facilitates access to quality agricultural education. The MOOCs will be enhanced through the National Virtual Academy for Indian Agriculture, an online platform created on OSS 'Open edX,' to integrate the requirements particularly of India's agricultural education system, where more than 70 % of the population is involved in agriculture directly or indirectly and available resources are deficient comparative to the extremely large public.[31]

India and USA are likely to enter into a partnership to launch MOOCs courses through an online platform named as Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM), a web portal that will offer online courses in heterogeneous subjects. It is expected that SWAYAM is going to use OpenEdx as its MOOCs platform. Video lectures of the American universities will be made available for the SWAYAM portal free so that Indian students can access them at nominal charges. Under this joint venture, the SWAYAM server will be placed in India while US universities will be welcomed to present academic programmes on the platform. The HRD ministry and the National Science Foundation (NSF), USA that promotes science and research, are expected to initiate a programme called Global Initiative of Academic Networks (GIAN) where faculty members from US institutions would deliver their time teaching in academic and research institutions across India.[32] *SWAYAM* is supposed to comprise three different courses. Among these three courses, two courses would be contributing from IIT Mumbai on 'Introduction to Computer Programming' and 'Thermodynamics' and one basic conceptual course from UC Berkeley's on 'Quantum Mechanics and Quantum Computation'.[33]

5. LIMITATION OF MOOCS

Providing timely support and assessment of students has become a challenging task as far as MOOCs are concerned. Professors or academicians might be able to design and deliver online lectures but at the same time they may not be able to connect and evaluate the thousands of students world around who are the participants of their course.

6. FUTURE OF MOOCS

Future is a thought of probability and chance, and probability always has a risk of happening or not happening, same way it can be seen that MOOCs as a risk,that turn out to be an asset or a failure. There is no doubt that MOOCs have shown its scale of outcomes that have been hugely positive which needs to be thoroughly evaluated and regarded and considered by faculties, administrators and policy makers. The MOOCs providers have huge funds that can be put to great use if they are invested unbiased with the thought of betterment. Following suggestions might be helpful as futuristic idea of MOOCs studies:

(a) The MOOCs companies and investors should be more subtle in their own ways and not act as typical business people or die hard educationists because they need to be a mixture of both and should stop trying to sell their products thinking they would be the ultimate way out for all the education problems. This example might help understand, should the MOOC approach really be all about students who have remediation and other learning defaults and who lack the basic skills of making, writing and arithmetic.

(b) With the apt amount of financial resources at their counters, MOOCs companies should reform and develop more apprenticeship inclined course materials that can be used in a more blended online format rather than fully online formats. In fact in the near future as we see MOOCs, it might indeed be probable to lie with blended learning that allows only meaningful involvement of faculty. To do so, they might even have to jettison the MOOCs brand because their final product layout may not be huge and bulky in terms of hundreds and thousands of students enrolments and also might not be open or free. Rather, the course providers and developers might rebrand themselves as providers of high quality content givers and give an option to the faculties as to how in the best way they could use their materials.

(c) MOOCs being private enterprise need to figure out a way to return their investments and make a profit out of everything. The last five decades of instructional software providers are filled with hundreds of companies went bankrupt. It is just like survival of the fittest. At some point of time, the initial investment will run out and then the companies would be in a need to generate revenue. In turn, it is likely that some will survive but would not. This turns out to be a major conundrum for MOOCs developers that distinguishes them from departmental and instructional design competitions at colleges who develop their own online course materials on modest budgets primarily for teaching purposes and not with the thought of earning a profit.

7. CONCLUSIONS

The MOOCs are the future of today's distance learning. They have made the education easily accessible to anyone anywhere anytime around the globe and made people's life more improved

by providing flexible and quality learning as it was earlier. They have made a difference by providing free courses and enabled people and students world around to participate, interact, discuss and learn from the renowned faculty of this world thereby improving people's live and bring out real change to communities as a whole. Moreover, there should be a cost effective and clever management for running MOOCs and a well adopted strategy which fits the universities and institutions.[34] The MOOCs and online education have huge potential which would help accelerate and ensure social cohesion and sustainable growth.With little efforts by the India government, online education can be extended to every individual. The education system managed through advanced technologies and online studies will definitely help India to nurture its growth.[35] MOOCs could help make science and technology education accessible to masses but require to develop technical skills among students. The thirst for MOOCs is invasively burgeoning among Indians and they have opted MOOCs for making global classrooms a reality. For Indians, who have a thirst for quality-based western education, MOOCs are proved exemplary in this direction.

REFERENCES

1. OpenupEd. http://www.openuped.eu/openuped-temp/60-about-moocs (accessed on 10 October 2014).
2. Berg, Dirk J. Why MOOCS are transforming the face of higher education. The Blog. http://www.huffingtonpost.co.uk/dirk-jan-van-den-berg/why-moocs-are-transforming_b_4116819.html (accessed on 2 February 2015).
3. MOOC: Every letter is negotiable. https://www.flickr.com/photos/mathplourde/8620174342/sizes/l/in/photostream/ (accessed on 2 February 2015).
4. Siemens, G. MOOCs are really a platform [Web log post]. http://www.elearnspace.org/blog/2012/07/25/moocs-are-really-a-platform/ (accessed on 2 February 2015).
5. Jones, Marshall G. Types of MOOCs: C-MOOCs and X-MOOCs. http://oertools.weebly.com/types-of-moocs.html (accessed on 2 February 2015).
6. Allen, I.E. & Seaman, J. Grade change: Tracking online education system in the United States. ROBSON Survey Research Group. http://www.onlinelearningsurvey.com/reports/gradechange.pdf (accessed on 2 February 2015).
7. University of Pennsylvania. What's ahead? Key trends in higher education. http://www.gse.upenn.edu/pdf/ahead/whats_ahead/01_moocs.pdf (accessed on 2 February 2015).
8. Beaven, T., *et al*. MOOCs: Striking the right balance between facilitation and self-determination. *MERLOT J. Online Learn. & Teah.*, **10**(1). http://jolt.merlot.org/vol10no1/beaven_0314.pdf (accessed on 2 February 2015)
9. Kassabian, Dikran W. The value of MOOCs to early adopter universities. *EDUCAUSE Review Online.* http://www.educause.edu/ero/article/value-moocs-early-adopter-universities (accessed on 2 February 2015).
10. Holands, F.M. & Tirthali, D. MOOCs: Expectations and reality. Full Report. Center for Benefit-Cost Studies of Education Teachers College, Columbia University. http://www.academicpartnerships.com/sites/default/files/MOOCs_Expectations_and_Reality.pdf (accessed on 2 February 2015).
11. Salisbury, Allison Dulin. Impacts of MOOCs on higher education. *Inside Higher Edu.* https://www.insidehighered.com/blogs/higher-ed-beta/impacts-moocs-higher-education (accessed on 23 February 2015).
12. Pujar, Shamprasad M. & Bansode, Sadananda Y. MOOCs and LIS education: A massive opportunity or challenge. *Annals of Lib. and Inf. Stud*., **61**, 74-8.
13. Thomas, Clarke. The advance of the MOOCs (massive open online courses): The impending globalisation of business education? *Education + Training,* 2013, **55**(4/5), 403-13.
14. Bruce, E.M. MOOCs and the library. *New Library World*, **114**(5/6), 267-70.
15. Brinton, Christopher G., *et al*. Learning about social learning in MOOCs: From statistical analysis to generative model. Workshop on Information in Networks, New York University; *October* 4-5*, 2013.* http://arxiv.org/pdf/1312.2159v1.pdf.
16. The maturing of the MOOC: Literature review of massive open online courses and other forms of online distance learning. BIS research paper number 130, Department for Business, Innovations & Skills. https://www.gov.uk/government/publications/massive-open-online-courses-and-online-distance-learning-review (accessed on 2 February 2015).
17. Wu, Kerry. Academic libraries in the age of MOOCs. *Ref. Ser. Rev.,* 2013, **41**(3), 576-87.
18. ALISON: Free online courses. http://alison.com/ (accessed on 10 October 2014).
19. Coursera. https://www.coursera.org/ (accessed on 10 October 2014).
20. SQLearn e-learning experts. Is Coursera the beginning of the end for traditional higher education? http://www.sqlearn.gr/is-coursera-the-beginning-of-the-end-for-traditional-higher-education (accessed on 2 February 2015).
21. edX. https://www.edx.org/ (accessed on 10 October 2014).
22. About Edukart. http://www.edukart.com/ (accessed on 10 October 2014).

23. Iversity online courses. https://iversity.org/ (accessed on 10 October 2014).
24. OpenLearning: Teach and online for free. https://www.openlearning.com/ (accessed on 10 October 2014).
25. The Open University. http://www.open.ac.uk/ (accessed on 10 October 2014).
26. UDACITY. https://www.udacity.com/ (accessed on 10 October 2014).
27. Rai University. Future of MOOCs in India. http://www.raiuniversity.edu/blogs/future-moocs-india/ (accessed on 10 October 2014).
28. Mukherjee, Ridhi. BITS Pilani ties-up with edX to offer open online courses. http://www.medianama.com/2014/07/223-bits-pilani-edx/ (accessed on 10 October 2014).
29. Indian Institute of Technology (IITs) and Indian Institute of Science (IISc), Bangalore join hands to deliver MOOCs. *India Today*, 11 October 2014. http://indiatoday.intoday.in/education/story/indian-institute-of-technology-iits-and-indian-institute-of-science-iisc-bangalore-join-hands-to-deliver-moocs/1/381101.html (accessed on 10 October 2014).
30. Massive Open Online Courses for Agricultural professionals to usher in classrooms without boundaries. International Crops Research Institute for the Semi-Arid Tropics. http://www.icrisat.org/newsroom/news-releases/icrisat-pr-2014-media27.htm (accessed on 10 October 2014).
31. Open online course for India's agri-professionals launched. Agriculture Today. *In* 7th International Agriculture Leadership Summit, 2014. http://agriculturetoday.in/AT-October.pdf (accessed on 10 October 2014).
32. India may soon launch MOOCs with American Universities. Elets News Network (ENN) 8 October, 2014. http://digitallearning.eletsonline.com/2014/10/india-may-soon-launch-moocs-with-amedian-universities/#sthash.HRCUqU9t.dpuf (accessed on 10 October 2014).
33. India announces official MOOC platform SWAYAM. https://www.class-central.com/report/swayam-india/ (accessed on 20 October 2014).
34. Nair, Malini. MOOCs click with Indians. 18 Aug 2013. http://timesofindia.indiatimes.com/home/stoi/deep-focus/MOOCs-click-with-Indians/articleshow/21890105.cms (accessed on 10 October 2014).
35. Kollner, D. Online learning: Learning without limits. Keynote presentation at 19th Annual Sloan Consortium Conference on Online Learning. Orlando, FL. http://statewidecareerpathways.org/sites/default/files/Keynote_The%20Online%20Revolution-Learning%20Without%20Limits.pdf. (accessed on 10 October 2014).

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