

MOOCs: A MASSIVE PLATFORM FOR COLLABORATIVE LEARNING IN GLOBALIZED WAY

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ABSTRACT

MOOCs are Massive Open Online Courses. MOOCs started as a form of collaborative online learning with people interacting and learning from each other and being exposed to different perspectives, views and ideas. MOOCs use strategies similar to social networking to connect the masses but with the added benefits of subject matter experts to facilitate the content and to coordinate a vast array of free, online materials. Accessibility, student engagement, and experiences for lifelong learning are recognized as the advantages of MOOCs. Through considering the possible causes of MOOCs in the higher education world, this paper aimed to enlighten a comprehensive picture of MOOCs. Thus, this paper presented a background of MOOCs, difference between MOOC and Open Courseware, emergence of MOOC providers, MOOC's pedagogy, problems of MOOCs, and significance and sustainability of MOOCs.

Keywords: MOOCs, OCWs, Online Learning

INTRODUCTION

MOOCs are a relatively recent online learning phenomenon, having developed from the first early examples five years ago; they are now generating considerable media attention and significant interest from higher education institutions (Yuan & Powell, 2013). MOOCs are online courses developed for serving massive range of students with wide range of courses where an expert(s) from a particular field of study create large draw for courses and facilitates a multi-week series of interactive lectures and discussion. The term Massive Open Online Courses (MOOCs) was first set up by David Cormier (2008) to describe Siemens and Downes' "Connectivism and Connective Knowledge" course (Wikipedia, 2015; Powell, 2013; Atkisson, 2011). An initial group of twenty-five participants registered and paid to take the course for credit. The course was then opened up for other learners to participate: course lectures, discussion forums, and weekly online sessions were made available to non-registered learners. This second group of learners— those in The Open Course who wanted to participate but weren't interested in course credit—numbered over 2,300. The addition of these learners significantly enhanced the course experience, since additional conversations and readings extended the contributions of the instructors (Cormier & Siemens, 2010).

The business model and the benefits for universities and organizations that offer free online products are still unclear, but they involve access to education for all, experimentation, and building international reputation (EDUCAUSE, 2012). Some MOOCs have started generating income from exam registration, certificates, or job placements, whereas others, such as the not-for-profit, remain still totally

free. MOOCs also offer a vast resource for data mining, which could potentially provide a valuable insight into teaching and student learning preferences. Mediated on the Internet, it is the very nature of MOOCs to be trans-national and cross-cultural. Technology brings learners and instructors together, meaning a greater chance for people of different cultures to interact. It is a situation reflecting a diversified learning scenario, the same as traditional learning environments such as schools, if not even more diversified (Chen, 2013).

Accessibility, student engagement, and experiences for lifelong learning are recognized as the advantages of MOOCs. According to a White Paper by Dr. Lindsay Ryan (2013), the original concept for a MOOC came from academic research in the early 1960s with the idea that people could be linked by a series of computers to listen, discuss and learn about a particular topic; and continuous development in technology has become the enabler for virtually everybody in the world to have access to a broad and diverse range of education and learning topics. Now, the phenomena of MOOCs are placing in the wider context of open education, online learning and the changes that are currently taking place in higher education at a time of globalisation of education and constrained budgets (Yuan & Powell, 2013). According to Belanger & Thornton (2013), the four potential reasons to opt MOOCs by students are:

1. To support lifelong learning or gain an understanding of the subject matter, with no particular expectations for completion or achievement,
2. For fun, entertainment, social experience and intellectual stimulation,

3. Convenience, often in conjunction with barriers to traditional education options,
4. To experience or explore online education.

MOOCs started as a form of collaborative online learning with people interacting and learning from each other and being exposed to different perspectives, views and ideas. Over the past year, MOOCs have started to move to the mainstream and increasingly resembling more traditional courses, especially as a significant number of MOOCs are shorter versions of many traditional courses, and often delivered by highly qualified professors and academics whose research and academic expertise under pins the course on a MOOC (Ryan, 2013).

McAuley, Stewart, Siemens, and Cormier (2010) explained that MOOCs use strategies similar to social networking to connect the masses but with the added benefits of subject matter experts to facilitate the content and to coordinate a vast array of free, online materials. Students also have the opportunity to engage with others throughout the world with some organizing sub-groups specific to their learning goals and interests. Use of different ideologies have driven MOOCs in two distinct pedagogical directions: the connectivist MOOCs (cMOOC) which are based on a connectivism theory of learning with networks developed informally; and content-based MOOCs (xMOOCs), which follow a more behaviourist approach (Yuan & Powell, 2013).

In contrast to traditional university online courses, MOOCs have two key features (Wikipedia, 2015): Open access - anyone can participate in an online course for free and Scalability - courses are designed to support an indefinite number of participants (Yuan & Powell, 2013). The development of MOOCs is rooted within the ideals of openness in education, that knowledge should be shared freely, and the desire to learn should be met without demographic, economic, and geographical constraints. As figure 1 showing, since 2000 the concept of openness in education has been evolving rapidly, although it has its origins in the early 20th century (Peters, 2008).

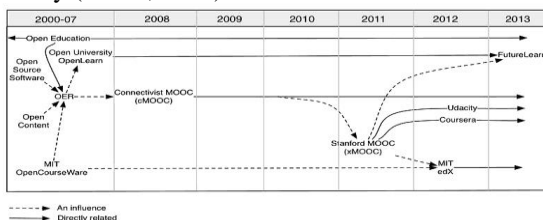


Figure 1: MOOCs and Open Education Timeline

DIFFERENCE BETWEEN OCWS AND MOOCs

The OCWs and MOOCs have a lot in common. While they differ in pedagogy and licensing, from the public perspective maybe the most important difference between these two big collections of freely accessible online resources – and the two genres of OCW and MOOC more generally – is market positioning and expectation management (David, 2013).

In the meaning Open Course Ware (OCW) is a “free and open digital publication of university-level educational materials. These materials are organized as courses, and often include course planning materials and evaluation tools as well as thematic content” (**OCW Consortium**). While MOOCs (Massive Open Online Courses) are free online courses without formal entry requirement and participation limit. They include interaction, feedback and assessment (via automated quizzes or peers).

An open course is just like a book in a bookcase: user can read it whenever he/she want and, with the proper license, user can use and reuse it (Martinez, 2014). The problem between OCW and MOOC is the meaning we choose for the term “Open”. OCW sites usually developed basically by higher education institutions, MOOC providers are mainly companies, like Coursera, Udacity or Miriada X and they tend to use copyright: unless indicated as being in the public domain or under Creative Commons Licenses, the content of the Site is protected by Copyright laws (Cheverie, 2013). For example – All content or other materials available on the Sites, including but not limited to code, images, text, layouts, arrangements, displays, illustrations, audio and video clips, HTML files and other content are the property of Coursera and/or its affiliates or licensors and are protected by copyright, patent and/or other proprietary intellectual property rights under the United States and foreign laws (Martinez, 2014).

Emergence of MOOC provider the influx of technology over the last four years has been a catalyst in driving the conversation around cost and outcomes. According to The New York Times (2012) became "the year of the MOOC" as several well-financed providers, associated with top universities, emerged, including Coursera, Udacity and edX (Wikipedia,2015).

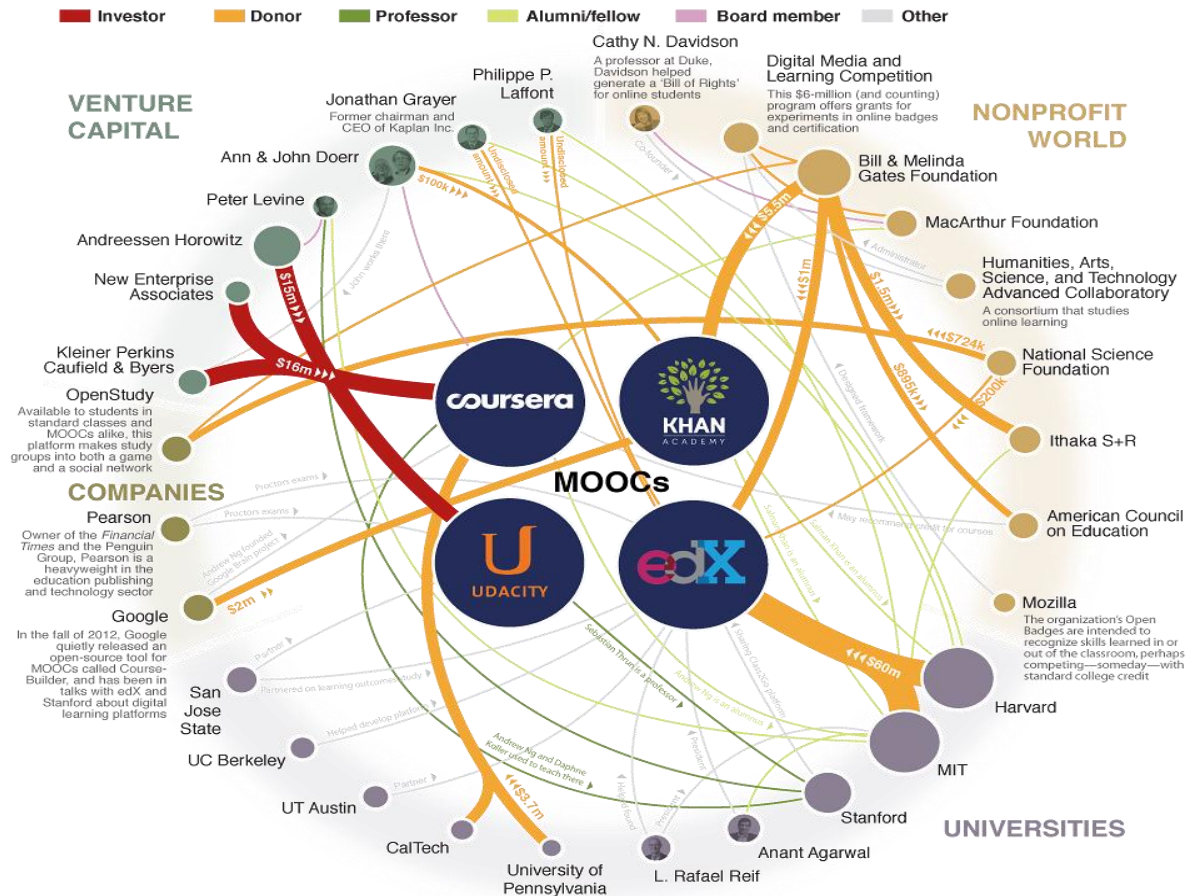


Figure 2: Major Players in the MOOC World in 2014
 (Source: <http://chronicle.com/article/Major-Players-in-the-MOOC/138817/>)

Coursera: working for profit including many Ivys, Duke, California Institute of Technology, University of Illinois at Urbana-Champaign, Berklee College of Music and other established universities. Coursera offering wide range of coerces areas including computer science, mathematics, business, humanities, social science, medicine, engineering, education and the like. Assessment conducted through software which grades quizzes, homework, problem sets. Many instructors allow quizzes to be taken multiple times, with highest grade counting (a different quiz each time). Academic integrity followed by agreeing to an *Honor Code*. To social interaction online forums and study groups, meet-ups facilitates by the Coursera.

Udacity: This for-profit MOOC, started by the Stanford professor Sebastian Thrun, works with individual professors to offer courses. Each course consists of several units comprising video lectures with closed captioning, in conjunction with integrated quizzes to help students understand concepts and reinforce ideas, as well as follow-up homework which promote a "learn by doing" model. Assessment conducted through software which grades quizzes, homework, problem sets and

programming assignments. Academic integrity followed by carrying final examinations at Pearson testing centres, for \$ 89. To social interaction online forums and study groups, meet-ups are organized. According to academic performance (Completion, distinction, high distinction, highest distinction) UDACITY provides certificates to their students.

edX: EdX is a joint partnership between The Massachusetts Institute of Technology (MIT) and Harvard University to offer online learning to millions of people around the world. EdX will offer Harvard and MIT classes online for free. Assessment conducted through software which grades and homework. Academic integrity followed by carrying final examinations at Pearson testing centres, for varying costs. To prevent copying, users get different, randomly generated numbers in their problem sets. Courses have start and end dates. Registration closes two weeks after start date. Students may miss a week but lose points if they don't make a deadline for turning in an assignment. To students, two certificates available, one designating an honor code, one a proctored exam. Both bear the edX and campus name — for example, MITx, HarvardX, BerkeleyX, UTAustinX.



Figure 2: MOOCs Available Globally

A range of other global MOOC providers are:

Provider	Type	Founded	Headquarter	Institutional Participants
Academic Earth	Non-profit	2009	USA	UC Berkeley, UCLA, University of Michigan, Oxford University
Canvas Network	Commercial	2008	USA	Santa Clara University, University of Utah, Université Lille 1
edraak.org	non-profit	2014	Jordan	American University of Beirut, American University of Cairo
Eliademy	Commercial	2012	Finland	Aalto University Executive Education
Future Learn	Commercial	2012	UK	University of Birmingham, University of Edinburgh, University of Reading, Open University, Monash University, Trinity College Dublin, Warwick University, University of Bath, University of Southampton
University	Commercial	2013	EU	Universidad Autonoma de Madrid, University of Florence, University of Hamburg
miriadax.net	Non-profit	2013	Spain	48-50 universities from Spain and Latin America
MOOEC	Non-profit	2013	Australia	University of Queensland, Griffith University, Queensland University of Technology
Novo Ed	Commercial	2013	USA	Stanford University, Wharton, Princeton, Darden, Comcast, Carnegie Foundation, Universidad
Open Learning	Commercial	2012	Australia	University of New South Wales, Taylor's University, University of Canberra
Stanford Online	Non-Profit	2006	USA	Stanford University
Udemy	Commercial	2010	USA	Professors from Universidad de Chile, University of Chicago Law School, George Washington University
WizIQ	Commercial	2007	India/USA	IIT Delhi, Des Moines Area Community College
Wolearn.org	Commercial	2014	China/UK	University of Southampton, Beijing Normal University

MOOC’S PEDAGOGY

The pedagogy that MOOCs employ also differs significantly from “traditional online learning”. Learning is accomplished via a “flipped classroom” model, whereby the instructor employs the Internet and other technologies to allow students to gain knowledge that used to be delivered via a lecture format and then use time in the classroom to work on problems together. Teaching as action, pedagogy as praxis, a how-to for Critical Pedagogy begins, as hooks implies, with dialogue. In “Critical Digital Pedagogy: a Definition,” Jesse argues, “pedagogy, and particularly Critical Pedagogy, is work to which we must bring our

full selves, and work to which every learner must come with full agency” (Stommel & Morris, 2014).

Massive open online courses (MOOCs) often have been hailed as the standard bearers for a supposedly nascent concept of functional online learning even though MOOCs have existed, and online distance education has been researched, for more than 20 years (Baggaley, 2014a). Research into MOOCs must acknowledge the open courses’ pedagogical position in context in order to accurately assess any improvements or new opportunities. (Martinez & Diver, 2015)

According to iJona & Naidu (2014), theoretical frameworks underpinning the pedagogical approach

instantiated in MOOCs, degree of fidelity for pedagogical design elements being implemented in MOOCs, In what ways does the “massive” enrolment meaningfully change the possibilities for individual and collaborative learning in MOOCs as compared to other course designs and modalities?, On balance, is “massiveness” helping or hindering student learning?, What lessons can existing online and mainstream distance education research contribute to the design, implementation, analysis, and/or evaluation of MOOCs? How do we balance the use of “big data” analytics (Firmin et al., 2014) with the more learner-centric methods (Andersen & Ponti, 2014; Li et al., 2014; Knox, 2014; Adams et al., 2014) are concerns for innovative MOOC pedagogy.

Today’s MOOC presents largely traditional instruction: lecture segments (often video), readings, and quizzes. The MOOC instructional paradigm works best for self-directed learners. Typically, only a fraction of enrolled students complete the course and an even smaller subset (e.g., 5 percent) pass. However, options are likely to expand as MOOC pedagogy and technology matures (Voss, 2013). According to Voss (2013), we are still in the early days of MOOCs. In addition to questions about the business model and pedagogical impact, other issues should be addressed:

1. Intellectual Property. Who owns the course? What about scholarly works and the materials used in the course? How do the massive and open elements of MOOCs influence “fair use” claims on copyrighted materials?
2. Identity and Credit. Once a student completes a MOOC, how do colleges and universities go about ensuring that he or she has really learned something and earned the credit? Perhaps institutions and MOOC entities will develop partnerships with testing centres and verification technology companies.
3. Open courses, certifications, credits, and degrees. MOOCs are catalysing exploration of alternative credentialing systems, and traditional institutions should carefully consider how MOOCs fit into their degree programs.

PROBLEMS OF MOOCs

1. **Need for teachers to acquire competence of digital instruction and technologies:** In pedagogical consideration, teaching staff face a challenge of adapting to the MOOC ‘ecosystem’, as illustrated by the practice that university administration would rather replace faculties without sourced online courses taught by famous academics, while allowing administration personnel to expand and thus the relative administrative cost rising (Houston- in Chen, 2013).

2. **Low Completion Rates of MOOCs:** As for the courses, a characteristic of MOOCs is the low completion rates -- most of them have less than 10% of students completing the course, so learner retention is important (Liyanagunawardena et. at., 2013). Analytical studies also suggested figures about very low completion and participation rates of MOOCs. MOOCs demand a more sophisticated assessment than the binary completed/not completed one used in popular discourse. Beyond that simplistic variable, many valid learning experiences are being enjoyed by significant numbers of learners, and in a wide variety of ways.

Stanford’s Lytics Lab approached the problem by investigating and categorising learners through courseware analytics, to reveal more granularities in the large populations dropping out. The report “Deconstructing Disengagement: Analysing Learner Subpopulations in Massive Open Online Courses”, identified four significant clusters of students in three computer science MOOCs: “Auditing” learners watched lectures throughout the course, but attempted very few assessments. “Completing” learners attempted most of the assessments offered in the course. “Disengaging” learners attempted assessments at the beginning of the course but then sometimes only watched lectures or disappeared entirely from the course. “Sampling” learners briefly explored the course by watching a few videos.

3. **Heterogeneity and diversity (Hochschulpolitik, 2014):** The heterogeneity of the learning group is a fundamental problem in every teaching format. However, it applies particularly to open teaching programmes and very specifically to MOOCs. The participants are non-students, first-year students, and students nearing the end of their courses, graduates and even professionals also. There are various tools with which to meet the requirements of all these heterogeneous groups: firstly, a survey of the learning targets can help to classify the participants into homogeneous or diversified groups and designate concepts for the appropriate teaching methods. In homogeneous or diversified learning groups, the option of self-management, through peer-learning for example, can be used.
4. **Examinations and the documentation of performance (Hochschulpolitik, 2014):** The challenges presented by examinations in the MOOC’s framework are authentication and grading.

Examinations where the examinees are physically present at the university and take the examination at the computer do not present a problem for authentication. These classroom examinations can

also be run on behalf of the universities by external companies. However, the MOOC characteristic of independence in terms of geography and time is lost here. Conceivable alternatives are online examinations aided by the technical verification of identity. For example, Coursera is developing a "Signature Track" for authentication in which identification is made by means of the candidate's individual typing rhythm on the keyboard. Given that in Germany the legal opinion of the administrative courts is decisive in examination issues, online examinations do not yet appear to be legally incontestable. Consideration is therefore being given to the construction of a network of examination spaces by the universities.¹⁸

5. **Legal issues (Hochschulpolitik, 2014):** Legal issues associated with MOOCs arise in connection with legislation governing copyright, data protection, state aid, staffing, public sector employment and examinations. There are two key aspects in the legal evaluation of MOOCs: one aspect relates to the target group and consists of the difference between "students" (internal) versus the "general public" (external). The other arises from the contradiction between "cost-free" and "chargeable". The definition of these terms is blurred where MOOCs are concerned, so that it is difficult to find a clear legal classification.
6. **Learning Practitioners disagree about the value of MOOCs:** Learning practitioners have engaged by contributing extensive critical review literature in peer-reviewed journals, the specialist educational press, blogs, and the general media. Two conflicting threads of opinion run in the critical practitioner literature.
 - a) MOOCs report positively on learning experiences and innovative formats of pedagogy, and spotlight themes such as access, empowerment, relationship building and community which are deviated from reality.
 - b) A thread of doubter tempers the general enthusiasm along two themes:
 1. The supposed benefits of MOOCs were already realised in previous generations of ODL innovation – and the innovations of MOOCs are the victory of packaging over content.
 2. The MOOC format itself suffers from weaknesses around access, content, quality of learning, accreditation, pedagogy, poor engagement of weaker learners, and exclusion of learners without specific networking skills.

THE SIGNIFICANCE OF MOOCs

According to Dr. Lindsay Ryan (2013) following are the significance of MOOCs:

1. MOOCs are accessible to virtually everybody who has access to the internet and the courses are free. This means there is no direct cost for a participant to explore a potential new area of interest or learning;
2. Learning occurs at times and locations that best suit the participant;
3. Participants interact with other people with a shared interest and are exposed to a diverse range of perspectives and ideas that can stimulate reflection and further interest in a topic;
4. Being part of a global class, participants can gain insight into attitudes, ideas, and trends among different populations and countries on a particular topic;
5. The continuing growth in the number of MOOCs will lead to significant choice and options for free online courses. This will allow learning and development to be tailored to the needs and/or interests of each participant;
6. MOOCs open a world of learning possibilities and promote lifelong learning for all those who are interested, able and motivated to participate;
7. Although some critics of MOOCs claim there is a low completion rate for courses, this has more positives than negatives. It means that people are interested in the concept of MOOCs and willing to investigate online learning, which most people would not have experienced previously. It also means that people have the opportunity to explore a topic without being committed to it and incurring significant costs as happens with many undergraduate programs.
8. Those people participating in a MOOC who do not complete a course are not precluding somebody else who wanted to participate but did not meet the selection criteria or cut-off levels.

SUSTAINABILITY OF MOOCs

The latest figures come from the Babson Survey Research Group's annual survey, which was based on a 2014 survey of more than 2,800 academic leaders (February 5, 2015). The survey, which has tracked opinions about online education for more than a decade, started asking academic leaders about MOOCs in 2012, when free online courses seemed poised to disrupt the walled gardens of elite college instruction.

Back then, 28 percent of respondents believed MOOCs were sustainable, while 26 percent thought they were not. In this year's survey, 16 percent believe MOOCs are sustainable, while 51 percent think they are not.

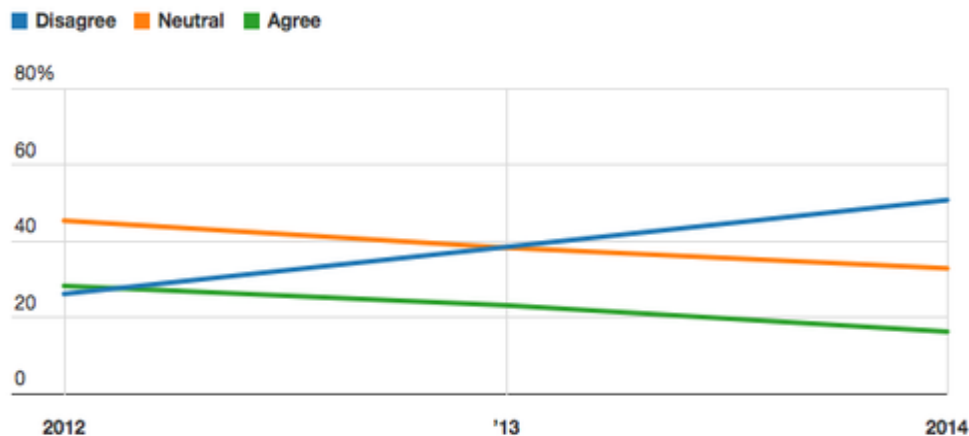


Figure 2: MOOCs Are a Sustainable Way to Offer Courses
(Source: Babson Survey Research Group, February 5, 2015)

CONCLUSION

The development of technologies in distance education continues to influence the context of education and learning (Bouchard, 2011). MOOCs bring a new perspective to traditional education but are still in the infancy stage (Chen et. al., 2013). MOOCs made possible to spread knowledge widely. Knowledge at once fingertips has never been more readily available to everyone (Uo People, 2015). MOOCs are incredible tools for specific skill development and knowledge attainment. These are the vehicle to find the brightest need based education with wide availability of choices. Especially for individuals looking to take a course from a renowned educators to enhance their skill-set in a particular area – MOOCs are great (Uo People, 2015). Increasing number of universities are offer blended programs. Values and quality of education are critical to all MOOCs provider universities and organizations to provide competency based programs and to better address the needs of stakeholders. Finally, rapid advances in technology especially in the area of online learning (Stepan, 2013).

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