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Situation Analysis: Massive Open Online Courses (MOOCs) in China

Massive Open Online Courses (MOOCs) first originated in the USA, but became popular internationally in recent years. These free, high quality online courses have made a breakthrough in China in 2013, when Coursera and edX, two major MOOC platforms partnered up with Chinese universities to offer their courses online. Local MOOC platforms, such as Coursera Zone, XuetangX, Kaikeba and TopU.com, appeared within the same timeframe. While those are able to provide a service which on a technical, language and cultural level better suits Chinese needs, Coursera and edX have the advantage of offering courses from international top universities and therefore attracting the higher educated students. Although the opportunity MOOCs provide in terms of making education available to anyone and everywhere – increasing the influence and reputation of Chinese Universities abroad – concerns have been raised as well. These include the fear that lower-tier universities might be pushed out of business or that China's ideology might be affected when foreign ideas are imported via MOOCs. The spread of MOOCs in China is just in the beginning phase, but with awareness rapidly increasing, a raising number of students will make use of this new study format and more Chinese universities will join the movement. This creates new educational opportunities for universities. On one side, blended forms of learning, through incorporating MOOCs into traditional programs will emerge and on the other side, local and international cooperation opportunities are taken to a new level. Swiss universities can benefit from new forms of collaboration possibilities. Not only will it be easier to find adequate partner universities, but it will also open the possibility to exchange MOOC courses and offer joint MOOCs and programs.

Development and Characteristics of Massive Open Online Courses (MOOCs)

Massive Open Online Courses (MOOCs), as the newest development in distance education, have been revolutionizing the international higher education system for the last two years. While online distance education is nothing new, MOOCs go further than conventional online course ware, in featuring almost all elements of traditional university courses. The course material, accessible to those who enroll for an online course, exists of video lectures, handouts and reading material. Students have the possibility to engage in discussions or ask questions in associated forums, leading to the creation of a community among students and professors which attributes the MOOCs a more interactive and engaging character. The professor distributes assignments and homework, which is usually evaluated by fellow students, peer-to-peer. Although the course has a start and a finish date, attendees can decide themselves, when and where they want to access the material. Main characteristics of MOOCs include **openness** (everyone can access regardless of location, occupation or age) and **scale** (there is no limitation in terms of student numbers). Furthermore, MOOCs are generally **free, flexible** (time to access and sometimes language can be chosen) and provide **high quality teaching**. Institutions that offer MOOCs are often US Ivy league Universities or internationally renowned universities from other countries and the professors providing the courses are carefully selected. Udacity for example, a major MOOC platform, rejects 98% of the professors who apply for teaching.¹ Most MOOCs are offered on MOOC platforms in collaboration with several universities. Normally no academic credit is offered for attendance, while certificates upon completion can be earned against a fee. Most recently, some universities have started to offer degree programs, as for example the Georgia Institute of Technology College of Computing which in collaboration with Udacity offers the first professional

¹ Pappano, L., 02.11.2012

online Master of Science degree in computer science, that can be done completely through the MOOCs format.² One of the first breakthroughs in the evolution of MOOCs was made by the Massachusetts Institute of Technology (MIT) when it started to publish course materials (videos, presentations, articles) online and made them available to everyone for free in 2001 within the project “OpenCourseWare”. Other elite universities followed with similar offers and in 2008 the term MOOCs was used for the first time. Bryan Alexander, National Institute for Technology in Liberal Education (USA) and Dave Cormier, University of Prince Edward Island (Canada), used the term to refer to a course called “Connectivism and Connective Knowledge” from George Siemens, Athabasca University and Stephen Downes, National Research Council. The course was attended by 25 tuition paying students of University of Manitoba and over 2200 other students who took course online free of charge. Besides accessing the course material online, the students wrote blogs and participated in discussions in forums about the course topic.

Nowadays, the three most renowned MOOCs platforms are Coursera, edX and Udacity, featuring courses from top universities such as Harvard, Stanford or MIT. The institutions are motivated by creating education possibilities for anyone and being able at the same time to gather data about students and to expand their influence. Being funded through venture capital, donations (e.g. Bill Gates Foundation) and internal sourcing, they cover their costs through offering certificates or additional courses against a fee. Other possibilities the platforms might aspire are to offer additional paid course material like library resources and tutoring or to allow schools to pay for MOOCs classes taught on their campuses.³

Development of MOOCs in China

As in other countries, there have been other forms of online teaching in China before the MOOCs concept was imported. Various Universities, including the Hong Kong Open University or the Open University of China have been offering long-distance degree programs via correspondence, TV and radio for over a decade and started to offer online degree programs several years ago. Meanwhile, the Open University of China’s Aopeng Distance Education Xuexi Center is China’s largest online education platform with over 2 million students.⁴ In contrast to MOOCs, these programs charge a tuition fee. Before Chinese universities started to provide MOOCs, foreign MOOCs or MOOCs-like platforms already have been popular with Chinese students and teachers. Over 100 courses of MIT’s “OpenCourseWare (OCW)” have been translated and adapted into Simplified Chinese by China Open Resources for Education (CORE), one of MIT OCW’s translation affiliates.⁵ edX and Coursera have been providing Chinese translations of their courses well before actively engaging Chinese partner universities.

In 2013, MOOCs became the prevalent topic in China’s education landscape. edX and Coursera partnered up with Chinese Universities, many MOOCs conferences and forums were held (e.g. the Massive Online Education Forum at Tsinghua University in June 2013)⁶ and the local MOOCs platforms Kaikeba, TopU.com, XuetaangX and Coursera Zone emerged.

Major MOOCs platforms in China

Currently, the most significant MOOCs platforms in China include edX, Coursera and the local platforms XuetaangX, Coursera Zone, Kaikeba and TopU.com.

The for-profit MOOC provider Coursera was launched in 2012 by Stanford professors Andrew Ng and Daphne Koller with 16 million Dollars venture capital funding.⁷ Meanwhile Coursera offers nearly over 600 courses from more than 90 universities (including University of Geneva, University of Zurich, University of Lausanne and EPFL). Coursera’s enrollments rise rapidly and reached 22 million

² Maosung, S., 09.09.2013

³ Kolowich, S., 21.02.2013

⁴ Maurer, T., 19.10.2013

⁵ MIT OpenCourseWare, 05.06.2006

⁶ Maosung, S., 09.09.2013

⁷ Holdaway, X., 11.05.2013

enrollments in January 2014.⁸ Since many students in China use VPN to bypass the Great Fire Wall and are therefore not trackable, no exact numbers of enrollments from China are available. In December 2012 however, a bit more than 4 percent of Coursera's students were from China.⁹ The classes, covering a large variety in topics, are mostly in English, but some classes get translated into other languages (as Mandarin) or have subtitles. The access to the courses is free, but if someone wants to earn a certificate he has to pay up to 100 Dollars. Recently, Coursera introduced "signature track" courses, which require a tuition fee and come with a certificate.

In February 2013, the first Chinese University, the Chinese University of Hong Kong started to partner up with Coursera. Meanwhile, already five Chinese universities feature courses on Coursera. In October 2013 Coursera announced that it will launch in partnership with the Chinese internet provider NetEase, Coursera Zone, a Chinese platform adjusted to Chinese student's needs. Coursera Zone features a broader variety of inland universities than Coursera. Many international partners of Coursera offer courses on Coursera Zone as well, but some (less than 5 percent), decided not to take part in the project, worrying about lack of academic freedom or censorship in China.¹⁰ A major advantage of Coursera Zone in contrast to Coursera is that the language of the platform is Chinese. Furthermore, through its partnership with NetEase, Coursera Zone has as local provider an increased loading speed of videos and other course material, while Coursera as a foreign site loads more slowly.

The second largest MOOCs platform is edX, a nonprofit enterprise developed in May 2012 by Harvard and MIT with an initial funding of 60 million Dollars. In October 2013, edX already had 1.3 million users.¹¹ Same as Coursera, edX offers free MOOCs with the possibility to earn a certificate for a fee. Additionally edX in partnership with San Jose State University looks for business to business options, meaning that it will offer licensed courses to other universities for a fee. In May 2013, the first Asian universities have been added to the xConsortium (the association of all universities who provide courses on edX), including Tsinghua University, Peking University, Hong Kong University of Science & Technology and University of Hong Kong. Before the collaboration with Chinese universities in March 2013 edX had already about 6000 mainland students.¹² Considering the large expansion of edX in China, the number may be now much higher. Tsinghua University had a very successful start at edX with almost 4000 students enrolling in its first course "Principles of Electric Circuits Part 1" and over 2000 for "History of Chinese Architecture" within a timeframe of only four weeks. Over 80% of those registered students come from overseas. Peking University had a good start as well and plans to offer about 100 MOOCs via edX within the next five years.¹³

In October 2013, Tsinghua University established its own Chinese platform called XuetangX to host MOOCs. Although XuetangX is independent from edX, it has been developed using an open-source code repository, which was developed and made available by edX.¹⁴ Currently, XuetangX is offering 15 MOOCs from Tsinghua University, Peking University and MIT, but will expand quickly and offer courses from other Chinese top universities (Beijing Normal University, Renmin University, Shanghai Jiao Tong University etc.) as well.¹⁵

The first purely Chinese platform has been founded in October 2012 by Guolaiaren, an online career and recruitment consultancy. In March 2013, this platform, TopU.com, already recorded 35'000 enrollments for 200 courses from 100'000 students. Guolaiaren plans to invest 30 million dollars into the platform during the next three years and to cooperate with universities like Harvard, Columbia and MIT. In the future, Guolaiaren plans to attract international students as well, through e.g. offering the course "Tibetan language and culture" from Tibet University.¹⁶

Another major Chinese MOOCs platform is Kaikeba, launched in August 2013 with a venture capital funding of 16.5 million Dollars. Kaikeba offers Chinese classes with focus on software development and project management from Beihang University, Shanghai Jiao Tong University, Dalian University of

⁸ Coursera, 17.01.2014

⁹ Schulmeister, R., 2013, S.25

¹⁰ Cavanagh, S., 21.10.2013

¹¹ Tang, Y., 18.11.2013

¹² Li, R., 22.03.2013

¹³ Li, R., 19.09.2013

¹⁴ Tang, Y., 18.11.2013

¹⁵ Bolkan, J., 15.10.2013

¹⁶ Li, R., 22.03.2013

Technology, and Xiamen University. After completion of a course, the students have the ability to transfer the earned certificate into credit of these universities.¹⁷

Platform	Coursera	edX
Founded	April 2012 by Professors from Stanford University	May 2012 by MIT and Harvard
Members	98 institutions (incl. EPFL, UZH, UNIL, UNIGE)	31 (incl. EPFL and ETHZ)
Enrollments/ Students ¹⁸	22 mio. course enrollments Jan '14 ¹⁹	1.3 million students Nov '13 ²⁰
Chinese Students	>4% (December 2012) ²¹	6000 (March 2013) ²²
Courses in Chinese	45	
Chinese Members (& Number of Course Offerings)	<ul style="list-style-type: none"> • Fudan University (1) • The Hong Kong University of Science and Technology (5) • The Chinese University of Hong Kong (5) • Shanghai Jiao Tong University (6) • Peking University (10) 	<ul style="list-style-type: none"> • The University of Hong Kong (0) • The Hong Kong University of Science and Technology (0) • Peking University (5) • Tsinghua University (7)
Chinese University Course Offerings	Law, Chemistry, Programming, Bioinformatics, Chinese Culture, History etc.	Electronic Circuits, Chinese Culture, Financial Analysis etc.

Platform	Coursera Zone	XuetangX
Founded	October 2013	October 2013
Members	Most of the universities that are also offering courses at Coursera and some additional Chinese ones	3 (Tsinghua, Peking University and MIT)
Chinese Members	<ul style="list-style-type: none"> • Beijing University of Aeronautics & Astronautics • Jilin University • Renmin University • Dongbei University • Shandong University • Wuhan University • Zhejiang University • Fudan University • Nankai University • Peking University 	<ul style="list-style-type: none"> • Tsinghua University • Peking University

MOOCs in China- Challenges and Opportunities

The rise of the MOOCs has been one of the most discussed topics in the field of education within the last year, especially in China. MOOCs are seen as a phenomenon that reforms the international education landscape. By offering courses from top universities for free and accessible to anyone, MOOCs bring high quality education to those, who otherwise wouldn't have access, be it because of high costs for enrollment, insufficient qualification, time constraints or immobility. MOOCs students can enroll and attend courses at any time suitable, even when being employed full-time. Nevertheless, MOOCs students in China are still to a large degree coming from a higher educated and richer education class. According to a study by Penn's Graduate School of Education 80% of the MOOCs students in China come from the richest 6% of the population.²³

Chinese Universities, through MOOCs get the chance to raise their international profiles and to show their own perspectives and methodologies on a global level. Excellent professors have the chance to reach thousands of students turning traditional courses into MOOCs with almost no additional cost.

¹⁷ Bischoff P., 19.02.2014

¹⁸ Current data is not available. There is a difference between student numbers and enrollments, because students can enroll for several courses at the same time

¹⁹ Coursera, 17.01.2014

²⁰ Tang, Y., 18.11.2013

²¹ Schulmeister, R., 2013, S.25

²² Li, R., 22.03.2013

²³ Ezekiel, E., 20.11.2013

Cheng Fangping, a professor at Renmin University suggested that Chinese universities should take this opportunity to boost their global competitiveness by devising courses that met international standards and by further diversifying and broadening their curriculum.²⁴

MOOCs can further help to share Chinese culture and knowledge to students all over the world. As Prof. Huang Ronghuai from Beijing Normal University explained to *University World News*, this could even extend to Confucius Institute MOOCs.²⁵

Foreign MOOCs on the other hand could complement the Chinese education landscape in subjects where Chinese Universities are less good at while providing Chinese institutions with the opportunity to learn from them. At the same time, MOOCs create great regional and international cooperation opportunities for Chinese universities, such as joint courses in topics of common strengths. Chinese platforms, using technology that already exists, as XuetangX using the technology of edX, can benefit from the already existing technology and avoid the high development and research cost associated with MOOCs.

The discussion about MOOCs involves skeptical voices who emphasize the challenges as well. Some think, that MOOCs are not structured enough and that there is a lack in organization. Prof. Li Fei of Wuhan University noted that there is too much repetition and overlap in the development of online courses and that more strategic planning is needed.²⁶ Furthermore the lack of digital literacy of staff and students as well as the occurrence of technical problems is criticized. Foreign MOOCs platforms in China face the challenge that foreign websites load slower and that Youtube, the tool most of the platforms use to make video courses available, is blocked in China. Chinese students need to download videos instead of just stream them.

Another concern is the shortage of interactivity and contact with the professors which often leads to demotivation. Studies have shown that only about 7% of the students finish their courses.²⁷

Other issues with MOOCs include student cheating, questions about faculty copyright in course material and the possibility of fake MOOCs certificates emerging. Furthermore, it is still not clear to which extent a course certificate (paid by students) is recognized from employers or schools. On the policy side, the government hasn't made any clear statement on its strategy towards MOOCs yet. The Ministry of Education usually is responsible for accrediting foreign universities. The accreditation is a tough procedure and for MOOCs it might be even harder to get accredited.

Some Chinese professors as Prof. Zhang Jiahua from China Agricultural University are concerned that "foreign ideas" might be imported via MOOCs and that it will affect the Chinese ideology and socialism.²⁸ With Universities offering western originated online courses on a global level, cultural differences may be disregarded. Lani Gunawardena, a professor at the University of New Mexico, did research on how people construct knowledge through online collaboration. She noted that in the West, a belief with roots in classic Greek civilization, namely that argument is necessary to generate knowledge, prevails. In China however, Gunawardena found students don't necessarily openly argue with each other based on points of view. They build knowledge based on collaboration. Therefore western MOOCs might not always fit the Chinese pedagogy.²⁹ Many Chinese professors therefore emphasize the need of own Chinese grown platforms and suggest organization and funding provided by the Ministry of Education.³⁰

As in other countries, there are fears that MOOCs through digitalizing education not only endanger academic jobs, but even pose a threat to whole institutions and might push some weaker universities out of business when students choose to study at top universities via MOOCs over enrolling at a traditional low tier university. However, some argue that this will not be the case, since MOOCs are a complement rather than a substitute. Traditional universities have advantages which MOOCs cannot offer, such as research opportunities or interpersonal exchange. However, with offering university courses free of charge online, the ability of universities to continue to charge high fees might decrease.

²⁴ Li, R., 19.09.2013

²⁵ Forestier, K., 01.11.2013

²⁶ Forestier, K., 01.11.2013

²⁷ Parr, C., 09.05.2013

²⁸ Forestier, K., 01.11.2013

²⁹ Ry, R., 25.04.2013

³⁰ Forestier, K., 01.11.2013

Future Prospects

With China being the largest higher education market in the world (25 million students at undergraduate level) and at the same time having the largest internet population worldwide (390 million internet users), MOOCs has a huge potential in China.³¹ While in China the awareness of MOOCs, due to access difficulty to foreign MOOCs or language barriers, has been comparatively low before, this will likely change with the appearance of local MOOCs and MOOCs platforms. MOOCs currently are not very well-known, especially in rural areas or in the poorer population. But with the rapid spreading, more and more people will learn from this opportunity and one of the intentions of MOOCs, namely to provide the possibility for education to those who don't have access to traditional universities can be fulfilled better.

As the popularity of MOOCs increases and the success of platforms begin to show, more universities will offer courses and more Chinese MOOCs platforms will emerge and compete toughly. edX and Coursera have to defend their market leader positions in China hard, because local platforms simply manage to better address Chinese needs. Examples for this phenomenon were set by other international online service providers, such as Facebook, Google or Amazon, which all failed against the local competition once they entered the Chinese market. However, with edX and Coursera being able to offer courses from top universities from around the world, they will still reach the better educated Chinese. Local platforms will play a bigger role though in fitting the needs of the average mass.

It is likely that MOOCs change the education landscape overall and that they will be more and more incorporated in education programs. Blended Forms of learning may appear, in which students for example learn via MOOCs and come to the class to discuss the topic with fellow students and the professor.

Offers, such as the one from edX, to buy licensed courses of other universities and offer them on the own campus, may also become more common. This offers collaboration opportunities directly between universities. Universities can incorporate MOOCs of partner universities into their programs and hold joint lectures or provide joint programs without the necessity of students or professors to travel. For Swiss Universities this means that partnerships with Chinese Universities will be easier and faster to establish. MOOCs, accessible everywhere and to anyone, portray the specific universities and can be used for other universities who look for a suitable partner university or for foreign students in finding an adequate university to study at.

On the technology side, MOOCs will likely develop further and incorporate mobile technology, given China's high mobile phone usage. This will make access even more convenient.

A key issue still pending is the policy from the government. The Ministry of Education will be forced develop a standpoint and to establish guidelines towards MOOCs. It is probable that the government will foster the development of local MOOCs, since they are not only a way to educate people all over China, but also to exert influence on a global level and increase the reputation of Chinese institutions.

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