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The Impact of the MOOC Market on Corporate Training

About the Author

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Introduction

A transformation is taking place in the world of higher education—one which is starting to impact the corporate training market. Higher education and post-secondary institutions, in partnership with a series of well-funded platform and service providers, are now offering free online courses (many of which include video, rich media, and interactive assessments) authored by top college professors in the form of massive open online courses (MOOCs).

This rapidly growing trend has three major effects on our marketplace.

- First, it threatens to transform both traditional education and the broader education landscape. Universities feel pressured to evolve their residential experience, extend their brands and reach through online learning, and are starting to experiment with new business models. (Today, most MOOC courses are free, but some fee-based offerings with some accreditation are beginning.) This means education will be available at a lower cost, ultimately creating more skills in the marketplace.

- Second, the platform providers who host and create MOOC programs are developing next-generation learning systems. These companies (such as Coursera, Udacity, edX, Udemy, and others) have developed e-learning LMSs (reminiscent of the e-learning LMSs of the early 2000s) which could be excellent delivery platforms for corporate learning content. Rather than focus on administrative features, they are building next-generation learning environments (for instance, edX offers the LES—Learning Experience System), with a focus on making the

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learning experience as interactive, social, and useful as possible. edX's platform is open source, so it is attracting a large number of third-party developers to build machine learning and assessment tools, for example.

- Third, MOOCs are creating a broader market for content. Some of these companies (edX and Udacity, for example) develop content for a fee. Udemy is creating an entire open marketplace of content and helps publishers to build great online courses. edX and others help universities to turn their content into courses—providing course module and assessment design, programming, editing, transcription, setup of forums, data collection, instructor dashboards, and user experience design.

The explosion of online content from MOOCs has opened up a world of "educational content is free," creating a series of new (perhaps unsustainable) business models. Over time, these companies will either monetize the traffic (through advertising, perhaps) or start charging for content; but, for now, we see a proliferation of free or low-cost content coming available. Some of these companies, like Udemy, focus more heavily on skill-based programs for professional purposes, rather than on academic content from educational institutions. You could consider this market the MAOC market (massive affordable online content).

Corporate training managers can take advantage of this trend in several ways.

- First, courseware from these MOOC providers is available at very low cost (either paid directly for the content or paying a charge for completion certification).

- Second, the MOOC platform providers are looking for corporate partnerships through which they can create online "academies." (Udacity has started an experiment with AT&T and Georgia Tech to pilot an online degree for technical content; Udemy sells its content and platform for professional development to companies like 1-800-Flowers.)

- Third, the explosion of content and interest has spawned new solution providers, and more online content available to employees and candidates.

In this research bulletin, we describe the MOOC marketplace and explain the potential impact on corporate training.

The MOOC History and Marketplace

The Beginnings of Online Academic Content

The MOOC marketplace started about seven years ago (2006) when Salman Khan put math courses for the K-12 market online and created the Khan Academy. His idea was to publish easy-to-understand, video- and audio-based content in small, easy-to-use modules—building up an entire curriculum of math instruction for people of all ages. (Salman Khan was a student of Anant Agarwal at MIT, who later became president of edX.)

Because of Khan's highly engaging style and his open platform, the system gained great interest quickly and, within a few years, people were trying to copy his ideas.

As we entered the 2008 recession and jobs became scarce, the U.S. Federal Government became aware of the high inflation for college tuition and people started to ask why federal funds were flowing to academic institutions which charged such high prices. For-profit training companies (like the University of Phoenix, Capella, and others) came under pressure over aggressive selling practices and the difficulty graduates were having in finding jobs. While one could argue that much of the problem was caused by the recession, it became clear the education market needed a change. The linkage between education and employment seemed broken and the costs kept going up. (The education industry is around a $400 billion marketplace and is highly fragmented.)

Figure 1: Average Annual Cost of a Four-Year Residential College Degree*

*This includes an 11.7 percent increase in 2012.
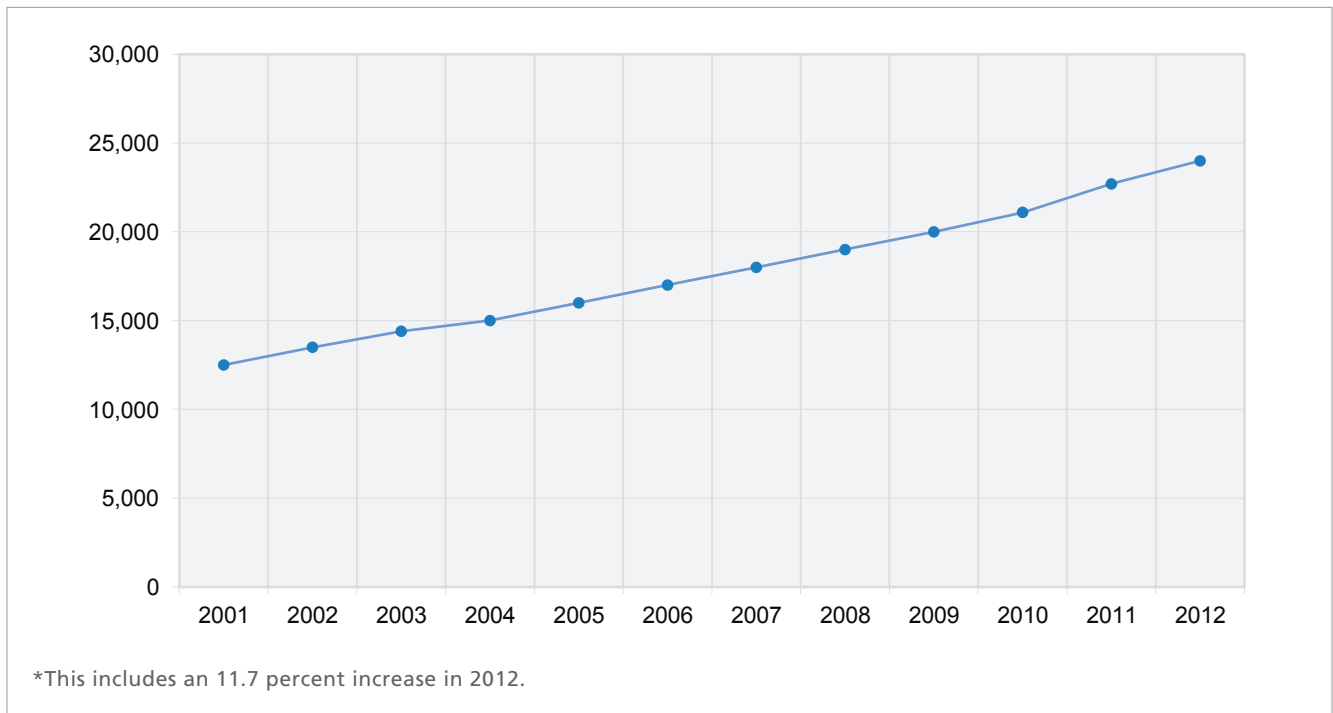
Source: *U.S. Department of Education, National Center for Education Statistics, 20012.*

Meanwhile, enticed by the Internet and rapid availability of tools for online video, university professors were experimenting with online courses. More than 10 years ago, MIT started Open Courseware (which is now known as Open Courseware Consortium and includes a number of universities). When I was a young engineer, Stanford University had a program, called the Stanford Center for Professional Development, and taught master's-level courses through a proprietary TV network throughout Silicon Valley [in California].

Around 2007 and 2008, professors at Stanford and MIT started putting their lectures on YouTube, experimenting with ways to extend their reach; many put their lectures (videotapes) online. These were interesting experiments for faculty and created much press—but became challenging to universities themselves, which worried about the potential for brand-damaging price disruption.

Many universities have experimented with online programs for years, but they usually found themselves challenged by:

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1. The need to build a robust online system, which is not easy

2. The academic model (some professors love this approach; others refuse to participate)

3. The potential disruption to their brand

So a series of intermediary organizations (now considered the MOOCs) was created.

The MOOC Market Emerges

Online courses from universities have been available for some time. Around 2008, the University of Manitoba in Canada offered a free online course, called "Connectivism and Connective Knowledge." Within a few years, Stanford, MIT, University of Illinois, and other schools were offering free courses in computer science. These early courses were primarily video lectures, some with small amounts of interactivity. They were initially offered as experiments, providing no academic credit. While thousands of people enrolled in these courses (and still do), the completion rates are often 10 percent or far less, indicating that these programs are typically "leisure learning" or programs used by students around the world as supplemental to their other education.

By 2010, it became obvious that Pandora's box was open—there was massive interest in online courseware and most universities wanted a way to take advantage of the potential. Without the infrastructure, team, or political will to build a whole online offering, they turned to intermediaries to help them in building out solutions, ergo, the MOOCs.

The first three major MOOC providers (Udacity, Coursera, and edX being the largest) were designed to partner with universities to help them to build out their online offerings. Udacity and Coursera are venture-funded; edX, which is a not-for-profit, open-source company, was funded by Harvard and MIT. These companies work as partners with the academic marketplace, providing platforms, services, and a focused team to help universities to build their online presence.

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Learning Platforms and Business Models Take Focus

I had the opportunity to participate in the last online learning era (1998 through 2001) and, in many ways, the problem today is the same. MOOCs are trying to solve three major challenges in online education.

- **Developing Content**—Someone has to record video, create a syllabus, create assessments and exercises, and develop a course. Today most courses use small, 10-minute modules (this varies by topic) and these must be authored in a way that fit together in a sequence. It is very easy to author video, but still quite expensive to edit it and build it into a step-by-step program. Universities can build this themselves, but today the trend is toward the MOOC company helping the university author the content in a compelling format.

  Udacity recently announced a partnership with AT&T and the University of Georgia to build out an entire computer science degree program online.[1] Coursera and edX also build content for universities for a fee. Udacity, the corporate startup in this market, helps individuals to build content and is also building out content development services to support instructional development by authors.

- **Developing a Learning Platform**—A MOOC course needs to run and play on a learning platform. In the corporate market, we call this platform an LMS, but these LMS platforms focus on administration and management, not on content delivery. An academic MOOC platform needs to make it easy to find a course, launch a course, and bookmark the course, as well as connect assessments, simulations, exercises, instructor feedback, and social interaction in an easy-to-use format.

  This is much harder than it looks. Companies like DigitalThink did this in the late 1990s, SkillSoft continues to work at it, and most LMS companies have developed various iterations. Even Blackboard, one of the largest providers of educational platforms, continues to evolve its learning platform.

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[1] Source: https://www.udacity.com/georgiatech.

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The MOOC platform has to be very easy to use (it is used by students with no real support), be open to many forms of content (e.g., video, audio, e-learning, simulations, exercises, note-taking tools, assessments), and be able to track every mouse click and interactivity in a Big Data database. It also needs to provide a mobile interface, and either an app or player that runs on mobile and tablet devices. The MOOC platform providers are collecting every click by every student and hope to build "machine-learning" tools that let the platform adapt to learner interaction. We will see if this comes true.

Today's MOOC platforms provide a reasonably easy-to-use interface, but they look like e-learning platforms from 10 years ago. We can expect them to evolve very rapidly.

- **Build Brand, Channel, and Distribution**—Third, a MOOC must be able to help its academic partners to sell its courses and academic credit. For a university, this is done through its own online extension programs, which they may sell directly to students. So the MOOC can either be a platform provider or a go-to-market partner. As the MOOC market grows, universities are carefully lending their brands to different platforms, forming alliances, and sometimes running their own universities. As you can expect, an entire industry of other mediators has emerged to help academic institutions to deliver a learning platform, enroll students, sell and market their courses, and help build content.

  Top-name universities want to carefully control their content and their brands, so they either develop content themselves, or partner with a company like edX or Udacity. Others can now hire Academic Partnerships or 2U, and use third-party services to build their educational content. In either case, our experience shows that, in all cases, brand and channel drive adoption and revenue. There will ultimately be hundreds of courses available in any given topic, and it will be the universities and MOOC providers with the strongest brands and channels that take most market share.

Fast Forward to Now: Today's Market

With such a huge market and tremendous amounts of interest, there are many companies playing in this space. Each company or

Figure 2: The Current MOOC Ecosystem

Category	Major Players	Primary "Customer"
Academic MOOC platform providers	Coursera, Khan Academy, Udacity, edX	Students and universities
Traditional and new corporate courseware providers	lynda.com, SkillSoft, Udemy	Corporate training departments and professionals
Educational service providers	2Tor, Deltak, Embanet/Pearson, Udacity	Universities
Platform providers	Blackboard, Udemy, Udacity, Moodle, Desire2Learn, and hundreds of LMS companies	Universities and corporate, and other training providers
For-profit education providers	Apollo Group, Capella University	Students and government
Nonprofit universities	MIT, Stanford, UC-Berkeley, Western Governors University, Southern New Hampshire University, IvyTech, and many others	Students and government

Source: *Bersin by Deloitte, 2013.*

organization serves a certain "buyer" or audience, and we in corporate learning are the beneficiary of this entire ecosystem.
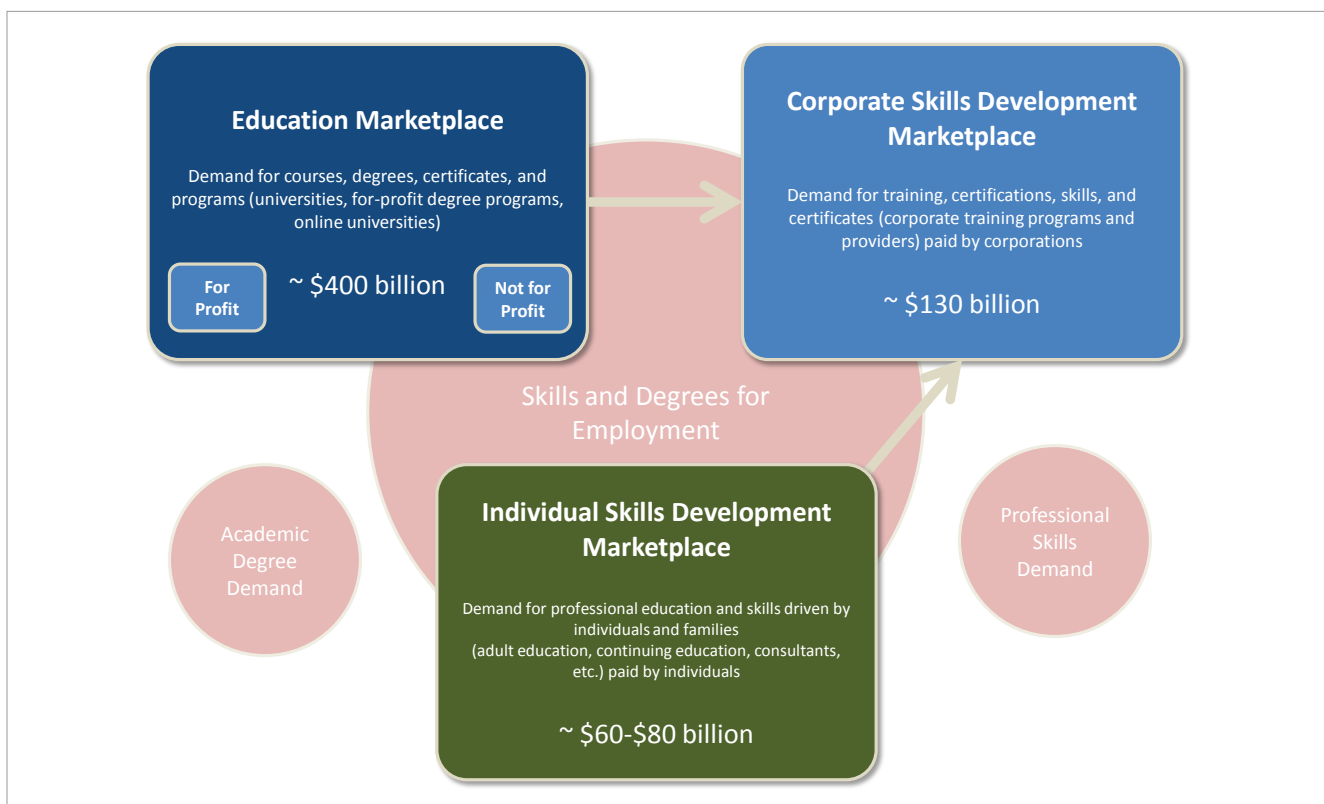
This large ecosystem has many submarkets, each of which feeds different parts of the "skills appetite" in the world. When a corporate training manager looks for a program to train people, he/she looks at several options.

- Can I buy content or find a content provider who offers a course? If so, I can pay for it (this is traditional corporate training). If the course is available at no charge from a MOOC, I should encourage or arrange for my employees to take it. Also, can these courses be taken internally in a private-use mode if I want my employees to take courses together, rather than openly in public?

- Can I hire someone who has this skill and, if so, what degree or certification should that person have? MOOC-provided courses are not accredited yet; but the MOOC providers now offer fee-based "completion certificates," so that you can hire someone who has a

"certified completion certificate" from a Stanford computer science course, for example. Unless these courses are proctored, it is still unclear if these completion certificates can be verified.

• Can I partner with an academic institution or MOOC to build out the program and skills I need for my employees? Companies (like AT&T and others) are embarking on this approach. edX in particular has set up a corporate training team which is looking for partnerships with large corporate training departments. Udemy offers a solution for businesses that provides a private online university for marketplace, as well as internally developed content.

Figure 3: The Three Elements of the Skills Development Marketplace

Education Marketplace

Demand for courses, degrees, certificates, and programs (universities, for-profit degree programs, online universities)

For Profit

~ $400 billion

Not for Profit

Corporate Skills Development Marketplace

Demand for training, certifications, skills, and certificates (corporate training programs and providers) paid by corporations

~ $130 billion

Skills and Degrees for Employment

Academic Degree Demand

Individual Skills Development Marketplace

Demand for professional education and skills driven by individuals and families
(adult education, continuing education, consultants, etc.) paid by individuals

~ $60-$80 billion

Professional Skills Demand

Source: *Bersin by Deloitte, 2013.*

Understanding the MOOC Players in Particular

While the market for MOOC and MOOC players is rapidly changing, let us briefly describe four of the emerging players in this market—Coursera, Udacity, edX, and Udemy.

The following graphic, originally published in the *Chronicle for Higher Education*[2], graphically describes the market very well.

Figure 4: Major Players in the MOOC Universe

Source: *Chronicle of Higher Education, 2013.*

2   Source: "The Digital Campus 2013," *The Chronicle of Higher Education*/Xarissa Holdaway and Nigel Hawtin, September 5, 2013, http://chronicle.com/article/Major-Players-in-the-MOOC/138817/.

Coursera

Coursera is a Silicon Valley, California-based startup funded by Kleiner Perkins and NEA (National Education Association), focused on providing education and academic courses to the masses. The company has an academic focus with a mission of making education available to all. Founded by two Stanford professors, it partners with universities to provide individual courses, typically using video. At this point, Coursera plans to offer its courses for free.

Its learning platform is similar to most others—it plays video and instructional content, enables testing and assessment, and lets students interact with other students online. At the time of my conversation with Coursera, the company hosted around 400 courses and had more than 80 educational partners. These courses tend to focus on scientific academic subjects (e.g., computer science, psychology, etc.), but is now expanding into social sciences, law, medicine, and a variety of other topics.

The courses tend to work in a "cohort" format. You begin a course at a given time, are given a series of assignments and interactive exercises, and you "finish" the course with an entire group of people. This is a similar model used by eCornell in the corporate training market.

Coursera, similar to edX, partners with universities and takes a percent of any revenue generated from the course.

For business users, Coursera has two offerings:

First, the company lets students verify their completion through a program, called the "Signature Program," which costs around $100 per course. This program uses video and other tools to verify that you (the person completing the course) is in fact the person the student claims to be. These "Signature Tracks" can be purchased by companies to be used by their employees. Yahoo!, for example, has purchased several Signature Tracks in computer science for its employees.

Coursera is investigating the potential of having deeper corporate sponsorships, but none have been announced at this time.

Figure 5: Sample Screenshot—Coursera

Source: *Coursera, 2013.*

Udacity

Udacity, similar to Coursera, was founded by a Stanford professor, who originally put his course, Computer Science 101, online. Again, similar to Coursera, the company offers branded academic courses with a focus on education.

Recently, the company signed an agreement with AT&T and University of Georgia to build an entire online computer science master's degree, which will cost around $7,000. It splits this revenue with its partners, and provides the content development, hosting, and administration. This type of agreement moves it into the "educational services" market.

Figure 6: Sample Screenshot—Udacity
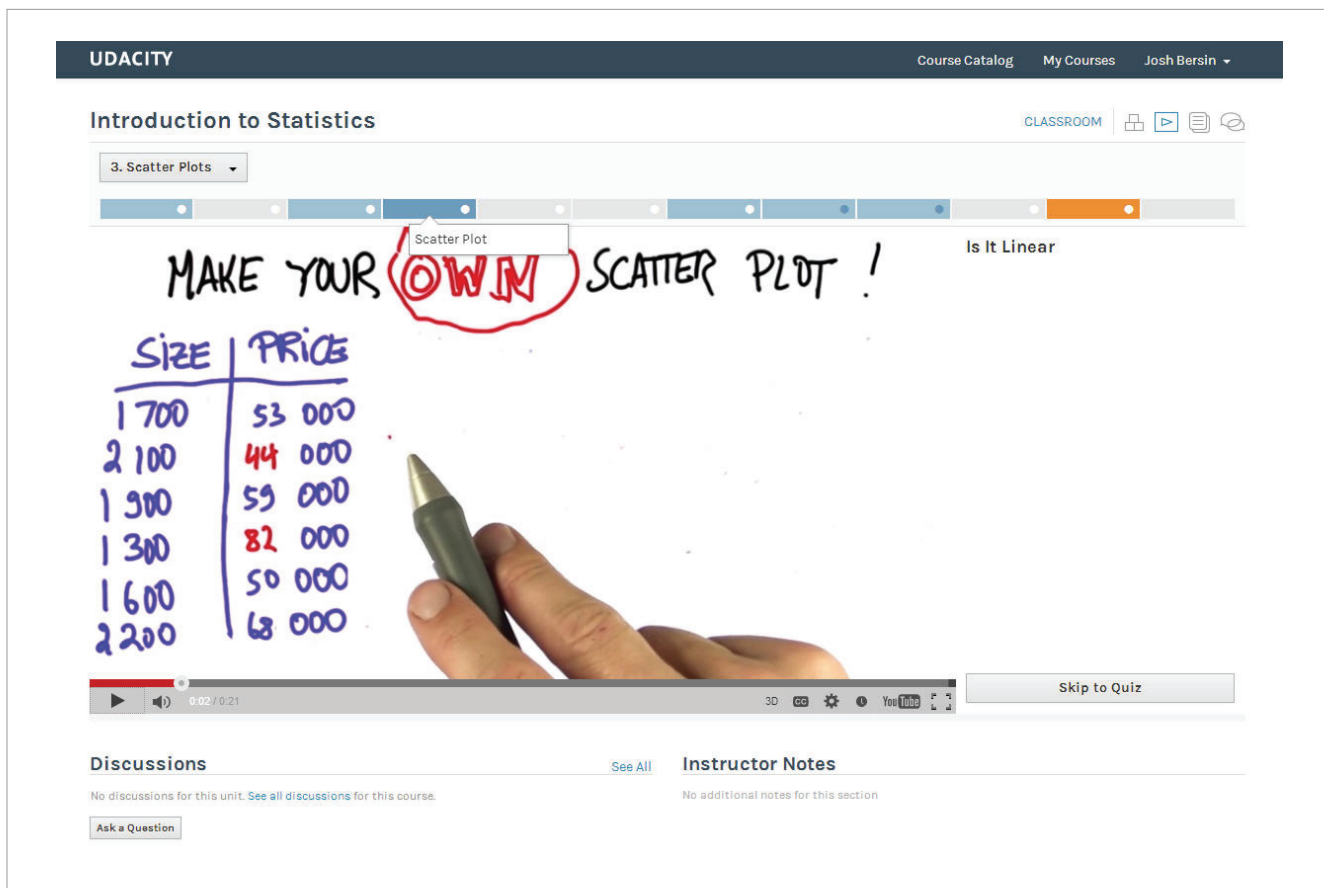
Source: *Udacity, 2013.*

The company has received venture funding from Charles River Ventures and Andreessen Horowitz.

edX

edX is a different type of organization. Originally funded by MIT and Harvard (with $60 million), edX started its business as a nonprofit by providing branded university programs in partnership with major institutions. Rather than simply offering courses, edX has a partnership program which has created a consortium of many of the world's leading universities. But, unlike the other providers, the company is an open-source platform company—freely releasing its platform code to encourage a global community of software developers to build tools, simulation engines, assessment solutions, and other offerings to enrich its offering.

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Each university partners with edX to offer courses built with the edX Studio tool and hosted on the open edX platform. The company provides infrastructure and support to help them to build out their entire online presence. Harvard, Cornell, MIT, University of California at Berkeley, University of Texas, and many other brand-name institutions are partnering with edX. These organizations can either use a "self-authoring" model by which they develop their own courses, or else edX will help them to assemble the content into a course. In either case, the university pays edX an upfront fee per course and the two organizations split future revenue. There is no charge to students for any learning materials required by the course. The company has talked about charging for books (taking a percent) and other educational materials provided as part of a course, if that course is offered for a fee or for credit.

The company's learning platform is similar to the other players, with the exception that the edX platform is totally open source. As discussed earlier, this means the company freely licenses its source code to others, so that they can build assessments, simulations, machine learning tools, and other add-on products to the platform. While this strategy is still young, edX hopes to build an entire ecosystem of partners which plug into its community. Right now, leveraging this ecosystem, edX is the leader in AI-based machine grading, so open essay answers can be used in assessments, graded by an algorithm which was developed by its partners.

edX also has a formal partnership program for corporate training. The company's business strategy clearly includes plans to partner with corporations and other businesses to build branded academies. The first major partnership established was with the IMF (International Monetary Fund). The company will also soon announce three more NGOs (non-governmental organizations) and a global manufacturer, plus a significant announcement with another global organization in the coming month.

Similar to the other platforms, edX's learning environment is cohort-based (typically), and includes courseware, videos, simulations, assessments, a syllabus, and the ability to interact directly with other students.

Figure 7: Sample Screenshot—edX
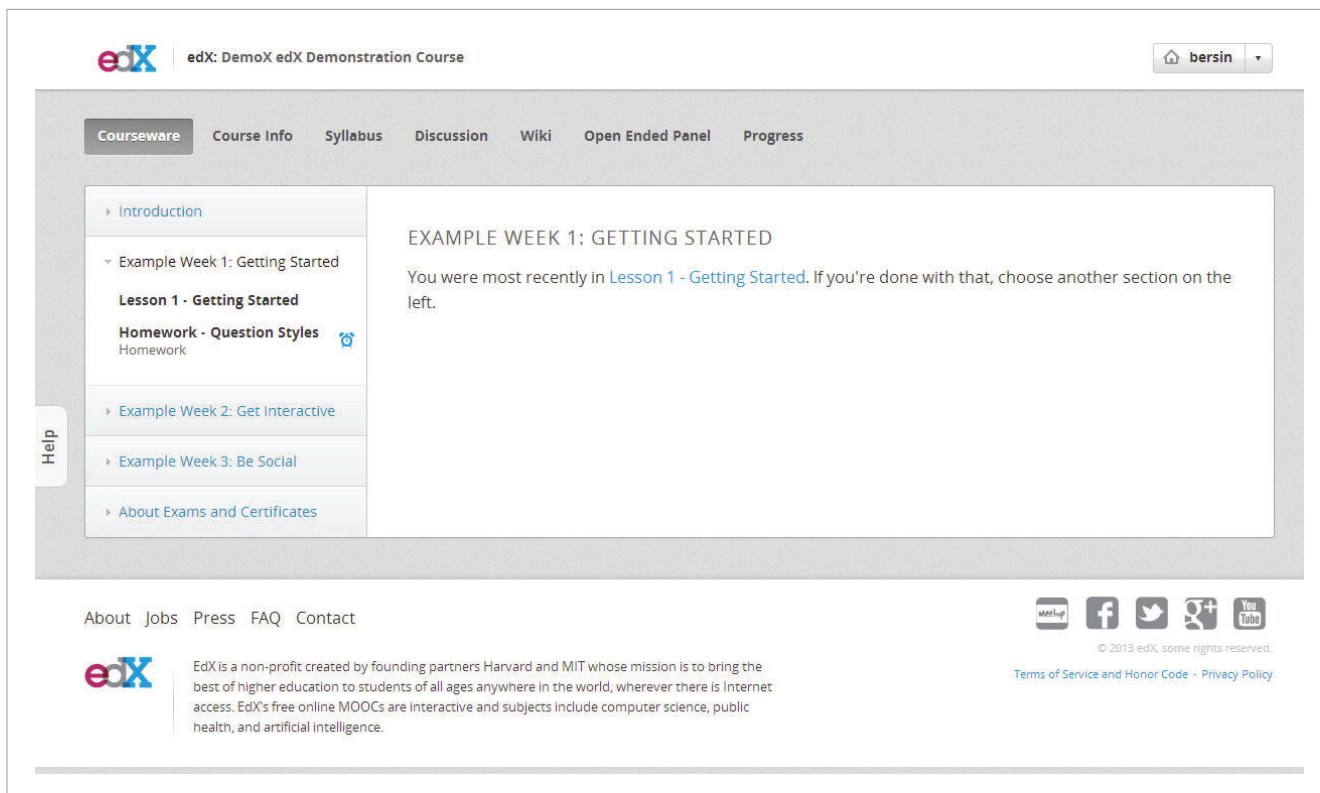
Source: *edX, 2013.*

Udemy

We categorize Udemy as a "corporate-oriented," MOOC-type business which focuses entirely on the business user and community. Udemy began as a marketplace for online MOOC/MAOC courses; it offers a "self-publishing" platform to let any subject-matter expert author a course, and then arranges these courses for free or for fee-based delivery to students. The author owns the IP and sets the price.

This marketplace model lets the company scale its library rapidly (the company hosts more than 9,000 courses already) and is far larger than all of the other MOOCs. These programs are primarily skills based, rather than the more academic titles available from other MOOCs.

The Udemy marketplace consists of hundreds of courses (some branded by very well-known authors), which are available at a variety of prices (from free to several hundred dollars). In some ways, the company is the "iTunes of instruction"—anyone can publish and you can distribute as you wish.

The company's platform is similar to that of the other MOOC platforms, with additional features for learning managers. It has an excellent tool for publishing and course import, tools for eCommerce and course administration, and a corporate portal which lets corporate buyers skin/brand and customize the learning catalog for employees in private-use mode.

You, as a corporate training manager, can purchase Udemy as your corporate LMS—and use any or all of the content available, or you can use it to host content that you develop yourself. The company's corporate offering is similar to any LMS; it lets you assign courses and track progress.

While one may consider Udemy an LMS, the company is really more of a marketplace for content, so we believe it plays in the corporate "MOOC" market (Udemy calls itself a MAOC).

Figure 8: Sample Screenshot—Udemy
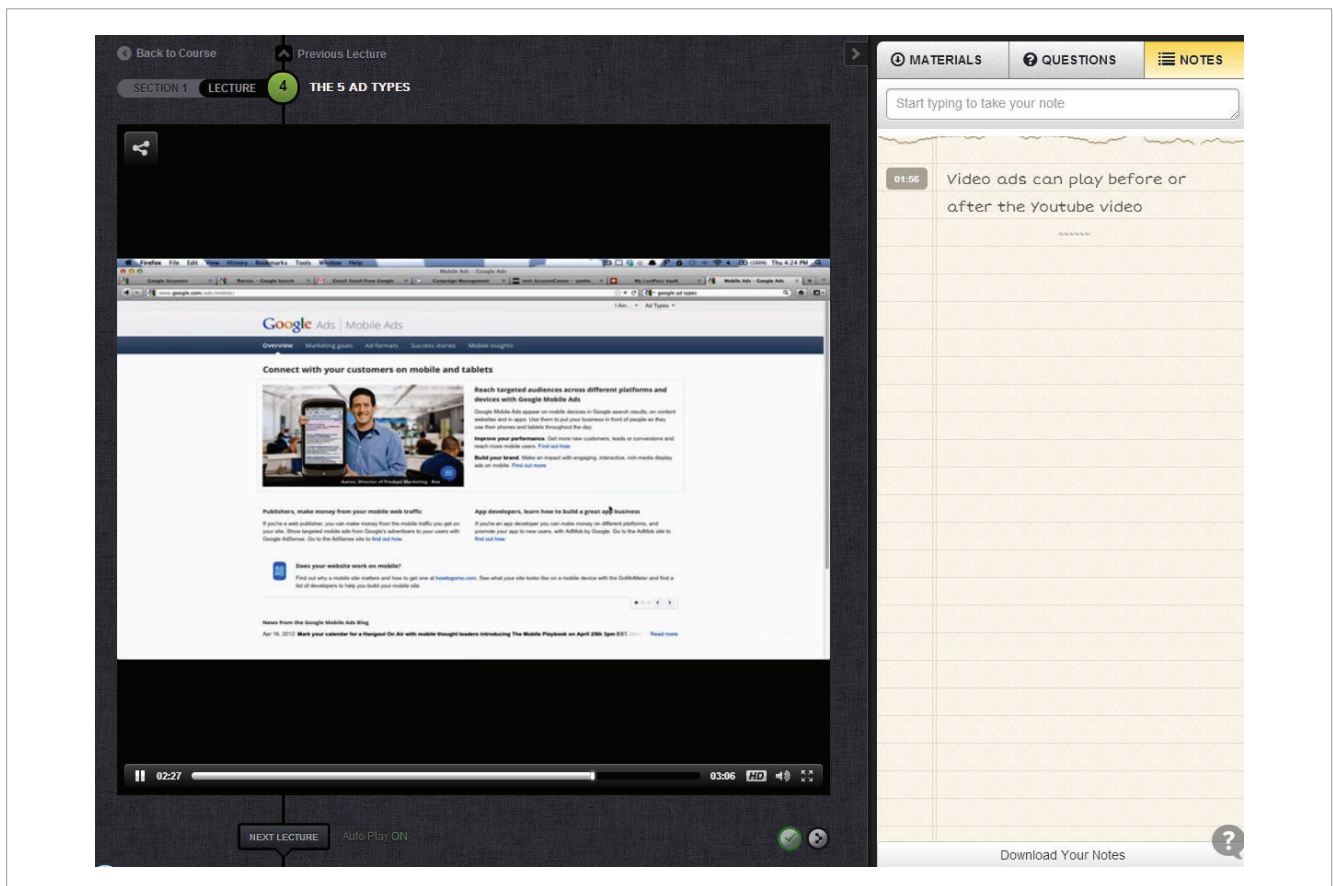
Source: *Udemy, 2013.*

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Implications for the Corporate Training Market

The most common issue we hear from corporate training buyers is the lack of affordable content available. While SkillSoft continues to dominate the e-learning content market, companies still need courses in many topics every day and it is difficult to find well-branded, high-quality content. Companies (like Open Sesame) are trying to create catalogs of such content, but ultimately this is a highly fragmented market.

Some content providers (lynda.com, for example) have focused on providing more proprietary, very high-quality content in their niche. We believe lynda.com is likely to be very successful because its content is high quality, authored by world experts, and designed for an excellent learning experience. But with thousands of courses needed around the world (much of which must be built internally), the market for online training continues to be very fragmented.

Thanks to the explosion of interest in MOOCs, many players are threatening to enter this market. University of Phoenix, LinkedIn, Facebook, and nearly every major online web provider have looked at opportunities to provide validated, quality content in some type of business model. In many ways, the MOOC providers are very immature businesses—which are hoping to capture millions of students and figure out how to make money later.

We offer several recommendations for corporate training managers today. (Please see, "Key Takeaways" at the end of this bulletin.)

An Early Market

Remember that this market is still very young. While venture-capital firms are aggressively searching for new MOOC players to fund, the business model for "low-cost" online accredited education is still emerging—forcing the academic MOOCs to adapt quickly.

We believe that the trend is clear—higher education and post-secondary education programs are and will continue to move to the web. Most major universities will offer their courses online (both to tuition-paying students and through other business models), and the innovation in learning platforms will bleed innovation and solutions for corporate buyers. Eventually we will hire people with highly respected degrees from branded online educational institutions.

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Already today, you can supplement your training programs with carefully selected MOOC content. In the near future, we expect many new content providers to emerge, opening up the door to more competition and new titles. In the meantime, we recommend that you develop a relationship with these early MOOC companies to see how you can leverage their rapidly expanding products and services.

KEY TAKEAWAY

1. Watch this market. Each of the MOOC players has the potential to provide corporate solutions (the MAOC providers are already doing so), and we recommend that you keep in touch with us or them to understand where their content meets your needs.

2. Have someone in your organization investigate free courses available to your employees. You may find a wide variety of well-designed online programs available for free that your employees need or want to take. Developing a relationship with a relevant MOOC provider which has appropriate corporate features and understands your needs will make this very easy.

3. Consider your LMS strategy. The LMS vendors in the market (there are more than 200 today) see the MOOC industry as a content market, and they will likely provide links or other relationships with MOOC vendors when and if they focus on corporate solutions.

4. Negotiate with your content vendor. MOOCs are slowly but surely commoditizing some forms of content. We expect the explosion of venture capital in this market to bring many new titles online, forcing traditional courseware providers to rationalize their prices.

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