Year One Progress Report

[2012 – 2013]
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Introduction

September, 2013 — In May of 2012 Harvard University partnered with MIT to launch edX, an academic initiative dedicated to advancing online learning on campuses and beyond.

Started with a shared $60 million dollar commitment from the founders, edX was built upon several core principles:

- not-for-profit;
- collaborative;
- open source; and
- financial sustainability.

With the aim of becoming a leading source of high quality online learning worldwide, the goals of edX are to:

- expand access to education worldwide;
- improve teaching and learning on campuses and beyond; and
- advance teaching and learning through educational research.

At the heart of edX is the XConsortium of academic partners. The aim of the consortium is to build a global community of online students and work together to build a shared learning and research platform and further the goals of edX. Including the founding partners, Harvard and MIT, there are now 28 global institutions participating in the consortium.

In parallel with the launch of edX, the Provost created HarvardX. HarvardX, a University-wide academic initiative, integrates the development of instructional approaches and digital tools across Harvard’s campus by providing faculty with pedagogical support.

Specifically, HarvardX is ...

- Faculty-driven, experimental catalyst for improving teaching and learning online, on-campus, and beyond;
- Talent and resources (tools, video production, techniques) to develop, disseminate, and test interactive teaching and learning assets;
- Research experts in data and pedagogy, providing a foundation for research in experimental design teaching and learning;
- Academically diverse, highest quality, innovative collection of online learning activities to empower faculty teaching, enhance student learning, and support research (including best practice); and
- A process that increases faculty and student opportunities in a financially sustainable manner.

The following report provides a summary of the major accomplishments of HarvardX during its first year, 2012-2013.

In addition, given the University and HarvardX’s critical role in the creation and evolution of edX, a summary of related
Accomplishments

The direction and priorities of HarvardX are led by two committees: Faculty Committee (chaired by Rob Lue, faculty director of HarvardX, professor of the practice of molecular and cellular biology, and Richard L. Menschel Faculty Director of the Derek Bok Center for Teaching and Learning) and Research Committee (chaired by Andrew Ho, associate professor of education at the Harvard Graduate School of Education).

Supported by an evolving core team of technology, educational, and professional staff, the charge of HarvardX is to:

- develop online Harvard courses and modules for distribution and also for use in Harvard residential and extended online education;
- conduct research on the effects of pedagogical and technological innovations, and how these influence learning outcomes;
- adapt teaching and learning innovations that emerge from HarvardX/edX to on campus education at Harvard; and
- assist Harvard Schools in developing business models for their online learning efforts.

To that end, the past year was spent creating a suitable infrastructure to meet the above goals, with the aim of deriving systematic practices, policies, and procedures to support faculty experimentation in teaching and learning.

HarvardX invested in people and built and strengthened the support organization to best support faculty innovations in teaching and learning.

An interim organization and faculty governance committees (faculty and research) were formed, the first HarvardX fellow was appointed (Jeff Emanuel, HarvardX Senior Fellow), and two full time staff hires, a Project Manager (Valerie Beilenson, formerly of College Admissions Office/Visitas) and a Communications Director (Michael Patrick Rutter, formerly overseeing communications at the Harvard School of Engineering and Applied Sciences), were brought on board.

Teams of fellows, technical experts, and graduate students were brought together to support course development (see Appendix 4.)

All told, the effort now involves over 100 individuals collaborating across the University. Dedicated HarvardX FTEs, including recent course and research fellows and a course development manager, amount to 20.

A community of video practice was formed, led by Marlon Kuzmick, associate director of the Bok Center. Staffing to support future
growth, will include a full time video manager, chief videographer, and part-time assistance. Finally, in June, the HarvardX effort gained a home at 125 Mt. Auburn street (4th & 5th floors). The extensive suite supports full time staff and can flexibly accommodate other collaborators with hoteling stations.

With studio space and editing stations, the HarvardX space will become a hub of innovation and serve as a convening space for faculty interested in online teaching and learning.

The Division of Continuing Education is also making plans move some of its video production teams in closer proximity to the HarvardX team to bolster collaboration.

**HarvardX developed, launched, and planned online courses and tools.**

6 HarvardX courses, representing FAS/the College and three professional schools (public health, law, engineering), enrolled 400,000+ learners from all around the world. (See Table 1 and Figure 1.)

<table>
<thead>
<tr>
<th>edX Total Users</th>
<th>1,114,745</th>
</tr>
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<tbody>
<tr>
<td>edX Total Enrollments</td>
<td>1,705,789</td>
</tr>
<tr>
<td>HarvardX Total Enrollments</td>
<td>482,724</td>
</tr>
</tbody>
</table>

Table 1: Enrollments as of July 28, 2013

12 future courses and modules, across eight different schools, were placed into the production queue for release in fall 2013. In addition more than 20 future courses and 50 modules were identified and cultivated for future pipeline.

Through active collaboration with Harvard University Information Technology (HUIT), specialized new tools were built to enhance the edX platform, including an annotation tool, enhancements to discussion forums, and various assessment methodologies.

**HarvardX established the foundation for research on pedagogy.**

With the leadership of Andrew Ho and the Research Committee, the team worked with edX to understand data available and research requirements for the platform to best inform faculty and shape course design and identified key research questions and studies.

In a related effort, LIBX was launched with the Harvard Library, focusing on identifying resources to support upcoming HarvardX courses, developing a preliminary framework for managing copyright/fair use questions related to HarvardX teaching material, and reviewing a draft guide for Harvard faculty developing HarvardX courses and incorporating Harvard’s collections.

**HarvardX convened faculty across the entire campus (and beyond).**

3 major Town Hall forums for faculty, instructors, and leadership were held to provide updates and insights on the initial HarvardX courses and research experiments.
Rob Lue also led 100 formal and informal faculty engagement events, and, most recently, offered a series of faculty lunches to discuss high-level issues on innovations in higher education (such as flipped classrooms).

With the aim of making the course development process as transparent and intuitive as possible, HarvardX offered training opportunities, faculty guidelines, and support structures (including online shared project management software) for those wishing to design courses and modules.

For example, this past January the Harvard Initiative on Learning and Teaching (HILT) and HarvardX co-sponsored the first "January Academy for Technology-Enabled Teaching," a bootcamp for doctoral students from across the University on new technologies and their use in the classroom.

In keeping with the broader mission to help Harvard be a leader in online learning, the HarvardX leadership and support team also played a key role in collaboration with colleagues from MIT, co-hosting a major academic summit, “Online Learning and the Future of Residential Education in March,” attracting 200 university and college leaders.

Figure 1: HarvardX Course Registrations (as of June 3-9, 2013)
HarvardX engagement and communications.


Since the launch of edX and HarvardX there have been hundreds related media stories on the transformations happening in higher education, with coverage ranging from CNN to Wired the BBC to Time Magazine to HuffPo.

Managing and cultivating external press has been critical—edX and HarvardX have been mentioned thousands of times (see Appendix) —given the high visibility of the endeavor on campus.

Ensuring that consistent, accurate, and up-to-date information was available to leadership, stakeholders, alumni, and faculty, staff, and students has been a parallel priority.

With an emphasis on a One University framework to ensure consistency among all of the schools, a messaging strategy for HarvardX was developed with the communications firm Weber Shandwick and “softly” launched and socialized.

To reach key audiences and to highlight progress at HarvardX, new channels for internal and external communications were launched: a HarvardX website; a SharePoint site for internal leadership; an e-mail newsletter (to a mailing list of nearly 1,000 opt-in recipients); and advance notices of key news and accomplishments to leadership.

As edX comprises many stakeholders, close ties with communications efforts at edX, MIT, and the X Consortium partners have been established and cultivated.

On campus, communication avenues have been established with Harvard Public Affairs and Communications, local school communication offices, and related University and school-based initiatives such as HILT and the Bok Center for Teaching and Learning.

Of particular importance has been the growing relationship with the new dean of the Division of Continuing Education, Huntington Lambert, to develop a long-term plan to best present and package courses, learning objects, and other intellectual property into for-credit and for-payment courses and programs.

Finally, with the pending “Campaign for Harvard,” a path forward for development, donor and alumni engagement, and positioning has been implemented and continually evolved with help from Alumni Affairs and Development Communications and the University Development Office.
Success Stories

In keeping with the principles upon which edX and HarvardX were founded, faculty pioneers and course teams have begun to realize how online teaching and learning has the potential to enhance and transform the campus and virtual experience for both teachers and students. What follows are several of the most compelling success stories from the past year.

Expanding access to education worldwide

Harvard global. Of the over 1.2 million learners from around the world (hailing from 192 countries) engaged on the edX platform, nearly 400,000 are registered for/participating in HarvardX courses.

Raising a virtual hand. To gain a global perspective, ER22x, “Justice,” asked thousands of students "raise" their digital hands and be heard. Each week, there was an optional live dialogue enabling online students to interact with instructors and participants in real time, fostering a global debate on issues relate to ethics, philosophy, and morality.

CS50x says “Hello World!” David Malan, lead instructor for CS50x, “Introduction to Computer Programing,” asked students to introduce themselves via short videos. Excitement about learning for its own sake has never been on better display: https://x.cs50.net/hello/. The final projects from the course ended up as part of a virtual online exposition: https://expo.cs50.net.

Improving teaching and learning on campuses and beyond

Making the past come alive through alumni. For CB22X, “The Ancient Greek Hero,” past instructors and alumni from the popular on-campus course were asked to serve as mentors. The aim is to improve forum discussions and build a mentor network and community that lives beyond the class.

Flipping out. PH207x, “Health in Numbers: Quantitative Methods in Clinical & Public Health Research,” which wrapped up in January 2013, is serving as a test case for the Harvard School of Public Health (HSPH) to “flip” various on-campus courses in AY14.

Harvard in the high school halls. A self-organized group of 13 students at Andover High are enrolled in courses at edX. If the students successfully complete these courses, they will receive credit equivalent to a semester’s worth of their traditional high school work.
Advancing teaching and learning through educational research

Data mining. The experimental, limited enrollment course HLS1x, “Copyright,” is getting some analytical heft thanks to the "data geeks" at the Berkman Center for Internet & Society. The University initiative is playing a crucial role in running sophisticated heuristics to gauge student engagement, participation, and persistence.

Offline help for online students. In one of the first peer-reviewed studies based upon a MOOC, researchers from Harvard and MIT (Including HarvardX’s Andrew Ho) used data from the MITx course “Circuits and Electronics,” to suggest that those who worked on course material offline with a classmate or someone who teaches or has expertise in the subject did better than those who did not.

Test early and often. By interspersing online lectures with short tests, student mind-wandering decreased by half, note-taking tripled, and overall retention of the material improved, according Daniel Schacter, the William R. Kenan Jr. Professor of Psychology, and Karl Szpunar, a postdoctoral fellow in psychology. Their findings were supported by HarvardX and HILT and based on an iteration of the Justice course.

Faculty Voices

“"It feels like all of a sudden having capacity to do all the things I've imagined.” – Elisa New, Powell M. Cabot Professor of American Literature and instructor for AI12x: “Poetry in America”

“Education, and higher education in particular, should be as widely available as possible. It’s essential to human flourishing, and it’s immoral to confine access to something so valuable to a tiny group of people.” – William W. “Terry” Fisher III ’82, Professor of Law and instructor for HLS1x: “Copyright”

“When faculty teach courses they themselves create, they tend to teach better. The very act of engaging in this process is energizing.” – William Kirby, T.M. Chang Professor of China Studies and Spangler Family Professor of Business Administration at HBS and co-instructor for SW22x: “China”

“One of the greatest takeaways of participating in edX was the imperative mandate to take the course to the next level, doing the initiatives we had envisioned technologically and pedagogically, and then applying them back to the on-campus students.” - David Malan, Senior Lecturer on Computer Science and instructor for CS50x: “Introduction to Computer Science”
Challenges & Opportunities

This is an important time in higher education, as several trends are converging:

- global appetite for knowledge;
- faculty interest in improving teaching and learning;
- enabling technologies and tech-savvy students; and
- cost pressures demanding new education delivery models.

In fact, the entire online learning space, and higher education more broadly, is at an inflection point, as conveyed by some recent headlines:

- “Will edX Put Harvard & MIT Out of Business?” (Forbes)
- “EdX, the Great Equalizer” (Harvard Crimson)
- “Laptop U” (New Yorker)
- “EdX: The Platform That Ultimately Disrupted Education Not Just in 2012, But FOREVER” (Boston.com)

At this transformative moment, Harvard faculty have a magnificent opportunity to direct HarvardX in exploring and refining learning and research priorities and to offer thoughtful guidance on the concerns, questions, and possible directions of Harvard and all of higher education in the online era.

A year into HarvardX and edX, the early pioneers and adopters have already begun to point out what is working and what is not working, and are helping to shape the narrative of what is possible.

Specifically, HarvardX and online learning writ large are about more than MOOCs, as faculty are eager to experiment with limited enrollment models, learning objects, and modular offerings.

Further, mounting the initial courses has opened up entirely new conversations around copyright, ownership, outside activities, credit, campus life and experiences.

With that context in mind, there has been an increasing need to define the “big S” (strategy) for HarvardX, and more broadly, to lay out Harvard’s strategy to best support faculty-led, on-campus, school-wide innovative teaching and learning, from learning management systems to tools to research to experimental teaching.

EdX is a crucial part of this strategy, but only one part of a much more complex, evolving vision.
Strategy, Plans, and Next Steps

HarvardX is first and foremost an experiment, requiring continued nuance and change, and most importantly, active input and guidance from Harvard faculty.

In discussions about developing possible strategic plans, the following broad questions were raised (Table 2), some of which go beyond traditionally defined risks.

In the coming year, addressing such concerns and pivoting where necessary will become increasingly important for success.

Based upon the risks, the current state and capacity of edX, and the need to achieve the broader, more ambitious vision for HarvardX, an eight-point plan was developed to suggest a way to move forward. (See Table 3)

### HarvardX Risks

- Faculty concern about the “disruptive” force MOOCs may bring to higher education and their impact on the traditional campus experience
- Remaining a target of high visibility media coverage about MOOCs and higher education and having key messages about teaching and learning be “lost” in the MOOC mania
- Managing increasing faculty demand for support/delivery of HarvardX courses with a small, but nimble staff
- Not clearly communicating that edX is one of many important platforms for disseminating content and that HarvardX is a crucial activity, but not the only activity to support technology-enabled teaching
- Confusion about how various Harvard teaching and learning activities relate/work together (HUIT, Bok, HILT)
- Revenue experiments will not be sufficient for sustainability (or take too long to generate sufficient revenues)
- Different needs/expected directions by Harvard schools and the XConsortium partners, as online learning evolves and develops
- Donor/Harvard VIP stakeholder expectations not on par with reality, start-up and experimental mentality
- Need for new and additional platforms for state-of-the-art MOOCs (relative to competitors and for the needs of faculty), pedagogical experimentation (on campus and beyond), and robust research

Table 2: Risks for HarvardX
## Eight-Point Plan for HarvardX

### 1. Enhance the platform
Build and integrate **complementary** open source platforms and technology solutions to support innovative teaching and learning and research.
- iSites LMS needs to be upgraded/replaced
- Division of Continuing education has a demonstrated need for more robust platforms/capacity to expand its distance learning efforts
- HBS is creating its own learning platform through HBX
- edX will remain one critical platform for delivery and distribution (MOOCs) among many channels (e.g., iTunes, YouTube)

### 2. Build a Harvard online learning portal
Create a virtual, University-wide “front door” for Harvard’s online offerings (courses, modules, collections, learning objects), including specific functionality to facilitate alumni engagement.

### 3. Increase faculty engagement
Provide additional avenues for communications to and engagements for faculty across the schools and provide more opportunities for faculty to help direct and shape the future of HarvardX and Harvard’s relationships with edX, MIT, and the XConsortium partners.

### 4. Conduct revenue experiments
Focus on two HarvardX-run revenue experiments for FY14: fee-for-credit and subscriptions, both in collaboration with the Division of Continuing Education and the professional schools. Partake in edX revenue experiments (e.g., licensing) on a case-by-case basis.

### 5. Expand fundraising efforts
Elevate our fundraising efforts for HarvardX and develop a “big picture” strategy to raise resources for the broader innovative teaching and learning enterprise as part of the Harvard Campaign.

### 6. Integrate communications and community building
Develop and disseminate a compelling and clear messaging strategy for HarvardX as a University-wide endeavor created in response to faculty demand and supported by the school leadership; and present a narrative of how University and school-based efforts to support innovative teaching and learning are working as “one” to ensure Harvard remains a pioneer in pedagogy and learning research.

### 7. Reaffirm the Harvard and MIT partnership
Assess the alignment with MIT with regards to the current state of edX and its future direction and reaffirm the Harvard and MIT partnership at the presidential and provostial levels.

### 8. “Stand up” the collaborative HX organization
Move from an transitional organization to a formal one and staff appropriately to best support faculty innovation and create a strong, cross-campus community (with active partnerships with schools such as the Division of Continuing Education) focused on supporting technology-enabled teaching and research on pedagogy.

Table 3: Eight-Point Plan for HarvardX
**Finances & Fundraising**

To date, HarvardX has been centrally supported through the Office of the President and Provost and the Dean of the FAS, primarily by directing flexible funds and discretionary gifts to sustain start-up operational costs.

HarvardX is an important part of a broader vision for teaching and learning at Harvard and is one of the many ways Harvard is investing in teaching and technology to ensure that Harvard remains a leader in learning.

For FY13, administrative, space, and infrastructure expenses (equipment and technology) in the start-up phase amounted to $1.97 million.

This does not include the various “in kind” contributions, such as time and expertise from University-level departments like HUIT and school-based efforts such as the Bok Center for Teaching and Learning, and related investments in academic technology by deans.

Moreover, HarvardX has also benefitted from edX itself, in particular the MOOC platform, marketing, and global distribution aspects. The above expenses do not take into account the shared investment in edX by Harvard and MIT, the founding partners.

Looking ahead, in the experimental phase for HarvardX, FY14 - FY16, expenses are anticipated to rise to $6-7 million per year, reflecting the evolution of the organization from an “ad hoc” nimble effort to one that is more mature and established.

Additionally, expenses and cost from the schools in supporting HarvardX, specifically course development and faculty time, have yet to be fully tallied.

Once this full picture is captured, it is expected that the total run rate for HarvardX each year will rise. Additional clarity is needed around the internal flow of funds from the center to support the schools and how this ties into fundraising efforts.

A key activity during the experimentation phase of HarvardX will be to explore potential revenue models in the form of paid certificates, fee-based, for-credit courses, and licensing mediated through edX. (See Table 4.)

The Division of Continuing Education will be an essential partner in such revenue experiments. As mentioned, a key tenet of HarvardX (and of edX) is financial sustainability beyond philanthropy.

Until revenue models become more viable, the plan is to fund the startup and experimentation phases largely through institutional support, fundraising and foundation grants.
Table 4: Revenue model framework for on-campus, blended, and online learning options

<table>
<thead>
<tr>
<th>Harvard</th>
<th>edX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential Teaching &amp; Learning</strong>&lt;br&gt;Traditional Harvard campus degree programs</td>
<td><strong>Online &amp; Blended Programs</strong>&lt;br&gt;Online only and online/campus (e.g. Hx, DCE, HBX)</td>
</tr>
<tr>
<td><strong>Learners</strong>&lt;br&gt;• Full time, admitted Harvard students</td>
<td><strong>Pedagogy</strong>&lt;br&gt;• Non-traditional students, professionals, and lifelong learners</td>
</tr>
<tr>
<td><strong>Course Elements</strong>&lt;br&gt;• 24/7 immersive&lt;br&gt;• Lecture/flipped classroom, seminar, lab work, field studies&lt;br&gt;• Online learning tools</td>
<td><strong>• 24/7 immersive&lt;br&gt;• Online/Blended online/on-campus&lt;br&gt;• Harvard “rigor”</strong></td>
</tr>
<tr>
<td><strong>Course Elements</strong>&lt;br&gt;• Full Harvard learning experience, including labs and field studies&lt;br&gt;• Extracurriculars&lt;br&gt;• Residential life</td>
<td><strong>• Full Harvard learning experience, including labs and field studies&lt;br&gt;• Extracurriculars&lt;br&gt;• Residential life</strong></td>
</tr>
<tr>
<td><strong>Credentials</strong>&lt;br&gt;• Harvard credits and degrees&lt;br&gt;• Traditional grades</td>
<td><strong>• Harvard certificates, credits, and varied degrees&lt;br&gt;• Traditional grades</strong></td>
</tr>
<tr>
<td><strong>Enrollment</strong>&lt;br&gt;• 6,700 undergrad/14,500 graduate&lt;br&gt;• Admissions-based</td>
<td><strong>• 20,000+&lt;br&gt;• Open/light admissions requirements</strong></td>
</tr>
<tr>
<td><strong>Revenue</strong>&lt;br&gt;• Tuition for degrees</td>
<td><strong>• Tuition for courses and degrees&lt;br&gt;• Fees for certificates and credentials</strong></td>
</tr>
<tr>
<td><strong>Support</strong>&lt;br&gt;HarvardX, HILT, Bok, DCE, school-based initiatives</td>
<td><strong>HarvardX &amp; edX services</strong></td>
</tr>
<tr>
<td><strong>Delivery</strong>&lt;br&gt;Harvard learning management ecosystem (multi-platform)</td>
<td><strong>edX open source software</strong></td>
</tr>
<tr>
<td><strong>Portal</strong>&lt;br&gt;harvard.edu</td>
<td><strong>digital.harvard.edu, dce.harvard, and edx.org</strong></td>
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**HarvardX and the Harvard Campaign**

With the launch of the Harvard University capital campaign in the fall, there is an opportunity to raise resources and visibility for HarvardX as part of a broader priority to invest in excellence and innovation in teaching and learning.

Alumni and donor excitement and curiosity around HarvardX has been substantial.

In the first year, donors in particular have been very inquisitive about the needs of HarvardX and how financial support will be utilized, the relationship to edX and other consortium partners, and plans for sustainability in this effort.

To date, gifts and pledges to HarvardX exceed $15 million. This is unrestricted, spend down money that can be deployed to support any and all needs of HarvardX.

Such interest and fundraising success should continue, and likely increase, as specificity around HarvardX’s sustainability and revenue models become more apparent and as
HarvardX grows in its own right, complementing and melding with the broader teaching and learning story across Harvard.

Looking forward, fundraising efforts will be focused on raising primarily unrestricted, flexible funds to support development and operational cost of HarvardX.

This funding will support enhancing the physical infrastructure to enable state-of-the-art teaching, course fellows and research fellows; and flexible resources and pilot grants, both already successfully implemented in research.

The leadership of HarvardX and the participating faculty will be instrumental in continuing to tell the HarvardX story to donors, alumni, and the broader Harvard community.

Lastly, as mentioned, edX and HarvardX both provide new and exciting ways to engage alumni, offering lifelong learning and opportunities for formal groups like clubs and informal groups to take courses together.

**Coda: Bold Experimentation**

It is important to note that MIT and Harvard came together a little over one year ago to launch edX.

In that time, edX has become a global learning enterprise, connecting more than 28 university partners, and enabling our faculty to reach more than one million students around the world.

HarvardX alone has contributed 15 courses and modules (more than any other university partner), spanning disciplines and schools.

Building on this success, HarvardX has been expanding beyond simply online course development, evolving to a more ambitious and dynamic effort.

HarvardX has the potential to serve as a “front door” for faculty, bringing together resources from across the University to support broad innovation in the use of technology to enhance teaching and research.

The results take many forms, such as learning objects for use in on campus or online courses; new courses offered through Harvard Extension School, edX or other platforms; new uses of technology in the classroom; and, importantly, support for rigorous research on learning.

What they all have in common is their faculty-driven focus and a unified team delivering the support, bringing together outstanding resources in service of teaching excellence and innovation.
Looking ahead (see FY14 goals), the emphasis on experimentation remains the cornerstone for HarvardX.

There is particular emphasis on:

- research;
- local school-based experiments (including a potent HarvardX brand identity powering all of the schools);
- and more direct support and control of course content and delivery (in particular, assessment, certification, and degrees with help from the Extension School).

This may require building our own specialty solutions or using an instance of the open source edX technology that is far more customized for Harvard and the needs of its schools.

There are plans to create a public-facing web portal to “showcase” Harvard’s extensive efforts in online, distance, and campus learning, via a central portal (digital.harvard). This will provide a central place to access learning from Harvard and the innovative approaches of its faculty.

HarvardX is building the expertise and capacity to become Harvard’s internal engine for innovative online education, while edX will remain a powerful, open and free learning platform for learners in the globally connected online era.
Goals for FY14

Expand access to high-quality education worldwide

- Offer 20 live, open courses and modules at any given time through the edX platform
- Build an alumni engagement framework and pilot an alumni SPOC (Jan 2014)

Improve teaching and learning on campus, online, and beyond

- Integrate online interactive HarvardX materials for Harvard Extension School and on-campus courses
- Develop and optimize existing and new tools (e.g. annotation, forums, maps, multiple learning paths)
- Play a role in helping to shape and develop Learning Management Ecosystem/open online learning community

Advance our understanding of how students learn through research

- Complete course reports for 6 concluded HarvardX Courses
- Propose a workable survey and pre-test for use in fall 2013 courses [Completed]
- Design a research project, which, upon conclusion would enable us to make some causal statements
- Enable several new features: registration for linked surveys, A/Not A experimental research designs
- Pool database for MITx and HarvardX courses with interactive visualization capabilities
- Create a research community, building towards an academic course on research methods for online learning
Appendix


<table>
<thead>
<tr>
<th>Startup Phase AY2013</th>
<th>Experimental Phase AY2014-2016</th>
<th>Application Phase After AY2016</th>
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<tbody>
<tr>
<td>Built prototype courses</td>
<td>“Stand up” organization</td>
<td>Scale up/apply successful experiments</td>
</tr>
<tr>
<td>Built organization</td>
<td>Ramp up development capacity to 20 courses per semester (40 per year)</td>
<td>Finalize/apply revenue models</td>
</tr>
<tr>
<td>• Leadership</td>
<td>Experiment with offering types</td>
<td></td>
</tr>
<tr>
<td>• Staff</td>
<td>Experiment with revenue modules/pricing levels</td>
<td></td>
</tr>
<tr>
<td>• Space &amp; Resources</td>
<td>Implemented services &amp; support functions</td>
<td></td>
</tr>
<tr>
<td>Established governance process</td>
<td>Refine service and support functions</td>
<td></td>
</tr>
<tr>
<td>Implemented services &amp; support functions</td>
<td>Design and conduct research project</td>
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2. EdX’s first Year

EdX, founded as a not-for-profit online learning enterprise by Harvard University and the Massachusetts Institute of Technology, was launched in May 2012. In addition to establishing, staffing, and implementing an entirely new entity, notable accomplishments of edX include:

- establishing a powerful, uniquely positioned (university-backed, not-for-profit, and collaborative) presence in the emerging online education landscape;
- building an open source platform to support the development and distribution of courses and modules to learners all over the world;
- delivering 31 open courses in subjects ranging from computer science to law to public health to the humanities;
- Creating the XConsortium, composed of global academic institutions, including: Harvard – Founding Partner, MIT – Founding Partner, University of California, Berkeley, The University of Texas System, Australian National University, TU Delft, École Polytechnique Fédérale De Lausanne, Georgetown University, McGill University, Rice University, University of Toronto, Wellesley, Berklee College of Music, Boston University, Cornell University, Davidson, The University of Hong Kong, The Hong Kong University of Science and Technology, Karolinska Institutet, Kyoto University, Université Catholique de
Louvain, Peking University, Seoul National University, Tsinghua University, Technische Universität München, The University of Queensland, University of Washington & IIT Bombay.

- collaborating with local community colleges, Mass Bay and Bunker Hill, to pilot the use of edX content in their campus-based courses
- forming BostonX, a partnership with the city of Boston to make online courses available through internet-connected Boston neighborhood community centers, high schools and libraries; and
- releasing a significant portion of the platform code base as open source in June 2013.

More recently, edX and Stanford University signed a Memorandum of Understanding, outlining a technical and engineering collaboration that will enhance the edX open source online learning platform. We expect that this collaboration will lead to new features, functionality, and support for the edX platform; encourage greater participation in enhancing the platform by the x Consortium and others; and showcase how edX and its founding partners are continuing to innovate in the online learning space.

In addition, San Jose State University and edX are working together to expand the use of online courses (in a hybrid online-and-in-class approach) to as many as 11 other California State University campuses. The expanded collaboration follows a promising pilot where student participation in an edX engineering course correlated with higher passing rates.

3. Faculty-led Committees (2012-2013)

Faculty Committee (chaired by Robert Lue)
The Provost has tasked the HarvardX Faculty Committee with encouraging broad faculty participation in HarvardX/edX, establishing guidelines and standards for HarvardX courses and modules, and helping to marshal resources for developing these materials. The specific responsibilities of the HarvardX Faculty Committee are to:

- Define quality standards for HarvardX courses and modules, and ensure that offerings meet these standards.
- Solicit and encourage Harvard-wide participation, and ensure that courses selected for HarvardX meet School priorities. A goal of HarvardX is to portray the breadth and diversity of Harvard programs and disciplines, instructors, and pedagogical approaches.
- Oversee HarvardX support for faculty who are developing courses or modules, and integrate School resources and other Harvard resources for efficient design and
development.

- Recommend courses and modules for approval by the Leadership Team.
- Establish certification criteria and certification procedures where applicable.
- Foster adaptation of innovations for campus educational programs.
- Disseminate information about HarvardX, including teaching and learning best practices that emerge from HarvardX work over time.
- Ensure the integration of course development with the research guidelines and approaches developed by the HarvardX Research Committee.
- Oversee the review and subsequent revision of courses based on assessment data.

**Membership**

The Committee includes representation from multiple schools. Deans nominate prospective Committee members, subject to review and approval by the Provost.

- **Peter Bol**, Charles H. Carswell Professor of East Asian Languages and Civilizations, FAS
- **Earl Cook**, Professor of Epidemiology, HSPH
- **Suzanne Cooper**, Edith M. Stokey Senior Lecturer in Public Policy; Academic Dean for Teaching and Curriculum, HKS
- **Jules Dienstag**, Carl W. Walter Professor of Medicine, Dean for Medical Education, HMS
- **David Golan**, George R. Minot Professor of Medicine, Dean for Grad. Education, HMS
- **Heather Hill**, Professor of Education, HGSE
- **David Hunter**, Vincent L. Gregory Professor of Cancer Prevention, Academic Dean, HSPH
- **Gary King**, Albert J. Weatherhead III University Professor, FAS
- **Henry Leitner**, Senior Lecturer on Computer Science, CTO for DCE, FAS
- **David Malan**, Senior Lecturer on Computer Science, SEAS
- **Martha Minow**, Jeremiah Smith, Jr. Professor of Law, Dean of the Faculty of Law, HLS
- **Michael Sandel**, Anne T. and Robert M. Bass Professor of Government, FAS
- **Jeannie Chi Young Suk**, Professor of Law, HLS

**HarvardX Research Committee (chaired by Andrew Ho)**

The HarvardX Research Committee is responsible for coordinating and supporting research initiatives involving HarvardX courses. Its specific charge is to:

- Define HarvardX research policies in consultation with HarvardX leadership.
- Identify HarvardX educational research priorities and projects.
- Identify research infrastructure and support requirements from both Harvard and edX.
- Approve research projects that will place new demands on edX platform.
- Coordinate with partner committees to identify edX-wide research priorities.
Membership
The HarvardX Research Committee consists of a chair and, currently, 14 faculty members who have been appointed by the Provost based on recommendations of the deans and faculty from across the University. The committee includes members with research expertise in a variety of disciplines, particularly those that intersect with the goal of improving online and residential education.

- **Bharat N. Anand**, Henry R. Byers Professor of Business Administration, HBS
- **Joseph K. Blitzstein**, Professor of the Practice in Statistics, FAS
- **Mary Brinton**, Reischauer Institute Professor of Sociology, FAS; Chair, Department of Sociology
- **Thomas Kane**, Professor of Education and Economics, HGSE
- **Gary King**, Albert J. Weatherhead III University Professor
- **Dan Levy**, Senior Lecturer in Public Policy, HKS
- **Bridget Terry Long**, Xander Professor of Education and Economics, HGSE
- **Xiao-Li Meng**, Whipple V.N. Jones Professor of Statistics; Dean of the Graduate School of Arts and Sciences
- **Fernando Reimers**, Ford Foundation Professor of International Education, HGSE
- **Daniel Schacter**, William R. Kenan, Jr. Professor of Psychology, FAS
- **Jeffrey Schnapp**, Professor of Romance Languages and Literatures, FAS; Director, metaLAB (at) Harvard; Director, Berkman Center for Internet & Society
- **Margo Seltzer**, Herchel Smith Professor of Computer Science, SEAS
- **Judith Singer**, James Bryan Conant Professor of Education, HGSE; Senior Vice Provost for Faculty Development and Diversity
- **Christopher Winship**, Diker-Tishman Professor Sociology, FAS; Member of the Faculty at HKS

Leadership Committee (chaired by Alan Garber)
- **Alan Garber**, Provost; edX Board Co-Chair
- **Katie Lapp**, Executive Vice President; edX Board Member
- **Michael D. Smith**, Dean of the Faculty of Arts and Sciences; edX Board Member
- **James Ryan**, Dean of the Harvard Graduate School of Education; edX Board Member
- **Anne Margulies**, University CIO and Interim Executive Director for HarvardX
- **Huntington Lambert**, Dean of the Division of Continuing Education and University Extension
- **Robert A. Lue**, Faculty Director of HarvardX; Richard L. Menschel Faculty Director of the Derek Bok Center for Teaching and Learning; Professor of the Practice of Molecular and Cellular Biology; Director of Life Sciences Education; and Faculty Director of the Harvard-Allston Education Portal
- **Andrew Ho**, Research Director of HarvardX and Assistant Professor of Education, Harvard Graduate School of Education
- **Robert W. Iuliano**, Vice President and General Counsel
HarvardX Support Team

- **Paul Andrew**, Assistant Vice President, Communications
- **Valerie Beilenson**, HarvardX Project Manager
- **Nina Collins**, Associate Dean and Senior Advisor to the Dean of FAS
- **Samantha Earp**, Managing Director, Academic Technology Services
- **Perry Hewitt**, Chief Digital Officer, HPAC and AA&D
- **Andrew D. Ho**, Assistant Professor, HGSE; HarvardX Research Committee Chair
- **Jonathan Hulbert**, University Attorney
- **Sarah Karmon**, Deputy Chief of Staff for the Provost
- **Huntington Lambert**, Dean of the Division of Continuing Education and University Extension
- **Robert A. Lue**, Professor of the Practice of Molecular and Cellular Biology, FAS; Faculty Director of HarvardX and HarvardX Faculty Committee Chair
- **Anne Margulies**, Vice President, University Chief Information Officer; Interim Executive Director of HarvardX, Ex-Officio Member of edX Board
- **Amy Nostrand**, Assistant Vice President for Finance and Administration
- **Mary Beth Pearlberg**, Assistant Vice President, University Development Office
- **Michael Rutter**, Director of Communications, HarvardX, Harvard Public Affairs and Communications
- **James H. Waldo**, Chief Technology Officer; Gordon McKay Professor of the Practice of Computer Science

4. **Course Development and Support Participants for HarvardX**

- **Zachary Davis**, Temporary Program Assistant; HarvardX Fellow
- **Jeff Emanuel**, HarvardX Senior Fellow
- **Catalina Laserna**, HarvardX Senior Fellow
- **Ana Trandafir**, HarvardX Video Manager
- **Katie Vale**, Interim Course Development Manager; Director of Academic Technology Group, FAS
- **Sunanda Vaidheesh**, Temporary Program Assistant

5. **Course List**

**HarvardX Current Open/Completed Courses (as of May 2013)**

- Total Enrollments: 353,401
  - CB22x (The Ancient Greek Hero)—34,944 (started March 13)
  - CS50x (Intro to CS)—151,209 (October – April, completed)
  - ER22x (Justice)—57,527 (started March 12)
  - PH278x (Human Health & Global Environ Change)—40,876 (starts in June)
  - HLS1x (Copyright)—500 (began January 28; limited enrollment by design)
  - PH207x (Public Health)—51,144 (completed in January 2013)
Expected Fall 2013 HarvardX Courses and Modules

- GSD1.1x, “The Architectural Imaginary,” (module, limited enrollment, campus-only), K. Michael Hays, Eliot Noyes Professor of Architectural Theory, Harvard Graduate School of Design
- SW12x, “China,” (course), Peter K. Bol, Charles H. Carswell Professor of East Asian Languages and Civilizations, Faculty of Arts and Sciences, and William C. Kirby, T.M. Chang Professor of China Studies and Spangler Family Professor of Business Administration; Harvard University Distinguished Service Professor; Spangler Family Professor of Business Administration
- MCB80.1x, “Fundamentals of Neuroscience, Part 1: The Electrical Properties of the Neuron,” (module), David Cox, Assistant Professor of Molecular and Cellular Biology and of Computer Science, Faculty of Arts and Sciences/Harvard School of Engineering and Applied Sciences
- MCB54.1x, “Cell Biology,” (module), Rob Lue, Professor of the Practice of Molecular and Cellular Biology; Faculty Director of HarvardX; Richard L. Menschel Faculty Director of the Derek Bok Center for Teaching and Learning; and Alexander Schier, Leo Erikson Life Sciences Professor of Molecular and Cellular Biology, Faculty of Arts and Sciences
- AI12.1x and AI12.2x, “Poetry in America,” (two modules: “The Poetry of Early New England” and “Whitman”), Elisa New, Powell M. Cabot Professor of American Literature, Faculty of Arts and Sciences
- HSPH-HMS214x, “Fundamentals of Clinical Trials,” (course) James H. Ware, Frederick Mosteller Professor of Biostatistics; Associate Dean for Clinical and Translational Science, Harvard School of Public Health/Faculty of Arts and Sciences, developed through Harvard Catalyst
- HKS211.1x, “Central Challenges of American National Security, Strategy, and the Press: An Introduction,” (module. Note: due to the sensitive nature of some of the material, select features such as discussion boards, will have limited enrollment sections), Graham T. Allison, Douglas Dillon Professor of Government and Director of Belfer Center for Science and International Affairs, Harvard Kennedy School, and David Sanger, Adjunct Lecturer in Public Policy, Harvard Kennedy School; Chief Washington Correspondent of The New York Times
- HDS1544.1x, “The Letters of the Apostle Paul,” (module), Laura Nasrallah, Professor of New Testament and Early Christianity, Harvard Divinity School
- PH201x, “Health and Society,” (course), Ichiro Kawachi, Professor of Social Epidemiology, Harvard School of Public Health and Associate Professor of Medicine, Harvard Medical School
- SW25x, “Introduction to Global Health: A Biosocial Approach,” (course), Salmaan Keshavjee, Associate Professor of Global Health and Social Medicine, Associate Professor of Medicine, Harvard Medical School
- SPU17x, “The Einstein Revolution,” (course, limited enrollment, on-campus only in fall), Peter Galison, Pellegrino University Professor, Senior Fellow of the Society of Fellows

In addition, CSB22x, “The Ancient Greek Hero,” will be offered again in the fall of 2013 as a HarvardX/edX course, a DCE course, and as a “flipped classroom” GenEd course at the College. SW1x, “China,” will also likely be offered on campus in a “flipped classroom” format.

While not starting until January 2014, the first course from the Graduate School of Education will be open for registration this summer:

- GSE1x, “Unlocking the Immunity to Change,” (course), Robert Kegan, The William and Miriam Meham Professor in Adult Learning and Professional Development, Harvard Graduate School of Education and Lisa Lahey, Lecturer on Education, Harvard Graduate School of Education

And CS50x, “Introduction to Computer Science,” will be offered again as an online, open course in January 2014.