MOOCs as inventions: opportunities and risks

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Outline

views are my own, that of a professor

• challenge course/textbook
• “invention”
• risks
• opportunities
“What would you do if you were not taking this MOOC?”

A. Watch television
MOOC as a course

- “Simple” translation online of known concept
- Coursera/edX selling certificates
- Deadlines for homework

but...

- Coursera moving to “on-demand”
- Most students don’t use MOOCs this way
“MOOC is the new textbook”
David Finegold (senior VP lifelong learning, Rutgers)

- Textbook companies going digital
- Personalised learning experiences
- MOOC for flipped teaching
- Distribution starts to follow same model

but many differences…
MOOC as invention

- new legal status/relationships
- new monetization models
- new pedagogy
- new sources of value

Lots of risks and opportunities with each!
Different legal status to textbook

- professor retains intellectual property
- non-exclusive exploitation right to Uni
- often agreement through University
New legal problems

- what if instructor moves?
- potentially crippling to instructors
- complexity of ownership
- multiple instructor/institutions unresolved
- (this is really an endless list)
New monetization models

why is it important?
From the railways, which Karl Marx believed would dissolve India’s caste system, to television, that greatest liberator of the masses, there has hardly appeared a technology that wasn’t praised for its ability to raise the level of public debate, introduce more transparency into politics, reduce nationalism, and transport us to the mythical global village. In virtually all cases, such high hopes were crushed by the brutal forces of politics, culture and economics. Technologies, it seems, tend to overpromise and underdeliver, at least on their initial promises.

This is not to suggest that such inventions didn’t have any influence on public life or democracy. On the contrary, they often mattered far more than what their proponents could anticipate. But [...] technologies that were supposed to empower the individual strengthened the dominance of giant corporations, while technologies that were supposed to boost democratic participation produced a population of couch potatoes.
(Hard) technological determinism

Society’s technology drives the development of its social structure and cultural values

“Privacy is an evolving social norm”
“They trust me - dumb fucks”
“Move fast and break things. Unless you are breaking things you are not moving fast enough”

Mark Zuckerberg (Facebook founder)
Technological determinism

“MOOCs are the internet happening to education and it will take a long time for higher education to digest what that means”

George Siemens
Caricature

The Joy of Tech

A Year Later...

AHHHH! MUCH BETTER!

ONE... MORE... GAME.

MISTER! I NEED AN UPGRADE!

OH MY! WHAT DEPLORABLE CONDITIONS!

THESE CHILDREN HAVE NO COMPUTERS! I HAVE TO DO SOMETHING!

HOW AM I SUPPOSED TO WATCH YOUTUBE WITH THIS LOUDY BANDROTHER?

DON'T BUG ME! I'M ON CHAT.

I MAKE A FORTUNE TAKING OFF MY SHIRT ON MY WEBCAM!
Provocative question

NGO hepatitis vaccination campaign
Paid for by 23andme, helps medicine at home!

Would that be a good thing?
<table>
<thead>
<tr>
<th>Schedule 1</th>
<th>Possible Company Monetization Strategies</th>
</tr>
</thead>
</table>

1. **Certification**: Company will provide University-branded certificates that can be purchased by End Users; these certificates, which do not carry University credit, will certify achievement by End Users of an Instructor-specified threshold of performance for a particular Course. These certificates might be provided either as (a) a signed PDF document, or (b) a badge posted on LinkedIn, Facebook, Google+, or other community websites, via a recognized badging system. The allowed forms of the Certificate or Badge are as shown in Schedule 2.

2. **Secure Assessment**: Company may provide an End User, for a fee, the capability to undergo identity-verified testing at a private location or in a certified testing location.

3. **Employee Recruiting**: With End User consent (via opting into emails of this type), Company will allow prospective Employers (whether an employer or a recruit) to access queries against End User records. These queries might involve End User performance in relevant Courses (as specified in the query) as well as End User-supplied demographic information (such as education or geographical location). Company will then allow Employers to email End Users via the Platform, to propose employment opportunities. Company will not reveal End User contact information to the Employer. End Users may choose to respond to the email with their contact information at their discretion.

4. **Employee or University screening**: Company will provide a prospective Employer the capability to assess prospective employees for a given level of expertise in Courses provided by Company, by having the prospective Employee take a set of assessments in a proctored environment at the Employer site. A similar model will be offered to Universities who want to verify a level of knowledge in incoming End Users (e.g., for evaluating course waiver requests).

5. **Human-provided tutoring or manual grading**: Company will provide access to (paid) human tutoring, grading, or other forms of human academic support.

6. **Corporate/university enterprise model**: Company will provide Employers access to an Enterprise Version of the Platform, which will allow Employers to (a) use the Content for training Employees (Trainees) using Courses provided on the Platform, (b) provide Employee instructors access to Trainee performance records, for the purposes of gauging performance and assisting Trainees in learning. Employers might also augment University-provided Courses on the Platform with additional Content of particular relevance to their own employee pool. Such Content will be accessible only to Employer’s Trainees. The same model can be used to provide an Enterprise Version of the Platform to non-University academic institutions (e.g., community colleges) that seek to offer their registered End Users higher-quality courses at a lower cost, for credit at these non-University institutions.

7. **Sponsorships**: Company will allow third party sponsorships of Courses, by foundations or companies, using appropriate and non-intrusive visual elements on the Course webpage. A sponsor will require the approval by University and Instructor, but such approval will not be unreasonably withheld without cause.

8. **Tuition fees**: For certain Courses, a tuition fee may be charged of End Users for access to the Course content (usually after a short initial viewing period where access is free). This fee will be mutually agreed to by University and Company. In the standard procedure, an End User will be allowed to indicate “Financial Hardship,” upon which tuition fees are automatically waived with respect to access to Course Content. Certification to an End User declaring financial hardship may or may not be provided, as agreed upon by the University and Company.

9. **Selling or Facilitating the sale of Course materials**: Company may sell Course materials (e.g., books or Course readers required or recommended by the Instructor); these materials will be provided by University or Instructor, or by a third party. The Company Website may also point to third-party sites where Course materials can be purchased, and collect fees from such third parties.

10. **Transcript services**: Company may keep grade transcripts for End Users completing Courses on the Platform and provide these grades upon request, with End User permission, to third parties wanting to verify End User performance.
Coursera monetization models

### Tuition fee
- Corporate/enterprise

### Secure assessment
- Selling course materials

### Sponsorships
- Certification
- Employee recruiting
- Employee screening
- Transcript services
- Human-provided tutoring

### Course content

### Peripheral services

### Student-is-the-product

*only a start...*
New pedagogy

Not 1 to many, not 1 to 1
Instead: 1 to diverse connected individuals
(cf. #ccourses)

Each has different goals, skills, interests, potential, constraints,…

Need lots of creativity, different way to teach
Social machine

Environment of humans and technology interacting and producing outputs which would not be possible without both parties present

Tim Berners-Lee

Wikipedia, Facebook, reCAPTCHA, Amazon Mechanical Turk, MOOCs
Crowdsourcing

- output = work = services, ideas, content
- large group of people
- non traditional employees or suppliers
- less emphasis on social

Often turns into digital sweatshop
### Amazon Mechanical Turk

#### HITs for which you are qualified

**1-10 of 430 Results**

**Sort by:** HITs Available (most first)

<table>
<thead>
<tr>
<th>HITs Available</th>
<th>HITs Available To You</th>
<th>HITs Assigned To You</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAC Contract</td>
<td>117,484</td>
<td>0</td>
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**For which you are qualified:**
- Find HITs containing
- Have at least $0.00
- Require Master Qualification

<table>
<thead>
<tr>
<th>HIT ID</th>
<th>Requester</th>
<th>HIT Description</th>
<th>HIT Expiration Date</th>
<th>Time Allotted</th>
<th>Reward</th>
<th>HITs Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIT1</td>
<td>CrowdFlower</td>
<td>Give Your Opinion - Simple and Quick! (US)</td>
<td>Jun 27, 2013 (52 weeks)</td>
<td>32 minutes</td>
<td>$0.16</td>
<td>14627</td>
</tr>
<tr>
<td>HIT2</td>
<td>CrowdFlower</td>
<td>Help Us Find a URL's Search Results Page Ranking on Google (US)</td>
<td>Jun 27, 2013 (52 weeks)</td>
<td>32 minutes</td>
<td>$0.12</td>
<td>6569</td>
</tr>
<tr>
<td>HIT3</td>
<td>CrowdFlower</td>
<td>Find an Image on a Website! (New Job, come on in)</td>
<td>Jul 4, 2012 (6 days 23 hours)</td>
<td>60 minutes</td>
<td>$0.06</td>
<td>203</td>
</tr>
<tr>
<td>HIT4</td>
<td>CrowdFlower</td>
<td>Search Google and answer questions about the search results</td>
<td>Jul 4, 2012 (6 days 23 hours)</td>
<td>60 minutes</td>
<td>$0.05</td>
<td>988</td>
</tr>
<tr>
<td>HIT5</td>
<td>CrowdFlower</td>
<td>Read 2 Blog Posts, then Judge their Relevance to Each Other</td>
<td>Jul 4, 2012 (6 days 22 hours)</td>
<td>60 minutes</td>
<td>$0.10</td>
<td>993</td>
</tr>
<tr>
<td>HIT6</td>
<td>CrowdFlower</td>
<td>Modality Classification</td>
<td>Jul 4, 2012 (6 days 22 hours)</td>
<td>60 minutes</td>
<td>$0.01</td>
<td>972</td>
</tr>
</tbody>
</table>

**View a HIT in this group**

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[Image of the Amazon Mechanical Turk website]
Social machine in teaching

- peer feedback: students grade each other
- “Ask a question to the professor”
- mechanisms to surface good content/ideas
Social machine in teaching: Duolingo
Social machine in teaching

- peer feedback: students grade each other
- “Ask a question to the professor”
- mechanisms to surface good content/ideas
- Iversity grading cloud / cloud TA
- professors working often for free
- professor designs social machine
- tutoring in Coursera’s monetization model
- student data collection
Summary of risks

- labor issues
- egalitarian aspects of higher education
- academic freedom
- data collection à la Facebook?

but also, fortunately, fantastic opportunities
Opportunity: Duolingo

Interplay motivation / skills / massive crowd
Opportunity: new value from content

- Interactions in social machines give output
- Focus away from student data
- HCI research (MOOCLab INRIA, CEDE EPFL)
- Topical research: citizen science ("cognitive surplus" in homework)
Qualitative “surveys”

“Terrorism and counterterrorism: Comparing Theory and Practice”  Leiden/Coursera

“Sharia and the West”  Leiden/Coursera

“Globalizing higher education”  Wisconsin/Bristol/Coursera
Transcription in Digital Humanities

Deciphering Secrets: Unlocking the Manuscripts of Medieval Spain

http://revealingcooperationandconflict.com
EteRNA game

- lots of different skills
- citizen scientific method
- GalaxyZoo, FoldIt@Home
- very high cognitive level
- MOOCs elevate that

“RNA design rules from a Massive Open Laboratory”
Conclusion

- old technologies cobbled together, with new business ideas around them
- huge risks, huge opportunities
- do not succumb to technological determinism ("Internet happening to HE")
- ethical/moral obligation to actively shape technology to ensure promises are fulfilled
- new, underexplored citizen science options