Innovations in Online Learning: Benefits and Costs of Alternative Credentials

Webinar presented by Teachers College, Columbia University Office of Digital Learning

September 13th, 2018
Innovations in Online Learning: Benefits and Costs of Alternative Credentials

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1:00-1:10 p.m. Introduction
Steven Goss  Vice Provost for Digital Learning, Teachers College, Columbia University (TC)

1:10-1:25 p.m. Baseline Survey Results: Benefits and Costs of Alternative Credentials
Aasiya Kazi  Researcher, Center for Benefit-Cost Studies of Education, (CBCSE), TC

1:25-1:35 p.m. Wharton Online
Anne Trumbore  Senior Director, Wharton Online, University of Pennsylvania

1:35-1:45 p.m. University of Michigan
David Lawrence-Lupton  Program Manager, MicroMasters, University of Michigan

1:45-1:55 p.m. MIT
Eva Ponce  Executive Director, Supply Chain Management MITx MicroMasters, MIT

1:55-2:25 p.m. Panelist Discussion and Q&A
Moderator: Fiona Hollands, Associate Director and Senior Researcher, CBCSE

2:25-2:30 p.m. Concluding remarks: Steven Goss, Teachers College
Background of the study

• Since 2014, many MOOCs have been packaged into series of courses with a non-degree or “alternative” credential attached (See Pickard, June 18, 2018)
  • Specializations, MicroMasters (MM), Nanodegrees, Professional Certificates, XSeries, etc.

• Coursera currently offers hundreds of Specializations
  • From institutions in USA, Switzerland, UK, Netherlands, Australia, Spain, China, Denmark, India, Canada, Russia, France, etc.

• 23 universities are offering a total of 50 MicroMasters via the edX platform
  • From USA, India, Belgium, Canada, Australia, Netherlands, Germany, Hong Kong, Guatemala, and Spain

• “Alternative” credentials are vastly less costly than traditional degrees
  • For ex., Boston University’s Digital Leadership MM costs $1,000 and Specializations are priced at $39-$79 per month, totaling a few hundred dollars per program

• Key questions are whether alternative credentials will bring the participants career, financial, educational, or other benefits that outweigh the direct costs and opportunity costs of participation
  • See Zenghao et al (2015)
Study methods

Research Question
What are the benefits and costs to learners of engaging in a series of open, online courses that culminate in an “alternative,” non-degree credential?

Data Collection
i) “Pre” survey at the beginning of learner’s first course in a MM or Specialization (Sp)
   • Expected benefits, goals, opportunity costs
   • Current education, career, and earnings status
ii) Similar “post” survey when culminating credential is earned
    • Update on education status, career, earnings, and planned next steps
iii) Final, follow-up survey around 12 months after earning the credential
    • Changes in career, earnings, and education status since completing the course series
# Survey respondents

Total number of participants in survey = 3,086  
Feb 2017- Aug 2018

<table>
<thead>
<tr>
<th>4 MicroMasters</th>
<th>1,745</th>
<th>57%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business &amp; Management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6 Specializations</th>
<th>1,341</th>
<th>43%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business &amp; Finance topics</td>
<td></td>
<td></td>
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</tbody>
</table>
Learner Demographics
Average age is 35, ranging from 8-83

- 21 or younger
- 22 - 29 yrs
- 30 - 44 yrs
- 45 - 55 yrs
- 56 or older
U.S. race categories are not always familiar or applicable to global participants.

- White: 37%
- Asian: 28%
- Black/AA: 10%
- Multi-racial: 7%
- No answer/Other: 18%

14% Hispanic

MM more diverse than Sp
Where participants are most likely to live

- **USA**: 25%
- **India**: 12%
- **Brazil**: 3%
- **Canada**: 3%
- **Nigeria**: 3%
While most participants already have a BA or higher, 16% had no degree at all.
Over half the participants work full-time, 16% own businesses

- On leave for family care/retired/unable to work: 3%
- Unemployed not looking for job: 3%
- PT work for s/one else: 7%
- Unemployed looking for job: 14%
- Business owner: 16%
- Student: 17%
- FT work for s/one else: 52%
Specializations participants earn double the median annual income of MM participants

- Median total annual income:
  - MicroMasters $23,000
  - Specializations $46,000

- Probable explanations
  - 36% of Specializations participants live in the U.S. vs. 16% for MM
  - More MM participants live in lower income countries
  - Specializations participants are more likely to have a graduate degree
  - Specializations topics were all business and finance whereas MM were more diverse
  - (Employment status is quite similar)
Expected Benefits from Earning Alternative Credentials

Learner Goals
## How learners expected to benefit from participating in the series of courses

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve my performance in current job</td>
<td>44%</td>
</tr>
<tr>
<td>Help me start my own business</td>
<td>27%</td>
</tr>
<tr>
<td>Learn something new</td>
<td>26%</td>
</tr>
<tr>
<td>Improve application for a different job</td>
<td>23%</td>
</tr>
<tr>
<td>Network</td>
<td>23%</td>
</tr>
<tr>
<td>Improve my English</td>
<td>21%</td>
</tr>
</tbody>
</table>

**MM** = Male; **Sp** = Female
## Other benefits from participating in the series of courses

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Participation Rate</th>
<th>MM</th>
<th>Sp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplement a formal degree program</td>
<td>16%</td>
<td>18%</td>
<td>13%</td>
</tr>
<tr>
<td>Improve application to formal degree program</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Help me get a job promotion</td>
<td>11%</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>Help me get a pay raise</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Improve my application to a first job</td>
<td>9%</td>
<td>11%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Overall, 35% of participants plan to earn the credential

MicroMasters
- 30% Earning MM
- 70% Not earning MM

Specializations
- 40% Earning Sp Cert
- 60% Not earning Sp Cert
After earning the credential...

• 23% of all respondents had no plans to apply for a further degree program
  • 19% MM vs 28% Sp

• 9% of MM respondents planned to apply to the related MA program

• 5% of all respondents planned to apply to a different degree program at the same uni offering the MM or Sp

• 5% of all respondents planned to apply to a degree program at a different uni from that offering the MM or Sp

• Some respondents indicated they would apply to multiple programs
Costs and Opportunity Costs
**MM are more costly and time-consuming than Specializations**

<table>
<thead>
<tr>
<th>MicroMasters (4 in our study)</th>
<th>Specializations (6 in our study)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Est. ave cost</td>
<td>• Est. ave cost</td>
</tr>
<tr>
<td>$980</td>
<td>$360</td>
</tr>
<tr>
<td>• % of median income</td>
<td>• % of median income</td>
</tr>
<tr>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>• Ave # of weeks</td>
<td>• Ave # of weeks</td>
</tr>
<tr>
<td>34</td>
<td>21</td>
</tr>
<tr>
<td>• Ave # hrs of work</td>
<td>• Ave # hrs of work</td>
</tr>
<tr>
<td>197</td>
<td>57</td>
</tr>
</tbody>
</table>
Who is paying course fees?

**MicroMasters**
- Me: 61%
- Auditing: 19%
- Me + employer: 1%
- Employer: 2%
- Fin aid: 5%
- Other: 12%

**Specializations**
- Me: 50%
- Auditing: 23%
- Me + employer: 1%
- Employer: 8%
- Fin aid: 10%
- Other: 8%
Opportunity costs: what are learners giving up in order to work on courses?

- Leisure time: 82%
- Paid work time: 12%
- Study time: 10%
- Paying for family care: 5%
- Paying someone to do regular work: 1%
On average, learners planned to spend around 6½ hours per week on these courses.
Next Steps and Conclusions
Plans for the Study going Forward

• Beginning to collect end of program surveys now, but very few so far

• Where permitted by IRBs, collecting participant permission for follow-up and email addresses
  • 78% of survey respondents have given consent to be contacted in the future

• Follow-up survey to be sent to participants around 1 year after earning credential

• Interested in interviewing employers to ask about how they value MM, Specializations, and other alternative credentials
Key takeaways

- A typical MM or Sp learner is a well-educated, employed, White or Asian, 30-44yr old
  - MM participants are less concentrated in the US

- Just over 1/3 of participants plan to earn the MM or Sp credential
  - 9% of MM participants plan to apply to the related degree program
  - 5% of all MM or Sp participants plan to apply to a different degree program at uni offering credential

- 60% of participants say they are going to complete all courses in the series but:
  - We have received very few end-of-program survey responses compared with the number of pre-surveys

- Learners are mostly expecting career benefits
  - Most common benefit expected is improving job performance

- MMs more costly than Sp but MM learners have lower median income

- Sp participants get more help from employers and financial aid to cover fees
Questions

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Benefits and Costs of Alternative Credentials

Wharton Online Case Study

Anne Trumbore, Senior Director, Wharton Online
“What we are witnessing is a remarkable example of bottom up, market driven, educational credentialing that stands in marked contrast to the highly regulated world of university degrees.”

— GEoff Garrett, Dean, Wharton School
Our Mission

*We make world class business education accessible to learners everywhere.*
Programs

7 Specializations

- Business Foundations Specialization
- Business Analytics Specialization
- Business and Financial Modeling Specialization
- Entrepreneurship Specialization
- Achieving Personal and Professional Success
- Business Strategies for a Better World
- The Business of Healthcare

2 Professional Certificates

- Digital Marketing
- Leadership and Management
Wharton Online Specialization Participation

- 1.13 million enrollments
- 670k Unique learners
- 182k Paid/Finaid enrollments
  - 120k Paid
  - 62k Finaid
- 92.5k Unique Paid/Finaid learners
  - 60.5k Paid
- 127,500 total Specialization certificates since April, 2015
  - 3225 Unique Specialization completers
- 50 Wharton faculty
Meeting Learners Where They Are
Wharton Specialization Completer
LinkedIn Profile Attributes

• **Seniority**: Manager & Below

• **Location**: Global Metro Cities (i.e. NYC, London, Madrid, Sao Paulo, Mumbai, Toronto, SF, Delhi, Paris, UAE, SG)

• **Function**: Marketing, Sales, BD

• **Industry**: Marketing & Advertising, IT, Management, Fin. Serv. & Computer Software
What our learners want

• **Signals** that they have learned business knowledge that they can apply to work (Certificates)

• **Content** focused specifically on business topics that they can use at work
Wharton Online’s Challenge

• Help our learners at work with developing the skills they need and the certification required to advance in their career.

• Provide corporate clients with executive level education programs at lower cost and higher accessibility (online as opposed to f2f)

• *Convert MOOC and low-priced certificate learners to higher priced Prof Cert programs*
Results of Alternative Credentials at Wharton

• Brand amplification
• Advance social impact
• New revenue stream
• Create online learning assets and best practices which can be incorporated into residential programs
• Significant data set on learner behavior for research
Questions

• What does the emergence of the bottom-up system of credentialing mean for existing academic credentials?
• Who is going to back the currency of new forms of certification?
• Who defines credible signals of competency for the workplace?
• What is the role of the corporation as educator?
• Where do the goals and responsibilities to non-degree learners of universities and for-profit enterprises align? Diverge?
University of Michigan MicroMasters: Three Schools, Three Approaches

David Lawrence-Lupton
Program Manager
Office of Academic Innovation
School of Information

- Strong in MOOCs and Ready to Innovate
- User Experience (UX) Research and Design
- 8 Courses Plus Capstone
School of Social Work

- Increasing Access and Maintaining Leadership
- Social Work Practice, Policy and Research
- 6 Courses
School of Education

- Exploring New Pedagogy
- Leading Educational Innovation and Improvement
- 4 Courses Plus Capstone
MITx MicroMasters Credential in SCM

Dr. Eva Ponce – MIT Center for Transportation – Logistics
MIT Center for Transportation & Logistics

40 years creating supply chain innovation and driving it into practice

- $15M Research Budget
- 15 Full-Time Researchers with over 20 projects
- 50+ Member Companies
- Industry-Driven Workshops & Symposia
- #1 Supply Chain Management Master’s (since 1997)
- PhD in Logistics
- Executive Education
- Founder of MIT SCALE Network (Since 2007)
- MicroMasters in Supply Chain Management (Since 2015)
Why are we offering this program?

We believe learning can be available to everyone, everywhere
Guiding Principles

1. Educate the world for free

2. Credential qualified students at minimum cost

3. Customize for organizations at sustainable margin
Five Courses & Comprehensive Final Exam

Anyone Anywhere

- Analytics SC0x
- Fundamentals SC1x
- Design SC2x
- Dynamics SC3x
- Technology SC4x

Proctored Final Exam CFx

Stand Alone Credential or Pathway to MIT M. Eng.
### MicroMasters in SCM - Status

**Total # of SCx courses:**

<table>
<thead>
<tr>
<th></th>
<th>Taught</th>
<th>Current</th>
<th>Upcoming</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCx</td>
<td>21</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>CFx</td>
<td>3</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

9 Course Leads
10 TAs
1 Digital Learning Lead
1 Community Manager

**SC0x just started!**

82 CTAs
Four Big Challenges

Learning vs. Assessment
- Learning
  - Videos
  - Quick Questions
  - Practice Problems
- Assessment
  - Multiple Choice
  - Exam Problems
  - Exam Questions
- Space: Discussion Forum
  - Collaboration
  - Post questions
  - Ask for concepts
  - Share news
- Space: schhelp account
  - Only with staff
  - Clarifications
  - No hints
  - No solutions

Incentivizing Verification

Trap vs. Prevent

Pre-Course vs. Standalone

Staffing for Scale
MITx MicroMasters in SCM Learners

- 269,555 Learners Enrolled
- 17,660 Learners Verified
- 26,480 Certificates Issued
- 196 Countries Represented
- 1,273 Credentials Awarded
Pathway to a Master’s degree

How learners can continue to leverage the credential
Also a Pathway to a Master’s Degree

Application to MIT Blended Master’s in SCM

Five month residential program
Culminating in MASc or MEng degree
Universities accepting the MM in SCM
Things that went well

How learners are bringing the credential to life
Things that went well

• Impact on learners

“I got the job of my dreams and nearly a doubling in pay.”

• Impact on organizations
Questions?

Teachers College, Columbia University

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Guest Panelists

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