Abelard to Apple:
The Fate of American Colleges and Universities

Richard DeMillo*
MIT Press, 2011

* Georgia Institute of Technology and Qatar Computing Research Institute
What does the title mean?

Disruptions that do not favor the current way Universities work

Peter Abelard (cir 1100)

Apple’s ITunesU (cir 2002)
In early November 2009, the University of California at Berkeley -- the number one ranked public university in the country -- raised its tuition by thirty-two percent, prompting massive student protests of increases that have tripled the cost of university education over the past decade. For the placard-carrying students, who think they have been locked out of public education in California because they cannot afford it, the university experience has changed. The Berkeley laboratories where Nobel Prize winners once conducted research are now dirty and decaying because budget cuts have made it impossible to properly maintain them. These are images that prompted the New York Times to write

...Among students and faculty alike there is a pervasive sense that the [tuition] increases and the deep budget cuts are pushing the university into decline

Source: New York Times
Most American colleges and universities -- the two thousand or so institutions that are virtually anonymous but which enroll eighty percent of the nation’s college-age students are under even more intense pressure than prestigious Berkeley.

The future looks very different for these two thousand. India’s twenty-seven thousand new universities, Apple’s ITunesU™ and the hundreds of virtual universities that offer online courses are vanguards of a virtual explosion in global higher education, a market that is desperately trying to keep up with the raised expectations of the half of the world’s population that has joined the free market economies in the last generation and wants access to education to improve lives and create wealth. Higher education is, suddenly, a rapidly growing marketplace with many alternatives. There are thousands more institutions of higher learning in the United States than can be supported. Many will not be able to compete with cheaper, nimbler, and frequently more effective alternatives.
Traditional American universities are no longer gatekeepers...

- Open Learning
- More proprietary universities (15% growth)
- India 27,000 new universities over the next ten years
- Ed-X
- $300M in early stage investments
  - Coursera
  - Udacity
  - Minerva
Traditional Universities are the incumbents...

- Encyclopedias
- Rail transport
- Mobile discount operators
- Catalog stores
- Mainframe computers
- Minicomputers
- Navigational maps
- X-ray imaging
- Netscape
- Vertically integrated steel mills
- Cathode ray tubes
- Telegraphy
- Sailing ships
- Offset printing
- Chemical photography
- Newspapers
- Book selling
- Universities
The structure of (American) higher education was decided before we knew what it was going to do....

All the experiments were done by this time.
Where are the New Experiments in higher education?

- The United States has not added capacity since 1960 (4x increase in students)
- Lots of past experiments
  - Dozens in medieval Europe
    - Peter Abelard (cir 1100)
    - Jesuits (cir 1600)
  - Hundreds in colonial America
    - University of Virginia (cir 1800)
    - Williams College (1820)
  - Thousands in post Civil War US
    - Harvard’s disappearing requirements (1870)
    - US Land Grant Universities (1860)
  - Tens of thousands today
    - Open University, UK
    - Kahn Academy
    - India: 35,000 new colleges and universities
What are the Implications?

- Elite universities get to hand-pick their students
- A few less-selective universities get very large
- Everyone else fights over the remaining students
- Costs go up for everyone
Three Tiers

• Elite (70-75)
  – 1.5-2 million students
  – High Prestige
  – Large Endowment
  – Ability to set its own agenda
  – Depends on virtuous cycle: Student $\rightarrow$ Professor $\rightarrow$ Research $\rightarrow$ Wealth $\rightarrow$ Students

• Middle (thousands)
  – 14 million students
  – Variable prestige
  – Follows the Elite

• Proprietary (hundreds)
  – 4-5 million students
  – Low Prestige
  – Large Endowment
  – Ability to set its own agenda
  – Depends on satisfied students
Differences between American and Italian Universities

American
• Most students first generation to attend
• Most students career-driven
• Multiversity
• Many private universities
• Tuition
• Declining public confidence

Italian
• Most students from families with parents who attended
• Most students interest-driven
• Single mission
• Private universities rare
• Tuition-free
• Declining public confidence
Economic Reality #1: Higher Education is a Multi-Sided Market

Single Sided Market
- A “customer” who is willing to pay for value
- A “business” (producer of goods and services) whose costs can be controlled
- An optimal price that is determined by marginal cost

A Multi Sided Market
- Many stakeholders who have different, often competing needs
- Portfolios of goods and services with connected costs and cross-subsidies
- A platform
Economic Reality #2: Bypass Economies

Signs that boundaries are being destroyed

• Your services are desired by many, affordable to few
• Trust between you and your stakeholders has fractured
• You have a concentrated business model with high fixed costs that could be distributed
• Your organization can be replaced with outside networks with hidden assets
• You don’t have all the assets that you need
• Your stakeholders have needs that you haven’t imagined and have to way to learn about

Markets find a bypass
Economic Reality #3: In a marketplace with many alternatives, the only way to survive is to have

- An unassailable brand, or
- The best price, or
- The best value proposition

- Only the Elite have global brands
- The Middle wastes money
- The Middle has misjudged its value
BRAND
<table>
<thead>
<tr>
<th></th>
<th>1910</th>
<th>1925</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Harvard University</td>
<td>University of Chicago</td>
<td>Harvard University, Princeton University</td>
</tr>
<tr>
<td>2</td>
<td>Princeton University</td>
<td>Harvard University</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Yale University</td>
<td>Columbia University</td>
<td>Yale University</td>
</tr>
<tr>
<td>4</td>
<td>University of Penn</td>
<td>University of Wisconsin</td>
<td>California Tech, MIT, Stanford University, University of Penn</td>
</tr>
<tr>
<td>5</td>
<td>Stanford University</td>
<td>Yale University</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Columbia University</td>
<td>Princeton University</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Cornell University</td>
<td>Johns Hopkins</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Johns Hopkins</td>
<td>University of Mich</td>
<td>Columbia University, University of Chicago</td>
</tr>
<tr>
<td>9</td>
<td>University of Chicago</td>
<td>UC Berkeley</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>UC Berkeley</td>
<td>Cornell University</td>
<td>Duke University</td>
</tr>
<tr>
<td>11</td>
<td>University of Michigan</td>
<td>University of Illinois</td>
<td>Dartmouth College</td>
</tr>
<tr>
<td>12</td>
<td>University of Wisconsin</td>
<td>University of Penn</td>
<td>Northwestern, Washington Univ</td>
</tr>
<tr>
<td>13</td>
<td>University of Illinois</td>
<td>University of Minnesota</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>University of Minnesota</td>
<td>Stanford University</td>
<td>Johns Hopkins</td>
</tr>
<tr>
<td>15</td>
<td>NA</td>
<td>Ohio State University</td>
<td>Cornell University</td>
</tr>
<tr>
<td>16</td>
<td>NA</td>
<td>University of Iowa</td>
<td>Brown University</td>
</tr>
<tr>
<td>17</td>
<td>NA</td>
<td>Northwestern</td>
<td>Emory University, Rice University, Vanderbilt University</td>
</tr>
<tr>
<td>18</td>
<td>NA</td>
<td>University of NC</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>NA</td>
<td>Indiana University</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>NA</td>
<td>NA</td>
<td>Notre Dame</td>
</tr>
</tbody>
</table>
Disconnect

Public Perception of Value

- Fair/Poor
- Good/Excellent

Presidents' Perception of Value

- Fair/Poor
- Good/Excellent

Source:
PRICE
Cost of Higher Education 1980-2005

Little of this ends up in the classroom
Mission Creep

Source: National Study of Postsecondary Faculty, 1988-2004
# Faculty classroom productivity

<table>
<thead>
<tr>
<th>Category</th>
<th>Campuses</th>
<th>Courses per Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research University I</td>
<td>Chapel Hill, NC State, Greensboro, A&amp;T</td>
<td>2</td>
</tr>
<tr>
<td>Doctoral Universities</td>
<td>East Carolina, Charlotte</td>
<td>2.5</td>
</tr>
<tr>
<td>Master’s</td>
<td>Central, Western, Appalachian, Wilmington, Pembroke, Fayetteville</td>
<td>3</td>
</tr>
<tr>
<td>Baccalaureate I</td>
<td>Asheville</td>
<td>4</td>
</tr>
<tr>
<td>Baccalaureate II</td>
<td>Elizabeth City, Winston-Salem, School of the Arts</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Jay Schalin “A Common-Sense Look at UNC Faculty Workloads”, Pope Center for Higher Education
VALUE
Grade Inflation

Source: Where A is Ordinary
Stuart Rojstaczer and Christopher Healy
Teachers College Record, 2011
The Value of a Degree

- What’s it worth?
- What is being taught?
- What do you learn?

- Payscale.com
- WhatDoYouLearn.com
- “Academically Adrift”

Source: American Council of Trustees and Alumni, 2011
About Accreditation

• Historical Roots
• Factory Model
• Scalability
• Science
• Technology
• Cost

Source: Maria Andersen
THE “THREADS” EXPERIMENT
Think horizontally
The Flat World
Remove
“The curse of the core curriculum”
Add student-centrism
a Threaded curriculum
...had to do more than tinker
Reverberation

- **Resonates**
  - Parents
  - Students
  - Employers

- **Engages faculty**

- **Influences**
  - Peers
  - Institute
  - CRA
WHAT IS “SUCCESS” IN THE 21ST CENTURY?
Institutional Envy

• Less prestigious universities chase more prestigious ones
  – Private universities chase Harvard
  – Public universities chase Michigan
  – Technical universities chase MIT

• How do you get to be more prestigious?
  – How selective are you?
  – How much do you spend per student?
  – How predictable are your outcomes?
Who will succeed over the next 100 years?

**Defining Value**
- Not based on institutional envy
- Focus on differentiation
- Establish brand
- Recognize weaknesses
- Embrace openness

**Architecting Form**
- Balance faculty-centrism and student-centrism
- Create the best technology
- Cut costs in half
- Meaningful measures of success
- Societal success
Some Subversive Ideas

• Interchange the roles of lectures and homework?
• The gameification of education: rewarding “failure” but demanding mastery
• Replacing accreditation with....
• Value-based metrics
• Financial transparency
• Non-core activities pay their own way