The Challenge of Establishing World-Class Universities

Jamil Salmi
3rd WCU Conference
Shanghai
2 November 2009
natural lab experiment:  
U. of Malaya vs. NUS

- early 1960s: 2 branches of University of Malaya
- today, stark difference:
  - THES: NUS # 30, UoM # 180
  - SJTU: NUS 101-151, UoM not in top 500
outline of the presentation

• defining the world-class university

• the path to becoming a world-class university

how do you recognize a world-class university?

• everyone wants one
• no one knows what it is
• no one knows how to get one

Philip G. Altbach
defining the WCU

• self-declaration
defining the WCU

• self-declaration
• reputation
• rankings
Characteristics of a World-Class University
Alignment of Key Factors

Top Graduates
Leading-Edge Research
Dynamic Technology Transfer
WCU

Concentration of Talent
Students
Teaching Staff
Researchers

Abundant Resources
Public Budget Resources
Endowment Revenues
Tuition Fees
Research Grants

Favorable Governance
Supportive Regulatory Framework
Autonomy
Academic Freedom
Leadership Team
Strategic Vision
Culture of Excellence

Source: Elaborated by Jamil Salmi
concentration of talent

- teachers and researchers
- incoming students
- undergraduate / graduate students balance

weight of graduate students

<table>
<thead>
<tr>
<th>University</th>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
<th>Share of Graduate Students (%)</th>
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</thead>
<tbody>
<tr>
<td>Harvard</td>
<td>7,002</td>
<td>10,094</td>
<td>59</td>
</tr>
<tr>
<td>Stanford</td>
<td>6,442</td>
<td>11,325</td>
<td>64</td>
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<tr>
<td>MIT</td>
<td>4,066</td>
<td>6,140</td>
<td>60</td>
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<tr>
<td>Oxford</td>
<td>11,106</td>
<td>6,601</td>
<td>37</td>
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<tr>
<td>Cambridge</td>
<td>12,284</td>
<td>6,649</td>
<td>35</td>
</tr>
<tr>
<td>LSE</td>
<td>4,254</td>
<td>4,386</td>
<td>51</td>
</tr>
<tr>
<td>Beijing</td>
<td>14,662</td>
<td>16,666</td>
<td>53</td>
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<tr>
<td>Tokyo</td>
<td>15,466</td>
<td>12,676</td>
<td>45</td>
</tr>
</tbody>
</table>
concentration of talent

- teachers and researchers
- incoming students
- undergraduate / graduate students balance
- international dimensions

international dimensions

- foreign students
  - Harvard (19%)
  - Cambridge (18%)

- foreign faculty
  - Caltech (37%)
  - Harvard (30%)
  - Oxford (36%)
  - Cambridge (33%)
abundant resources

• government funding
  – US spends 3.3% of GDP ($54,000 per student)
  – Europe (E25) only 1.3% ($13,500 per student)

• endowments
### Comparison of US and UK Endowment Levels

<table>
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<td>Harvard University</td>
<td>25,460</td>
<td>Cambridge</td>
<td>6,080</td>
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<td>Yale University</td>
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<td>Oxford</td>
<td>5,320</td>
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<td>Stanford University</td>
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<td>Edinburgh</td>
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<td>Manchester</td>
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<tr>
<td>Princeton University</td>
<td>11,210</td>
<td>Glasgow</td>
<td>228</td>
</tr>
</tbody>
</table>

### abundant resources

- government funding
- endowments
- fees
- research funding
impact of the financial crisis

- reduced government funding for teaching, research and student aid

- reduced resources for institutions as demand falls (new domestic and foreign students, dropouts)
impact of the financial crisis (II)

• fewer resources from private sector (donations, contracts)

• fall in stock market values reduces value of endowments and pension funds

implications for governments

• increase scholarships and establish / strengthen student loan programs

• include tertiary education in economic stimulus plans
  – R&D
  – entrepreneurship for innovation
COLLEGES PICTURED IN FINANCIAL CRISIS

Desperate Straits Reported Despite Record Enrollments, Association Is Advised

FEDERAL AID IS HELD NEED

Direct Subsidies Are Favored by Some While Others Seek Help by Scholarships

By BENJAMIN FINE Special to The New York Times.
opportunity for institutions

• attraction of talented young faculty

– “Ministry recruits 2,000 foreign scholars” (May 2009)
favorable governance

• freedom from civil service rules (human resources, procurement, financial management)
• management autonomy
  – flexibility and responsiveness with power to act
• selection of leadership team
• independent Board with outside representation

U. Of Malaya vs. NUS

  talent

• UM: selection bias in favor of Bumiputras, less than 5% foreign students, no foreign professors
• NUS: highly selective, 43% of graduates students are foreign, many foreign professors
U. Of Malaya vs. NUS (II)

- finance
  - UM: $118 million, $4,053 per student
  - NUS: $750 million endowment, $205 million, $6,300 per student

- governance
  - UM: restricted by government regulations and control, unable to hire top foreign professors
  - NUS: status of a private corporation, able to attract world-class foreign researchers
    - 52% of professors (9% from Malaysia)
    - 79% of researchers (11% from Malaysia)
France and Germany

- low in the rankings
- civil service status and mindset
- no tradition of competition

Germany

- “Excellence initiative”
  - competition
  - additional resources

- governance reform in some Länder
France

• world rankings have forced to ask questions: “irritation and fascination”
• dual structure
  – “Grandes Ecoles” with best students, more resources and favorable governance, but no research
  – universities: “second best” students, but research vocation
• autonomy reform

China

• executive role of the governing board
• academic freedom
outline of the presentation

• defining the world-class university

• the path to becoming a world-class university

the path to glory

• upgrading existing institutions
• mergers
• creating a new institution
upgrading approach

• less costly
• challenge of creating a culture of excellence
• focus on governance
creating a new institution

• University of Astana, Olin College of Engineering, KAUST, MMU, PSE, U of Luxembourg, Singapore

• higher costs

• getting the right culture from the beginning

common mistakes / elements of vulnerability

• focus on the physical infrastructure

• what about the programs, curriculum and pedagogical approach?
common mistakes / elements of vulnerability (II)

- sequencing
  - concept to strategic plan
  - governance arrangements to implementation
  - academic plan to physical infrastructure
  - QA and accreditation

common mistakes / elements of vulnerability (III)

- heavy reliance on foreign partners, especially faculty
  - copying or creating a new, unified institutional culture?
  - top or second tier?
  - need to attract / prepare national teachers and researchers
common mistakes / elements of vulnerability (IV)

- capital costs covered, but little attention to operational costs and long-term financial sustainability

- small is still beautiful

- it takes time!
  - technology commercialization

who takes the initiative?

- role of the State
  - favorable regulatory framework
  - funding
    - designated universities or competition?

- role of the institutions
  - leadership
  - strategic vision
  - culture of excellence
evolution of Nokia income
a word of caution

- need for diversified tertiary education system
- not all institutions “world-class”
  - excellence vs. world-class
- world-class tertiary education systems
a word of caution (II)

- a few select world-class research universities
- money is not enough

money is not enough

- the most expensive universities in the world are not world-class
  - George Washington U (Washington DC)
  - Kenyon College (Ohio)
  - Bucknell U (Pennsylvania)
  - Vassar College (NY)
  - Sarah Lawrence College (NY)
a word of caution (II)

- a few select world-class research universities
- money is not enough
- alignment

Characteristics of a World-Class University
Alignment of Key Factors

Source: Elaborated by Jamil Salmi
World Class University Recipe

Lots of Talent

Plenty of Resources

A Touch of Governance

Allow to Simmer for a Long Time