RIETI-NISTEP Policy Symposium

Open Innovation as a Key Driver of Japan’s Industrial Competitiveness

Handout

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Approach to Open Innovation in Japan

August 21\textsuperscript{st}, 2015

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Open innovation  “Make or Buy?”

Concept of firm’s boundary

<Production>
Transaction cost
Choice of contract
Boundary of firm (Make or buy?)

<Innovation>
Past; Small market of innovation/invention
Now; Easy to valuate the purchase of technology and venture due to open innovation, university-Industry cooperation etc.
University-industry cooperation in Japan

Brief history of university - industry cooperation in Japan

- 1960’s-70’s  Anti-movement in university for collaboration with industry
- 1998 Law for technology licensing organization
- 1999 Japanese Bay-Dole act
- 2004 Reformation of national university to independent institution

Some recent progress

Number by the scale

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 mill ¥</td>
<td>8,850</td>
<td>9,509</td>
<td>10,842</td>
</tr>
<tr>
<td>1 mill ¥ - 3 mill ¥</td>
<td>5,840</td>
<td>6,700</td>
<td>7,178</td>
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<tr>
<td>3 mill ¥ - 5 mill ¥</td>
<td>1,292</td>
<td>1,439</td>
<td>1,505</td>
</tr>
<tr>
<td>5 mill ¥ - 10 mill ¥</td>
<td>909</td>
<td>945</td>
<td>988</td>
</tr>
<tr>
<td>10 mill ¥ - 50 mill ¥</td>
<td>648</td>
<td>652</td>
<td>749</td>
</tr>
<tr>
<td>&gt; 50 mill ¥</td>
<td>47</td>
<td>54</td>
<td>74</td>
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<tr>
<td>Total</td>
<td>17,586</td>
<td>19,299</td>
<td>21,336</td>
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Ave. ¥ 200K / #
Toward open innovation – much to be done

<Revenue of TLOs>

Million ¥

20Mill $

<Number of University start-ups in Japan>

Total value of start-ups from Tokyo Univ. exceeds 10bil $
Fluidity of human resources !?

Flow of scientist and engineer (FY2013)

Univ. (389 K)

- Newly hired: 19,200
- Flow: 8,200
- Abroad: 5,200
- 15,200
- 12,300
- 7,200
- Company (666 K)
- National Lab. (86 K)
- Newly hired: 1,400
- Flow: 1,200
- 2,100
- 7,400
- 800
- 500
- Abroad: 2,100
- 1,400
- 15,200
- 1,400
Era of “Open innovation”

Internal; Absorption ability, Idea, Technology transfer
Human resource management, M&A
Corporate Strategy, Business model

External; National, Regional, Global
Creative/Knowledge Commons
Reduce cost of innovation in the market
e.g. technology, human resources and transaction costs
Soft business infrastructure, Open science
Tear down walls in organization or between sectors and border!? 

Mediation function?
How to create the future to come?

Time of drastic change; Connectivity, Openness, Data-driven
   IoT, Industry 4.0, Smart service world, Science 2.0, Open Science
   Future industry and society?

Preparedness and challenge are the key; Cannot tell what happen next
   Investing in fundamentals (people and excellence)

Role of Government; How to be an entrepreneurial state?
   Level playing filed, leading role for solving socio-economic issues, and more!?

Revitalize neglected technologies by private sector

Co-creation is the imperative for open innovation era.
   Inclusive innovation, User induced innovation
   Japan’s new national innovation system