Recent Entrepreneurship Education and Startups by Foreign Students in Japan

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- Research Interest: Innovation Management, Entrepreneurship

Positions:

- 2017 to 2019: Associate Professor, College of Business Management, J. F. Oberlin University
- 2017 to 2019: Adjunct Lecturer, Innovator & Inventor Development Platform Tokyo Institute of Technology
- 2014 to 2017: Adjunct Associate Professor, Office of Industry Liaison, Tokyo Institute of Technology
- 2011 to 2013: Researcher, SMRJ (Organization for SME and Regional Innovation, JAPAN)

Education:

- 1997: Ph.D. in Physics: Grad. School of Science, University of Tokyo
OUTLINE:

- **Background:**
  - Low Entrepreneurial Activity in Japan
  - Increasing Importance of Entrepreneurship Education

- **Edge Program: University Entrepreneurship Education (E.E.) program by MEXT (Ministry of Education, Culture, Sports, Science and Technology)**
  - PBL based on Design Thinking
  - Result

- **Problems and Improvement**
  - Still low TEA
  - Development of Database
  - Involvement of Foreign Students with High TEA’s
Entrepreneurial activity in Japan is quite low.

【TEA】: Total Early-Stage Entrepreneurial Activity

Major Problems for Japanese Startups and their Ecosystem

1. Few challengers (entrepreneurs)
2. Small amount of risk money
3. Not globalized
4. Lack of partnership between startups and large enterprises
5. Few technology startups
6. Insufficient support major by government

Total amount of risk money:

124 billion JPY

vs

5.3 trillion JPY

- JPN: VC (2011)
- US: Angel + VC (2011)

米国における「リスクマネー」は、日本の43倍
起業に関する現状

起業支援活動は、海外より低調

ベンチャーキャピタルによる投資（対GDP比率：2012）

出典：「ベンチャー有識者会議とりまとめ」（2014）
TEA (2001~2017)
Significance of Open Innovation:

- Keidanren (Japan Business Federation) announced importance of **open innovation** between **large companies** and **startups**, which is imperative to strengthen **industrial competitiveness** (Feb., 2016).

Prerequisite:

- Excellent startups that can support open innovation
  \[\leftrightarrow\] excellent entrepreneurs

- Human resources in large companies who can accelerate the cooperation with innovative ventures
  \[\leftrightarrow\] person familiar with processes to create new businesses

| Importance of entrepreneurship education is increasing. |
About EDGE Program

EDGE (Enhancing Development of Global Entrepreneur) program (MEXT, JPN; from 2014 to 2017):

- University Entrepreneurship Education Program based on Design Thinking.

  <–> First national assistant measure responding to needs to forster innovative human resources

- 13 Universities are adopted

  <–> 3 Years, 2 ~ 3 million dollars.
Five Steps of Design Thinking

- Communications with **end users** are given paramount importance.

- **“Empathize”**: (ex) Ethnographic approach based on field work.
  
  <-> **Observations of customer responses** yield clues to derive **insights** for potential needs.

- **“Test”**: Business hypothesis is verified by communicating with potential user.
  
  <-> Similar to **“Build”, “Measure”** and **“Learn”** steps in Lean Startup

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[Link](http://leanstartupjapan.org/?p=428)
<table>
<thead>
<tr>
<th>Institution</th>
<th>Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Univ. of Tokyo</td>
<td>Program to promote cultivation of Global Entrepreneur</td>
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<tr>
<td>Tokyo Univ. of Agri. &amp; Tech.</td>
<td>Innovation Leader Cultivation Program by Entrepreneurial Activity</td>
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<tr>
<td>Tokyo Institute of Technology</td>
<td>CBEC: Cross Border Entrepreneur Cultivating Program</td>
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<td>Shiga Medical Univ.</td>
<td>Global Entrepreneur Cultivating Program by Medical, Engineering Design</td>
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<tr>
<td>Kyoto University</td>
<td>GTEP: Global Technology Entrepreneurship Program</td>
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<td>Osaka Univ.</td>
<td>World Teki-Jyuku: Ground Breakers</td>
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<tr>
<td>Nara Institute of Sci. and Tech.</td>
<td>GEIOT: Global Entrepreneurs in Internet of Things</td>
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<td>Hiroshima Univ.</td>
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<td>Kyushu Univ.</td>
<td>Ecosystem Formation Project to cultivate Global Innovator</td>
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<td>Osaka Pref. Univ.</td>
<td>Sustainable Innovation Ecosystem Base by Regional Industry-Academia-Government collaboration</td>
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<td>Keio Univ.</td>
<td>Cooperation Program to cultivate Global Innovator</td>
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<td>Waseda Univ.</td>
<td>WASEDA-EDGE</td>
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<tr>
<td>Ritsumeikan Univ.</td>
<td>Program to cultivate Innovation Architect.</td>
</tr>
</tbody>
</table>
EX. Tokyo Institute of Technology
CBEC (Cross-Border Entrepreneur Cultivation) Program

Dispatch Excellent Teams to Foreign Startup Events

Engineering Design Competition

Disciplined Entrepreneurship

Q4: Engineering Design Project C

Q3: Engineering Design Project B

Q2: Engineering Design Project A

Q1: Design Thinking Fundamentals

Startup Weekend Tokyo Tech (Startup Trial Event)

MBA classes (7 Subjects)
1. Trial Event

- 1st: Nov. 1~3, 2014 (80 Participants)
- 2nd: Apr. 24~16, 2015 (30)
- 3rd: Oct. 30~Nov. 1, 2015 (50)
- 4th: Jun. 3~5, 2016 (35)
- 5th: Oct, 2016

- Trial to create New Business in 54 Hours based on Technological Seeds ("Test Process" is included)
- 5 Business Mentors (Entrepreneurs), + 5 Technology Mentors.
- Students: 50%
2. Engineering Design Project A, B, C

- **EDP A:** Practice
- **EDP B:** \{ solutions for participating firms \}
- **EDP C:**
- **Sat 9:00~15:00** (Four alternate Saturdays)

- **EDP A:** (ex): re-design experience of using automatic vending machine for creative worker

- **EDP B & C:**
  (ex): design comfortable experience to reduce fears when you cannot utilize smart phones and PC’s under disaster, etc.

- **Students (EDP A):** 17 Tokyo Tech + 6 Musashino Art College + 11 Firms
  “Quick & Dirty” ⇒ “Quick & Beautiful”
Summary of Result  (EDGE program):

- More than 4,000 participants (2014~2015)
- More than 100 students participate in external business plan contest
- Number of startups: about 30.
- External funds: 50 million yen.
- Public relations by a radio program (J-Wave “Innovation World”)

Remaining Problems

- Emphasis is not placed on “business creation” but on “business idea creation” (in other words, “problem-solution fit”)

- Still low TEA in Japan:
  
  ⇒ In EDGE-Next program (2017-2022), primary emphasis is devoted to “business creation”.

  ⇒ Involvement of foreign students with high TEA is also effective.
THE ECONOMIC CASE FOR WELCOMING IMMIGRANT ENTREPRENEURS

- Immigrants were almost twice as likely to start businesses in 2014 as native-born Americans.

- 28.5 percent of new entrepreneurs in 2014 were immigrants.

- Immigrant founded engineering and technology firms employed approximately 560,000 workers and generated $63 billion in sales in 2012.

- 24 of the top 50 venture-backed companies in America in 2011 had at least one foreign-born founder.

(Ref. Kauffman foundation, 2015)
（資料）Kauffman Index of Entrepreneurial Activity

（図表2）イギリス人と外国人のTEAの比較

（資料）Jonathan Levine, Mark Hart "GEM UK 2012 Report"

（注）TEA（Total Entrepreneurship Activities、総合起業活動指数）とは、成人（18〜64歳）人口の100人に対して、「起業の準備を始めている人」と「創業後3.5年未満の企業を経営している人」がどれくらいいるかを示したもの。
Entrepreneurial Attitude:
Japanese Students vs Foreign Students (n=200)

Intention to participate in business plan contest

Activity for Business Creation

(Ref. Hayashi & Gotoh, 2004)
Business: New Infrastructure (Info. System) to distribute Graphic Contents based on their Patent (Details are not disclosed)

Aug., 2016: 50 million JPY raised from an angel (Seed Round)
Jun., 2017: 100 million JPY raised from DK Garage, Dentsu (Seed Round)
Jun., 2018: X00 million JPY raised from Samsung Venture Investment, LINE Venture (Series A: Details are not disclosed)

Mr. K. W. Lee (CEO) was a graduate student in Tokyo Institute of Technology. He started their own business just after graduation.

Pulit succeeded in large scale PoC with 6 commercial broadcasting companies, 4 major publishers and 2 animation developers in 2017.

http://thebridge.jp/2018/06/pulit-series-a-round-funding
Statistics concerning youth population in Japan and foreign students

- Involvement of majority of foreign students to EE, and introduction of effective policies to support foreign entrepreneurs may contribute to improvement of TEA (and hopefully, new industry creation).

- Basic statistics of young entrepreneurs and foreign entrepreneurs must be developed.
Database of University Startups
(METI: Ministry of Economy, Trade and Industry: 2018~)

This database contains the results of a survey which the Ministry of Economy, Trade and Industry (METI) conducts every year and information about University-Based Startups.

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<thead>
<tr>
<th>University-Based Startups</th>
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<tbody>
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<tr>
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# of obs. = 117, Prob > F = 0.0, R-sq = 0.4119, †: 10%, *: 5%, **: 1%
回帰モデル② (被説明変数：事業ステージ)

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</table>

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Direction of improvement:

- Implementation of entrepreneurial education class for foreign students
- Support for legal processes such as patent application, visa acquisition, and registration
- Development of basic statistics concerning entrepreneurial education and young entrepreneurs (domestic and foreign students).
Japan’s First “Startup Visa (Entrepreneurial Incentives for Foreigners)”

As one of the National Strategic Special Zone Initiatives, Fukuoka City has been approved to implement the “Startup Visa (Entrepreneurial Incentives for Foreigners)” to incentivize foreigners to be business entrepreneurs in Fukuoka. Prerequisites for the “Business Manager” visa, which is required for foreigners intending to start a business in Japan, will be eased for foreigners who found his/her business in Fukuoka (National Strategic Special Zone).
Definition: **University Start-Up (METI)**

1. Launch business based on **patents** invented by faculty members/ graduate students/ undergraduates  
   (Technology Transfer by Patents)

2. Launch business based on **research results** or **technologies** in the university that are **not patented**  
   (Technology Transfer without Patents / Utilization of research results)

3. Established by faculty members/ graduate students/ undergraduates  
   (Founder belongs to university)

4. Funded by university, university TLO, university venture fund  
   (Investment)

⇒ Core ventures ((1) + (2)) are dominant (about 80%).

Cumulative Number of University Start-Ups in Japan

Ref: Basic Survey of university start-ups (METI, 2018)
Investigation on actual condition of university start-up venture company (Teikoku Data Bank, Mar. 2017)
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