100 Japanese Postwar Innovations

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Item

- 110th anniversary event of JIII in 2014
- Questionnaire to the public, experts, etc.
- Results (TOP 10, some confusion)
- Simple observations of the answers
- Subject of commending innovation
- Toward future innovation in the IoT era

Motivation & Process

- Episode 1: Naming of ‘JIII’ by Mr. Ibuka (former JIII chairman)
- Visit to USPTO (Medal of Innovation)
- Episode 2: Difference between Jobs and Gates
- What range defines ‘innovation’?
- First, let’s start from questions to the public and experts

Our Definition of Innovation

- Innovation can be defined as "an undertaking, ultimately economic in nature, which by creating something new brings about major historical and social change that either develops beyond national borders or has the potential to do so. It may include not just inventions, but business models or projects, and may also include inventions which, though originating outside of Japan, have been substantially developed within Japan."

Questionnaire Results

- No. of answers: 5,265(online), 148(via letter)
- First, top 10 and high-ranking items (37 in total) were published before the 110th anniversary ceremony

- (Top 3)

1: Shinkansen (1964)

2: Instant noodle (1958)

3: Walkman (1979)

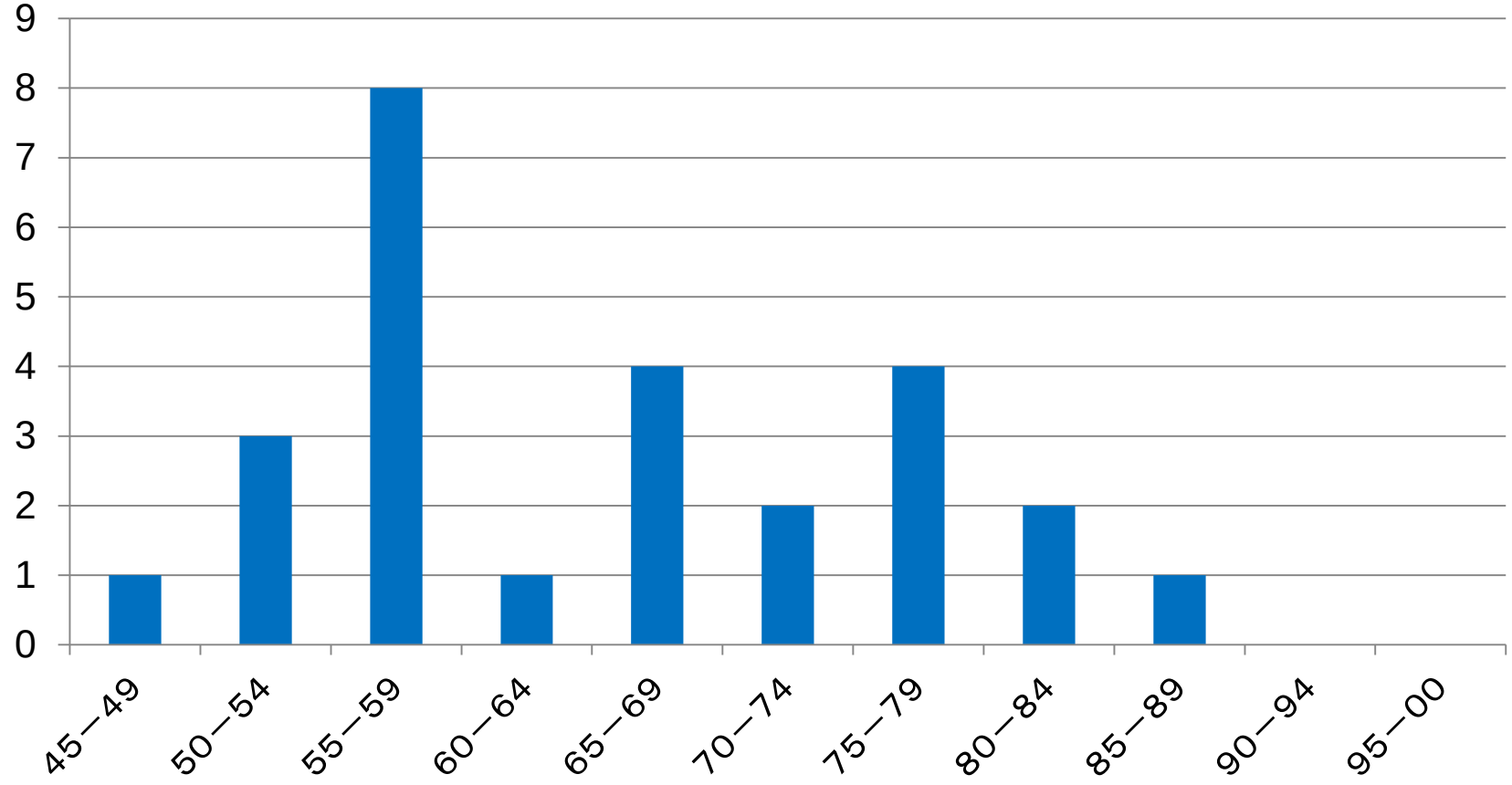
- (#4 and onward are listed in order of year)

4. Endoscope (1950)
5. Manga/Anime (1963)
6. Toyota Production System (1970)
7. Washlet (1980)
8. Home Video Game Console/Game Software (1983)
9. Light Emitting Diode (1993)
10. Hybrid Car (1997)

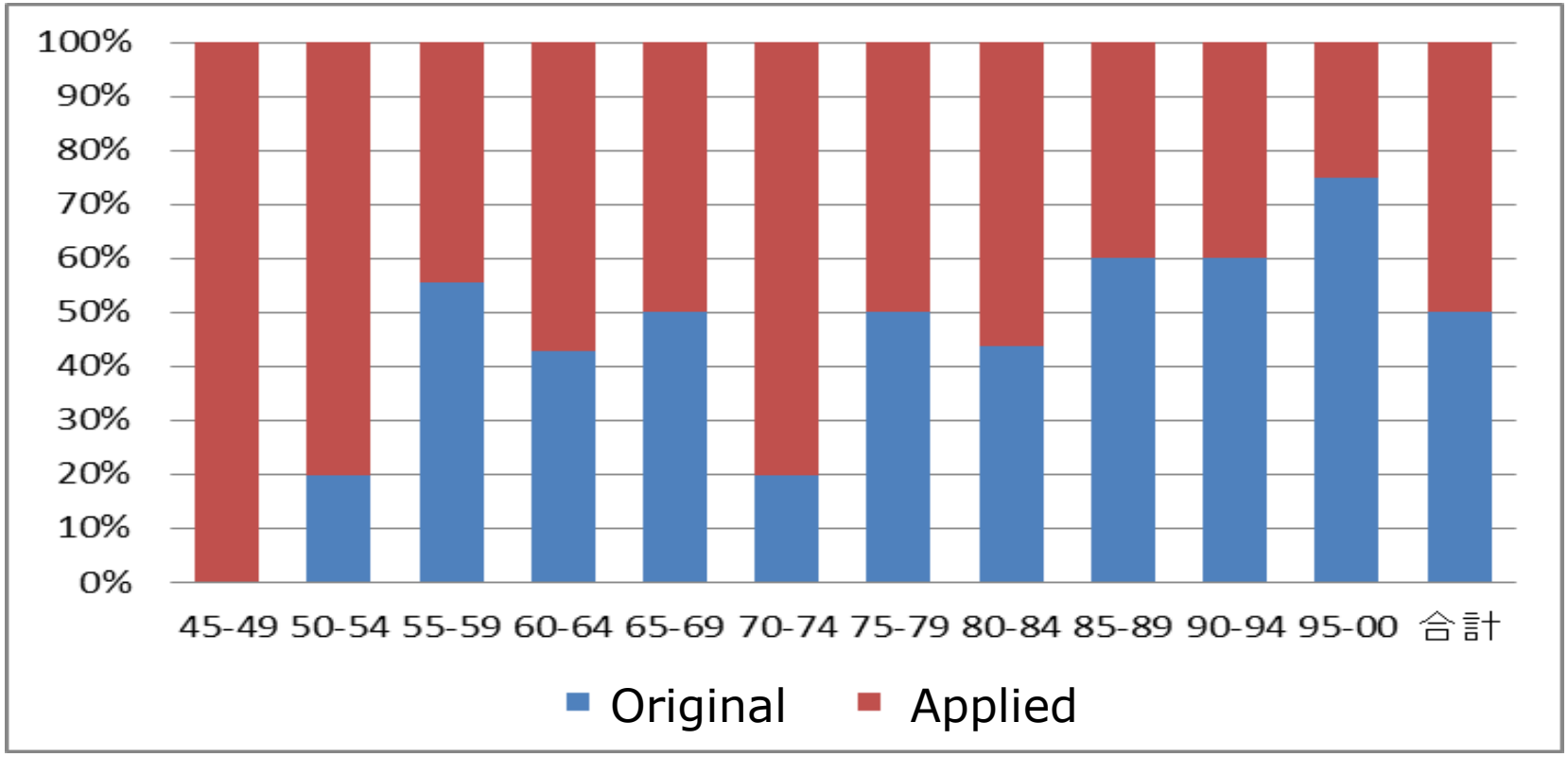
Additional examples

- (Showa 20's) Welding Method and Block Construction Method (1949)
- (Showa 30's) Transistor Radio (1955), Conveyor Belt Sushi (1958)
- (Showa 40's) Flexible Structured Buildings (1968), Convenience Store (1974)
- (Showa 50's) Express Delivery Service (1976), CD and CD-R (1982)
- (Showa 60's-Heisei 6) Umami (1985), Lithium-Ion Battery (1991)
- (Heisei 7-12) DVD (1996), Multi-Function Mobile Phone (with i-mode, camera, etc.) (1999)

Innovation lead by head of the companies



Trends in technology development (original or applied)



Classification

- Technology development type: 83
- Business model type: 15 (Conveyor Belt Sushi, Kumon Method of Learning, Manga/Anime, Toyota Production System, Convenience Store, Walkman, Pre-Fabricated Housing, etc.)
- National innovation: 3 (Desulfurization, Denitration and Dust Collection Systems, Energy Conservation, Recycle and Reuse)
- Long innovation: 4 (Welding Method and Block Construction Method, Shinkansen, Umami, Pet Bottle Aseptic Filling System (Kaku Insatsu))

Classification by company size and type of institutes

- SME: 10 (Fish Finder, Transistor Radio, etc.)
- University and public research institutes: 15 (Welding Method and Block Construction Method, Endoscope, Flexible Structured Buildings, Carbon Fiber and Carbon Fiber Composite, Light Emitting Diode, etc.)
- Last SME innovation was in 1978
- University and industry collaboration cases exist throughout the days following WWⅡ, but have recently stagnated

Some Problems for Going Forward

・Next step ??? Many questions from answers (Do the Tokyo Olympics/pollution control measures represent innovation? Has the discovery of IPS cells already represented innovation?) Long tail ranking is difficult to pick up smoothly

・Visit to famous professors, buisiness authorities, and institutes of big industry to discuss the subjects above

・Second questionnaire to two institutes
105 innovations finally selected

Subject of commending innovations

- Difficulty to identify the range of innovation
- Difficulty to identify persons/organizations (who is the best contributor, researcher, manager, prior developer?)
- Relationship between inventor and market creator
- Competition effects from many companies in the market
- More complications in recent times

Expectations for 21st century innovation in Japan

- Bio･･･IPS cells
- Molecular chemistry ･･･ Carbon nanotubes
- Infrastructure-related technology (earthquake resistant/absorbing construction, offshore airports)
- Kindai Maguro (tuna)
- Cultural industry of Akihabara
- Robot suits, spiderweb threads (Japan Institute of Invention and Innovation's 21st Century Invention prizewinners)
- (Government-promoted science innovations)
- Development of national/social innovations for care insurance system, etc.

THANK YOU for YOUR ATTENTION