



The Illusion and Dilemma of Innovation that Permeate Japan

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Yunogami Takashi, a consultant who has undertaken research activities for sixteen years at Hitachi, says in his book *The Defeat of Japanese-Style Manufacturing* (Bungeishunju, 2013), “Because Japanese people have the false perception that innovation means technological breakthrough, the more common the word ‘innovation’ becomes, the less frequently innovation occurs. Words infiltrate the brain as concepts. Ironically, it is the word ‘innovation’ that stunts Japanese innovation.” I could not agree more.

In recent years, the word “innovation” has often been used as a buzzword. In a 120-page report entitled “The Revision of Japan’s Revitalization Strategy 2014,” which was published by the government in June 2014, the word “innovation” is repeated around forty times. The 170-page report “The Revitalization of ‘Rich and Active Japan,’” which was published by the Japan Business Federation in January 2015, has the English subtitle “Innovation & Globalization,” and the word “innovation” is repeated around sixty times in the report. In addition, in the 160-page Long-Term Vision Research Report, which was published by Japan Akademeia, an expert organization, in February 2015, the word “innovation” is repeated as many as 115 times.

Innovation is crucial for the revitalization of the Japanese economy, and it would be impossible to achieve the revitalization of the Japanese economy without innovation. That is why it is vital to understand the core essence of innovation. In fact, however, there are fundamental misunderstandings and illusions regarding innovation, and these misunderstandings and illusions permeate Japan. This is why Yunogami writes with disappointment that the more common the word “innovation” becomes, the less frequently innovation occurs.



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Innovation is not technological breakthrough

Generally speaking, innovation is regarded as technological breakthrough. It is said that the word “innovation” has been in use since around 1440. In the government’s 1958 Economic White Paper, the word was translated as *gijyutsu-kakushin* (technological breakthrough) in Japan. Joseph Schumpeter, an Austrian-born economist, established theories regarding innovation. Around 1911, Schumpeter defined the word as “combining production methods, resources, labor force and markets in economic activities in a novel manner.”

Schumpeter identified the following five specific types of innovation: (1) Production of new goods and services that are not yet known by consumers and goods and services with new quality; (2) Introduction of new production methods; (3) Development of new sales channels; (4) Acquisition of new supply sources of raw materials or half-products; and (5) Realization of new organizations. The essence of innovation means that new goods and services spread rapidly and are put to wide use by combining the five abovementioned factors, and that new values are created for society and the economy.

Accordingly, it is myopic to regard innovation merely as technological breakthrough. Technological breakthrough is simply technological innovation or technological invention. In the 1950s, when the word “innovation” was translated as “technological breakthrough” in the Economic White Paper, Japan was a developing country. Japan imported and modified technologies developed by advanced countries that were put to commercial use by resolving risks. These steps allowed these technologies to spread, which led to value creation. That is why the translation of innovation as “technological breakthrough” was correct in a sense. From the late 1970s to the early 1980s, however, when Japan completed its catch-up processes and achieved equality with other developed economies, it appears that the perception that innovation means technological breakthrough was a major impediment to Japanese innovation.

I believe that many electric appliance manufacturers, including Sharp, which is now embroiled in a management crisis, and Panasonic and Sony, which are reconstructing their management, had misunderstandings or illusions about what innovation means. Or rather, many industrial sectors, including electric appliance manufacturers, and the government sector are still engulfed in these illusions.

Innovation’s dilemma and the trap of success

It is often said that currently, Japan is winning in terms of technology and losing in terms of business. However, recent situations suggest that it is not possible to say that Japan is a technological winner. I believe that Japan is a technological loser. The recent environment surrounding the semiconductor and electronics industries that used to dominate most of the global market is tragic. These industries have not only fallen from their prestigious positions



among the top three major export industries, but are also suffering trade deficits. These industries are still at the world's highest level by technological standards, but they are unable to secure markets.

The false perception of innovation as technological breakthrough leads to the notion that engineers should handle innovation. Instead of giving adequate consideration to market needs, engineers emphasize the improvement of technological quality and the pursuit of technological perfection. This has resulted in the manufacture of products with excessive functions and high costs (high prices).

When Japan was in the catch-up phase, its wage levels were low and the yen was weak. That is why such high-quality, highly functional products were able to secure their markets. Even in a situation where the yen is strong and wage levels are high, because Japan's domestic markets were relatively large, such products were sold to some extent in the domestic market. However, with the rise of emerging economies and the expanded use of ICT, the global market underwent a paradigm shift, and many Japanese companies failed to ride on this stream. As a result, a special situation emerged in which products made using Japanese technologies are applicable only to the Japanese market. This is the so-called Galapagosization of technological products.

In 1997, Professor Clayton Christensen at Harvard Business School began discussing the innovator's dilemma theory. This can be viewed as a serious warning to Japanese companies. But at the time, the Japanese economy was right in the middle of long-term stagnation in the wake of the collapse of the bubble economy. In 1998, Japan was hit by a financial crisis, and the long-term deflation that still lingers today began to affect our country. In this situation, Japanese companies could hardly listen to Professor Christensen's discussion. Even if some companies could afford to do so, they were obsessed by their previous management successes and failed to respond quickly to the change in the times.

Professor Christensen introduced the concept of "destructive innovation." This means that new products that are inferior in terms of function but are less expensive and easier to use than higher-quality products that dominate markets spread rapidly, and defeat the high-quality and highly functional products that used to dominate the markets. Japanese semiconductors lost against such products created by destructive innovation.

Lessons drawn from the economic friction between Britain and Germany in the nineteenth century

In the 1980s, when there were severe economic and trade frictions between Japan and the United States, the late Kosaka Masataka recommended that I read *Made in Germany*, which was written in 1896 by E. E. Williams, a British journalist. The focal point of this paper appears to correspond to the current relationship between Japan and South Korea, and between Japan and some emerging economies.

Williams' paper analyzed the historic economic friction between Britain and Germany in



the nineteenth century. Britain, which had been at the top of the industrialization race by the time of the Industrial Revolution, was caught up by the less developed Germany around the middle of the 1890s, and began to be overtaken. However, Britain was convinced that it was still on top in terms of industrial might, and criticized Germany for copying British technologies and conducting unfair trading with low wages and long working hours.

In line with this way of thinking, Britain required products imported from Germany to be labeled “Made in Germany,” in the expectation that this labeling would restrict sales of German products. But at that point in time, Germany had already overtaken Britain in terms of industrial might, and the “Made in Germany” labeling resulted in increased sales of German products.

Currently, Japanese companies claim that South Korean companies, such as Samsung, imitate Japanese technologies and do not have their own original technologies. It is true that Japan provided technologies in the initial phase. But the technological gaps between Japanese and South Korean companies have now closed, and South Korean companies have begun to secure a competitive advantage by manufacturing products that are less expensive and easier to use in response to global market demand. At the very least, it can be said that South Korea is creating the destructive innovation that Professor Christensen refers to in some industries.

Japanese industries and companies face the challenge of how to create destructive innovation that disrupts their own successful models on their own. They may survive for some time, even with Galapagosized models. However, the Japanese domestic market will shrink with the acceleration of depopulation.

The era of user-oriented “pull-driven innovation”

To achieve the Japan revitalization strategy, Japan needs to pursue genuine innovation that leads to the creation of value just beyond technological breakthrough. To this end, it is necessary for the government to try to avoid stunting private-sector innovation initiatives through regulatory reform. In addition, the private sector needs to break away from the supplier’s perspective of selling products that have been made with the use of advanced technology, and provide goods and services in response to market demand.

At a session of the 11th edition of Roundtable Japan, which was held in Tokyo in early June 2015, a discussion was held on the topic, “Will Japan miss the train of innovation?” At the beginning of this session, Kurokawa Kiyoshi, visiting professor at the National Graduate Institute for Policy Studies, stressed, “We now live in an era with emphasis on pull-driven innovation based on the buyer’s needs, rather than push-driven innovation based on the supplier’s proposal to the buyer. Japanese companies have yet to switch to this new model.”

The symposium was co-hosted by Japan’s Forma Co. and a consultation company directed by Claude Smadja, former director general of the World Economic Forum in Davos, Switzerland. Every year at the symposium, the participants discuss many of the challenges that Japan is facing.

Japan drops to 27th position in terms of global competitiveness

Japan dropped to 27th place, down six places from last year, in the Swiss International Institute for Management Development (IMD)'s World Competitiveness Yearbook 2015, which was published in late May 2015 for sixty-one major countries and regions. The United States came top for the third consecutive year. Japan was behind China (22nd place) and South Korea (25th place). The rankings were first announced in 1989, and Japan came top in the first year. It remained among the top positions for some time after the burst of the bubble economy as well, probably because of its “afterimage effect.” However, Japan has continued to go down in the rankings amid stagnant growth.

There is some controversy over the methodology of the rankings, but it is undeniable that Japan has continued to drop in the rankings.

Germany also dropped to tenth place this year, but the entire world is taking notice of the long-term Industrie 4.0 strategy that is promoted through cooperation between politics, business and academia in Germany. One of its goals is to achieve the “mass customization” of producing made-to-order products at costs similar to mass production by focusing on so-called I o T, fully utilizing the Internet. Under this model, the buyer can rapidly obtain made-to-order goods at low prices instead of passively choosing items from catalogues.

We are now seeing dramatic changes in technologies, products and services that create added value and their supply methods against the background of the full use of ICT.

To achieve Japanese revitalization, it is necessary to first look directly at changes that can be considered as the paradigm shift of industries, technologies and market values, reexamining the very essence of innovation. If Japan is merely content with a rise in stock price, it will fall behind the new industrial revolution that is now in progress.

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