

From an interview with Prof. Kentaro Nobeoka  
director of the Institute of Innovation Research, Hitotsubashi University

# Japanese Industries Facing Challenge to Turn Technology into Social Value

By Japan SPOTLIGHT Editorial Section

## History of Institute of Innovation Research (IIR) at Hitotsubashi University

**Q. Could you please explain the history of the IIR and its purpose?**

**Nobeoka:** The Research Institute of Industrial Management, the predecessor of the IIR, was founded in 1944 and it was renamed the IIR in 1997. It has been studying how to vitalize innovation in Japan since its foundation through promotion of research on innovation. In other words, it has been playing the role of a hub among academia, business and government in promoting innovation.

**Q. Was it established as an institute for social science studies on the innovation of friendly business management?**

**Nobeoka:** Innovation can be defined as invention plus exploitation. Exploitation means creation of value from which a society can reap benefits. Therefore, the concept of innovation itself cannot be perceived only as a technological phenomenon. For example, engineers like Alexander Graham Bell or Thomas Edison who invented new technologies in their days were also very skillful in exploitation and such skills eventually enabled them to create the originals of General Electric or AT&T. In other words, they were capable of turning new technologies into goods which could attract consumers' interest and sell well even if their prices were set rather high, and thus provide their producing or selling firms with good profits. Researching innovation is simply studying the whole social process of such value creation through the transformation of new technologies or inventions into new goods which enable business firms to earn profits and society to find a new outlet for its instinct for consumption.

For example, flat-panel televisions or solar fuel cells in Japan are excellent technologies but so far they have not been successful in creating large economic value or profit. Regarding production of the latter in particular, producers still need national subsidies from the



*Kentaro Nobeoka, director of the Institute of Innovation Research, Hitotsubashi University*

central government and are not earning enough profits yet, though Japan has been playing a leading role in developing this new technology.

Solar panels have quickly become a commodity, but cannot create either profits or social value that would justify their high price.

The role of innovation is certainly in this sense the creation of value-added to be distributed among many entities such as people, government agencies, educational institutions, and social welfare facilities, and thus to contribute to the growth of the national economy or people's well-being.

## Japanese Companies Need a Change of Business Philosophy

**Q. In talking about new Japanese technologies, what do you think is the essential reason why their**

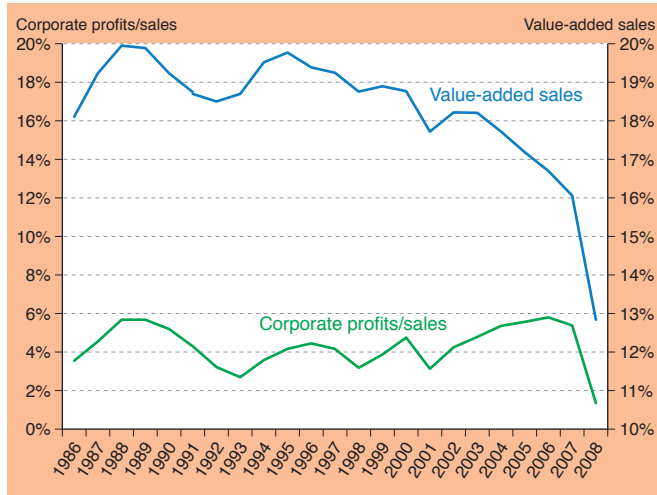
**excellence would not bring our society any social value?**

**Nobeoka:** You see Japanese firms losing their competency to create value-added these days (*Chart*). I believe that a manufacturing company should produce goods at the cheapest cost and sell them at a high price. This is considered an essential role of manufacturing firms. But Japanese firms are always saying they will produce high quality goods and sell them at cheap prices. This is a fundamental misunderstanding of their role in our industrial society.

If they are successful in creating an attractive product, such as the iPhone of Apple, consumers would try to buy it without hesitation even if it is expensive. Consumers in Japan are always looking for high value-added goods that are useful as well as charming and many of them do not care about the price, since today we are living in a wealthy society. Even in the overseas market, such a demand for high-value added goods is not saturated, especially among the developed nations. Therefore, through an amelioration of the so-called exploitation (value creation) process, Japanese manufacturing companies would be able to earn higher profits and with them they would be able to maintain employment and promote

## CHART

## Japanese manufacturing industry's competency to create value-added continues to decline



Source: Ministry of Finance

R&D, which would be an invaluable contribution on their side to the national economy. The Japanese government's tax revenues would rise as well thanks to the increase in such firms' profits, and that would lead to fiscal reconsolidation of the Japanese government.

In this regard, the proposed change of business philosophy from selling high-quality goods at cheap prices to selling them at high prices by creating additional value would contribute to the restoration of the Japanese economy. More precisely, the products do not have to be expensive. Firms need to maximize the difference between price and cost. For example, a firm like Uniqlo has been creating huge economic value. I would call this change of business philosophy an innovation that Japan badly needs today.

In my view, competition will not solve the problem that Japanese firms are facing today. Instead, I think falling prices due to competition means a lack of socially valuable innovation. In modern society, the high-quality goods that most Japanese firms are today pursuing are useless for earning money unless new value is added to those goods. Prices should not be an element for product differentiation. Only ideas and originality should create product differentiation to meet the individual taste of each customer, and thus new demand would be created. Unless they pursue product differentiation in this sense, they cannot survive in a mature industrial society where the existing market is saturated. The uniqueness of a product will be a weapon for exploiting markets and help to expand the national economy eventually.

**Q. South Korea's industrial competitiveness is very strong today and it is winning in the BRIC markets with its cheaper products. Japanese firms are very conscious of the increasingly tough competition with South Korean firms in those markets and tend to try to sell their products at cheaper prices in order to win the competition. Would that be one**

**reason why Japanese firms are engaging in price competition generally?**

**Nobeoka:** I do not think Japanese firms can win the price competition against South Korean firms given the yen's appreciation. They need to engage in a totally different competition, namely that of product differentiation. Unless they create new value in their goods, they cannot win the competition as long as they assume that price is the only factor in differentiation. They would merely be getting into excessive competition that would result in lower and lower prices. Firms will get very little profit even if their goods sell very well. In this regard, innovation is undoubtedly the key to achieving business success by creating new added value for customers.

Unfortunately, today in the home electric appliances sector in Japan the firms are pursuing the wrong strategy, leading to this excessive competition in lowering prices. The first example of this wrong strategy was DVD players that appeared in the Japanese market in 1996. They certainly sold very well not only in Japan but also in the global market. They were produced on the basis of Japanese industrial standards and satisfied the needs of global users. This should be regarded as an enormous business success. But it is noteworthy that the firms in this sector earned very little profit, since each firm pursued product differentiation simply by lowering prices. The same thing has been happening to Japanese firms with flat-panel TVs and solar battery panels.

In contrast, Apple has taken a completely different strategy and created the iPhone, which many people all over the world now find irreplaceable and of priceless value. As time goes by, there will be some imitations showing up and then price competition might be triggered to a certain extent somewhat later. However, a company such as Apple certainly produces new value that cannot be measured by price. If there were 10 companies like Apple in Japan, the whole Japanese economy would be greatly revitalized.

The tiny product differentiations that Japanese firms often attempt will not be of any use. It is the competence of their business

PHOTO: REUTERS/AFLO



A woman looks at fleece jackets displayed at Fast Retailing Co.'s Uniqlo casual fashion chain store in Tokyo. Fast Retailing Co. said that same-store sales at its Uniqlo chain of clothing shops in Japan jumped 13.7% in November 2012 from a year earlier due to strong sales of its down jackets and winter underwear.

management that would truly make customers happy with their products.

**Q. In South Korea or China, they are not creating new value but instead, by lowering prices, they win the competition. But this means their economic prosperity will not last long in the light of your theory?**

**Nobeoka:** They are producing cheap products and thus meeting their customers' need for cheap goods in their market. There are many people around the world who simply want to buy cheap products. Therefore, cheap producers will also survive. But Japanese firms cannot compete in that market. There are also many customers who need goods that are somewhat differentiated from the ordinary and they would buy such goods even if they were expensive. They are looking for goods that can be produced only by these Japanese firms. But Japanese firms thus far have not been successful in meeting such customers' requests. They will not win the price competition against either South Korean firms or Chinese firms, empowered by their currency depreciations, and therefore need to strive to be a company like Apple. They should not do the same thing as others do. If only a few of them became somewhat like Apple, that would be far better than all of them being defeated in price competition.

### **Can Japan Change Its Corporate Culture in Favor of Social Value Creation?**

**Q. How can we create such value-producing businesses? How can we change our corporate culture or education system for human resources development in order to make this happen?**

**Nobeoka:** Small and Medium-sized Enterprises are in a better position to understand the need to create new value and sell it at a high price, since it would be easier for the management to convince all the employees of this strategy. Some foreign subsidiaries in Japan adopt a business education program inside companies for freshmen to require them to think about how they could sell a product at a price twice as high as its production cost. It is necessary for them to learn about the customers' needs in detail in order to sell their products at high prices.

I believe the Ministry of Economy, Trade and Industry should encourage business firms to take such a strategy. With this strategy, a possible increase in firms' profits would raise corporate tax revenues significantly and thus contribute to a fiscal deficit reduction.

**Q. Large firms in Japan are concerned about achieving success in the BRIC markets and spend energy and time on this. Since they can earn large**

**profits by selling goods cheaply in those markets or investing in them, they seem to be adopting a strategy rather different from your suggestion.**

**Nobeoka:** Such efforts could end up in excessive competition among Japanese companies themselves in the BRIC markets and bring them very small earnings. They tend to believe they can always increase their sales in overseas markets, but I believe there are still many business opportunities in the Japanese market as well. They should do more to sell their goods in Japan by learning about customers' needs and creating new value to meet their tastes. It is much more important in my view to think in depth about the true needs of customers in Japan rather than going overseas.

Spending more money on creating a product that any customer would buy at a high price would be the best management strategy for large Japanese firms today.

For example, Apple invested \$600 billion mainly in manufacturing equipment this year in pushing the iPhone. It is not true that Apple earns money easily thanks to their simple production process without much investment, while Japanese firms would need to invest a lot due to their vertically integrated production and sales structure. Highly advanced research institutes like ours should be responsible for correcting such misinterpretations and spread correct knowledge among businesses.

**Q. Silicon Valley provides very innovation-friendly circumstances in the sense that the exploitation process you mentioned can be easily done. Mediators between scientists and businesses such as consultants or lawyers work well in transforming invaluable technological inventions into social value. Do you think such a role should be played by your institute?**

**Nobeoka:** This may be true in Silicon Valley. Perhaps there are not only independent business consultants outside the companies but also many employees inside large firms such as IBM, Google and Apple who are competent in creating social value.

In the case of Japan, it would be large enterprises well endowed with technological as well as human resources rather than independent business consultants or entrepreneurs that would play the major role in achieving such a transformation of technological value into social value.

The best and the brightest still join large firms in Japan rather than a venture firm, and with a safety network available large firms could provide a working environment greatly in favor of innovation, since they can take risks.

Many people say that we should have more active ventures in Japan that would be sources of innovation and growth. But more active ventures will bring more failures. A large firm could deal with the high risk of any given project more easily. Therefore, a large firm needs creative human resources mostly to realize this technology



exploitation process. The management of large firms should change their thinking to take full advantage of such human resources.

**Q. It is often pointed out that Japanese firms are not taking full advantage of information technology (IT) and are often far behind Western enterprises in terms of utilization of creative human resources. Conventional Japanese management, characterized as a hierarchical structure based upon a seniority system, seems to work as an impediment to communication by IT and thus fails to encourage those young and creative people, in particular women, to lead a company's innovation process. Do you agree with this?**

**Nobeoka:** IT or open innovation (innovation achieved by inter-corporate cooperation including internationally encouraged by IT) could be a powerful and important weapon to achieve value creation. However, it is only a tool for innovation and cannot be a major element in achieving social value by technological innovation. Each firm should do its best to think deeply about what product could meet its customers' vast and inconspicuous needs. This is far more important for Japanese firms than how to use IT.

**Q. It has been pointed out that the old Japanese corporate culture of informal discussions among workers during lunchtime or after work in bars or restaurants or even during working time would have been very useful in activating innovation in the 1960s or 1970s in Japan. What do you think about this? Do you think restoration of such a culture would be useful in revitalizing Japanese innovation?**

**Nobeoka:** In my interpretation, this means that a management that regards efficiency as the most profitable tool and does not allow employees to engage in such informal talks will not necessarily produce any benefits for the firm. Efficiency-oriented and result-oriented management on the basis of quantitative evidence of a firm's performance could kill the individual freedom to think about how to create new added value, since such management tends to force everybody in a firm to observe internal rules and customs only to achieve cost reductions. In the past two or three decades, Japanese firms have been moving towards such efficiency-oriented management, but creativity will still occasionally be born from illogical obsessions, as shown as in the case of Steve Jobs' creation of the AirMac from just the shavings of aluminum.

Informal discussions among workers, as you mentioned, could certainly be an example of how apparent waste of time could result in an extraordinarily creative product. As such, it could be one of the tools for creating social value.



## Mission of the IIR

**Q. The IIR aims to propose a reform of management by combining "technology" (an engineering concept) with "management" (a social science concept), which is exactly what we call MOT (Management of Technology) is aiming at. To achieve this, would it be better for Japanese universities to eliminate the distinction between departments of social science and natural science, as in the case of the United States, in order to spread your ideas more broadly among university faculties and students?**

**Nobeoka:** Certainly, as I mentioned earlier, the concept of innovation contains technological revolution and creation of social value and they are not to be separated from each other. In this sense, it is certainly true that people engaged in innovation should come from an interdisciplinary area where no distinction is made between social science and natural science. However, I believe we would need authentic technology experts for innovation. It is not necessary that all engineers become interdisciplinary experts. We always need professionals in technology for creative invention. Otherwise we would lose the seeds of innovation, and that would be a more serious situation.

**Q. What are the future plans of the IIR? Are you planning any joint research or cooperation with overseas institutes similar to yours?**

**Nobeoka:** Our target is always to achieve innovation, including social value creation. We will continue our efforts to convince Japanese government and industries of the value of such true innovation. I believe the creation of products with social value would be a great contribution by Japan to the rest of the world.

A slight change of business philosophy could enable Japanese firms to acquire an extremely high reputation in the world, which would also boost Japanese national pride. The IIR at Hitotsubashi University will try to be a mentor to such Japanese firms.

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