

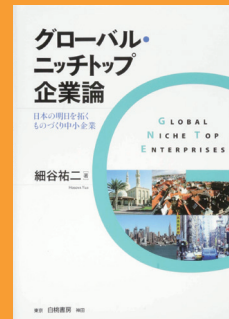
A Discussion Between Prof. Yuji Hosoya of the University of Niigata Prefecture and JEF Chairman Masakazu Toyoda

Can Global Niche Top Companies Develop the Future of Japan?

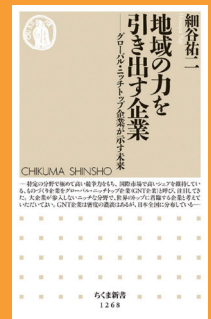
By Japan SPOTLIGHT

Professor Yuji Hosoya, renowned for his research on niche top manufacturing SMEs, is the author of “Global Niche Top Companies Theory” (Hakuto Shobo, 2014) and “Companies that Boost Local Economic Potential” (Chikuma Shinsho, 2017). In these books, he emphasizes the important role of global niche top companies in the future Japanese economy.

JEF Chairman Masakazu Toyoda, with a slightly different view, held a discussion with him on the issue as follows.

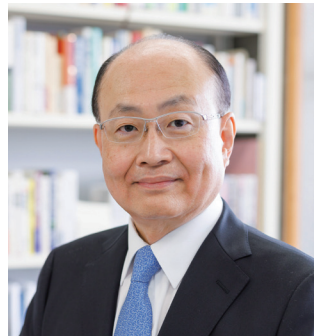


Global Niche Top Companies Theory (Hakuto Shobo, 2014)



Companies that Boost Local Economic Potential (Chikuma Shinsho, 2017)

(Discussion held on May 19, 2023)



Prof. Yuji Hosoya



Masakazu Toyoda

What Is a Global Niche Top Company?

Toyoda: Prof. Hosoya, you are the author of two books about “Global Niche Top Companies” (GNTCs). Could you please tell me what GNTCs are?

Hosoya: There is a more general concept, that is niche top companies. They create a market in favor of themselves by strategically taking a part of a big market with product differentiation and maintaining an extremely high market share. They are mostly manufacturing companies. Among them, some are active in the global market and are internationally very competitive. We define those as GNTCs.

Toyoda: Could you give me some specific examples, especially those that typically enhance the potential of local economies?

Hosoya: For example, there is a company named NAMICS Corporation in Niigata city. This is an unlisted SME that originally produced paint. Since Toshinobu Odajima became the third president of the company, it has been rapidly expanding its business. During this decade, it has raised its sales from 25 billion yen to 55 billion and at this moment employs about 700 people. This is the most remarkable company in Niigata Prefecture, enjoying the highest growth. It produces sealants for semiconductor chips, that is a material that works as a shield to insulate the chips with resin after soldering them with a connector, as well as other electrochemical materials. Since there is growing demand for semiconductors, the demand for its products is rapidly growing as well.

The company was started as a global company and worldwide demand for its products is increasing more than in Japan. Its exports are growing, while its production and R&D sites remain in Japan. Thus, they are a typical GNTC.

Another example is Japan Analytical Industry Co., Ltd, a small company with its headquarters in Mizuho-cho in Tokyo. It produces gas chromatography analyzers, which are not for general use but for analyzing gas produced from resin by thermal decomposition. The principal customers are crime laboratories in the 47 prefectures of Japan. How do they use them? In the case of a hit and run, there would almost certainly be residues of resin at the scene from the vehicle's front lamps. Police crime lab experts can collect these and analyze them with this equipment. They can specify the car model and then if they can find a similar model that is being repaired, they can trace the owner or driver at the time of the accident. The company's sales amount to around 1 billion yen, but there are only two companies in the whole world producing this equipment.

In the field of chemistry, Japanese universities are still academically quite strong and attracting students from abroad. One reason is that Japanese universities are using good quality analytical equipment made in Japan. Foreign graduate students who have studied chemistry at Japanese universities often buy such equipment in Japan and take it back for use in their own country.

So this is how such companies can enjoy a high profit rate and excess profits through their dominance of a differentiated market.

To List or Not to List

Toyota: Why are those two particular GNTs unlisted?

Hosoya: For many years it has been thought that getting companies listed in Japan takes too long compared with the United States. But in spite of this bad reputation, as a percentage of all listed companies among Japan, the US and Germany, Japan is the largest in a relative sense. German companies do not like going public. In Germany, there were only around 500 companies listed in 2014, while in the US there were around 5,000 listed companies. In Japan, there were about 3,600 listed ones in 2016, according to the latest available data, though the total number of companies in Japan is less than half of those in the US.

In Japan, when even an SME exceeds 10 billion yen in sales, a securities company would ask it to list, and because of the status attached to going public, many companies would accept. That is why there are many listed companies in Japan. Furthermore, in more recent times, as is well known, the JASDAQ exchange has emerged, and even with only 3 billion yen in sales, a company can be listed in the emerging market.

However, there is a company called Fujikin in Osaka, one of the GNT companies not listed. It produces a special bulb for super safety which is, for example, used in space shuttles, with its airtightness maintained. Fujikin has extremely high technology – there are only two companies producing such a bulb in the world – and its sales

amount to 17 billion yen in consolidated accounts. It is concerned that it could be bought by an American company if it listed, so it will never try to list itself.

Another example is Unipulse Corporation, listed in emerging markets. The president felt so sensitive about the stock price after his company was listed that he failed to concentrate on product development or technology development, and in the end he decided to rescind the listing and bought back the stocks.

When I conducted a survey across the whole nation in 2012, I selected 2,000 companies as seemingly niche top companies from certain data sources and sent a questionnaire to them. I got answers from 663 companies, about one-third of those selected, meaning a high degree of confidence in the survey. According to this survey, the average sales amount of these niche top companies is around 3 billion yen a year. Among SMEs in general, about 1.6 billion yen is the median value of their sales. So the former is larger than the latter.

As for subcontractors producing parts and components for automobiles, there are many with 20 billion or 30 billion yen in sales. Niche top companies' average sales amount is much smaller than that.

GNTCs vs Start-up Companies

Toyota: The Japanese government is now eager to support start-up companies as much as possible. What is the relation between a start-up and a GNTC?

Hosoya: In fact, no relation exists between the two. GNTCs have many types of origin and the most typical ones are companies started as spin-offs from large companies during the High Growth Era.

Early in the 1980s, R&D-oriented companies drew attention and a public organization aimed at raising these companies was founded. Several years later, the METI SME Agency's "White Paper on SMEs" highlighted them. The basic concept was to be a small-scale company with the capacity for product development and innovation in the high-tech manufacturing sector. Such companies existed even then, mostly spin-offs from large companies, and some of them resulting from unfortunate circumstances.

For example, Elionix Inc. in Hachioji was spun off from Japan Electro Optical Laboratory (JEOL). JEOL is a listed large company, not well known, but a pioneer of electronic microscopes and competitor of Hitachi Inc. There were two types of electronic microscope and one of them became a target for restructuring. Those people working on this particular type lost their jobs. They had to be independent and so they started Elionix Inc. They produce electron beam drawing equipment for semiconductors by using

electronic microscope technology. This equipment draws a refined picture on a silicon chip with an electron beam. This technology is the best in the world and is used for advanced studies by MIT. There are three other large enterprises working on the same business in Japan, but Elionix is considered as being at the same level as these large companies in terms of working status and conditions, and is regarded as a company representing Japan very well and attracting many students in this field.

Toyoda: In the US, college students are starting up companies, and in Japan as well such cases seem to be increasing.

Hosoya: It is true that such students are increasing, and globally start-ups from universities are increasing significantly, but in Japanese universities it is less remarkable. In recent years, AI like ChatGPT has been drawing much attention, as many smart students are attracted to start-ups in this area. In the case of robots, Japanese start-ups are quickly purchased, as with Google's purchase of three Japanese ventures a decade ago. The significant difference between venture capital firms in the US and Japan is their competency of evaluation. Japanese venture capitals cannot discover and support ventures in the early stages, but with their evaluation capacity non-Japanese venture capitals can attract such start-up ventures.

Toyoda: In the case of Japan, venture capital firms are not mature enough; they expect success among all the ventures they would invest in, probably because they were invested in by large banks or companies.

Hosoya: Authentic venture capital firms expect only three success cases among a thousand ventures they invest in.

Toyoda: Why do Japanese venture capitals not think like that?

Hosoya: Because they do not have good evaluation capacity. They cannot distinguish good potential companies from others. Besides, in Japan, regulatory restrictions in the area of medicine, weapons or aircraft prevent private businesses from undertaking experiments or clinical trials. So they would have a better chance of success in starting up in the US under the US ecosystem. In recent days, young Japanese have better competency in English and do not necessarily have to start up in Japan.

One example from early days is Osamu Tsuji, president of SAMCO Inc. which started up in Kyoto in 1979. He worked at NASA on a variety of research projects there, and after coming back to Japan he once tried to start a wine-importing business, but it did not work well. Then he founded a start-up for semiconductor manufacturing equipment, and this company has achieved success with film

formation equipment by using special technology.

Large Companies & Start-ups

Toyoda: In the US, large companies purchase ventures and those ventures try to expand into new ventures with their revenues.

Hosoya: Large Japanese companies cannot achieve this. For example, Canon purchased Toshiba Medical Systems, but it does not seem to be doing well due to differences in corporate culture and in selling products – the one producing MRI equipment at a price of hundreds of million yen per unit and the other producing a printer at a price of 30,000 yen.

In the case of the US, mobility in corporate purchases is high – if it does not do well after a purchase, a company will not insist on keeping it and another company will purchase it. With their evaluation capacity, they are doing well with purchased ventures, no matter which country they come from. In the case of Japan, we do not often hear that the purchased ventures are growing through synergy with the main business.

Should GNTCs Aim to Be Large Companies?

Toyoda: Among large companies, many do not necessarily aim at becoming large but seem to have become large companies with a global niche strategy. They are aiming at profit rate rather than size, and aiming at areas where they can expect a certain profit rate. Prof. Hosoya, it seems you are not valuing large enterprises very highly. Could you tell me why you are so negative about companies expanding their size? I think that even by aiming only at a high profit rate, a company's size will grow in a big market.

Hosoya: As I told you, there are many companies which do not want to be listed. There are many GNTCs aiming at a high profit rate or corporate value rather than size itself. In some cases, even if they want to be larger, they will not be able to do so.

Niche top companies, for example, earn 1 billion yen with one niche top product. In order to earn 2 billion yen or 3 billion yen, they would need two or three niche top products. With many such products they could be a large company in theory. However, innovation must be the source of competitiveness for each product, and so it would be difficult for them to increase the number of products and it would take time to do so.

A typical example is HORIBA Ltd. It produces many kinds of measuring equipment and among them is equipment for measuring exhaust gas in automobiles. This has reached a large scale of production and is used around the world. When the Japanese business data falsification scandal emerged in the US, this

measuring equipment was included in the accusations. It had been used all over the world, had a very good reputation and had achieved quite high sales. Even so, with more than 100 kinds of products, HORIBA's total sales were only around 150 or 160 billion yen.

HORIBA was founded in 1945, so is a long-established company. Its management is positive and active in business expansion. In spite of that, it has limits. Without increasing the number of its product brands, it cannot easily increase its sales.

Certainly, Japanese device producers sell well around the world, and in particular Murata Manufacturing Co., Ltd. enjoys large sales. However, their users seriously urge them to lower their prices and their work is not so easy.

Toyoda: As long as they can keep a fairly high share of the market in certain sectors and other companies cannot keep up with them, I have heard that the profit rate for such companies would be very high. If such a market is found, that surely would not be bad.

Hosoya: That would not be bad. However, you cannot easily find such a market. Niche top companies should not be satisfied with what they acquire, and they could collapse without hand-to-mouth operation. Because with new innovations, a product could often cease to exist. For example, there is a company called Mipox that produces abrasive compounds for audio and visual systems. This company earned 3 billion yen from its liquid abrasive for hard discs when its total sales amount was 10 billion yen. But with an innovation by a Tohoku University professor, a new technology enabling the production of many layers vertically rather than horizontally memorized by hard discs was developed. And then the fluid abrasive became obsolete and unnecessary and the 3 billion yen market disappeared in a flash. This was disastrous, and considering that it should cover low technology areas as well, Mipox is now working on abrasives for automobiles, a much bigger market. It would be too risky for the company not to work on such products. But being faced with such a risk all the time, it has to continue working on development of new products. This ends up being a hand-to-mouth operation facing the risk of collapse without being innovative.

Toyoda: Even in such a case, as long as new ideas are born and with high market dominance, this is not a bad business. The key to success is whether the company can overcome the challenges.

Hosoya: It is also important to prevent others from imitating them. If products are imitated, they would lose their market immediately, so companies should do their best to hinder imitation. In the field of the materials industry, for example, the know-how of blending a variety of materials is extremely important. Ingredients analysis would make



it easy to find out what materials are used, but not how great a percentage of each ingredient is used or what methods are used to blend them, and thus you cannot imitate blending.

A substance patent is the most powerful tool and intellectual property to prevent innovation among all patents. For example, Nemoto and Co., Ltd, a company producing special fluorescent paint, has acquired a substance patent and with this it can expel imitations simply with evidence of the same molecular formula. Meanwhile, machinery products would need so many patents. For example, dozens of patents would be needed just for the parts of an automobile around the wheel. Unless a company has such patents by itself, it cannot properly defend its intellectual property rights. It is impossible to maintain a perfect defense in this regard, and thus they consider know-how important and try to prevent imitation by keeping know-how confidential.

The Stagnancy of Large Japanese Companies

Toyoda: Let me change subject. You argue in your book that the competitiveness of large Japanese enterprises is declining. I share your concern. Their growth model may have to be changed. What do you think about this Japanese corporate stagnancy?

Hosoya: There are many things I learn about large companies from information got from SMEs. I have often heard that large companies are reluctant to start a development project that cannot lead to 10 billion yen in sales based on their prior assessment, regardless of the product. The average sales of a niche top company's is around 3 billion yen, much less than 10 billion. So there would be many projects abandoned by large enterprises that could deserve consideration by a niche top company.



There is a product to vary voltage named a DC-AC converter. This is used in equipment for checking the function of internal organs by using ultrasound. In this equipment, there are around 20 converters for varying the voltage dependent upon the internal organ. The top maker of this equipment is a small company called Bellnix Co., Ltd in Saitama. It produces the most advanced power supply equipment like DC-AC converters by itself and at the same time it places orders with large companies to produce a part of the power supply equipment. A large company cannot afford to spare time and energy for R&D, as they produce only existing low-tech products. Large companies are thus dependent upon Bellnix, a small company, for their R&D.

Large companies, due to their abolition of central general research institutes, cannot conduct research spontaneously any more. Also, a researcher in a large company today in Japan would need tremendous efforts to secure his or her own funding for R&D. In the old days, a researcher could use the budget available at their workplace and do whatever they wanted. But today it is getting tough. This means that a large Japanese company is killing the seeds of its own innovation. In this situation, it would be difficult to see a plant of innovation grow with its leaves enriched and flowers blossoming. Large Japanese companies used to continue to invest in the areas which they found crucial, whether or not it would result in fruitful outcomes. This old merit of large Japanese companies is lost now.

Today's accounting rules obliging a company to report its quarterly business performance presses a large company in Japan even more to pursue short-term profits. This results in reluctance to achieve what will not necessarily lead to short-term profits or sales. No matter how competent a person may be when recruited by a large company, their competency would not work well if this short-



termism dominates.

Students coming to Japan from abroad are also prone to get jobs in a large company. But one or two years after entering a large company, they would discover their mistake. They were ordered to do a rank-and-file job and their work experience there would be useless even after having worked for some years until returning to their home country. In contrast, Silicon Valley would provide them with a good opportunity. Taiwanese, Chinese and Indians, after graduating from universities or graduate schools in Silicon Valley, work for a company there and are given a valuable job. Besides having a useful working experience, they can have a human network. After returning to their home country, they can start up a company in their own in place, like Hsinchu in Taiwan, Zhongguancun in Beijing, or Bangalore in India. Such start-ups are growing in business with Silicon Valley.

Toyoda: Has the old business development model in large Japanese companies based on lifetime employment or seniority systems become outdated and is it not working well anymore?

Hosoya: That is true. In addition, I think the old mindset among the large companies' management remains and they are prone to believe a big market is available and can be easily found. As long as this tendency remains, they will look for big markets that may not exist anymore and kill all new business opportunities.

Toyoda: One of the reasons why young people quit companies is that seniority would determine their salary and promotion, and not work performance. In this light, there are now some large companies in Japan, like Hitachi or NTT, saying they will introduce performance-based salary and promotion systems instead of seniority-based ones. What do you think about this new trend?

Hosoya: This is only natural, and there is no other way to go. However, as I mentioned in the context of venture capital firms' investment decisions about start-ups, unless their capacity for evaluation of an employee's competency is enhanced and the management can distinguish competent employees from the others and decide what to do with the competent ones, we cannot expect substantive improvement of large business performance in Japan. It will not happen only with a changed salary system in accordance with job performance.

IBM, an American company, was well known for its hierarchical organization in former times. Large Japanese companies are still hierarchical, but Silicon Valley companies are flat where there are section chiefs parallel to each other and no other posts between them and the president, who makes managerial decisions quickly based on business assessment. In large Japanese companies, still

hierarchical, it takes much more time and energy for a rank-and-file employee to initiate a new project. We need an organizational reform of large enterprises in addition to reform of salary and promotion systems. Before World War II, Japanese conglomerates often pursued spin-offs in various fields. The current trend is the opposite – large companies purchase their listed subsidiaries and then delist them. They continue to expand, though even now they are too big. I think it would be far better for large companies in Japan to spin off businesses and let them grow at their own discretion.

GNTCs & the Horizontal Division of Labor

Toyoda: In the light of the need for rapid decision making, to be a larger company would not be the best option. With spin-offs, an organization enabling rapid decision making could be created. Large Japanese businesses cannot do well without such a reform of decision-making mechanisms.

You mentioned that one of the merits of GNTCs would be high profits earned by market dominance due to product differentiation. Meanwhile, global production systems are now changing from vertical integration to a horizontal division of labor, and in this system, companies would not produce all the parts and components but outsource part of the production to someone else. Under these circumstances, GNTCs or even conventional SMEs could enter into markets with high profitability, if they were part of this horizontal division of labor.

Hosoya: With mass production, there would be increased risk. In a smiling curve – a graphical depiction of how added value varies across the different stages of product development in an IT-related manufacturing industry – companies outsource the production process in the middle of the curve with lower profits to Electronic Manufacturing Services (EMS), such as Hon Hai Precision Industry Co., Ltd. On the side of the EMS, they can retrieve their gigantic amounts of investment from so many products even though each product's profit is thin. Thus both sides are happy with the deal.

Toyoda: They leave the production of low technology goods for mass use to companies with strong competitiveness in those areas, like Chinese companies, and try to take new areas of higher value-added goods. With innovative competency, they produce differentiated goods as their only producer and thus maintain the large share of the market for these differentiated goods. This is how they earn lots of profits.

Hosoya: This would be the only way for Japanese manufacturing companies to survive. We have to leave the production process to another company in another country. The automobile sector is one

where optimizing technology comes first and Japanese companies have managed to survive; but when electric cars become dominant in the market, I am not sure if they can survive. To do so, they must concentrate on their battery technology.

Toyoda: The key question is whether they can take such an area by using their capability for innovation. Can we believe that there will be opportunities in this sense, even though there would be risks as well in the age of horizontal division of labor?

Hosoya: Yes, indeed. For their survival, they must try to meet the needs from all over the world.

Toyoda: It would be better for us to have a globally active company as a general organizer of production. But in the case of most Japanese companies, they would have to join the horizontal division of labor.

Hosoya: The international expectation for Japanese companies is exactly that. For example, Interuniversity Microelectronics Centre (IMEC) in Belgium is not interested in Japanese semiconductor companies anymore. Rather, it asks Japanese semiconductor manufacturing equipment makers or materials makers to form an alliance with it.

Toyoda: Prof. Hosoya, are you cynical about foreign companies coming to Japan to set up semiconductor factories?

Hosoya: Yes, but I think this is only temporary. Japanese wage levels have been lowered for these past two decades. Today's depreciation of the yen has pushed down wage levels further. However, I think it unlikely that we will see an increase of Japanese companies' reshoring or foreign manufacturing companies' investment in Japan in general, apart from semiconductors.

Key Challenges for Japanese SMEs

Toyoda: How about the main challenges for Japanese SMEs? What would you say are the main issues they need to overcome?

Hosoya: I often tell my students or the audience at my lectures that there are three categories of manufacturing SMEs. One is niche top companies. The second is companies being a part of supply chains. They have been working as subcontractors since the early days, having produced massive amounts of auto parts etc., gaining small profits but selling large amounts and with innumerable employees.

The third one is a type of single-processing one. They are very small companies engaged in only a single process in metal



processing. Many of them are located in Ota Ward in Tokyo or Higashi-Osaka. Being asked for trial production, these processing factories introduce jobs to each other, and eventually a prototype is born. This is how such SMEs have been working as a group, distinguishing them from other manufacturing venues. However, in such areas in Ota Ward, these businesses are now rapidly closing. Early in the 1990s, the number of SMEs in Ota reached its peak and now more than three-quarters of them are gone. Some of the survivors have expanded in size and continue the original business model; some are trying to become niche top companies with their own unique products in these times of growing uncertainty.

The second group of these SMEs forming part of supply chains are now engaged in mass production abroad, whether or not they have been asked to do so by large companies. In cases where there are successors in Japan, many are willing to produce something with new high value-added. They are also aiming to be niche top companies. METI has been supporting these companies since the second half of the 1990s, but there have been few success cases so far. Their prototypes are made to show what their technology could create, but fail to meet the actual needs of the market. They do not sell at all.

According to the Japanese SME Agency's annual survey, marketing development is the most needed policy. Even though they develop a product, they cannot sell well. This is the most crucial issue for manufacturing SMEs in Japan. The government must help them with sales promotion, and if possible, they need to grow from a niche top company into a GNTC.

To be more specific, I think the government needs to raise the exposure of a product or a company internationally. It must ask these SMEs to showcase their prototypes at trade fairs or exhibitions abroad. There must be many goods that do not sell well. But I still

believe that three among a thousand would sell well. Actually, among the successful GNTCs now, many of them have participated in trade fairs abroad, having had difficulties with domestic sales. They found their products sold well abroad first of all and then eventually sold well in the domestic market. The central or local governments should support these companies in showcasing Japanese SMEs' goods at trade fairs abroad. This is the only way for them to achieve success. There are so many Japanese SMEs that are under pressure to expand their size following the collapse of big investments in new factories. Instead of doing something risky like that, they should make more down-to-earth efforts to enhance product value and gain a dominant market position, and thus earn high profits.

Toyota: Regardless of the size of a company, it would be wonderful to have companies with competitive products differentiated by their capacity to innovate.

Hosoya: I think there are a few. For example, Metrol in Tachikawa is a company that makes positioning switches for machining centers. Hon Hai asked an American smartphone company to let it make a smartphone case by cutting directly from an aluminum plate about 1 centimeter thick with a machining center. Hon Hai had 200 or 300 machining centers lined up in a factory in China, producing 24 hours a day. This was the first ever win-win relationship between a US smartphone company and Hon Hai. At the time, the US company appointed Metrol to make the positioning switches for these machining centers.

Toyota: This means that regardless of size, what matters to a company are ideas and strategies.

Hosoya: We must think about reduced productivity as a result of expansion. Large Japanese companies focused on selection and concentration not to develop their future potential but to maintain the areas where their sales were secure and to eliminate rivals. Thus, they lost their potential for future growth.

Toyota: Thank you so much. We conclude that Japanese SMEs must aim to become GNTCs and seek higher profits rather than corporate size.

Note: Readers must take note that the trademark of GNT is owned by NITTO DENKO CORPORATION among the 11 items in industry classifications, such as chemicals, processing machinery and electric equipment.

Written and translated by Naoyuki Haraoka, editor-in-chief of *Japan SPOTLIGHT*, with the cooperation of Tape Rewrite Co.