

Why Is Japan the Only Country Unable to Grow?

One of the challenges Japan faces is a difficulty in creating new businesses. Given this, how can Japan strengthen its international competitiveness?

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Why Is Japan the Only Country Unable to Grow?

- Now Is the Time to Transform Japan Into a Country Able to Create New Markets

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It has long been pointed out that Japan's scientific and technological capabilities and international competitiveness have been declining. One of the challenges facing the nation is the fact that it is difficult to create new businesses in Japan. The lack of new market creation and the lack of GDP growth in new areas may be holding back growth. What factors are preventing the development of new businesses in Japan? What is needed to enable Japan to strengthen its international competitiveness? For this issue of *My Vision*, we asked the opinions of leading experts in a range of fields.

Keywords...Outdated regulations, new players taking an active role, a society that makes the most of ingenuity and a willingness to take on new challenges

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Keywords...Speed of evolution of computers, education of engineers, cross-sectoral technological innovation

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Interviewer: Atsushi Inoue (Associate Senior Fellow, NIRA), Mari Kawamoto (Associate Senior Fellow, NIRA), Yoshie Udagawa (Research Coordinator & Research Fellow, NIRA)

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Explosive improvements in semiconductor performance have resulted in the ongoing development of groundbreaking software services, leading today to the evolution of artificial intelligence (AI) at an unexpectedly rapid pace. Since the Shockley Semiconductor Laboratory was founded in Mountain View, California, in 1955, young people have been the driving force behind technological innovation in the United States. Entrepreneurs in their teens and twenties at the time such as Bill Gates, Steve Jobs, Larry Page, Mark Zuckerberg, and Sam Altman, saw an opportunity and dropped out of college to start their own businesses, and these young companies grew into giants. These new companies are driving the U.S. economy by contributing significantly to GDP and the growth of employment. In Japan, by contrast, outdated regulations formulated by ministries

and government agencies in the 20th century have hindered the development of new technologies and the birth of new businesses, and the speed at which these regulations are being revised is fatally slow. Ride-sharing, for example, has become an indispensable part of daily life in the West, and also, today, in Asian countries; nevertheless, we have yet to see its social implementation in Japan. If we continue to minimize the opportunities for young people and new market entrants, it is tantamount to abandoning the pursuit of new growth. We must believe in the potential of the Japanese people and transform Japan into a society that capitalizes on the ingenuity of individuals and organizations and their willingness to take on new challenges.

The experts offering their opinions in this issue of *My Vision* point out that Japan's growth is hindered by outdated laws and regulations, and precedent-based and seniority-based systems.

Remove Regulations and Conduct Experiments - Plant Factories and Pig Farms in Urban Buildings

Cabinet Secretariat Councillor for Education, Culture, Sports, Science and Technology Strategy Hirohiko Nakahara advocates the use of a “regulatory sandbox,” seeing the problem as lying in the stage of social implementation of new technologies. I am a proponent of such sandboxes, and I also believe that the focus should be on duration rather than location. It is impossible to know in advance whether any technology will bear fruit in the future. Given this, it would be appropriate to establish a period for experimentation, abolish regulations for this period, allow competition between existing actors and newcomers, and then reconsider the necessary regulations following the experiment.

Hiroki Koga, Co-founder and Chief Executive Officer of Oishii Farm Corporation, established a strawberry plant factory business in New York. He tells us that this was because people in the U.S. do not have access to high-quality produce as we do in Japan, and his vision aligned with the market's needs.

I believe that there is a clear need for plant factories in Japan. However, plant factories cannot be realized in Japan due to the regulatory logic that buildings are not considered agricultural land even if crops are grown in them. This is also true of high-tech pig farms because regulations state that factories cannot be built in residential areas (“high-tech pig farming,” in which pigs are raised in multi-story buildings, is currently attracting attention in China). The laws and regulations established by the Ministry of Agriculture, Forestry, and Fisheries are based on the premise of protecting family-run businesses and excluding the participation of large corporations, and there is therefore little hope for a dynamic

improvement of productivity in the agricultural sector.

Creating an Environment That Nurtures Young Talent at an Epochal Point in Technological Innovation

Rene Ehasalu, Cluster Manager of Defence Estonia elaborates on collaboration between industry, government and academia in the Estonian defense industry, and what is most noteworthy here is the difference in the players between Estonia and Japan. In Estonia, a number of defense-related startups have emerged from universities. In Japan, by contrast, the defense industry is dominated by large corporations originating in older conglomerates; no fresh blood enters the industry, and there is no room for the new ideas of new players.

Toru Nishikawa of Preferred Networks, Inc. sees an opportunity to improve Japan's competitiveness with an epochal change represented by the emergence of generative AI. For more than a decade, I have also been advocating to academia the need for more students to study computer science, but no universities have made any major changes to their departmental portfolios.

A major reason, as Professor Richard Dasher of Stanford University points out, is the hierarchy of seniority. A professorial cadre with no value in the global marketplace has stayed at the top, hindering talented young people from excelling. On the other hand as mentioned above, most of the founders of U.S. big tech companies dropped out of prestigious universities in their teens and 20s or started their own businesses while still in college, as an immediate response to social changes and opportunities. It is no exaggeration to say that human resources have their season in their college days and deteriorate as they age, but in Japan, the main players in both universities and companies are in their 50s or older.

With Old Assumptions Crumbling, It Is Time for Each and Every One of Us to Wake Up

For many years in Japan, laws and regulations and the vested interests they have created have been tied together, and have been resisting change. In a number of industries in Japan, relevant laws have not been revised for decades, and as a result, such laws deviate significantly from the situation in reality. In England during the late 19th century, when steam-powered cars were invented, the Locomotive Act 1865, known as the “Red Flag Act,” was passed to protect the vested interests of horse-drawn carriers. This nonsensical regulation, which required a person carrying a red flag to walk in front of a car, hindered the development of the automobile industry. Similar mistakes are still prevalent in Japan. One of the reasons why fundamental reform from a long-term perspective is so difficult to achieve is probably due in part to Japan's electoral system. The frequency of elections in Japan gives politicians no time to consider policies, and they are obliged to focus instead on a short-sighted scramble for votes. This inevitably favors those with vested interests and nationwide networks.

If Japan were to return to the Edo period and isolate itself from the world, the current situation would not be an issue. However, this is not possible. Given this, the only option for Japan is to become more agile in responding to the changes of the times.

The fact that we find ourselves today in the midst of a collapse of most of our previous assumptions may, then, be viewed as offering chances rather than risks. We can no longer count on our alliance with the United States, and the advent of generative AI and robotics is fundamentally changing the nature of employment.

It is not only politicians, bureaucrats, and corporations that must open their eyes to this situation. It is time for all of us to wake up.

Mr. Kanemaru is the Chairperson of the Nippon Institute for Research Advancement (NIRA) and the Chairman, President and Group CEO of Future Corporation. He has served in a number of public positions, including as a member of the Council for Regulatory Reform, the Growth Strategy Council and the Council for Investing for the future.

Expert Opinions

The Sandbox System Enables Rapid Development of New Technologies and Business Models



Hirohiko Nakahara

Cabinet Secretariat,
Councillor for Education,
Culture, Sports, Science and
Technology Strategy

It is often pointed out that the Japanese are not good at generating creative ideas. However, the actual bottleneck is not in the generation of ideas, but rather at the stage of social implementation of those ideas. It is clear from the distribution of return on assets (ROA) and other indicators that Japanese companies are less willing to take risks than their Western counterparts. Maintaining the status quo based on past successes has resulted in an inertia that generates considerable resistance to risk-taking on new ventures in both companies and government organizations. In the U.S., it is claimed that some companies move forward with a business venture after factoring in the cost of paying fines in the event that a new technology violates regulations, or paying damages in the event of a lawsuit. There is a significant difference in the mindset of Japanese companies, which try to avoid paying such costs.

In Japan, when seeking the government to amend an existing system, it is generally necessary to obtain the understanding of the relevant authorities after making it clear that the system needs to be changed and that the change will cause no further inconvenience. However, the pace of technological innovation in the digital arena is rapid. Even if innovative ideas emerge domestically, the business they produce may be lost to foreign competitors while discussions are still being finalized by government agencies.

Japan's "regulatory sandbox" (a system for the trial and demonstration of new technologies) was created to overcome this problem. This is a system that allows new technologies to be tested in the field for a limited period of time and at limited locations without being restricted by regulations; if there are no problems, the rules are changed to enable the new technology or service to be implemented in society. Unlike countries such as the United Kingdom, Japan has been innovative in introducing this system in all areas. For example, electric kickboards were realized through this system, leading to regulatory reform. This has given impetus to the development of safe specifications for the elderly, increasing the possibilities for new mobility aids.

Through the use of this "sandbox," the private sector can actively participate in the rule formation process from the demonstration stage onwards, and the public and private sectors can work together in order to advance projects. Not only businesses, but also consumers and other ordinary citizens can and should actively participate in this process. In addition, rather than placing restrictions on the development process in advance via conditions or specifications, regulations should focus on the outcomes to be achieved, and the methods employed to realize these outcomes will ideally draw out the creativity and ingenuity of businesses to the maximum possible extent. This will lead to improved policies and regulations. The regulatory sandbox will promote innovation through co-creation between the public and private sectors, and will play a role in creating systems suited to a digital society.

Mr. Nakahara is known for leading the creation of Japan's "regulatory sandbox" system. Following his graduation from The University of Tokyo's Faculty of Law in 1991, he joined the Ministry of International Trade and Industry (now the Ministry of Economy, Trade and Industry). He has held positions in the Ministry of Economy, Trade and Industry, the Ministry of Justice, the Ministry of Finance, and the Cabinet Secretariat, and has been involved in the formulation of government growth strategies, including the Regulatory Reform Implementation Plan and the Future Investment Strategy, and in the drafting of important legislation such as the Companies Act and the Act on Strengthening Industrial Competitiveness. In 2020, he was selected as one of "The World's 50 Most Influential People Revolutionising Governance" in the World Economic Forum's Agile 50 list. He assumed his current position in 2023, after serving in positions including Cabinet Office, Counselor to the Office for the Promotion of Regulatory Reform; Cabinet Secretariat, Counselor to the Headquarters for Japan's Economic Revitalization; and Agency for Cultural Affairs Director-General.

Expert Opinions

Aligning Japanese Technology with the Global Market: Opening Up Japan's Future



Hiroki Koga
Co-founder and Chief
Executive Officer,
Oishii Farm Corporation

Japan is a country that is too comfortable. With a certain level of domestic demand and a comfortable lifestyle, there is little incentive to take risks outside of Japan. Few people look to the rest of the world and gather information, and the number of Japanese students and entrepreneurs in the U.S. pales in comparison to the number from China and South Korea. Korean entrepreneurs are using Japanese agricultural technologies and Japanese seeds and seedlings to make an impact in the New York market with “Korean peaches” and “Korean grapes.” We should be more sensitive to the reality that technologies originating in Japan are becoming the brands of other countries.

Deep tech is directly related to national security, and strategic support from the government is therefore essential in this area. Fostering a decacorn (*) requires an investment of 10-100 billion yen per company. Many companies stumble at the stage of global commercialization, but it is also the case that because businesses founded by Japanese entrepreneurs in the U.S. are treated by the U.S. as foreign companies, and are registered as overseas companies in Japan, they are not eligible for subsidies and are unable to receive support. Startups using Japanese technology that have set their sights on global markets and have a path set out for implementation should be supported with generous investment.

We are committed to realizing a paradigm shift towards sustainable agriculture, and we want our company to become the world's largest agricultural producer using plant factory technology to provide a stable and affordable supply of high-quality agricultural products. We started our business in New York because the U.S. has a dearth of the quality agricultural products that we are used to in Japan, and the market needs matched our goal. In the U.S., where drought and climate change are felt more severely than they are in Japan, there was a better understanding of plant factories, and investors were interested in sustainability. Oishii, the plant factory company we founded, established a technology that enables stable cultivation without the use of any pesticides and first gained recognition among affluent consumers and the high-end restaurant market. Ongoing research and development has made it possible for the company to deliver high-quality produce to a broader consumer base, and we now have large-scale funding. Even when using the same technology, the value of a business can vary greatly depending on where it is located.

What Japan needs most today are success stories. When people see a star like Shohei Ohtani, they naturally want to follow in his footsteps. We need to make Japanese entrepreneurs who are achieving results in the wider world more visible and create an environment that encourages people to feel that they can do it too. This is the surest path to fostering new entrepreneurs who will take on the world. And only when these challenges are taken on with a perspective that aligns Japanese technology with the global market will we maximize Japan's potential.

(*) Startups and venture companies with a market capitalization of over \$US 10 billion.

Mr. Koga is an agricultural entrepreneur. His aim is to create a new global industry by leveraging Japanese agricultural and industrial technologies. Following his graduation from Keio University, he worked for a consulting firm before earning an MBA from UC Berkeley. Mr. Koga co-founded Oishii in 2016 and was appointed CEO. Utilizing Japanese technology, he succeeded in mass-producing high quality strawberries in New York utilizing a plant factory. Oishii has attracted considerable attention, including being named one of the “World's Most Innovative Companies” by the U.S. business magazine Fast Company. By 2024 the company had raised approximately 28.5 billion yen in funding to build one of the world's largest plant factories in the U.S.. Oishii's goal is to solve food issues by generating innovation in the field of sustainable agriculture.

Expert Opinions

EDIA at the Helm of Estonia's Defence Industry: Advancing National Security Through Innovation and Global Collaboration



Rene Ehasalu

Cluster Manager of Defence
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Established in 2009, the Estonian Defence and Aerospace Industry Association (EDIA) is a non-profit organization that serves as a cornerstone of support for national security in close cooperation with the Estonian government. Currently, the EDIA comprises 192 member companies(*), representing a diverse spectrum that ranges from global enterprises to Estonian-founded startups.

One of the EDIA's key strategic objectives is the development of export markets. Given Estonia's limited domestic market size, approximately 70% of the defense industry's total revenue—amounting to €350 million out of €500 million in 2024—is derived from exports. Thus, international market expansion is indispensable for sustainable growth. Another core mission is to enhance national defense capabilities. The EDIA has identified six strategic domains—cyber defense, artificial intelligence solutions, robotics, electronic

warfare, autonomous and unmanned systems, and surveillance and automation technologies—and seeks to quadruple the industry's turnover by 2030.

A critical enabler of these objectives is Estonia's robust innovation ecosystem. The country effectively implements a “triple helix” collaboration model that integrates industry, academia, and government. This model has fostered the emergence of numerous defense-oriented startups from institutions such as Tallinn University of Technology and the University of Tartu. Although many of these enterprises are relatively small in scale, their close collaboration with research institutions and end users enables the agile and cost-effective development of solutions that are both flexible in responding to clients' needs and closely aligned with operational requirements, while also enabling the sharing of intellectual property.

At the core of the EDIA's success lies its proactive international engagement. The EDIA is a focal point for EU and NATO funding projects. As a result, it is able to help its member companies to get funding through mechanisms such as the European Defence Fund (EDF); it also maintains a dynamic presence across NATO member states, as well as in markets across Asia and North America. It is actively involved in directly supporting its member companies to reach the Ukrainian market, which also produces operational insights from the battlefield in the fight against Russian aggression. This provides considerable assistance to companies in advancing product development.

A distinguishing characteristic of the EDIA's operations is its foundation in continuous and in-depth dialogue with its member companies. Each year, the EDIA conducts comprehensive surveys among its members to gather data on market conditions, revenue trends, and opportunities for collaboration. These insights are synthesized with national defense industry policy frameworks to define strategic priorities and formulate annual action plans.

In 2024, a change in political leadership led to the introduction of new procurement policies mandating the involvement of domestic companies in major defense acquisitions. This development ensures that a significant portion of government procurement is reserved for Estonian enterprises, thereby reinforcing domestic economic returns, enhancing supply chain resilience, and fostering greater collaboration with international partners.

(*) The number of member companies is as of August 26, 2025.

Rene Ehasalu is the Cluster Manager of the Defense Estonia, an international cooperation and export network for strengthening cooperation among a “triple helix,” within the Estonian Defense and Aerospace Industry Association (EDIA). He has extensive experience in both the legal and defense sectors. Mr. Ehasalu specializes in legal advice, regulatory compliance, and strategic coordination in the defense industry. After obtaining a Master's degree in Law from Tallinn University, he completed advanced training in international law and national defense at institutions, including the Baltic Defense College. Mr. Ehasalu commenced his career with military service in the Estonian Guard Battalion, and has held key positions in major institutions, such as the Estonian Tax and Customs Board and the Defense Resources Agency. He has been a member of the National Defense League since 2016.

Expert Opinions

Increase the Value of Businesses in Synergy with the Evolution of AI and Computers



Toru Nishikawa
Co-founder and Chief
Executive Officer,
Preferred Networks, Inc.

The stagnation in Japan's competitiveness is rooted in its underestimation of the speed of evolution of computers and its failure to keep pace with this trend. The evolution of processors and the development of the internet over the past several decades has made it possible to now deliver services instantly to even one or two billion users. GAFAM and NVIDIA have successfully ridden this rapid wave of evolution and have realized growth in their companies. Japan is following suit, but its digital transformation has lagged behind, and is only beginning to spread. There is an overwhelming difference in the number of students of computer science between Japan and the U.S. and China, and Japan's lag in human resource development is manifesting itself as a difference in national strength today.

The advent of generative AI will dramatically change the work of programmers. This could be an opportunity for Japan to catch up. Up to the present, AI has only assisted programmers, but in the future, programmers will give instructions to AI and check the code that it writes. Japan will increase its competitiveness if it can seize on this milestone of change (“program structuring,”) properly educate engineers to focus on it, and develop human resources on this basis.

The speed of computer evolution will continue to increase exponentially, and new knowledge will be continuously generated. In addition, the increasing sophistication of AI will encourage cross-sectoral collaboration and the linkage of complex systems, and the crossover of fields will create new value and innovation. For example, our company supports discovery and development of new materials using our AI-based atomic-level simulator. What is happening today is a synergistic spiral of innovation in which advances in AI accelerate the discovery and development of new materials, which in turn accelerate the development of semiconductors for use in AI. Whether or not Japan can ride this wave of cross-sectoral technological innovation will be a key factor in the nation regaining its competitiveness.

It is important for Japan to compete in areas where it excels, such as machinery, chemistry, and entertainment. At the same time, it is not enough for Japan to be able to make excellent machines; given its limited resources, the winning strategy for the nation will be to increase the value of stand-alone businesses by synergizing with AI and software. It will be even more important for humanity to develop the ability and imagination to formulate hypotheses about what will synergize with what.

Government support for start-ups is working and should be continued. At the same time, however, the requirements for procurement held by government agencies remain a significant hurdle for startups, making it impossible for them to participate in major projects. It is to be hoped that the government will continue to promote reform in this area.

Mr. Nishikawa is the co-founder and CEO of one of Japan's leading AI startups. He holds a Master's degree in Computer Science from The University of Tokyo's Graduate School of Information Science and Technology. While in graduate school, he founded Preferred Infrastructure, Inc. with other students participating in an international programming contest. In 2014, he co-founded Preferred Networks, Inc. to accelerate industrial applications of AI technologies such as deep learning. The company has developed a vertically-integrated business in the AI technology value chain, from generative AI foundation models to supercomputers and chips (semiconductors). The MN-3 supercomputer, which incorporates the company's proprietary AI chip MN-Core, has been ranked the world's No. 1 for power efficiency three times.

Expert Opinions

Against the Background of Political and Economic Turmoil in the U.S., Japan Should Increase the Role of Startups and Become More Globally-oriented



Richard Dasher

Director, US-Asia
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Artificial intelligence (AI) development has moved beyond deep learning technology models and is now entering a phase of general-purpose AI research and development. Up to the present, the field of AI in the U.S. has been characterized by a division of roles, with large companies developing the foundation model and startups developing the application layer, but it is highly likely that in the future startups will drive innovation with groundbreaking model changes. While China's generative AI DeepSeek has made an impact, China faces a challenge with respect to data quality. Amidst international competition in this area, Japan should increase the role of startups and focus on creating an environment that allows innovation to flourish.

However, Japan is not making progress in developing new businesses or enabling new business operators to enter the market. Why is this? The main reason is the nation's attitude toward regulations. In the U.S., products are developed and introduced prior to the formulation of regulations, and following a trial period, the government considers what type of regulation is necessary. In Japan, the first step is to consider the formulation of regulations, and companies therefore tend to wait until the government has finalized its thinking with regard to regulations before product development and the pioneering of new businesses. R&D moves fast. The government needs to exercise restraint to ensure that regulations do not impede the speed of corporate R&D. In addition, the government should not prioritize the intentions of large companies, but should engage in in-depth exchanges of opinion with the entire industry, including start-ups. Frequent exchanges and knowledge swaps will lead to innovation. But additionally, governments must not forget their role in protecting the safety of their citizens.

Continued investment in research will be essential to strengthening international competitiveness. Japan's "World Premier International Research Center Initiative (WPI)" is extremely well-regarded and provides a good example of promising outcomes. However, in order to further boost Japan's development, it will be essential to provide young people with more opportunities and accord them more responsibility. Japanese universities still have a strict hierarchy of seniority, and assistant professors are treated as subordinates to full professors, something that is quite different from the situation in U.S. universities.

What Japan lacks is a global orientation. Large companies should have the drive to lead the world, and start-ups should have the will to aim for the global market. Compared to other countries, Japan is generous in its support for startups, but the government should offer further protections and support to enable startups to compete not only domestically but also in the global market. In addition, exchanges among researchers at the global level should be promoted. In the arena of international cooperation among companies, it is crucial to promote data sharing in real time while also ensuring data security. The current political and economic turmoil in the U.S. makes this an opportune time for Japan to actively engage in cooperation with other countries.

Dr. Dasher has extensive experience in research and analysis in the areas of technology management and innovation in the U.S. and Japan, having held his current position since 1994. He specializes in the international circulation of human resources, intellectual resources, and capital in innovation systems, the impact of new technologies on industrial value chains, and open innovation management. He has served as an advisor to universities, national research institutes, and science and technology programs in countries including Japan, Thailand, and Canada. From 2004 to 2010, he was the first non-Japanese person to be involved in the management of a Japanese national university, serving on the Board and as a member of the Management Council of Tohoku University. He has been a member of the Program Committee of the World Premier International Research Center Initiative (WPI) since its inception. Dr. Dasher holds a Ph.D. in Linguistics.