SQ
INTERVIEW

Prof. Isao Yanagimachi on East Asia's Talent Race

SERI Quarterly spoke with Isao Yanagimachi about East Asia's talent competition and policies and strategies to foster science and technology talent.

Isao Yanagimachi is a Professor of Policy Management at Keio University, and a scholar in Korean studies and business history in East Asia

SQ: Interest in recruiting and cultivating science and technology talent is growing, particularly in East Asia. Competition to secure creative science and technology talent has become increasingly intense. What does science and technology talent mean to businesses today? What kind of science and technology talent is needed for industries and economies to be competitive?

Yanagimachi: First, it is necessary to clarify what is meant by "science and technology talent," and particularly by "talent." For businesses and industries that rely on technology, talent is the ultimate source of competitiveness, and is directly related to national competitiveness. While investment in R&D is an important factor, human talent is still the fundamental prerequisite for success. Budgets play their part when used strategically to promote creative research, but in the end the human element is the deciding factor. People are the basis of technology.

Industries that rely on technology, particularly electronics, had their start in the West, but Japanese companies eventually took on a leading role. Now, Korean, Taiwanese, and Chinese businesses have arrived as major players. On the talent side of things, research manpower was formerly concentrated in the West in its prominent universities and institutes, and in places like Silicon Valley, but there has been an unmistakable trend for talent to move to companies and research institutions in East Asia and innovate there.

Moreover, many Asian researchers who have studied in the West, and who have experience working in its advanced research environments, have returned to their home countries. Building an industry is a major undertaking for governments, businesses, and universities, and inducing talented researchers working overseas to come home is critical to this process. While technology and patents can be bought, real results come from first rate talent. Accordingly, when countries in East Asia became able to provide the incentives and research environments that could attract its talented overseas citizens to return, they were able to procure their most valuable resource from Western countries.

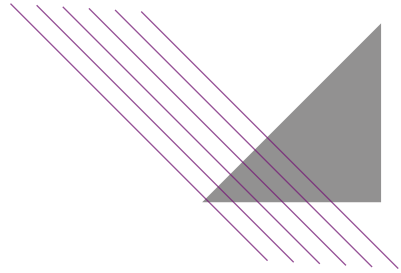
SQ: China has long sought to recruit overseas talent, and has attained outstanding results. Singapore has also had strong performance in doing the same. Please tell us about the current race for talent in Asia, and your perspective on how it will develop in the future.

Yanagimachi: Talent is about more than hiring technicians and researchers. In many cases in Asia, researchers who have been active in the advanced environments of the west have been able to continue their careers at government sponsored research institutes or corporate research centers in their home countries. In other cases, returnees have formed startups and have led the way in promoting new cutting-edge industries. Some examples of this convergence of research and business can be found in the emerging solar power industry in China.

The process of inducing overseas talent to return home, moreover, has not been entirely central government-led. In fact, local municipalities and governments have taken much of the initiative in recruiting overseas researchers. While some of this may arise from a desire on the part of returning overseas workers to avoid central government control, it is also likely that these workers recognize the strategic nature of these projects in local areas, and are drawn by the existence of key persons executing local government plans.

Korea began entering the semiconductor busi-

ness, and in particular the DRAM business, in the early 1980s. In contrast to previous export drives, independent investment from private industry was the leading force in building this industry, with Samsung's founder Lee Byung-Chull playing a central role. At the time, Korea's government showed little interest in or understanding of semiconductors, making DRAM production a major bet for Samsung. Samsung's ability to rapidly attain successful results was a product of Lee Byung-Chull's strategic insight at the time. This foresight would reappear in Samsung's later attempts to secure employees that had experience in Silicon Valley.



For businesses and industries that rely on technology, talent is the ultimate source of competitiveness, and is directly related to national competitiveness.

SQ: Please tell us your opinion about the policies being used to foster science and technology talent in Japan, China, and Korea. How is Japan, for example, reacting to plans to foster science and technology talent in China and Korea? What do you think can be done to improve the fostering of science and technology talent in East Asia?

Yanagimachi: Historically, it was mainly Japan and Korea that focused on securing overseas talent. China, obviously, has now joined the party. What will the talent situation be like in the future? Of course, recruiting people who have worked in advanced research settings overseas will continue to be important. In addition to trying to get these people to come back home, there will also be more attempts to increase the inflow of research results back home from people staying overseas.

At the same time, fostering of homegrown talent is proceeding at home in East Asia. In the case of Japan, there are still many areas that need to be addressed in its current research environment if it is to produce more outstanding science and technology experts in the future. This is an issue not only for Japanese research-

ers, but for foreign researchers in Japan as well. Foreigners who have come to study in Japan have repeatedly said that its research environment is not attractive, and many depart for other countries. This is not a problem that can be addressed politically. It is inevitable that the most talented people will seek out the most attractive research environment.

Looking at Japan overall, I think that strategic management of its cutting-edge science and technology talent has been unusually lax. There has been little attempt in Japan to recognize and develop potential skills or perform accurate assessments of its researchers, and this has spurred a significant exodus of talent toward the US.

There is still a lot of work to do to persuade these departed researchers, who have experienced success in the US environment, to return home. Universities and research institutions in Japan need to consider the points where the US continues to be strong—identifying and developing potential skills, and providing suitable research environments. These strengths are what have allowed the US to become the world's base for cutting edge research. Recently if belatedly, Japan has begun laying the foundation for building its own base for global level research.

SQ: What are the roles for the government, businesses, and universities in fostering creative science and technology talent? Is more cooperation needed between government, businesses, and universities?

Yanagimachi: An organic cooperative relationship between governments, businesses, and universities is essential. There needs to be a division of roles in research, with governments and universities focusing on basic research, while businesses focus on practical applications for the results of basic research. Of course, this is not a closed relationship, and joint research organizations are also needed.

In order to foster talent with deep specialized knowledge and broadly applicable skills universities need to upgrade their graduate education by strengthening outside cooperation with academic departments, and bolstering their graduate schools as full-fledged research institutions. Fostering talent ultimately means securing the experts of the future, not just providing education. This will require upgrading and internationalizing graduate level education.

Strengthening graduate school education requires recruiting more outstanding foreign students. To make the most of research talent, prospective technology workers need to be provided with sufficient status without regard to nationality. In particular, young researchers with promising futures in many cases have not been able to secure sufficient recognition after receiving their doctorates, and have been unable to concentrate on their research. It is in this area, i.e. ensuring status and livelihood, that the government has an important role in ensuring that support be actively expanded. Wide scale support from the financial sector is also needed. There needs to be more general awareness of the importance of attracting future experts from around the world.

Governments, businesses, and universities must cooperate to foster talent by providing a more hospitable research environment. Upgrading of the level of research at businesses, universities, and graduate schools is taking place in a domestic and global environment that has become intensely competitive. All of these institutions need to understand that providing a hospitable research environment is a prerequisite for attaining worthwhile results.

SQ: Small and medium sized businesses are interested in fostering talent as well. What is needed for them to foster and secure innovative business talent?

Yanagimachi: Fostering of science and technology talent will continue to be focused on big businesses, but this will happen along with increasing strategic cooperation with small businesses. Small businesses who supply parts and materials to big businesses, for example, can form a single community with big businesses to realize the technical specifications for the parts required, and to foster talent from a perspective of shared interests. Fostering talent cannot take place in a closed system in a single country, and requires a global perspective. Globalization has resulted in accelerated movement of people, products, money, and information around the world. Borders in the global market, whether domestic or overseas, have become increasingly porous.

Major corporations have long operated as global entities. Business today almost universally involves generalized, common parts ("globalization") and inherently regional parts ("localization"). There is thus a need for multinational talent that can oversee both functions effectively. Fine grained response to local markets, in particular, requires local talent. R&D functions in essentially the same way, and is being realized in diverse locations at the home firm, in local markets, and in third countries. The content of R&D has also become diverse, and is subject to increasing cooperation.

SQ: Samsung has long had experts working on human resource management. Please tell us what you think Samsung needs to improve in its own human resource management policies.

Yanagimachi: Samsung began with a commitment to the principle that "a company is its people," and this has not changed to the present day. As I see it, no other business in Korea treats human resources with the priority that Samsung does. For the truly successful businesses, managing talent is about more than scouting for employees, it is about building innate talent among graduates. Samsung has introduced competition in the fostering of its talent, and has strongly put competitive systems into practice. I think this has not been a mistake. However, from the perspective of employees trying to survive amidst intense competition with other employees, there has been a significant number of cases where people have simply given up and dropped out. Moreover, compared with an average Japanese business, Samsung retires its employees comparatively young. It is a reality that the period of viability for employees at Samsung is short.

Talented employees need to be provided with long-term stability for businesses to be successful. To continue its high performance, Samsung needs to review its talent management systems, and find ways it can secure, foster, and use its science and technology talent over the long-term. SQ

Keywords
Talent competition, science and technology talent, overseas talent, East Asia, Samsung