

CHAPTER 18

The Role of Universities and Social Needs in Times of Great Change

Atsushi Seike

INTRODUCTION

It goes without saying that universities are social entities, and the very meaning of their existence is directly related to whether they can serve and benefit society. Although this may vary widely among universities, and an institution may place more importance on one philosophy over another, almost all universities are founded on the principle of making positive contributions to society. In order to realize their founding principles in the contemporary world, universities are committed to education, research and other activities including medicine, and in this respect there should be no conflict of interest between universities and society.

Often friction occurs between universities and society when there is a gap between the expectations of the two parties regarding the way universities should contribute to society. Firstly, while universities are focusing on how best to contribute to society in the long term, quite often society demands contributions with short-term results. Secondly, and this is related to the first point, universities value autonomy and independence, while society tends to think that universities should be managed and administered as a corporation or government office. It seems that this expectation gap has been widening recently.

As a part of society, universities cannot ignore its needs and demands. However, in order to take on a leadership role in society, it is also important

for a university to assert and uphold its philosophy. To do so, financial autonomy is indispensable to a university. In this paper I will examine these challenges universities are facing today, using Keio University to explain some of my points.

THE FOUNDING PRINCIPLES OF KEIO UNIVERSITY

Firstly, we must consider what constitutes an ideal relationship between universities and society. This depends on how universities can apply their founding principles to the contemporary necessities of society and define the purpose of universities in today's context. As an example, for Keio University this means how best to apply the principles of our founder, Yukichi Fukuzawa, to serve the needs of society.

Keio University was founded 157 years ago in 1858 by Fukuzawa in the city of Edo, now called Tokyo. This was when Japan had just started to open its ports to the world after almost two centuries of national isolation, and it was only nine years prior to the Meiji Restoration of 1867 that brought about the fall of the feudal Tokugawa Shogunate, which had governed Japan for more than two and a half centuries.

It was a time of dramatic upheaval that greatly transformed Japanese society in many ways. Fukuzawa said of his generation who had lived through the feudal Edo period and witnessed the restoration that transitioned Japan into a modern state: "We have lived two lives, as it were" (Fukuzawa, 2008). In such a time of great change, one could no longer consider things as if they were simply extensions of past events. It was now important to understand new situations for oneself and use that understanding to form solutions.

A country will tread the path of modernization if it is able to strengthen its overall national power and improve living standards, and this is only made possible through progress in natural sciences and technology. Additionally, in order to realize a truly modern society, it is absolutely essential to understand and develop the humanities and social sciences, which aid modern political and economic systems.

In this respect, Fukuzawa realized the value of learning above all else and its particular importance in times of great change. And he particularly emphasized the importance of *jitsugaku* which was usually translated as practical science. However, for Fukuzawa it meant "science" or a scientific way of thinking as he made apparent in the *Keio Gijuku Kiji* (*Twenty-Five Years of Keio Gijuku*), a pamphlet published by Keio in 1883, in which Fukuzawa gave the *kana* reading "science" alongside the Chinese characters *jitsugaku*.

He established Keio University to foster young people who can think for themselves; and through the pursuit of learning, particularly of scientific studies, to gain new wisdom for the benefit of society and contribute to the

progress of Japan. Today, Keio University's mission is to respond to the current needs and demands of society based on our founding principles.

REALIZING OUR FOUNDING PRINCIPLES IN COPING WITH THE PROBLEMS WE FACE TODAY

As a matter of fact, we are currently also experiencing great changes and internationalization, or one might say, an age of globalization where national borders no longer exist in various aspects of society such as economic activities. Societies are now experiencing great structural changes such as global warming, aging society and declining birthrates, natural disasters and frequent regional conflicts, which all question the very sustainability of our societies. Recently, in the market economy, the walls that divide nations are gradually coming down, and business corporations as well as individuals are becoming more exposed to global competition. Particularly in developed countries, we must provide more value-added products and services in order to maintain high standards of living, and, by doing so, the level and amount of competition with countries with lower wages will become tougher.

Japan is referred to as the forerunner of addressing many of these emerging issues, and is often one of the first countries in the world to experience them. The problem of an ageing population and declining birthrate is already most severe in Japan, and we have increasing risks both natural and manmade, such as risks related to volcanic hazards and to our regional security in the East Asia region.

There is also increasing necessity to provide more value-added products and services in order to maintain high standards of living in Japan due to keen competition with emerging economies in Asia. I believe this is also an opportunity for Japan because if we are first to find solutions to these issues, this may have valuable implications for other countries. Applying Fukuzawa's philosophy of contributing to society through learning, particularly through science, in the context of today means researchers and students at Keio University must work hard to find solutions to these issues that confront society. And we must nurture those who are able to cope with these emergent issues in an assertive manner. In this way we will be able to contribute to Japan and to the world.

In order to cope with these issues, Keio University created three educational and research initiatives in 2014. The first is the Longevity Initiative in which we conduct research and education to create a sustainable ageing society; the Security Initiative aims to make a safer and peaceful society; and the Creativity Initiative to promote a more creative society that can generate high added value. For each initiative, our goal is to conduct deeply-probing research, apply it to solve problems through mutual collaboration among the

different disciplines, and use this process to educate students who can think for themselves. I would like to discuss this in more concrete terms using the Longevity Initiative as an example.

As is commonly known, Japan has the fastest-aging society in the world. The proportion of older people aged 65 years old and over is now more than a quarter of the total population. This proportion is continuing to increase, and in 20 years' time in 2035, more than one third of the Japanese population will be older people. To cope with such a tremendously aging population, which is unprecedented on a global scale, it is important for us to promote a Life-Long Active Society, in which the will and abilities of older people can be fully utilized. The increase in the number of active workers beyond the current retirement age would reduce the average per-capita burden and become a driving force of economic growth in the supply side as well as the demand side of the macro economy (Seike *et al.*, 2012).

Of course, good health is a key variable in achieving a Life-Long Active Society. This is not simply about improving life expectancy, it is also important to know the potential of a society in which people lead longer and healthier lives. In this respect, Keio University's medical doctors and physiologists led by Professor Nobuyuki Hirose are conducting comprehensive research related to health and longevity including large-scale studies on centenarians ranging from their genetics to habits and lifestyles (Arai *et al.*, 2016) Additionally, for research on regenerative medicine, a field in which Keio excels, we are accumulating knowledge and insight on how to maintain and restore the physical and intellectual capabilities of older people.

On the other hand, for many years Keio's labour economists have produced reputable research on the labour supply behaviour of older people, which has shown key variables that dictate older people's motivation to continue working. It has been understood through econometric analysis that, in addition to health, the employment system such as mandatory retirement practices, social security systems such as public pension, and educational attainment are found to greatly influence older people's motivation to continue working. Through this understanding, we can propose effective reforms of employment practices, public pension and education systems to establish a Life-Long Active Society (Seike, 2008).

By combining analytical results in labour economics with those in the medical and physiological fields, we are also able to understand to what degree investments in the promotion of health and longevity for older people affect their willingness and abilities to continue working. This interdisciplinary approach to research should allow us to deduce the implications and effectiveness of linking healthcare policies to employment policies.

This process applies also to the Security and Creativity Initiatives. That is, advancing research related to each initiative, collaborating with different

disciplines at Keio University to develop effective policy solutions, and sharing more of the benefits of Keio's research with the world. By encouraging our students to play a more active part in this research, we should be able to see significant improvement in the quality of our education.

UNIVERSITIES SHOULD SEEK LONG-TERM RESULTS IN EDUCATION

Wide expectation gaps often emerge between universities and society because universities are striving for the best outcomes for the long-term future of society, while society often demands short-term results. It seems that in recent years, society's expectations for universities, especially from the business community, are becoming increasingly short-sighted. Regarding education, companies are often seeking more graduates with vocational abilities who can respond immediately and effectively to the needs at the workplace. In terms of research, they want more research projects that lead to short-term business profit, and this is where most of the funding is concentrated.

However, within society, universities are given the task of carrying out research and education with long-term prospects. In this respect, Fukuzawa wrote: "The 'guardian goose' cranes its neck to watch for danger, while the rest of the flock focuses intently on pecking their food. The scholar is also the 'guardian goose' of the nation. While people are preoccupied with the trends of the times, scholars should reflect on the past, carefully observe the developments of the present, and discuss the goods and bads of days to come" (Fukuzawa, 1874). One might also say that it is the duty of those who are accomplished in learning to make thorough and long-term assessments and deliberate on what is important for the future.

This has extremely important implications for the role of university education. Of course, universities today, particularly professional graduate schools, are expected to provide education that emphasizes practical application such as medicine and law. However, even for these professions, let alone for many other types of jobs, "work ability" or occupational competency is something that is mainly acquired on the job. At the same time, work ability is largely dependent on the kind of skills required for the technological structure as well as the state of the market for the products produced and services provided. The technological structure and state of the market may change frequently in one's long working life, so the work ability that is suited to the technology and market structure at the time of graduation from school may become obsolete sooner or later. Hence, the ability to adapt and respond to these changes becomes more important, particularly in times of great change such as the present.

In the history of Keio University, when the Fujiwara Institute of Technology, which is the predecessor of Keio's Faculty of Science and Technology, was

established at the beginning of the Second World War, the first dean of the engineering school, Dr Toyotaro Tanimura, said: “A useful person now will also become useless right away,” and rejected society’s demands for engineers who could immediately apply their skills beyond the classroom. The then-president of Keio University, Shinzo Koizumi (1964), deeply appreciated what Dr Tanimura said, and wrote: “This should be indeed our educational principle.”

This ability to think for oneself to respond to changing situations on the job will become increasingly important in contemporary society where technology and the market are changing at a faster pace. Of course, to think for oneself is not to think aimlessly but to think systematically. This is the process of learning by which students identify an issue, construct a hypothesis that can explain the issue, and test the hypothesis to form solutions. This is none other than the scientific way of thinking, therefore learning that is both broad in scope and deep will become ever more important.

In order to provide a variety of opportunities for students to engage in a wide spectrum of learning experiences, we have constantly promoted liberal arts education at Keio. We also strongly encourage even our undergraduate students to conduct academic research to experience the process of the scientific way of thinking.

UNIVERSITIES SHOULD SEEK LONG-TERM RESULTS IN RESEARCH

Long-term vision is also important for the role of universities in research. The role of universities is not to focus on research with short-term goals, that is, the kind that brings immediate benefits soon after its application. Even if the research has no market value now, researchers must undertake research that benefits humanity in the long term. In this respect, the paper published by the Global University Leaders Forum of the World Economic Forum at Davos in January 2012 that called for the support of basic research, clearly pointed out the importance of the role of universities in providing basic research, saying that “Today’s applied research comes from yesterday’s fundamental discoveries.” It quoted the famous words of Sir George Porter, a former President of the U.K.’s Royal Society, who said: “There are two types of research; applied and not-yet-applied.” Surely one important role of universities is to conduct not-yet-applied research.

Universities must take on an interpretational role, namely to connect long-term basic research to applied research or to businesses that can make ventures from applied research based on basic research. Here we should do two things.

Firstly, we should encourage our faculties and students to concentrate on what they are interested in, which often leads to pioneering and even

game-changing basic research without them having to worry about money. A necessary condition of translating our basic research into something used outside the university is of course that we continuously produce interesting results in our basic research or curiosity-based research. In this we always ask governments and business communities for their generous support for basic research.

Secondly, we must attract attention from outside the university, including the business community, government and even the public as a whole. In this we have to use all kinds of networks we have developed including our alumni association. For example, if one company is interested in the application of basic research, they may donate research funds. If it really believes in the possibility of a venture based on that research, it may invest in the venture.

For example, Keio University has a research institute called the Institute for Advanced Biosciences in Tsuruoka City, Yamagata prefecture, which is located in northeastern Japan. It receives a total of 700 million yen each year in financial support from Yamagata prefecture and Tsuruoka city.

The research undertaken by the institute, which was made possible due to this governmental support, led to the creation of two new venture companies: Human Metabolome Technologies, a company which conducts metabolome analysis, and Spiber, which has developed synthetic spider silk fibre.

Human Metabolome Technologies has successfully gone public and is the only local company in Tsuruoka City to be listed on the stock exchange. In the case of Spiber, we asked an automobile parts company for its support, and the company is not only investing in the venture financially, but is also providing know-how regarding manufacturing and marketing. We have been supporting young scholars who make pioneering discoveries, in order to help them receive the financial support from local governments and companies that makes setting up venture businesses possible.

We were able to do that because we had developed credibility as a research university. So our ability to translate our basic research into projects outside the university is crucially dependent on to what extent we have truly developed our basic research and organizational sustainability.

UNIVERSITIES SHOULD MAINTAIN A NON-HIERARCHICAL ORGANIZATIONAL STRUCTURE

What makes universities different from other social organizations such as companies and governments, is the manner in which they are governed. The organizational structure of companies and governments is hierarchical with a clear chain of command, and in recent years there has been a rise in the notion of corporate-style governance of universities among politicians and business leaders in Japan.

Of course, universities, too, are organizations, so good strong governance is necessary. However, the freedom and independence of the individuals who comprise the university organization must also be respected as much as possible. This is an indispensable condition for educating university students as well as conducting advanced research.

This idea is particularly important for Keio University, which has its roots in Fukuzawa's founding principle of educating individuals to think for themselves through learning and bringing new wisdom to society by advancing scholarship. Since the establishment of the university, the non-hierarchical nature of education has been exemplified in our long-standing tradition of *hangaku hankyo* — meaning students not only learn, but also take on the role of teaching. The *Keio Gijyuku Shachu no Yakusoku* (Agreements among the members of the corporation) (Fukuzawa, 1979) established in 1871, defines this principle of *hangaku hankyo* as the following: “A man may be receiving instruction in one subject and at the same time may be teaching another subject. This man is a student and at the same time belongs to the teaching members.”

In order to fulfil this spirit, Fukuzawa believed that those who learn at Keio University must all be equal. This equality between students was a matter of course, but that it must also exist between teachers as well as between teachers and students, was an extremely rare concept in a time when the rigid hierarchical structure of the feudal system made clear distinctions between teacher and students. Fukuzawa's rationale behind this concept was his firm belief that there was no end to learning, that teachers and students must learn and teach together, and mutually improve each other.

Fukuzawa also believed that only in a free and autonomous environment can learning be truly developed. In 1893, Fukuzawa wrote in an article in the *Jiji Shimpo* newspaper: “By nature, the way in which scholars love studying is akin to the way in which the drinker loves his drink — is this something one can really control? As this is something one cannot prohibit on one's own, one might suppose that letting them ‘roam to graze’ would suffice in some way for scholarship. However, in reality it is precisely the rules, restrictions and the like that clutter up the secular world that act as obstacles to true learning.” He argued that taking an administrative approach to learning would do more harm than good in the advancement of learning, and this indeed can be seen as a caution to us university presidents who have a tendency to want to administer education.

A university functions to its fullest potential when its students and faculty members have the freedom to learn and conduct research, and the duty of the head of the university is to establish such conditions and maintain them. Their leadership is important in that he or she must steer the university to make social contributions to the fullest extent based on the founding

principle of the institution, and in order to do so they must also implement optimal resource allocation. Heads of universities will only be recognized and regarded highly for their leadership role when they are able to realize an environment in which students and faculty members are given full freedom to learn and conduct research.

A SOLID FINANCIAL BASE IS ESSENTIAL

In order to maintain and develop an autonomous and active research and educational environment, we need a strong financial basis. In times of economic difficulties, when government funds have become increasingly policy-induced, and private research funds demand increasingly short-term profits, it has become more important for universities to have their own resources to conduct autonomous research and education. At present, we have four main sources of revenue, namely tuition fees, revenue from our university hospital, government funds, and revenue from asset management and donations. However, it is not an easy task to increase these revenues.

The annual tuition fee for an undergraduate student at Keio University is around \$10,000, whereas for Harvard students it is around \$40,000, for example. In contrast, the number of undergraduate students at Keio is around 29,000 and around 7,000 at Harvard, so if you multiply the tuition fee with the number of students, the amount for Keio and Harvard would be about the same. If Keio were to achieve the same student-faculty ratio in the undergraduate level as that of Harvard, we would need to increase our tuition fee four-fold. However, in comparison to tuition fees of other universities in Japan, our fees are already among the highest in the country, and it is not easy to increase this amount considering the backlash we may receive from the public.

Our yearly revenue from our university hospital is now 52.5 billion yen or \$438 million, which is almost one third of our total income. However, under Japan's public health insurance system, hospital revenues must be proportionate to the amount of expenditure, and by definition the hospital cannot generate a large surplus earning. The surplus earning of the hospital is hardly sufficient for rebuilding or improving our hospital facilities.

In Japan there are government subsidies also for private universities, and Keio University is currently receiving 12 billion yen or \$100 million annually. These include funds that cover general expenditures as well as competitive funds such as the Top Global University Project, and they support the management and operations of private universities. However, these funds only amount to less than 10% of the average operating cost of private universities, which is far from sufficient. In addition, with the financial crisis, both public and private universities have been suffering from lower government funding in recent years.

We cannot expect a significant increase in tuition fees, income from our university hospital, or government funds, so we must look to donations and revenue from asset management. If we consider that the educational service we offer to our current students must reflect how much they pay in tuition fees, we cannot use this money to invest in our facilities for future students, nor transfer it to scholarships for other students. Our general policy is that funds for future investments and scholarships must come from donations and the earnings from asset management, and it is fortunate that Keio University has always had a loyal and strong alumni community that we often call to for financial assistance.

Currently Keio University has more than 100 billion yen or \$883 million in financial assets, which is the largest for a private university in Japan, and the revenue from this is 5.2 billion yen or \$43 million. However, this is very small in comparison to American universities.

Of course there is always a risk of loss with asset management, and we actually suffered 53 billion yen in unrealized losses (when the difference between the book value and the current fair market value is at a minus) after the collapse of Lehman Brothers. In accordance with the accepted accounting principles, we had to declare an impairment loss of 17 billion yen (replacement of current fair market value with book value). Following this lesson, in the last six years since I became President, we have been working on gradually replacing risky assets with safer assets to create a healthier portfolio for the university. The only way to increase gains through a healthier portfolio is to increase our total financial asset, and in order to do this, we have been calling for more donations.

Universities exist in order to make various contributions to society based on their founding principles. However, each university must find the best way in which they can bring benefits to society. It must carry out education and research by taking into consideration what is best for its students and for society from a long-term, longitudinal perspective, and it must also maintain an autonomous and independent organizational structure. In order to realize this in a sustainable way, universities must possess the capability of securing a soundly sustainable financial basis.

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