

[Strategic Program]

I. University.

Universities in the 21st century should be different from what they were in the previous century. They have to produce a number of, globally top-ranked, intellectual property based on advanced basic research activities. Intellectual property thus produced has to be exploited to contribute the development of economy and society. Appropriate reform of universities should be sought, thereby enabling universities to be a place for the invention of basic and fundamental inventions and a source of active venture businesses and new industries with high-tech oriented competitiveness.

[Problems]

1) Universities and colleges are essentially the place for producing creative inventions for intellectual property, which are not, in many cases, available from corporate research and development facilities. Nevertheless, Japanese universities, especially, national universities which have been granted a huge amount of public fund, have not answered this demand.

2) Universities have been indifferent to patents. Patents were not considered as achievements of professor. Universities had a limited budget for obtaining patents. Procedures for clearance within the in-house invention board are complicated.

3) Universities are not exposed to competition. One of the reasons for it is a closed standard which is applicable to the evaluation of professors' achievements. University standard tend to depart from one commonly used in business arena.

4) Intellectual property has been considered as a subject for the Department of Legal Study.

5) Universities in America acquired 10 times more than Japanese universities. Inventions arising out of American universities are commercialized and utilized in industry by way of licensing or entrepreneurship by inventors.

6) Japanese researchers total about 700,000. Approximately one third of them are in universities. In order to revive as a technology-oriented country, Japan has to establish the system to maximize the intellectual property to which less attention has been paid.

7) *Japanese universities failed in riding on the trend of pro-intellectual property. This caused hesitation to enter into joint research activities as troubles often surfaced out with respect to utilization and ownership of research materials and acquired knowledge between foreign universities. While brain drain is progressing from Japan to foreign countries, there is hardship to prevent foreign researchers from coming to Japan.*

[Proposals]

1. Improve Research Environments to make them IP-friendly

Research environments should be improved so as for university researchers to engage in advanced, world-rank researches and assist their creative activities for intellectual property which will be a source of national wealth. The environments should be in free atmosphere weighing the initiative of researchers. For example, environments should in creativity-incentive nature, which will call upon brilliant researchers to Japan and be a basis for producing excellent fruits of researchers.

Specifically, appropriate measures should be sought in order to:

- 1) Clarify and increase the budget for university researches.*
- 2) Reduce the burden of teaching to allow more involvement in researches.*
- 3) Leave a discretion to young researchers for use of budgets for their own projects.*
- 4) Allow a temporary leave and remove restrictions to enable active engagement in activities of university-industry collaboration (UIC).*
- 5) Guarantee free use of research facilities.*
- 6) Allow free use of research materials.*
- 7) Adopt due diligence to maximize the economic value of IP and minimize potential risk.*
- 8) Employ research assistant to improve research support environment. And,*
- 9) Employ secretarial staff to remove clerical work from researchers.*

Like in the case of professional sport players, researchers should be provided with high quality environment for research work. Researchers with outstanding achievements might be awarded an annual remuneration of million dollars. Otherwise, research environments in Japan will miss international competitiveness.

2. Allow research fund for creative research work

In Europe and USA, commercialization has been driven utilizing intellectual property

coming out of universities. Japan should utilize the dynamism of commercial market. Provide university researchers with improve environment. Progress the UIC to support creative activities for intellectual property which will be source of wealth for society. Results of research should be transferred based on the market demand, thereby assure return of research fund through market.

In addition, tax systems should be appropriately changed. Donation of research funds to universities from private companies is not treated favorably under the income tax when compared with Europe and USA.

3. Use Patents as Parameter for Evaluation of Professors

How many patents are owned – this factor should be an important parameter for the evaluation of achievements of university researchers. In US, the number of issued patents is an important factor of pay increase for university professors. Its importance is tantamount to other factors such as “dissertation paper” and “evaluation by students.” It is not unusual that universities professors have obtained many patents in Europe and US. For candidates of the Nobel Prize winners, the number of obtained patents appears one of the parameters for selection. The 2001 Nobel Prize winner in Chemistry, Professor Noyori filed 166 patent applications, out of which 106 were granted a patent as of October 2001.

4. Treat Patent Specification equally as Scientific Paper

In order to change the biased weight of dissertation paper, academic associations should regard the patent specification as achievement with value equal to dissertation paper. It is necessary to organize such associations. In Western World, many of academic awards weigh the factor of patents almost equal to or more than dissertation paper. In Japan, likewise, academic associations should regard the patent factor more importantly.

5. Allocate IP Budget in addition to Research Fund

Once patents are considered important achievements for academic career, it would be necessary to drastically review the restrictions on the use of the R&D budget, thereby enabling universities to easily spend them for fees to file patent applications and to obtain patents. University budget should cover the fees for foreign patent applications and attorney fees. When a necessary research tool is protected under a patent, it would be necessary to obtain a license thereunder. Like in the USA, Japanese universalities may likely be involved in IP litigation, and that is unavoidable in the age of global IP competition. Universities should be given a discretion to flexibly handle these issues under the university budget.

6. Remove Unnecessary Restrictions on Civil Servants

In several years, national universities will be changed into corporate entities. With strengthened UIC, they will accelerate technology transfer and create university-originated venture companies. Then, money will move from industries to universities and from universities to individual researchers. However, such flow of money will generate various issues to be addressed. After legalization as corporate entities, universities should be free from restrictions on civil servants in order to promote UIC. Otherwise, university teachers will be unable to directly receive the allocated funds from TLO.

By nature, the ethical code on civil servants tend to conflict with UIC. For example, it is uncertain whether venture companies and inventors have conflicts of interest. For this reason, researchers at national universities have difficulties in holding share of venture companies. There are customary restrictions that consultant fees for a university professor should not exceed the pay from his/her university. Internal procedures for the approval of taking a position at a venture company are complicated and time-consuming. Change the national universities into organizations of corporate entities and let teachers and researchers within the universities be free from the restrictions applicable to civil servants.

7. Establish New Relationship between University and TLO

Once changed into independent administrative corporation, universities would be able to assign jobs to TLO by contract. TLO then will be able to donate part of royalty income to the universities. The relationship between universities and TLOs should be established as soon as possible in order to make the aforementioned functions come true.

8. Favorable Tax Treatment to TLOs

Currently, TLO received assignment of patents from inventors in order to engage in technology transfer. Fees for patent applications and patent attorneys have to be listed as patent asset and be depreciated for 8 years. This has caused a barrier against the healthy development of TLOs as the tax law regards the asset as profit and requires income tax payment.

In order to cycle the knowledge-creative cycle, the following reform should be made.

1) Patent assignment to TLO is close to trust. Patent assignment should be treated as a deed of trust. The trust law only allows trust banks to do trust business. The law should be amended so as for TLOs to do trust business likewise, thereby holding down arguments on actual price for assignment of a patent right or a right to obtain a patent to TLO

from inventors and the period for depreciation of patent rights.

2) Payment of license fees to university should not be regarded as donation under the tax law. Otherwise, donation is considered loss, which is not in conformity with the treatment under Section 22 of the Corporate Law. Appropriate law amendment is needed.

3) Remuneration for inventors by universities should be treated as “miscellaneous” under the tax law.

4) Abolish the withholding tax against TLO or flatly apply a 10% tax.

5) Treat donations by an inventor to university as a tax-free loss.

6) Treat as tax-free donations to the accredited TLOs (TLO accredited by the law; being in a position to receive a grant from and a warranty of the public fund) .

9. TLO should rely on private services.

License agreements by TLOs have gradually increased and UIC is on progress. Future issue is whether TLOs can be settled as a business entity. Most important thing is to find a successful example of do-it-yourself type. Any model supported and guided by the government is inappropriate as precedent. Along with the shift of university to a corporate entity, TLOs should seek their own style in affiliation and organization. It is not appropriate that TLOs are instructed to be internal organizations within universities as such instructions would spoil the emerging energy of technology transfer business.

10. Review Technology Transfer by Public Organizations

Technology transfer business handled by public organization, special corporate entities and local governments should be regarded as interim measure until market-rooted private businesses take place. Due care should be taken not to press the private-sector business but run business in a profit-oriented manner. When the private-sector business grows, TT business by public-sector organizations should be reviewed for abolishment.

11. Deregulate for linkage between university invention and venture business

The government should abolish or deregulate existing regulations which have so far prevented TLOs from being established and developed. Venture businesses should be allowed technology transfer by way of payment of investment fund, which is indispensable for TLOs to utilize. Specifically, various provisions of the Commercial Code, among others, Section 173 et seq (truck investment/assignment of property); Section 246 (post establishment); and Section 280 (Issuance of new stock). In 1999, Japanese universities recorded less than 20 technology transfers while they totaled 3300 in USA. Deregulation is on the top of priority.

12. Longer Grace Period

Under the current patent law, publication of an article by a researcher may bar his/her patent application thereafter. Various reports including dissertation paper, master paper and doctor paper are not exceptional. In USA, publication by the author is treated exceptional. Japanese system should be changed to avoid adverse effects of the publication by author/inventor.

In this respect, new rules were implemented to be effective in December 2001. Under the new rules, the grace period is extendedly applicable to statutory organizations subject to the Patent Law, Section 30. Such organizations include university. University should be well informed of the new rules for Section 30 exemption.

In addition, the adoption of provisional application system should be seriously considered to allow easy and quick filing with a scientific paper. This system should of course be in conformity with the WIPO system.

13. Inventor Owns a Right to Obtain Patent

It is essential that a university researcher as an inventor owns a right to obtain patents for his/her invention. The source of research money should not affect the ownership of such right to obtain patents for the invention. A patent obtained for the invention may well be licensed or assigned to TLO, university and company at his/her own discretion. Respecting inventors will be a driving force for university researchers for further inventions.

Currently, there are no explicit rules as to whether a patent obtained for an invention made by a university researcher belongs to him/her or to university/TLO by contract, or to a company. Currently, the 1978 instructions of the Ministry of Education provide some guidelines applicable to the national university. 1) The government should own when and if the subject research was conducted with national research fund or utilizing special research facilities of a national institute. 2) Otherwise, the inventor (or teacher) owns. An Invention Board of each university has been supposed to decide ownership according to the guideline. In actuality, however, ownership was determined in favor of inventors without required review by the Invention Board in many cases. Some of their ownerships have been assigned by the inventor to companies, where companies paid necessary expenses for patent applications and patent rights.

In the case of private universities, to the contrary, some have introduced the concept of employee-invention. However, a majority of universities have allowed, at least impliedly, the actual ownership by an individual researcher. In such a case, a sponsoring company has

received ownership in the exchange for the payment of necessary fees for patent and patent application.

In addition, it is uncertainties as to who bears the responsibility for maintenance fees, the government, university or researcher. These uncertainties have resulted in poor incentive for patenting research results by university researchers

14. Researcher may License its Right to Obtain Patent to University

Once the ownership of the right to obtain a patent by the researcher is established, there should be new rules for license agreements between researcher and university. Despite the ownership by the researcher, responsibility for patent maintenance fees should be flexibly construed. University or the government may well be in a position to fulfill the responsibility in place of the patent owner as individual.

In the agreement to assign the patent right to university, university should be the party to be responsible for fees for patent application and technology transfer. The agreement should sets forth assignment and payment.

Then, university researchers shall be able to compare license conditions differing depending on universities. This will enable them choose university as a work place.

15. Establish Invention Treatment Rule

In the past, students, post- and under-graduate and assistants have often been removed from the list of inventors in the patent application documents. One of the reasons for this custom was to streamline the ownership of the patent. However, teaching staff including professors and lecturers, shall be required to identify the actual inventors from now on. The patent application document should reflect true inventorship. False statement on inventorship should be penalized under the law.

Rules on treatment of inventions should be explained to and understood by newly enrolled students at the time of entrance and membership of seminar. This is an important aspect from the point of IP education.

16. Material Transfer Agreement

Any tangible property utilizing equipment of university, including gene-engineered mouse, DNA, prototype, and research tool and materials shall be treated as form of intellectual property and rules for ownership should be established.

A material transfer agreement should desirably include the following provisions.

1) Such tangible property as research materials shall be owned by the creator, unless

otherwise set forth.

2) Upon completion of the tangible property, university as the user may, unless otherwise set forth, be an assignee of the ownership to the tangible property in accordance with contract or employment rule. However, no restrictions shall be imposed on the creator with respect to his/her use of the intangible property within university.

3) Basically university may act for profit and do business of licensing the tangible property, provided however that university has to lease or supply it to a requestor on a non-profit basis when and if he/she requests the assignment of the tangible property for research purpose. Whether the intangible property is protected by patent does not affect the request. In this case, however, university may retain a right to request the requestor for the indication of the source of the tangible property when the requestor announces or displays research results using the tangible property provided hereunder.

4) When university assigns the tangible property, it shall respect the desire of the creator with regard to timing, volume and price of assignment.

5) When university gains profit through the assignment hereunder, the creator may claim a reasonable amount of remuneration.

6) The creator shall keep in custody of the tangible property including preservation, maintenance, cultivation and breeding.

7) When a researcher is assigned or supplied a tangible property from other organization, he/she shall submit without delay to university a written contract wherein the received tangible property is identified and terms and conditions for transfer are indicated.

17. Strengthened Utilization of Copyright and Know How arising out of Research Activities

Research activities result in various forms of intellectual property not only patent but also copyright and know how. They are the source of computer software generally categorized as “industrial copyright” and manuals for gene separation and analytical program for substances. They are often time in keen need of companies. The outcome of researches should be protected under copyright and know how, and these forms of intellectual property should be well utilized accordingly.

18. Rule-making Needed for UIC Agreement and Conflict of Interest

After university is changed into corporation, university will have to deal with various contractual issues including confidentiality agreement for UIC, the ownership of resultant intellectual properties and jointly filed patents. Rules should be established to address these internal issues.

Also rules should be made in order to deal with conflicts of interest in connection with the determination of ownership.

19. Promote Studies of Intellectual Property

Nowadays, business model patents are available for the combination of information technology and business operation model. The patents will be sought more and more in interdisciplinary fields. Along with that trend, approaches for economic analysis and aspects of corporate strategy will be needed even for patents. For example, an essential patent without peripheral patents may not work out to protect from business trouble. Management of know-how oriented company may need appropriate form of intellectual property protection. More studies on intellectual property business are needed.

In US, economists in universities are taking lead in theories for evaluation of intellectual property and corporate strategy. Their theories are proposed to policy-makers and corporate management. For example, genetic engineering patents were one of the important agenda at the White House.

In Japan, interdisciplinary studies on intellectual property are indispensable. Such studies will need more researchers in emerging academic fields such as patent science, technology business and IP management. With the promotion of these studies, suggestions for well-schemed intellectual property policies will be available.

20. Use the Plan for 10,000 Post Doctors for IP Fields

The Plan for 10,000 Post Doctors will create a force of post doctors with high-level technical background. In addition to the work place as university researchers, they should be provided with opportunities to work as high-tech specialists at the JPO and the Courts. They will be valuable resources with technical expertise.

21. University should have Supporting Function

Despite rapid changes in the role and operation of university, administrative people of university remain unchanged. Utilization of intellectual property rights need collaboration with research sites and flexible operation of administrative system. New jobs are being created day by day.

Administrative people at university have to be aware of the importance of intellectual property. Existing systems have to be change to enable them to help them improve their recognition. In view of the nature of intellectual property business, requiring technical and professional understanding, outsourcing of professional people should be actively sought.

22. Connect Campus Computer Network with Patent Digital Library

The Inter-University Computer Network (SINET) should be connected with the Digital Patent Library of the Patent Office. This will help university researchers have an access to 4700 files of digital patent information and retrieve patent information at high speed. University laboratories, if they meet requirements, should be provided with patent terminal for instantaneous retrieval.

23. Intellectual Property Classes for Scientific Students

In the IP class, students of Engineering and Scientific Departments should learn practical intellectual property lessons, including the importance of the patent system, how to take a laboratory notebook, how to retrieve patent information, how to write patent specification, and how to file patent applications.

24. Public Research Institutes should Seek Intellectual Property Strategy

National research institutes are another major component of fundamental research infrastructure. Researchers total around 10,000, which should play a significant role in research and development in Japan.

Budget per researcher is twice as much as a university researcher. Research facilities are generally refined. However, administrative restrictions prevent efficient and productive operation of research. Allocated budget is required to be spend within a fiscal year and only usable for items listed in the book. Many institutes and laboratories suffer from conservative and less flexible way of budge allocation. They are not exposed to the competition rule.

National research institutes should have aspects of industrial promotion with weight on intellectual property equal to or more than published reports, and work on the competition rule.