



On Relationships between Technology Standards and Patented Technology Licensing

Zhongfa Ma

Law School, Fudan University

2005 Songhu Road, Shanghai 200438, China

Tel: 86-21-5163-0093 E-mail: zfma@fudan.edu.cn

The research is financed by Shanghai Education Commission and the paper is one part of the research achievement.

Abstract

There exist the close relationships between technology standards and patented technology licensing. Whether a technology standard contains a specific patented technology solution or not, there is always a patented technology licensing implied: patented technology licensing is a prerequisite for the existence and development of technology standards, and technology standards create a good many of potential chances for patented technology licensing. Furthermore, patentees achieve large-scale profits by means of licensing technologies through a standard mainly in form of a patent pool, which is realized by know-how licensing behind the patented technology licensing involved in the standard.

Keywords: Technology Standard, Patented Technology Licensing, Patent Pool, Know-how Licensing

As far as an enterprise is concerned, the highest level of technical innovation is to set a technology standard on the foundation of owning the patented technology schemes or solutions of proprietary intellectual property rights, and further make it de facto standard, industrial standard, state standard, and even international standard, and thus obtain permanent market competitive advantages. Traditionally, when a technology standard was set, patented technology schemes were always excluded. A technology standard, which is regarded as public goods composed of different formal and precise specifications such as static parameters as well as indicators, can be used freely by most people; whereas patent rights, regarded as private rights, are exclusive rights, and the patent holders often get benefits with the utilization of the technology solutions of those patents. In a word, there was no compatibility between a technology standard and a patented technology scheme in the past.

However, with the rapid development of technology, especially the appearance of abundant de facto standards, the existence of common problem and common interest, as well as the fast development of the market globalization, the integration or inclusion of technology schemes into technology standards (especially into those high and new technology standards) has been an irreversible trend. So far, some technology standards in certain fields have already gone beyond the excluding-patented-technology-solution period into the integrating period. In the process of accomplishing this transformation, technology or license has played a decisive role. It is just the existence of technology licensing that has made the impossible thing---a technology scheme is one major part of a technology standard in the past---come into the reality today. Therefore, there is great necessity in discussing the relations between technology licensing and technology standards.

1. Patented Technology Licensing in Technology Standards System

A technology standard refers to the unified regulation of duplicated technical items in a due extent. Established mainly reflecting the specifications to the technical items which need negotiating and unifying in the standardization domain, a technology standard is used to guarantee the interchangeability, compatibility and universality of different parts of certain products or services or of themselves. It is the most fundamental part of the standard system, and the other standards such as product or service ones, either derive from it or serve it. Technology transfer is the transfer of systematic knowledge for the manufacture of a product, for the application of a process or for the rendering of a service, (Note 1) and is substantially completed by the means of assignment, sale and licensing of all forms of technology property or technological achievements. However, technology licensing, which refers to permit other parties to use a certain technology within certain places and period without the assignment of the intellectual property ownership, is the most ordinary technology transaction; and on most occasions, it often includes the license of a patented technology and know-how as well.

1.1 Policies on Patented Technology Licensing Related to Technology Standards by the Three World's Leading Organizations for Standardization

One important function of the technology standards is to promote the technology diffusion (technology transfer is the main form), which can be implied from the following words: "the fine-tuning of this policy (It refers to the common patent policy in the process of setting a technology standard published by IEC, ISO and ITU.) to achieve exactly the right balance — ownership versus sharing of intellectual property — is no small achievement. In this way we enable international standards to be used to successfully disseminate innovation, with a clear set of guidelines regarding the disclosure of and commitment to license the use of patented technologies." (Note 2) The world's leading international standards organizations IEC (International Electro-technical Commission), ISO (International Organization for Standardization) and ITU (International Telecommunication Union), under the banner of the World Standards Cooperation (WSC), have aligned their policies which allow for commercial entities to contribute the fruits of their research and development (R&D) activity safe in the knowledge that their intellectual property rights are respected. The policy adopted by the three organizations on March 19th, 2007 strongly encourages the disclosure of patented technology which is necessary for the implementation of a standard before the standardization process has been completed. It allows for companies' innovative technology schemes to be included in standards as long as such intellectual property is made available on reasonable and non-discriminatory (RAND) terms. They intended to promote the dissemination of the technological innovation with use of the international standards through the new agreement. "Today, it is difficult to develop technical standards without implicating patents... we have to take into account the interests of end-users. Therefore a balance must be found. We believe that this policy will encourage industry to share its intellectual property with implementers of standards on a reasonable basis knowing that their interests will be protected." (Note 3) In order to implement the policies, the three organizations respectively publicize *IEC, ISO and ITU, the world's leading developers of international standards agree on common patent policy* on their websites.

The policy declared explicitly, considering the standards set by the standardization are mostly recommendatory and their target is to guarantee the compatibility of technologies and correlative systems on a global scale, it allows for standards to include all or part of a certain patented technology schemes on basis that the patent should be able to be available by anyone without illicit interference. Charges for patent licensing and using shall be determined by the parties involved in different cases. Moreover, it provides three situations in case of disclosure of patent information in the process of setting standards: 1) the patent holder is willing to negotiate licenses free of charge with other parties on a non-discriminatory basis on reasonable terms and conditions, or 2) the patent holder is willing to negotiate licenses with other parties on a non-discriminatory basis on reasonable terms and conditions; such negotiations are left to the parties concerned and are performed outside ITU-T/ITU-R/ISO/IEC.3) If the patent holder is not willing to comply with the provisions of either 1) or 2), the Recommendation shall not include provisions depending on the patent. (Note 4)

1.2 Requirements on the patent holders in the standards-setting process by the leading world's standardization organizations.

The process of setting international standards related to patented technology solution accounts for this question more clearly. For example, when ISO organizes setting an international standard, the proposal of the standard is allowed to include patented technologies in the proposal phase; whereas explicit and specific stipulations are needed for a license. In the examination phase, the commission who is discussing the proposal of the technology standard which includes patented technology schemes shall consult with the patent holders about agreement of the license one by one. The proposal shall be immediately ceased to discuss if the patent holder disagrees to the license; the international standard shall be passed and published only when all patented technologies related to the standard are allowed to be licensed by the patent holders. After publishing the standard, ISO has a reexamination procedure to measure the licensing effect of the patented technology; if the patent holder is not able to give his/her patent license on a reasonable and non-discriminatory basis, the international standard shall be reexamined.

ITU requires that its members pay attention to the patented technologies related to the standard proposal to the best of their abilities while setting a standard, and also requires the patent holders involved issue a statement of patented license through due procedures and forms. If the patent holder refuses to issue the statement, ITU shall rapidly inform its correlative departments or organs to discuss whether they can bypass the patented technology which may be not regarded as the indispensable element of the standard or if it is an essential one, whether they can find a replacement; otherwise, the proposal will be suspended. When the standard has been passed or is about to be published, if a new patent holder wants to make his or her patent to be a part of the standard, ITU will ask him/her to make a acceptance statement; if the patent holder refuses, ITU shall delay the publishing of the text, and inform correlative departments to discuss if they can bypass the patented technology or find a replacement; otherwise, the proposal will be suspended. ITU has also specially established a patent statement database, publishing the patented technology abstracts of the correlative patent holders and the statements the holders have made to ITU as well; its function is to tell those who are going to use the standards how and from whom to get a license.

We can see from the above that the leading standards organizations make technology licensing top list of the concerns while setting a standard; the technology or factors of the technology shall not be included in the standard without permission of the patent holder. Some holders of advanced technologies, especially those whose technologies have been accepted by the market and obtained advantage in their fields, will directly decide whether the advanced technology standard can successfully get passed; once passed, there will be more possibility in licensing the patented technology, and the integration with the know-how licensing would bring the correlative patent holders great benefits. Therefore, as a matter of fact, few patent holders are not willing to get their technologies included in the standards; on the contrary, most patent holders wish their technologies or correlative factors can be included in a certain standard, and thus the standard will help them occupy the market as a kind of advertisement free of charge.

Therefore, license is the axis of the setting and implementing of the international standards including patented technology schemes, which means that an international standard including a patent would not come out without the patent holder's agreement to license the patented technology schemes. The standards concerning patented technology may contain the ones including the patented technology schemes and the ones including only some static content like parameters or indicators instead of the specific patented technology solutions. For the former, it is easier for us to understand why the license is needed, for without licensing, the products or services conforming to the standards would not be manufactured or provided. But for the latter, it is a little difficult for us to get the reasons. Theoretically speaking, for those standards including static indexes such as indicators or criterions, we may not need the patent holders to make the statement of agreeing to license, for the products or the services supplied by some manufacturers or service providers out of the standard's participants or setters would meet the requirements of the standard without employment of the patented technology solutions related to a standard. However, in reality, in order to make sure that those manufacturers or service providers can supply with products and services complying with due standards, it is still necessary for them to obtain the license, for all the parameters involved a standard derive from the patented technology schemes without which the products or services could not be produced or provided. So if the patent is allowed to enter into a standard without requirement of agreement to license, there exist possibilities of monopolization with the abuse of standards by the patent holders. As a result, in the process of setting standards by standardization organizations, it is essential for the patent holders to make a statement of license as long as a patent is involved.

Moreover, under the production conditions in the modern society, the standard itself implies the license in a certain manner, for it is impossible for an enterprise to produce all parts of most merchandise and it can only provide some parts of it to satisfy the desire of the whole society; and the other parts may be left to be produced either by its competitors who have similar technologies or by a licensee who gets the licensed technology. The technology licensing is more common when it comes to the enterprises who have achieved comparatively monopoly situation and those who have many technologies included in different standards but lack of production capacity.

In a word, patented technology licensing is a prerequisite for the existence and development of technology standards, and technology standards provide numerous chances for patented technology licensing and widen the channel for correlative patent holders to achieve profits.

1.3 The Economic and Juristic Foundation of the Combination of Patent Licensing and Technology Standards

As far as the enterprises of intellectual property are concerned, the combination of patented technology schemes and technology standards is of great strategic value. It enables the enterprise to hold the superiority in transaction negotiations, to occupy new market shares, and to transfer the technologies faster on a larger scale with lower direct costs in hope of profits. Technology standards can also bring convenience for those who want to obtain related technologies by cross license as soon as possible. Therefore, the technology transfer based on a technology standard cuts down the social research cost, transaction cost, coordination cost and information cost (standards act like the market transaction signal and help cut the cost in searching information in market transaction), (Note 5) and create more wealth for the society. And besides, given the internal coordination cost, the development of standardization, on the premise of good quality, enables enterprises to adjust their boundaries and concentrate their production in the most professional advantageous fields through outsourcing the parts, thereby further deepens the divisions of labor, and enhances their mutual dependence and technology transfers. (Note 6) These may lay the economic foundation of the combination of patent licensing and technology standards.

Under the circumstance of market economy, with the weakening of the government power on market and the extension of the power of the social nongovernmental organizations which reflect the sense of global *democracy*, those enterprises, who have got priority in setting standards, have been taking full advantage of their strength to play a leading role in setting standards. Through the soft-law-like normative documents (standards), the enterprises can always get a high position in the commercial operating chain and thus achieve generous profits; enterprises who have no power to discuss or no chances to participate in the standards will become a tool of the technology standards providers ("lawmakers") to create and supply the profits for the latter through their own activities, follow the latter's steps passively, and become the latter's performers of "laws". In the background of internationalization of the technology standards, most enterprises

with underdeveloped technologies in developing countries get approach to technologies and then build their producing capacity through being licensed of the technologies related to the standards system. However, due to the high charges for license and the low position in the production chain concerning the standards, only meager profits can be achieved by the enterprises from developing countries.

Furthermore, standards including patented technologies can easily monopolize the market, (For patent itself is a lawful monopoly within due scale.) and restrain the development and expansion of competitors. For example, in the respect of market access, it would exclude the products that do not comply with the standard, and thus beat its competitors. If the competitor wants to continue its life in this area, it has to cooperate through technology licensing. If the technology transfer problem related to technology standards can not be dealt with well, the technology standards will fail to help realize the objectives of enhancing the technology development and economic growth, and become obstacles to impede the economic and social development. Therefore, most countries regulate the problems on technology standards and technology transfer through antimonopoly law or fair-competition law in avoidance of any passive or negative results. The above-mentioned issues compose the juristic foundation for the global technology licensing strategy.

2. Patent Pool Involved in Technology Standards and Technology Licensing

2.1 Patent Pool is the Main Pattern of Technology Licensing in Standards

A patent pool is a bridge for constructing relationship between technology standards and technology licensing, and the chief means by which the patent holders carry out the license through standards and achieve high and scale profits. Patent pools are usually formed in the industries in which the products or services have more complicated and various functions and each part of them is often interdependent and the patents concerned can be applied with each other. In the market with daily specialization of technology development and integration of world economy, enterprises would find it more and more difficult for a single enterprise itself to set a uniform standard for a certain product, and thus they would prefer to participate in setting standards, for it has been unrealistic for an enterprise to occupy all the technologies of a product (the technology of a product is often a collection of a set of indicators, factors and even technology solutions related to the primary patent); it is often acknowledged that it is the best choice for several enterprises to share the related technologies of manufacturing a product in the fierce market competition. These enterprises begin to carry on cross technology licensing in hope of manufacturing products complying with the requirements or standards accepted by the market.

However, as enterprises with related technologies increases, the individuation and low efficiency of individual cross licensing would impair the parties involved when a conflict occurs. To avoid this phenomena and gain the most benefits, the enterprises with related technologies gradually set up a technology association, or otherwise, participate in the patent pool dealing with related product technology standards in different ways; they contribute their patented technologies to constitute a joint venture and make them part of the standards, afterwards they can get license by the means of “a package agreement”.

Additionally, in a patent pool, each patent holder may have a secret weapon—know-how, which are inevitably bundled to be licensed with the patented technologies when transferring the patented technologies; therefore they have the privities of achieving common interests as well as the approach of checking each other and the achievement of respective profits goal.

2.2 Essence of a Patent Pool concerning a Technology Standard

A patent pool is actually a sublimation of cross license pattern, which could meet the requirements to maintain the common interests of the patent holders and reach their aim of gaining more profits. A number of enterprises with core technologies set a technology standard for a certain high and new technology product through negotiations; they can share the technologies of each other, while when they license the technologies to the enterprises who are not the members of the pool, they will be paid by the latter. In this way, the transaction costs among them can be reduced whereas their royalties are not lessened but increased, and thus the patent holders' community would achieve maximum benefits. As soon as a standard get passed or accepted by the market, especially when a technology solution is part of the standard, each member of the community would achieve the most profits through package licensing of the patent in the form of standard.

It is not difficult for us to understand why the standard setters show great interest in making standards as well as establishing a patent pool. It implies not only to get more power and influence in certain technology areas, but also the occupation of the market share, which means profits; this may be more important. From the perspective of economy, it is the most economic way to achieve comparatively competitive advantages and the enterprise goals. According to the rules of the market economy, the enterprises whose standard is presumed and accepted by the consumer will acquire a priority in gaining profits from the market.

License occurs twice in the specific operation of a patent pool: the patent holder license the patented technology schemes included in the standard to the administrative department of the pool and the latter grants the license to the

specific users. (Note 7) Apparently it is more convenient and economical for the standard users to be licensed by the pool (But when it comes to the know-how licensing, the standards users may need to negotiate respectively with each patent holders one by one.) than by the patent holders through individual negotiations. As a result, it would attract most standards users. (Standards users in this article refer to users excluding the standards setters and participants unless specially noted.) Meanwhile, the administrative department takes charge of the license on behalf of the members of the pool and thus would save their time and cut their costs. Combined these two aspects, the patent holders related to the standards would gain much more benefits.

Therefore, two kinds of contracts are concluded when the patents, which are parts of a patent pool and whose technology schemes involved in a standard, are licensed. The first contract is the one concluded between the holders and the standard setters, which are completed after the holders make a statement to declare that he is willingly to license the patented technologies to others. This contract is used to make preparations for licensing. The second contract is the one concluded between the standard users and the holders, which has real relations with profits; the ultimate goal of the patent holders participating in setting standards and joining a patent pool is to establish such kind contracts and thus gain profits.

A patent pool is a typical kind of a contractual organization as well in which each patent holder restricts other members' activities on certain degree and shares profits with others in the form of a contract. Some scholar believe that a technology standards association is essentially a collection of a series of licensing contracts; patent holders and technology standards administrative department, as well as technology standards administrative department and technology standards users, sign a series of licensing contracts, and get their rights, responsibilities, obligations written in the contracts, therefore the association members have formed a contractual relationship between each other. (Note 8) This is reasonable and we know that a technology standard association usually exists in the form of a patent pool.

3. Deep Analysis of the Relationship between the Technology Schemes and the Technology Licensing in the Standards

3.1 The Know-how Licensing behind the Patented Technology Licensing

The inclusion of technology schemes in standards inconsequently integrates the technology standards, which belong to public goods, with the patents, which have certain features of private rights; and the best solution to this conflict is suggested to be that the patent holders be required to declare explicitly the license of employment by others at free charge or under the fair and reasonable conditions before integrating the technologies into the standards, otherwise the technologies should be excluded from the standards.

However, the problem arising from such suggestion is quite obvious: first, what does "fair and reasonable conditions" mean? It is almost impossible to make a clear definition or set an objective and specific standard. According to regulations by related standardization organizations, all technology licensing related to the standards shall be negotiated by the parties involved in specific cases. "Fair and reasonable" is truly difficult to achieve due to the inequality in status, economic strength, negotiation capability and so on between the licensor and the licensee. Secondly, many patent holders are generally unwilling to make the key portion or essential part of their technology schemes, which may be maintained as know-how by themselves, reflected in the patent application files, therefore the standards users have to pay for the high charges for know-how licensing if they want to manufacture the products complying with the technology standards. In realistic technology licensing related to the standards, as for those enterprises whose patents or elements of whose patents are included in the technology standards, the integration of patented technologies with know-how is the ultimate safeguard of the achievement of their profits. There are few pure patent technology transfers related to standards. (Note 9) The statistical data shows that over 90% of the technology transfers are connected with the activities of know-how licensing, ((Note 10) and most technologies licensed and helpful to achieve the goals of the licensor are merely patented technologies which are either outdated or to be terminated. (Note 11)

Although the standard brings unification and may reduce low social transaction costs, it is a weapon in hands of the strong whose patents are included in a technology standard and may make the licensees fall into a set of tricks. Through the public goods—a standard, the participants thrust other standards users with know-how licensing which would bring high profits; and as is known, most standards users are enterprises in developing countries. Though the standards participants allow the standards users to use their patented technologies, even free of charge, expected targets or ideal products may not be easily achieved or manufactured, for some essential solutions in the form of know-how are not included in the patented technologies, but are usually reflected as the static indicators and parameters in a technology standard. The patented technology files usually tell no more than general manufacturing method. No patent offices in the world could make a patent instruction booklet disclose detailed information of manufacturing products or patented methods completely; and it's impossible to require the patent examiners to make accurate judgments that the core parts of a technology is contained in the patent application materials in the examination process. Thus it can be seen that the standards users who have not participated in the standards can hardly achieve the expected target only through patented technology licensing related to the standards. On most occasions, in order to manufacture satisfying products, they have

to conclude know-how licensing agreement with the standards participants, in which the standards participants may raise the royalties for such licensing and recover their costs on the free license of the patents and gain big profits. In this way, the standards participants have occupied the market with standards and realized the goal of gaining profits. As for those standards including the patented technology schemes which are allowed to be licensed on RAND terms, the participants would probably gain more profits through technology (including patents and know-how) licensing while the licensees have to accept the bundled licenses of the know-how and the patented technologies.

3.2 The Essence of the Patented Technology Solutions Included in the Standards

The standards including patented technology schemes, which may take public goods as the coat with licensing patented technology as the form while licensing the related know-how as the kernel, help the technology standards setters to acquire high profits and bigger market shares which may not be reachable by any other means. That is the value and the objectives of the modern standards we should understand thoroughly, and when studying the technology standards, we shall attach importance to their relationships with technology transfer, and further see through the appearance to perceive the essence behind the technology standard system.

Once a private intellectual property is adopted in a technology standard as public goods, it may bring high profits for its holders with help of the public goods after publishing the standard. This is the reason why patentees exhaust their efforts to have their patents included in technology standards. The patented technology schemes included in the standards would probably turn the standards into the monopoly tool and weapon of patent holders or group, which goes the opposite to the original intention of setting technology standards. If a standard consists of only specific indicators, parameters as well as requirements, etc, the technology solutions to realize these specifications can be very different; parameters are like a destination, and each technology schemes is like a road, and there are many different roads to a definite destination, which has been described as the proverb "every road leads to Rome". Therefore, one possible negative result of making a technology scheme one part of a technology standard is to impede the enforcement of the right of the other patent holders and thus harm the fair competition.

We may analyze an extreme situation to show the negative results of making technology scheme a part of technology standards. The situation is that: if the technology standards are totally composed of patented technology solutions, (We believe that technology solutions can not be part of standards due to its privacy; however, the related specs and parameters may be a component of the standards.) then the standards are actually "combinations of public goods and private rights", which makes two kinds of contradictory things a monster. In this way, the patent system and standard system will be posed in a situation of conflicts and the foundation of the original goal and root of establishing the standardization system with public goods features will be lost and the technology standards will become an effective instrument for their makers to make profits, which will greatly hinder the economic development and encourage those with technological advantages to obtain or consolidate their "monopoly position". As for the standardization system, the result of such kind of standards would be subversive; the private rights of technology holders would get a coat of public goods in a disguised form. (Although information about patented technologies is public, it is not public goods but belongs to private rights.) The damages arising out of the implementation of these standards to other competitors and to the rights and interests of the consumers would be much more terrible than those caused by any other form of monopoly.

As public goods, the technology standards aim to be widely and universally applied to promote economic development and protect consumers' due rights and interests. If patentees agree to license a patented technology related to the standards to a licensee but refuse to license know-how related to the patents, a monopoly situation may come forth to restrict the fair competition in the fields related to the standards; for although the standards participants make it clear that the combination act of patented technologies and technology standards shall be regulated in accordance to the anti-monopoly law or the competition law on suspicion of monopoly, and make a high-sounding declaration that they agree to license the related patented technology on fair, reasonable and nondiscriminatory terms, or even free of charge, they may utilize know-how related to the patent as a secret weapon. Their attitude to the patented technology involved a technology standard may shift the licensees' attention so that they can conceal their real intention to be a participant of a standard—to license know-how behind the veil of patented technology to others, which may bring high profits.

The real intendment of putting the patented technologies into the technology standards is the license of know-how related to the patented technologies. As we have known, in a specific technology licensing process, without know-how, the achievement of patented technologies, even at free charge or in a fair and reasonable condition, is of no significance for the licensees. We should see this point for all costs and expected profits have been recovered through the license of know-how. It is not difficult for us to understand why most patent holders scramble for the standards when the related standardization organizations require them to disclose their patent information and make a statement to declare they are willing to license the patented technology to others in the future in the process of setting a standard; for a licensor, although the patent has been publicized and even can be transferred free of charge, the key to high profits is still in their own hands. Therefore, when discussing the technology transfer related to the technology standard, we should not focus

only on the patent license while ignoring the true invisible “killer” or the ultimate weapon—the know-how license. The license of patent is in the light while the license of know-how in the dark; the combination of the light and the dark contributes to the easy accomplishment of the strategic goal of the standards participants.

In brief, combination of patented technologies and know-how licensing is the intrinsic requirement on which the technology standards can exist and develop; and the know-how licensing hiding in a standard is the fundamental guarantee of the realization of the benefits of the patent holders related to the standards.

Some scholars believe that antitrust review can efficiently prevent the enterprises from opposing the employment of the standards by other enterprises or pursuing higher charges for patent usage through incorrect disclosure of their patent information related to the standards, and from denying the licensing in order to maintain their monopoly advantage. In practice, however, patents and standards would integrate immediately after patented technology solutions become standards; patent holders obtain monopoly advantages with help of the license of patented technologies and related know-how, escape the so-called review and avoid all possible punishments by use of the secret weapon—license of know-how. In my opinion, the technology standards which contain specific technology schemes may bring benefits and efficiency to the humanity, but may bring injustices as well, although there exists antimonopoly or fair competition laws. If we want to avoid this demerit, we shall either reject technology schemes to be put into a technology standard or take more effective measures and strategies to hold back the unfair results. However, it is impossible for us to refuse a solution to be allowed in a technology standard in these days, we should attach more importance to adopt forceful measures to balance the licensors and licensees.

4. Conclusion

It is the combination of standards and patented technology licensing that contributes to achieving the goals of standards participants; that's why transnational corporations are enthusiastic about setting and participating in standards; it is unnecessary to list the harms brought to the enterprises in technology underdeveloped countries by the technology standards. On the part of them, they shall catch up fast. First, they shall understand, grasp and utilize the rules of setting international technology standards, and then actively participate in the setting activities of international standards; secondly, they shall develop their own core technologies through all channels (such as independent research, development on basis of introduction, cooperation with others ,etc.), and thus have more and louder voices and enhance the influences in the process of setting international technology standards. They shall try to establish a patent pool with their own technologies as the core or take part in the related patent pool and to make their own patented technology schemes part of the standards, and then bring along the know-how licensing behind, and eventually get approach to their legitimate and lawful benefits. Perhaps this is the best and ultimate way for the enterprises in developing countries to find for their going out of the present disadvantageous situation.

References

- Draft International Code of Conduct on the Transfer of Technology* 1985 Version.
- IEC, ISO and ITU, the World's Leading Developers of International Standards Agree on Common Patent Policy[EB/OL].(March 19th,2007).
- Wu Wenhua, (2006). etc. *On Studies on Mechanism Theory of Forming Technology Standard Unions on the Basis of Transaction Costs*, Financial Theories and Practices, (4).
- Zhang, Xiangchen, An Baisheng. (2005). *WTO and the National Standardization Strategy of China: a Basic Theoretical Analysis Frame* .WTO Economic Guideline, (7).
- Zhang, Lifei. (2007). etc: *Essential Analysis of the Governance of Technology Standard Unions*, Studies on Science, (4).
- Melvin F. Jager. (2005). *Licensing Law Handbook (2005-2006 edition)*[M], Thomson West.
- Lin, Xiaolong, Liu, Yanlin. (1994). *Legal Practice on International Trade Contract*, CPC Publishing House.
- Ma, Zhongfa. (2007). *Theoretical Studies and Practical Research on the Legal System of International Technology Transfer*, Law Press China.

Notes

Note 1. Clause1.2 of Draft International Code of Conduct on the Transfer of Technology 1985 Version

Note 2. IEC, ISO and ITU, the World's Leading Developers of International Standards Agree on Common Patent Policy [EB/OL].(March 19th,2007)[2009-11-9]at <http://www.itu.int/ITU-T/dbase/patent/>.

Note 3. Id.

Note 4. Id

Note 5. Wu Wenhua, etc. *On Studies on Mechanism Theory of Forming Technology Standard Unions on the Basis of*

Transaction Costs, *Financial Theories and Practices*, 2006(4),142:88-91.

Note 6. Zhang Xiangchen, An Baisheng: WTO and the National Standardization Strategy of China: a Basic Theoretical Analysis Frame .*WTO Economic Guideline*, 2005, (7):48-50.

Note 7. Zhang Lifei, etc: Essential Analysis of the Governance of Technology Standard Unions, *Studies on Science*,2007(4): 687-690.

Note 8. Id.

Note 9. Melvin F. Jager, *Licensing Law Handbook* (2005-2006 edition) [M], Thomson West 2005:55-56.

Note 10. Lin Xiaolong, Liu Yanlin: *Legal Practice on International Trade Contract*, CPC Publishing House, 1994:162.

Note 11. Ma Zhongfa: Theoretical Studies and Practical Research on the Legal System of International Technology Transfer, *Law Press China*,2007:292-302.