

# On Corporate Technological Innovation System Based on Intellectual Property Strategy

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## Abstract

A corporation is the subject of technological innovation. The implementation of intellectual property strategy is the key and guarantees to achieve the target of technological innovation. The strategically decision-making system, organizational running system, stimulating restriction system and coordination and cooperation system of technological innovation supplement each other, together constructing an organic corporate technological innovation system.

**Keywords:** Intellectual Property, Technological innovation, Innovative system

## 1. Significance of Corporate Establishing Intellectual Property Strategy

Corporate intellectual property strategy means that in order to achieve and maintain market competitive advantages, a corporation applies intellectual property system to do the rights, protection and operation, so that it can gain optimal economic benefits. The significance that a corporation establishes intellectual property strategy presents in the following four aspects. Firstly, by establishing intellectual property strategy, corporate core competitiveness can be entirely promoted, and also corporate development and innovation ability can be furthered continuously. Secondly, a corporation can consummate and regulate corporate modern management system, optimize resource distribution, reduce cost and maximize economic benefits by establishing intellectual property strategy. Thirdly, a corporation can reduce potential law risks of infringing others' intellectual property so as to protect corporate own lawful rights and interests. Fourthly, intellectual property strategy can become new and potential corporate profit growth engine. A corporation can obtain capital expansion and market monopoly through intellectual property transaction and other similar strategies.

## 2. Corporate Implementation of Intellectual Property Strategy Promotes Technological Innovation

Along with the development of scientific technology, the competition among corporations more and more represents technological competition. And technological innovation is tightly related to patent technology, commercial secret, trademark and other intellectual properties, becoming corporate internal source of increasing economic benefits and strengthening market competitiveness.

### 2.1 Establish and Improve Management Organizations and System of Intellectual Property Work

A corporation should set up an intellectual property leader's team, establish intellectual property management office, and equip with full-time intellectual property employees. Simultaneously, each branch (subsidiary) needs to be equipped with intellectual property principals and contact persons in order to form a working management network with corporate intellectual property office. Thus, an intellectual property management system is formed, centering on corporate intellectual property management office and being backed by each branch (subsidiary) intellectual property management departments. They should establish a series of managerial methods and awarding measures, in which they regulate management system, strengthen awarding and stimulate staff's invention and creation, so that patent management work will be improved to some extent.

### *2.2 Strengthen Implementation of Patent Technology*

They should pay attention to not only the quantity and quality of patent application, at the same time, but also the implementation of patent. They need to accelerate the implementation of patent technology and project so as to contribute to corporate sustainable and healthy development, and bring invention and creation into full play in corporate operation.

### *2.3 Combine Patent Technology with Standard*

Standardizing patent technology has become the main means of non-tariff trade protection and of global technological monopoly. The combination of standard and patent enable corporate patent furthest adapt to standard, promote the quantity and quality of patent application, and further technological innovation.

### *2.4 Transform Intellectual Property into Stock*

Corporations, especially hi-tech industry, has to emphasize on establishing stimulation system of independent innovation and good intellectual property atmosphere, and holding self intellectual property on core technology, so as to maintain sustainable development and maximize profit. Simultaneously, they should actively work on stock stimulating experimentation. Intellectual property gets involved in stock market as intangible capital, which plays an important role in corporate hi-tech industrialization.

### *2.5 Strengthen Propaganda and Training of Intellectual Property*

A corporation needs to consider its own practical situation to propagandize different patent knowledge in different ways to leaders, managers, technicians and staff, whom are trained too, as planned and aimed. The whole staff, especially leaders, has to be promoted on patent consciousness. At the same time, experienced specialists could be invited to give lectures on different content and on different level in order to further corporate intellectual property consciousness.

### *2.6 Strengthen Collection, Management and Utilization of Patent Information*

Patent information integrates technology, law and economy, which is corporate necessary and important information. Patent literature search is applied in the exploitation and test of new technology and new products, and in products importation and exportation, to higher starting point of R&D and to avoid phenomena of low-level repetition and infringing others' patent. During introducing technology and equipments and operating Sino-Foreign joint venture and cooperation, whenever non-Sino patents are involved, they have to search their state of law and avoid patent dispute.

## **3. Corporate Technological Innovation System**

Corporate technological innovation system refers to the running rules of the mutual relationship or interactive effect of all factors during the process of commercialization of corporate technological achievements. The purpose of establishing technological innovation system is to form healthy interactive relations between internal structure of innovative organization included in the operation process of technological innovation system and its working ways, and between innovation system and external environment. Corporate technological innovation system consists of strategy-making system, organization running system, stimulation and restriction system and coordination and cooperation system, which affect and influence each other and construct a unitive, coordinate and organic technological innovation system.

### *3.1 Strategy-Making System*

In fact, technological innovation is the process of making scientific decision and implementation on technological innovation according to technological innovation strategy continuously. The uncertainty of technology, the indetermination of market, the asymmetry of information, and the restriction of research ability and resource, bring risks to technological innovation strategy. So how to make scientific decision, reduce and avoid decision risks need an effective strategy-making system.

Governmental policy provides corporations with instruction and layout of industrial policy to make innovative strategy. That is to say, a corporation should primarily clear the necessity and urgency of technological innovation for good working on technological innovation. On strategic idea, they should closely surround the industrial development direction that the government advocates and encourages to develop. They need to transform from production dominant into market dominant, from capital first into knowledge first, from pursuing quantity and quality of technological products into pursuing technological content of them, from market price competition into technological innovation competition, from "human-basis doctrine" into "intelligence-basis doctrine", and from managing human, capital and things into managing knowledge and technology, and then establish right technological innovation idea and implement scientific innovative strategy.

Scientific decision-making is to wholly consider the process of R&D, design, production and selling, to combine former collection and prediction of information, later research and selection, and test and feedback of implementation together, to give attention to corporate economic profit, social benefit and ecological benefit as well, and to enable corporate technological innovation activities run in healthy track. However, many corporations are driven by profit, with only economic benefit maximization as decision base, but abandon social and ecological benefits, and externalize environmental cost, which bring society and ecology with negative and destructive effect. Therefore, the government needs to instruct in system and in policy, involve the policies which promote corporate technological innovation into industrial development policies, and encourage corporations to make the scientific decisions consistent with governmental demands.

### *3.2 Organization Running System*

The organization running system of corporate technological innovation is the organization system and system layout of technological innovation in order to establish and coordinate the relationship among external and internal departments and units and stimulate each department or unit to satisfy customer demand. Strategy-making system plays a guiding role for technological innovation, while organization running system is the base and support of technological innovation. How to improve technological innovation efficiency, reduce transaction cost of technological innovation, promote the effective flow and diffusion of knowledge innovation stream in and between organizations, and meet customer demand to technology quickly and effectively, are all dependent on establishing effective organization running system.

Corporate technological innovation is a systematic process. It starts from generating innovative ideas, to R&D, sample making, test enlarging, test-market, mass production, market extension, and information feedback. It is a complex process involving the participation and cooperation of several departments (marketing, R&D, production, finance, management, etc). If there is no smooth systematic organization management, technological innovation activities can be implemented fast and effectively. The key of establishing smooth and good organization running system of technological innovation is to deal with the relation between specialization and cooperation, especially to emphasize on core innovative organizations, such as R&D institution, technological innovation center and so on. However, some corporations are restricted by self situation, and lack of technology talented persons, which is not beneficial to establish technological innovation organizations. So the government should make relevant supporting policies and take corresponding measures, for instance, establish HR policy and regional innovation policy beneficial to corporate innovation. Effective stimulating policy for talented persons should be established. And HR work has to be strengthened from three aspects, i.e. steadying, introducing and training, to steady present technological innovation team. They should be supported in salary, housing, welfare and title, so that they can be encouraged to engage in technological innovation activities. Provincial and municipal productivity promotion centers are supposed to cultivated and developed, and innovative subjects cooperation policy needs to be established and encouraged too. Corporate working training and technology extension should be promoted. Talented persons' communication and technological cooperation of colleges and universities, scientific research institutions, and the form of produce-learn-research, have to be encouraged. It is also encouraged that innovative subjects extensively cooperate with each other. The integration of innovative system should be strengthened. Local governments should particularly strengthen establishing regional innovative system. For instance, through each innovative subject's cooperation, they establish good technological innovation and integration system of resource share, advantages supplement, attention to two or more benefits and risk taking altogether.

### *3.3 Stimulation and Restriction System*

Any system's running needs an engine, and stimulative restriction system provides technological innovation with an engine. Technological innovation is a kind of creative activity, which is dependent on mass scientific staff, managers, and staff's intelligence and hard working. The key of technological innovation is talented persons. So market implementation degree should be regarded as the important base of human stimulation. Technological innovation stimulation system of attracting, training and using talented persons should be constructed in accordance with market economic rules. The stimulating effect of stimulation system on technological innovation consists of positive stimulation and negative stimulation. Positive stimulation means that a corporation or an employee will actively make technological innovation for pursuing self benefit maximizing and agreement. Negative stimulation means that a corporation or an employee engages in technological innovation as driven by external competitive environment for survival and development.

A corporation establishes stimulation and restriction system centering on economic benefit distribution, which is a significant guarantee for effective running of technological innovation system. Stimulation system depends on

system innovation, and system innovation is the foundation of technological innovation. Good system environment is mainly constructed by governmental function management. Chinese corporate technological innovation has generally experienced the following course. It started from imitating stage, then to self manufacture, and currently is stepping into an innovative period. China needs more corporations enter self create stage in order to promote corporate own core competitiveness, and furthermore national whole innovative ability. Therefore, the government should strengthen the cultivation of technological market, for instance, establish entry system for technological market, regulate the program of technological evaluation work, consummate law system of intellectual property protection like technology patent, avoid fake and inferior technology entering market, establish and consummate corporate technology transaction market so as to provide buyers and sellers with a good business network, to enlarge business platform and channel, and to reduce transaction cost and fee, and enlarge the infrastructure construction of information network to promote technological achievements to transfer to corporations soon. Additionally, Chinese government also can use the successful experiences of developed countries for reference and provide corporations with national innovative technology at low price, even for free, in order to expedite technology's spreading.

From governmental behavior perspective, they also need to give support and encouragement to corporate technology innovators. There are mainly three sorts of measure. Firstly, innovators can be stimulated by economic means, which will create healthy development of innovation. For example, the government can increase direct investment in corporate technology development and direct purchase of technological innovative products. They can back relevant infrastructure construction from social whole benefit perspective as well, so as to reduce the barrier and cost of corporate technological innovation. Secondly, the government can stimulate corporate innovation by policies. For instance, they can encourage corporations to expedite depreciation, and implement favorable tax policy, credit policy, price policy, and so on, to innovative activities, in order to reduce corporate innovation risks and stimulate corporate innovation continuously. Thirdly, through establishing and improving technological innovation related laws and regulations, and strengthening protecting corporate rights and intellectual property, the government need to strengthen the implementation of intellectual property protection measures, set up implementation details on national relevant laws and regulations of intellectual property, strengthen their manipulation, and deal with the disputes on technological innovation between technological innovation staff and corporations.

### *3.4 Coordination and Cooperation System*

Corporate technological innovation not only belongs to technology department but also involves the other departments' participation and all aspects, which is a systematic project. Therefore, among corporate internal organizations, between internal organizations and external environment, there should be definite division of labor, clear responsibility, mutual cooperation, unified coordination, and corporate innovation.

Firstly, a corporation has to establish internal coordination system. The source of innovation project is market demand. Marketing staff and salespersons are most close to market, so they know market demand and customer opinion most, which is very necessary for project decision-making. The transformation of technological innovation achievements into products has to be fulfilled by manufacture. Manufacture staff most knows whether present producing condition (craftwork, equipment) meet the requirements of target products, whose opinion is extremely important for the design of product development route. Whether the developed project is economically feasible, whether they are competitive after entering market, and whether they create profit for corporations, all need right judgement from professional finance persons. Where to obtain the materials required by product development and manufacture, and how to obtain, need to follow what purchasers say. Obviously, the decision-making and implementation of corporate technological innovation needs the overall participation of technology, selling, finance, manufacture and purchase persons, besides managers. As for decision-making, they could give evaluation and opinion on what they are familiar with respectively, which can reduce the uncertainty and risks of decision result.

Secondly, corporate external coordination system is supposed to be established. The government supports corporate technological innovation, which mainly strengthens governmental service function, i.e. service in coordination. For instance, local governments organize and establish union working of technology management departments and department of economy and management. They unify and coordinate relevant work of plan, economy, technology, finance, tax, custom, industry and commerce departments, instruct, supervise, stimulate corporations to carry out and fulfill national corporate technological innovation guideline and policy, simplify governmental affairs, increase government working efficiency, solve the difficulty and problems emerging in corporate technological innovation in time, greatly further the construction of agency institutions, like corporate technology service center and corporate technology market, and establish social environment and service

platform beneficial to improving corporate technological innovation level.

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