

## Analysis of the Corporate Culture of Science and Technology Intermediary

LIN Qiaoyan<sup>[a],\*</sup>

<sup>[a]</sup> Professor, Taizhou Radio and Television University, Taizhou, China.  
\*Corresponding author.

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### Abstract

The core of science and technology intermediary corporate culture is knowledge and talent, which is characterized by mobility and openness. The key of science and technology intermediary corporate culture lies in harmonizing the following relations based on a common platform: the relation between soft core and hard constraints; the relation between flow and residing; the relation between openness and self; the relation between whole and part. The core competitiveness of science and technology intermediary and be cultivated through the building of corporate culture.

**Key words:** Science and technology intermediary; Corporate culture; Core competitiveness

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In the 1990s, as China turned to the market economy, there appeared enterprises that had not been seen for a long time, and corporate culture was put on the agenda of daily business activities. As a special kind of enterprise, science and technology intermediary naturally has its own corporate culture. After searching, I was a little surprised that it was only slightly mentioned in the article, and only a few articles focused on the culture of science and technology intermediary (Chen, Liu, & Lou, 2002). But they do not directly involve the corporate culture, and the contents discussed can be applied to other enterprises. This paper attempts to explore the unique corporate culture of

science and technology intermediary. In order to simplify the discussion, this paper does not distinguish between government or private, and profit or public welfare.

Science and technology intermediary, the four words itself have clearly defined its basic attributes: intermediary, which is distinguished from the enterprises that usually focus on production and manufacturing, and the main content of science and technology as intermediary, which is distinguished from the real estate intermediary that is blooming everywhere. In order to narrow the scope of discussion, this paper first explores the unique knowledge and knowledge level of science and technology intermediary, and then discusses the enterprise culture of science and technology intermediary on this basis.

The core of science and technology intermediary enterprise culture is knowledge and talents, which is characterized by mobility and openness. The key of science and technology intermediary enterprise culture lies in: On the basis of the common platform, dealing with the relationship between the soft core and the hard constraint, the relationship between flow and residence, the relationship between openness and self, and the relationship between the overall situation and the local situation. Through the construction of enterprise culture, we can cultivate the core competitiveness of science and technology intermediary.

### 1. KNOWLEDGE LEVEL OF SCIENCE AND TECHNOLOGY INTERMEDIARY

As we all know, the general sense of corporate culture has a relatively clear level. The corporate culture of science and technology enterprises generally has the following levels: the material level as the foundation, including assets and property rights, main production equipment such as factories and assembly lines; the material level

as the foundation of the enterprise, from bottom to top, stipulates the behavior of employees, especially the grassroots employees who operate directly on the material facilities; on the basis of the behavior mode, it is the system culture of the enterprise, including The highest level of reward, punishment and promotion, as well as the allocation of funds in various fields, is the strategic value orientation of the enterprise. The top level of corporate culture in turn restricts, selects and guides the lower level. This is the operation mode between the upper and lower levels of corporate culture. With the operation of corporate culture, the exchange and coupling of functions occur between enterprises and society. Enterprises export functions to society, provide products and services, show value orientation and positive energy with enterprise image, and society provides people, property, policy guidance and demand information to enterprises.

The corporate culture of science and technology intermediary not only has the general meaning of corporate culture, but also shows differences. General science and technology enterprises need raw materials, workshops, assembly lines, laboratories and quality inspection as the material basis of their operation. The raw materials of science and technology intermediary are information and knowledge. Any occasion of communication and discussion is equivalent to the workshop and workshop of production, etc. In terms of the above-mentioned hierarchical relationship, the level of corporate culture of science and technology intermediary is not from the material level to the spiritual level. Although it does not need the support of funds, it is mainly focused on the knowledge and spiritual level; it is mainly not presented in the "space" at the same time, but reflected in the process of time.

The knowledge and spirit of the culture of science and technology intermediary enterprises can be divided into the following levels. At the bottom is scientific and technological knowledge, which must have a special knowledge background to understand, exchange and share. In order to provide services such as technology development and promotion, technology evaluation and demonstration, and new technology trading, science and technology intermediary must grasp the maturity of scientific and technological knowledge, potential risks and uncertainties, commercialization prospects, and other scientific and technological knowledge matched with the project connotation. On the one hand, science and technology are highly differentiated and become more and more detailed. On the other hand, they are integrated into one. Therefore, it is more necessary to integrate science, technology and various kinds of knowledge. The higher level is financial knowledge, which involves financing, credit guarantee and property rights trading services. It not only needs financial knowledge, but also relates to the expectation of future technology and market and the credit of all parties. It is necessary to grasp the development

trend and laws of relevant social fields, as well as ethics and morality to a certain extent. Professional services such as policy consultation, management and law involve relevant knowledge in the political and legal fields. As for services such as innovation training and talent exchange, we need to have a deep understanding of the operation situation and needs of enterprises. With the development of knowledge from science and technology to humanities and Social Sciences, science and technology intermediaries have been more and more deeply involved in the operation of bilateral markets and related market entities to understand their credit and values.

In the above knowledge and spiritual level, scientific and technological knowledge is non-embedded coding knowledge (Lu, 2006), which is expressed in clear and rigorous logic. "Non embeddedness" means universal application, which has nothing to do with the specific object and its context, and has nothing to do with the specific subject. What science and technology intermediary should do is to embed such "non embedded" knowledge into specific enterprises, products, services and markets through a series of operations, so as to complete the transformation from non embedded to embedded. In this transformation process, we need to understand, and then deeply understand and grasp the context and subject of scientific and technological knowledge to be embedded, which involves a lot of coding knowledge originally embedded in various subjects and departments, such as the operation status of small and medium-sized enterprises, the actions of local governments, the likes and dislikes of financial institutions, the attention of the media, etc., and then we need to deal with all kinds of people, so as to establish trust and trust Emotional connection. In this process, tacit knowledge proposed by Polanyi is becoming more and more important. From scientific and technological knowledge to the knowledge of Humanities and Social Sciences, from rigorous non embedded coding knowledge to embedded coding knowledge, and then to the tacit knowledge, which is unique to the private relationship between individuals, constitutes the unique knowledge level of scientific and technological intermediary. Generally, the level of corporate culture is relatively clear, while the spiritual level of science and technology intermediary corporate culture may overlap, crisscross, or even invert. When contacting the scientific research achievements of universities and research institutes, we need to predict the possibility and risk of transformation, the feasibility of policies, and even the capacity and acceptance of the future market.

The level of enterprise culture of science and technology intermediary is more reflected in the process of time than in space. On the path of knowledge transfer from universities and research institutes to small and medium-sized enterprises, we need to first understand the content and maturity of scientific research achievements, and then judge whether there is a possibility for one or

several enterprises to accept scientific and technological achievements according to the situation of small and medium-sized enterprises we have mastered in advance, and make preliminary exploration. If we intend to, we need to consider the intervention of financial institutions, and so on, and repeat between the two sides act as a go-between. Universities and research institutes can also outsource or crowdsource the “last mile” of the project to small, medium and micro enterprises through science and technology intermediaries. Universities, research institutes, science and technology intermediaries, as well as small, medium and micro enterprises form an innovation and interest community with a common vision.

On the path of reverse guidance of universities and research institutes by small, medium and micro enterprises according to market demand, science and technology intermediaries sort out and summarize the requirements of small, medium and micro enterprises, and then communicate with universities and research institutes; universities and research institutes select and combine the existing scientific and technological knowledge according to social demand and their own strengths.

Whether it is the transfer of knowledge from universities and research institutes to small and medium-sized enterprises, or from the latter to study and research, when science and technology knowledge and Humanities and social science knowledge are gradually integrated, the contact between science and technology intermediary and all parties also goes deep into the embedded coding knowledge and tacit knowledge. The embeddedness of knowledge and even a sense of intelligence means that the relationship between the parties with knowledge is getting closer and stronger.

It can be seen that the distinct evolutionary characteristics of the corporate culture of science and technology intermediary: with the gradual expansion of the function of science and technology intermediary, the level of the two sides and themselves will be improved, from scientific and technological knowledge to the knowledge of Humanities and Social Sciences, from the non embedded coding knowledge which is the basis but does not recognize people, to the tacit knowledge which injects integrity and emotion, and has a common vision.

The most important assets of science and technology intermediary are not buildings and money, but knowledge, especially embedded coding knowledge and tacit knowledge. It is the coupling and matching between these knowledge. In other words, it is the person and interpersonal relationship who master these knowledge, and it is the appropriate institutional arrangement among these talents. It is based on this institutional arrangement that we can learn, share and innovate the internal knowledge of science and technology intermediary, as well as the benign interaction between science and technology intermediary and society.

## 2. FIVE GROUPS OF RELATIONS OF ENTERPRISE CULTURE IN SCIENCE AND TECHNOLOGY INTERMEDIARY

From the above analysis, we can extract five groups of relations of science and technology intermediary enterprise culture.

### 2.1 Common Platform and Unique Technology Intermediary

The most important resources of science and technology intermediaries are information and knowledge, including customers in bilateral markets and their supply and demand relations, as well as the policies of the government, financial institutions and the media; the most important services provided by science and technology intermediaries are also information and knowledge. Most of the information and knowledge as resources belong to non embedded coding knowledge, which can and should be exchanged and shared. What science and technology intermediaries do is to judge and select bilateral market customers on the basis of these initial information and knowledge, further explore their supply and demand, process and transform valuable information and knowledge, and then provide them to bilateral market customers.

In this process, science and technology intermediaries, including all existing and potential customers in bilateral markets, need a platform for information gathering, exchange and sharing at the beginning, including relevant markets and their main bodies. This platform is not only the extension of the boundary of all market players, but also not private by any players. For science and technology intermediary, this platform is particularly important. In a sense, it is the “raw materials” and “assembly line” that science and technology intermediary relies on to survive, and it is the “material basis” of science and technology intermediary.

Xiamen Zhongkai Information Technology Co., Ltd. (keyi.com) proposed to build an innovation platform covering six centers and the whole process of science and technology resources, docking activities, technology trading, technology brokerage, policy application and data mining<sup>1</sup>.

Zhejiang University proposed the construction plan of Taizhou scientific and technological achievements transformation service platform<sup>2</sup>. The platform covers five resource databases of science and technology supply and demand, science and technology enterprises, science and technology intermediaries, science and technology experts and achievements transformation, as well as five service

<sup>1</sup> Xiamen Zhongkai Information Technology Co., Ltd. (Keyi net) (2014, March). Construction and operation scheme of regional science and technology innovation service system.

<sup>2</sup> Construction plan of Taizhou scientific and technological achievements transformation service platform (September 2013).

centers of information supply and demand release, science and technology online exhibition, expert online interview, science and technology information consultation and achievements transformation. The scheme has rigid requirements for the system architecture, maintenance management, friendly interface and running environment of the platform.

The platform implements the following concepts.

The material facilities of the platform are shared by the relevant subjects, which helps to save resources; the spiritual connotation is unique to each subject, which helps to enhance their own brand, popularity and mutual coupling, so as to promote the upgrading of industrial structure. In the era of knowledge economy, it is transformed into non embedded coding knowledge sharing. Embedded coding knowledge and tacit knowledge are unique, and the latter two are the life of market subject. The platform's IT facilities and their maintenance, management, upgrading and compatibility are mainly paid by the government, and various market entities, such as technology intermediaries, spend money to buy services; the platform reviews the qualifications of all participants, and accumulates the integrity records of all parties in the process of operation. It is on the common platform that technology intermediaries cultivate their own unique corporate culture and form the coding knowledge and tacit knowledge embedded in technology intermediaries. It must be pointed out that the platform is not a "public Grassland" in the traditional sense, which can be used by all parties at will, with only rights but no responsibilities; the platform clearly defines the responsibilities and rights of all parties. When the platform builds a common foundation for the operation and development of all parties, in turn, all parties, including science and technology intermediaries, are promoting and completing the project. In the process of their own development, they expand the platform, condense the platform and strengthen the platform by providing new users, data and knowledge for the platform.

The common platform and the unique technology intermediary show the importance of the government's action to the market economy, especially to the technology intermediary and its enterprise culture. By the way, what we mean here is the "common" rather than "public" of the platform, which means conditional opening up; the "unique" rather than "private" of science and technology intermediary means the opening of its functions and the back feeding of the platform.

The platform has layers. If the platform is further subdivided by region, technology, industry and market, all parties concerned will further unite and develop groups with more functional coupling in terms of willingness, aspiration and supply-demand relationship<sup>3</sup>. The formation

of mutual sharing of embedded coding knowledge and tacit knowledge will be closer and closer to a relatively independent technology intermediary, its commonality will decline, and the market function will gradually become prominent. The level of platform also shows that as an enterprise, the nature of science and technology intermediary is vague. On the one hand, the government can't help intervening in the market operation beyond the fuzzy boundary; on the other hand, science and technology intermediary has some attributes of public welfare.

## 2.2 Soft Core and Hard System

Different from enterprises that provide commodities in material form, science and technology intermediaries can not find a "steel bar" or a "brick" all over the body. The inside of science and technology intermediary is employees and their knowledge, which is flesh and blood, hard to price knowledge, and even tacit knowledge. However, because of this, the soft core can not only obtain excess added value and "spillover effect", but also may have violations, bribery and other events, so it is more necessary to supplement with hard constraints, that is, the necessary institutional norms. The platform needs a hard system, especially the science and technology intermediary. However, the institutional norms of science and technology intermediary will not be like the nine to five check-in of steel mills, but a kind of "artistic" management mode. Traditional culture and modern options may play a role in the enterprise culture of science and technology intermediary.

In terms of external relations, whether it is bilateral, or government, financial institutions and media, the content of communication between science and technology intermediaries is also all kinds of knowledge from science and technology to humanities, from coding to meaning, which implies more or less uncertainty and risk. In the process of exchange and transmission of these knowledge, uncertainty and risk are also transferred, and then amplified. Therefore, it is necessary to arrange the rigid restriction of the system on the basis of the "soft interface" of all parties. In addition to the contract in the general sense, it may be necessary for the venture capital and insurance industry to intervene in various ways, not only to avoid the parties concerned from taking too much risk due to the soft content of the exchange, but also to have enough time and space under the hard constraints to let the soft knowledge show its talents.

No matter inside or outside, rigid or flexible, the fundamental environment is undoubtedly a perfect market economy. Including the science and technology intermediary, the main body of each party can be state-owned, private or multiple ownership, and the mode of operation can be profit-making or non-profit. It needs to have appropriate institutional arrangements, so that all parties can play games and cooperate in a relatively fair and transparent environment, and the government

<sup>3</sup> Report on the work of Taizhou center of Zhejiang University Industry University Research Alliance (June 2017).

should also act as a competent watchman. At present, some science and technology intermediaries have the background of government, which inevitably leads to such a question: is the government one of the actors or the watchman, or both? Can power be imposed on it? In Adam Smith's view, limited institutional arrangements and repeated games will lead the market players to keep their promise. In view of the fact that science and technology intermediary involves knowledge from science and technology to humanities and Social Sciences, involves all kinds of subjects, and the incompatibility between projects, each subject may have different interpretations of the same matter, so it is necessary to employ relevant legal advisers as part of the hard constraint.

### 2.3 Flow and Residence, Evolution and Steps

Knowledge flows into and out of the technological intermediary, and no one can step into the same river twice. The life of science and technology intermediary lies in flow. However, if we only see the flow of the river and do not build a riverbed to regulate the flow of the river (Wittgenstein), the river may run, leak, piping, overflow, or even destroy the dam. In the era of big data and information flooding, knowledge explosion needs to "learn to forget", science and technology intermediaries need to build their own knowledge base according to their position in the market. On the one hand, they need to carefully select the knowledge that is consistent with the knowledge base and conducive to their own development, and eliminate irrelevant and unfavorable knowledge. On the other hand, they need to be ready to absorb new knowledge to expand the knowledge base. The development of science and technology, market and society. The progress of big data is also worthy of attention at any time.

For science and technology intermediary, it is more important to build case base. Generally, enterprises maintain their own survival and development with orders. Science and technology intermediaries complete the cases of communication between production and research, and mobilize and coordinate various resources from the government, financial institutions and media to promote the combination of production and research, so as to maintain their own survival and development. In the case of mass production, although the orders of enterprises will change, they are similar. In this process, we should accumulate experience, formulate and modify the corresponding rules and regulations, so as to make the operation of enterprises more effective. The cases of science and technology intermediary are varied, each project has its own personality, involving different subjects, the relationship between individuals (inter subjectivity) is ever-changing, the knowledge to be exchanged has its own merits, and the context of universities, research institutes, small and medium-sized enterprises is very different. However, it is precisely

because of this that technology intermediaries need to find and explore common ground from all kinds of cases, abstract and extract valuable experience from every employee who participates in and deals with, so that it can become the common wealth of technology intermediaries and be shared among employees, so that they can not start from scratch when they take over the next case. As such generalized and abstract knowledge goes beyond specific cases and individuals, it has the attribute of non embedded coding knowledge to a certain extent. It is necessary for technology intermediaries to take good care of their own case base and make clear their intellectual property rights, so as to avoid infringement due to employee turnover and other reasons.

In this way, technology intermediaries can evolve step by step and become bigger and stronger.

### 2.4 Openness and Self

Although the title of "open" can be put on all enterprises and institutions, it is particularly prominent and important for technology intermediaries. They not only face the "bilateral" market, involving all departments of government, finance and media, but also contact with researchers in laboratories, salesmen in front of shopping malls and perhaps housewives. Opening up, like flow, is the life of science and technology intermediary. Flow, need to stay; open, also need to maintain self. The so-called "self" of science and technology intermediary mainly refers to the following aspects:

First, the specific region mainly involves the regional economy; outside the region, on the one hand, it increases the cost; on the other hand, it is difficult to compete with the local science and technology intermediary. Second, the contact and close contact of bilateral customer groups; such a customer group needs long-term exchanges and accumulation, not a day's work. The third is the alternation of the virtual and the real. Although the platform and network are the extension of science and technology intermediary, a large number of science and technology intermediary and their main work need to go deep into the bilateral market players, go deep into the scene, in order to feel the intention of all parties in a specific context. Fourth, we should know exactly what kind of technology, industry and product we are familiar with; although there is a trend of "integration" between industry and product, barriers still exist. Finally, the direction of knowledge flow is from research to production, from technology to market, or vice versa, from market to guide scientific research, or two-way. Warren Buffett's advice is that do not understand things do not touch.

Of course, the so-called "self" is not rigid, can expand, can move, but should not easily cross into unfamiliar areas. Only when something is not done can something be done. In the final analysis, "self" is the clear positioning of self and development path. After all, only in such an interval can science and technology intermediaries

skillfully and properly use their “knowledge distribution power” (Li, 2003). Beyond this scope, science and technology intermediaries will not be able to do what they want, and even “mismatching” and “mismatching” of knowledge will occur, which will not only fail to achieve the expected purpose, but also affect their precious reputation. Rogers warned that a successful investor must be close to what he is familiar with<sup>4</sup>.

It can be seen that the service space of science and technology intermediary is limited, which requires a lot of face-to-face communication, on-site understanding and all-round feeling. Therefore, it is not necessarily “bigger”, but “stronger”.

## 2.5 Global Optimization and Individual Interests

In a project, the highest goal of science and technology intermediary is not to achieve the best of an individual including itself, but to achieve the best of the whole. In his “actor network”, Latour explains the process of a technology moving towards the society and finally being accepted by the society. All relevant “actors” join in with their own preferences, resources and expectations for the future. Therefore, social relations determine the success of a technology. This is the original intention of Latour, which aims to explain the “social construction” of technology. This paper does not deal with this point, but “actor network” is suitable for science and technology intermediary. So far, the researchers of actor network focus on the relatively “metaphysical” field of philosophy of technology, while the researchers of science and technology intermediary focus on more specific issues, and the two sides have not been combined. In fact, every subject in the bilateral market, including the science and technology intermediary itself, is a stakeholder or “actor” in the process of matching technology with market and society. As one of many actors, the special role of science and technology intermediary is to achieve “translation” between the “existing” and intention of each actor, that is, the communication between interfaces. Through translation, we can find the “necessary passage point” (OPP) between various actors and on the way from “existing” to the realization of intention. Each actor has his own card, and tries to determine his own role in the future project, in a more favorable position. It is at the “must pass point” that all parties also see the cards on the hands of other subjects, and finally recognize the role of other subjects in future projects. Such a “necessary point” is a special “intermediate knowledge product”. Science and technology intermediaries apply the power of knowledge distribution, translate and integrate the knowledge and interest demands of all parties, so as to achieve “intermediate knowledge products”, so that all parties can go to the “necessary point” together in the

process. On the basis of “must pass points”, all parties shall make their own commitments in the whole project.

As an intermediary of science and technology, it has a vision beyond all parties and binds its own interests with the overall optimization. Science and technology intermediary is not only one of the actors, but also the “network” itself. Each subject has its own strengths, preferences, interests and social relations, and hopes to maximize its own interests in the project. One of the principles of system theory is that the local optimum is not necessarily the global optimum. In order to achieve the global optimum, individuals must compromise and tolerate, and bad actors must be eliminated, and violations such as bribery must be identified and avoided. As an intermediary of network science and technology, it also needs to comprehensively consider economics, politics, technology, applied science research and social change, as well as future consumers and consumption environment. When considering the global optimization and individual interests, the orientation of science and technology intermediary is not only the actor, but also the network that connects and condenses the actors.

## 2.6 What is the Core Competitiveness of Science and Technology Intermediary?

On the basis of the common platform, embedded in the region, have a correct self-positioning, familiar with the bilateral market and the way of conversion between the two, have extensive and in-depth contacts in the government, finance and media. We take the overall optimization of the project as our value pursuit, have strict and transparent institutional arrangements, and are good at self-learning. Last but not least: honesty. Honesty embodies the rigidity of science and technology intermediary in the flexible internal and external relations. In the current general lack of integrity, integrity is a scarce resource, which will produce the largest spillover effect.

This is the core competitiveness of science and technology intermediary.

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<sup>4</sup>The style of a master [http://blog.sina.com.cn/s/blog\\_50400e7e0100aghe.html](http://blog.sina.com.cn/s/blog_50400e7e0100aghe.html).