

The Main Body Behavior Analysis of Science and Technology Cooperation for Department and City of Henan Province

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Abstract. The main bodies for participating in the “Science and Technology Cooperation between Provincial Departments and Governments at Municipal and Prefecture Level” refer to the provincial departments, governments at municipal and prefecture level, relative enterprises, science and research institutions and universities. The motivations of provincial departments participating in the Cooperation is for promoting the local economic development. The governments at municipal and prefecture level participated in the Cooperation in the hope of achieving the preferential policy from governments at a higher level. The enterprises participated in the Cooperation for the purpose of realizing the maximum benefits when facing intense market competitions. And universities and science and research institutions participating the Cooperation is for the purpose of realizing their own organizational functions.

Keywords: Science and Technology Cooperation; Science and Technology Cooperation between Provincial Departments and Governments at Municipal and Prefecture Level; Behavioural Analysis

1. Introduction

The main body for the department and municipal cooperation in science and technology participation of Henan province is departmental government, municipal-scale government, related enterprises scientific research institutes and universities (Table 1) . How do the motivations of the main body participating in the cooperation turn into the macro behaviours? Firstly analyze how the motivation influences the behaviour.

THE EXAMPLES OF THE MAIN BODY FOR THE DEPARTMENT AND MUNICIPAL COOPERATION IN SCIENCE AND TECHNOLOGY PARTICIPATION OF HENAN PROVINCE.

Names of the agreements	Participation main body
<i>The strategic cooperation agreement of jointly building the energy-saving and environment-protecting equipment industry demonstrative base between the department of industry and information and Luoyang</i>	<i>Department of industry and information , Luoyang government</i>
<i>The work consultation between the department of science and technology and Pinfdingshan</i>	<i>Department of science and technology , Pingdingshan government</i>
<i>The area technical achievements transportation and product , study and research cooperation meeting of Henan province jointly held by the department of science and technology and Puyang</i>	<i>Department of science and technology , Puyang government , scientific research institutes and universities</i>
<i>The scientific information conference together held by the department of science and technology , the department of science and technology of Zhumadian and Zhumadian</i>	<i>Department of science and technology , Zhumadian government scientific research institutes and universities</i>
<i>The scientific and technological cooperation agreement signed by Zhoukou and Henan industrial university</i>	<i>Zhoukou government , Henan industrial university</i>

Material sources: Henan government gateway website and some related government websites

Motivation exists in the theoretical category of economics all along especially in normative economics. The study object of economics is the relationship between needs and ways of allocation.^[1] In the classic and new classic synthetic economics’ theory .Economic people’s hypothetical theory believe that the occurrences of altruistic phenomena are accidents. Only egoistical behaviours have the general meaning, in other words,

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the motivation of all behaviours are egoistic ,and the final result of behaviours is to realize the balance of Nash . Motivation is thought to be the external variant influencing the economic behaviour. Obviously, it's not realistic to abstract real people as "economic people", all economic motivations are not egoistic while altruistic motivation exists still. Various needs must lead to various motivations. According to this, the Cambridge schools put forward to use motivation to explain the economic behaviour of Human being. Motivation gradually starts to turn from external variant of behaviour into the internal variant and the theoretical knowledge of the relationship between motivation and behaviour has been promoted. According to the view of Maslow, motivation might be realized targets or satisfied needs with restrained conditions. Analyzing the organization, the science and technology cooperation for department and city of Henan province has the feature of obvious main body participation, that is, the enterprises are cooperative participations, who dominate the concrete practical activities of the cooperation; the government is the cooperation coordinator, who guides、organizes and coordinates the normal operation of the science and technology cooperation; scientific research institutes and universities are the supporters of the cooperation, who participate in and provide some related research service of the cooperation. Because of the different roles of the cooperative main body, the motivation of participating in the cooperation activities is different, too. (Table 2.) It's very important to the development of technology whether different cooperation participants' motivation can reach an agreement and form the same cooperated behaviour or not. In a word, the main body of science and technology cooperation for department and city's functions is different, the motivations of participating in the cooperation are different too, so are the participation cooperation behaviours.

THE MOTIVATION OF THE PARTICIPATING MAIN BODY OF SCIENCE AND TECHNOLOGY COOPERATION FOR DEPARTMENT AND CITY.

The classification of the participative main body	The motivations of participating in the cooperation
<i>government</i>	<i>Fulfill the area economic development needs</i>
<i>enterprises</i>	<i>Enlarge market occupancy,Society responsibilities</i>
<i>Scientific research institute</i>	<i>Organization function</i>
<i>universities</i>	<i>Society needs</i>

2. The government main body behaviours analysis

The motivation of the government to participate in the scientific and technological cooperation mostly is to promote their local area economic development. Since the function of the government is to provide the public service and products for the society. Their chief responsibilities are to develop the area economy, provide employment opportunities and improve the people's livelihood. Improving the area science and technology level through cooperation is decisive to the relevant areas which can strengthen its status in each industrial value chain, optimize the area industrial structure and improve the quality of the area economic development. Therefore, to improve the area development is a motivation that the government participates in the cooperation of science and technology.

2.1 The behaviour analysis of departments participating in the cooperation

There are these departments participating in the cooperation, for example, the science and technology department 、department of human resources and social guarantee 、the commercial department etc. are the departments of the science and technology cooperation for department and city of Henan province. The participation ways of science and technology department are the scientific and technological work consultation; the technical project information conference and product、study and research cooperation meeting; the department of commerce is to further the commercial development strategic agreement.

2.2 The behaviour analysis of local government participating in the cooperation

The local government participating in the science and technology cooperation for department and city of Henan province.we can see that most of the local governments participating in the science and technology cooperation for department and city adopt the scientific and technological consultation and cooperative frame agreement.

3. The main Body Behaviour Analysis of Enterprises

The purpose of producing and running by the enterprises is to achieve the maximum profit. Nowadays, economy is becoming globalization day by day. If the enterprises want to attain their purpose, they must meet the need of the market and produce products which can be in the advantageous position in the fierce competition. And if they want produce products that can compete well in the fierce market competition to get maximum profit, the level of the market concentration, market performance and market structure of the property where the enterprises are have important influence to them.

The concentration of the market is the concentration level that the market offers. As a market structure, it has key influence to the difference of the market products and permission entrance to the market, reflecting approximately the competition of the market. Market concentration influences the enterprises through encouragement as well as sieve and regulation to the technology innovating of new products' commercialization. For "the level of the concentration of the market confines the structure of the market" [2] "generally speaking, the higher the concentration level of the seller is, the less fierce the market concentration is," [3] this is the SCP three-paragraph theory constructed by F.M.Scherer(1970): the market structure governs the market conduct, and the market conduct governs the market performance. Market performance is the important reflection in the industry development state and evolution stage, the development state of the enterprises and the quality of development is the reflection of that of the property. That is to say, the concentration of the market influences the behaviour of the enterprises' maximum profit.

3.1 The Behaviour Analysis of the Technology-advantageous Enterprise

In the cooperation for department and city, enterprises especially those who have technology advantage are the concrete practicer, the character and behaviour choice of them influence the development of the cooperation for department and city profoundly. The enterprises who have technology advantage are the human dignity carriers of core technology, as well as the pushers who push the core technology to the market widely. During the course of the cooperation, whether the advantage of the enterprises can be brought into full play and whether the technology advantage of the core technology can be expanded through the cooperation for department and city and then change into competition advantage of the market and maximum profit of the enterprises decide the success or failure and development of the cooperation for department and city. However, what cooperation way or technology innovating behaviour that is adopted by the enterprises not only depends on the technology ability and technology foundation of themselves, but also is confined by the character of technology. Only choosing this cooperation behaviour that is compatible of available technology and core technology, may the cooperation for department and city be successful. Under this presupposition, the technology advantage and innovating behaviour of the enterprises can develop continually in the cooperation for department and city. Besides, only choosing to participate in "ability available" technology innovating cooperation, can they attain the maximum profit and can the cooperation for department and city be successful.

3.2 The Behaviour Analysis of Resource-advantageous Enterprises

We can see from the chart1, under the presupposition of market economy and economy globalization, the purpose of the enterprises who have resource advantage participating in the science and technology cooperation is to achieve market advantage even the monopolization advantage which has much to do with the maximum profit. Enterprises possessing resource advantage is not equal to possess market advantage and monopolization advantage, only combining the resource and technology advantages together, can enterprises convert resource advantage into market advantage even monopolization advantage, can they attain the purpose of maximum profit. Therefore, the enterprises who possess resource advantage participate in the science and technology cooperation and carry out technology innovation is one of the alternative market strategies to them, and is means but not purpose to them. What way do the resource-advantageous enterprises choose to cooperate and what technology innovating action do they adopt? This is decided by the harmonious degree between this means and market goal. However, the market goal of the enterprises has close relationship with the development stage which it is in. And the development stage of it has close relationship with the scale of it, so why the scale of the enterprises and market concentration level has profound influence to the action of technology innovation? The reason is also that the innovation desire(motivation) and ability is also changing with the change of the scale of the enterprises and the market concentration level. When the development stage and scale of the resource-advantageous enterprises meet

the more fierce challenge from market, but the means that the enterprises themselves deal with the appropriate challenge is limited, the desire that the enterprises participate in the science and technology cooperation to innovate technology is stronger. For instance, the area science and technology achievements conversion and product, study and research cooperation negotiation of Henan held by the science and technology department of Henan and the government of Puyang, the government of Puyang represents the related enterprises hoping eagerly to carry out intelligence cooperation, program cooperation, talent-cultivating and science communication etc. cooperations with science and research institute and universities according to the principle of “advantage-complementing and developing together”. All the related departments in different level of Puyang introduce the advantage of resource and environment etc. to all the experts actively, asking them for our technology demands sincerely. Obviously, many enterprises in Puyang possess resource advantage, but under the fierce market competition and confined by the development stage where they are in resource advantage can't represent directly the market advantage, all the leaders of governments in different level see the disadvantage of the economy development of Puyang, so they make most of the coordination function, and encourage enterprises to participate in science and technology cooperation actively, using their resource advantage and combining the development stage where they themselves are, to get advantageous opportunities in the competitions through influencing the development direction of the market concentration, to attain the purpose of expanding the scale of the market through borrowing outside force in order to develop the economy of Puyang.

4. The Behaviour Analysis of Other Main Bodies

Among the participating main bodies that participate the science and technology cooperation for department and city, except for government and enterprises, science and technology institutions and researching universities are also the participators of science and technology cooperation. The behaviour of their participation is from organizing their function location, the result of participation is the technology innovation that both the cooperation sides get. To the science and technology institution and researching universities, technology innovations attain the social function of themselves' organization; to the enterprises which participate in the cooperation, technology innovation not only decide the prosperous or death of themselves, but also even influence the related property and the economy development of that area. That is to say, the technology innovation formed by science and technology cooperation is related closely to the public interests. Of course, if the science and technology institutes and researching universities depart from the activities of technology innovation related to the public interests, this organization loses or weakens the value of its' existence.

4.1 The Behaviour Analysis of The Science And Technology Institutes

With the deepening of reforming and opening to outside and the forming of socialism market economy with Chinese characters, the self function and location of the science and technology institutes in our country occurred profound: accelerating the reform steps of the science and technology institutes under the demands of market and to better serve the economy construction and social development; our country should mainly support programs to give support to activities of technology innovation through competition to choose superiority; set up managing and motion system of “opening, circulating, competing and coordinating”.^[4]

4.2 The Behaviour Analysis of Universities

Since mid 1990s, the academic community brought in the conception of “researching universities” from abroad, creating high level university became conscious behaviour of some universities of our country gradually. Universities approximately have the following shacters: having enough research(including humanity, social science research) and exploitation funds, the teaching of teachers is approximately equal to science and technology study, the quality percent of graduates and undergraduates is no lower than 1:2.5, can produce continually enough science and technology achievements which can bear the competition both at home and abroad. However, the ability of universities' relating to the fields of social culture, science and technology and meeting the social demands can most reflect the value of universities. Therefore, in the latest ten years, with the link of academy and science researching, universities in our country continually strengthen the relationship with society and make important active difference in the interaction with economy society development, at the same time displaying huge pontencial, universities combining with the practice of

society economy development and meeting the various demands of society is the request of society development and also is the actual choice that universities represent self social function and value.

It is reported by the Henan daily on January 17th, 2011^[5], on the state science and technology awarding meeting held in Beijing, as the first one finished two programs of the farming university of Henan both awarded the second prize of science and technology progress. In the three science and technology awarding program statistics and sorting that universities is the first finished community awarded in 2010”, the quality of prize which this university awarded ranked the 16th among the universities of our country, ranking the first among all the universities of our province.

Achieving all these achievements is closely related to their actively participating in the science and technology cooperation.

Through the analysis on main bodies which participated in the Science and Technology Cooperation between Provincial Departments and Governments at Municipal and Prefectural Level, it clarified the purpose of every main body participating in the Cooperation, and lay the foundation for the future development of the Science and Technology Cooperation between Provincial Departments and Governments at Municipal and Prefectural Level and cooperations among other organizations; meanwhile, contributed on the goals of adjusting the industrial structure and transforming the economic developing way which are undergoing in Henan province, and saved costs for realizing the better and faster economic development of Henan province.

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