

Research on Business Mode of Technology Business Incubator

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Abstract: the technology business incubator has been put forward for more than 60 years since the first time in Joseph Mancuso 1956 years in the United States. This paper mainly summarizes the operation mode of the technology business incubator, and looks forward to the future research.

1. Introduction

The practice of incubators began in the United States. American entrepreneurs Joseph Mancuso inspired by hens in 1956, First put forward the concept of "incubator ". Incubators can create a nurturing business environment for startups, To facilitate the provision of resources, services, etc. So objectively greatly improved the survival rate of new enterprises. Our incubator originated in the late 1980s, China's first technology incubator was established in June 1987," Wuhan high-tech enterprise innovation service center ". In the next 30 years of development, Incubators have become the "multiplier" for promoting the development of regional high-tech industries and revitalizing the regional economy. The average survival rate of small start-up enterprises in China is generally not more than 30%, However, the survival rate of newly-created small business incubated by incubator can reach about 85%. At present, our incubator has entered a rapid development stage, The transformation from extensive growth characterized by improving the infrastructure environment to intensional growth characterized by improving operational efficiency and social benefits is being realized.

At present, the issue of technology incubators (with many aliases, such as business accelerators, research parks, science parks, knowledge parks, innovation centers, etc.) has attracted the attention of more and more scholars, policymakers and industry leaders. Therefore, this paper mainly reviews the operation mode of technology incubator.

2. Mode of operation of technology incubators

The research on operation mode in the literature is mainly from the division of operation mode, university science and technology park mode, company incubator mode, network incubator mode, profit model, business model and so on.

(1) Division of operational modalities. According to the different stages and needs of the development cycle of high-tech enterprises [1] Jin Jialin et al .(2004) put forward six kinds of high-tech industry incubator models: intermediary type, government-led type, venture capital type, company type, market promotion type and strategic cooperation type, and carried out comparative research. Yang Gang et al .(2007)[2] analyzed the constituent elements of the technology business incubator, studied the operation mode of the technology business incubator, and compared the business operation mode led by government investment, the business operation mode led by government investment, and the business operation mode led by private investment. Wang Hongwei et al .(2010)[3] by analyzing the operation mode of the case of science and technology business incubator, it is considered that the main body of construction of science and technology business incubator has changed from government-oriented to enterprise-oriented, and the operation mode has gradually changed from enterprise-oriented, public welfare-oriented to enterprise-oriented and market-oriented operation.[4] Lu Gang et al .(2017) put forward the concept of incubator development 4.0 model based on the analysis of the incubator from the beginning of 1.0 mode with

space rental as the main mode to the current 3.0 mode with shareholding incubation as the main mode. shi yang et al .(2017) summarized five development models of innovative incubators in suzhou around the construction requirements of innovative incubators: open space type, university support type, industry focus type, investment-driven type, media extension type.

(2) University Science Park model. Yue Zhonggang et al. (2011)[6] analyzed the operation mode of university business incubator from the aspects of operation subject, incubation mechanism, selection and regulation of incubated enterprises. Lin Qianhui (2017)[7] based on the theory of Xiongbit innovation system, analyzes the optimal operation mode of university student entrepreneurship incubator under the background of "mass entrepreneurship, mass innovation" through three aspects: entrepreneurial subject, entrepreneurial carrier and entrepreneurial resources.[8] Zhang Lei (2017) thinks that the university science and technology park should give full play to the advantages of relying on the university science and technology park with complete discipline, knowledge and talent density, and explore the advantages of its own policy preference, innovative environment, as well as the strong social capital, management and market demand advantages of its region, and explore the incubation operation mode of high-tech enterprises with their own characteristics.Zhai Bowen et al .(2017)[9] studied the logical relationship, chain incubation theory and embedded innovation theory of creative innovation and entrepreneurship on the basis of analyzing the causes and obstacles of mass entrepreneurship and innovation in college students, and explored the ecosystem model and construction path of mass entrepreneurship and innovation incubation in university.

(3) Incubator model.huahui et al .(2017)[10] based on the basic principle of incubator operation mode, defined the analysis framework and core elements of the business incubator operation mode. from the perspective of open innovation, we deeply explored the business incubator operation mode of the company, which is divided into four types: crowdsourcing company incubator, search company incubator, seed company incubator and platform company incubator.zhang jing et al .(2016)[11] compared the differences between external and internal incubators in detail, and deeply explored the operation mode and core elements of internal incubators. Although the internal incubator is still a new thing in China, the internal incubator of science and technology enterprises has its unique advantages in capital docking, technical support, management output, incubation ability.

(4) Network incubator model. Su Jingqin et al .(2011)[12] analyzed the generation mode of high-tech incubation network from the perspective of dynamic evolution, and put forward three modes of high-tech incubation network generation: derivative network of scientific research institutes, derivative network of group enterprises and multi-agent joint network. Lv Bo (2015)[13] based on the construction of the virtual incubator system of entrepreneurship under the "Internet +", aiming at the "disadvantages "and" advantages "of the virtual incubator of entrepreneurship, puts forward the halo effect and the overlapping effect, which can provide a reference paradigm for the upgrading of traditional incubators and the construction of virtual incubator system.

(5) Other models. Zhang Lijian (2004)[14] analyzed the operation mode of "Xiaguang mode "(which aims to better assist and support science and technology projects to go to the society and market, mainly aimed at universities and scientific research institutes with science and technology projects, who want to go to the sea but do not want to give up their original position, position experts, professors and other science and technology developers, which is a" no park "incubator mode), and analyzed the innovation of" Xiaguang mode "in two aspects of incubator theory and incubator management mode.Ailing Wang (2009)[15] combined with the development of incubator in China, put forward the establishment of government-led market operation profit model, government-led socialized operation profit model, private-led enterprise operation profit model and mixed mode profit model, and so on. Liang Yunzhi et al .(2010)[16] analyze the operating characteristics of incubators from the perspective of business model, and try to clarify the business logic of incubators and the source of value of incubators for entrepreneurship. The business model of incubator is defined, the five-factor analysis framework of business model of incubator and the four quadrant diagram of business model of incubator are given, and four typical business models of

incubator are analyzed. Ren Xiaomin et al .(2015)[17] on the basis of expounding the connotation and content of incubator technology innovation service mode, put forward three kinds of technology service mode —— financial leading type, technology penetrating type, guiding external force type to explain the corresponding situation and service path of each service mode, and put forward the solution path according to the problems existing in incubator for medium and small technology innovation service.

3. Conclusions and prospects

To sum up, first of all, the theoretical research of incubator is not deep enough. Because the main body of creating incubator is mostly university, government and non-profit organization, this makes the hypothesis premise of basic economic principle invalid or needs substantial modification. Although many studies have used the theory of organizational structure, competitive advantage, resource base, learning base, social capital principle to explain the incubator phenomenon, the basic theory research of incubator is still very weak and rough, which requires more in-depth research by later researchers. Secondly, the government-led incubator construction model helps our researchers to make great progress in understanding the role and influence of the government in the incubator development cycle and in analyzing the external effects of the incubator as a public product, and the dominant position of the incubator in our country is also conducive to a deeper understanding of the positive significance of the incubator to promote scientific and technological innovation. But on the other hand, this advantage also leads to the neglect of the significance of the research of incubator in our country to the local, social and economic units outside the government to take the initiative (not under the government administrative intervention) to participate in the construction and management of incubator. Therefore, Chinese researchers face more arduous and arduous tasks than foreign researchers.

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