# Establishment of Chongqing Higher Vocational Education Ecosystem from the Perspective of Business Development

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**Abstract**. To know about how to establish Chongqing higher vocational education ecosystem from the perspective of business development, this paper studies and analyzes the connotation, characteristics, classification and evaluation methods etc by following systematic and scientific research ideas according to basic principles of ecology, and finally obtains characteristics of Chongqing higher vocational education ecosystem such as openness, complexity and nonlinearity etc, and stability and health are important factors to promote sustainable development of this system.

Higher vocational education ecosystem is a subsystem of social system. Establishment and development of Chongqing higher vocational education ecosystem from the perspective of business development are obvious characteristics of continuous improvement and innovation of education system during social development, and also reflect human beings' profound understanding of the relationship between their development and social & natural environment. Active establishment of higher vocational education ecosystem in Chongqing reflects responsibility of the development of Chongqing higher vocational education cause and serious attitude. However, there are few researches on characteristics and specific establishment methods of higher vocational education ecosystem at home and abroad. Therefore, this paper studies and analyzes relevant aspects to provide certain reference for future researches.

#### I. Theoretical foundation and research methods of higher vocational education ecosystem

Unlike other education systems, higher vocational education ecosystem has characteristics of composition and complexity etc, and its theoretical research foundation mainly involves four disciplines, namely humanities and social sciences, natural science, information science and social development science, and includes social psychology, pedagogy, ecology and system science etc in terms of specific discipline. Besides, its research methods also break through traditional limitations, and gradually realize continuous innovation of multidisciplinary, multilayer and multi-field research methods.

#### II. Internal connotation and external extension of higher vocational education ecosystem

Broadly speaking, ecosystem is the unity consisting of all kinds of biomes on earth and living environment; narrowly speaking, ecosystem refers to a closely linked unity formed gradually during material recycling, energy flow and information exchange among systems etc under mutual influence and interaction between biomes and between biomes and natural environment etc within specific space and time, such as a forest, a lake, a river, a region and even the entire biosphere, which are all ecosystems. Besides, new ecosystem concepts such as human ecology and psychology and education ecology etc are continuously introduced. The research and development of education ecology have new inspiration for establishment of higher vocational education ecosystem. Unlike other ecologies, education ecology mainly analyzes and studies on the relationship between internal relation and external environment of education system by principles related to ecological study. Many well-known scholars like Ma Shijun and He Zubin et al have put forward constructive suggestions and opinions for the establishment of ecosystem, providing powerful theoretical guidance for higher vocational educational reform in Chongqing. Therefore, we should explore

constantly about establishment of higher vocational education ecosystem from the perspective of business development, and add new connotation and value.

## III. Evolution characteristics and structural composition of higher vocational education ecosystem

## 1. Evolution characteristics of higher vocational education ecosystem

The development and evolution of higher vocational education ecosystem have taken several thousand years. This ecosystem develops until now from initially simple and closed one, shows booming development and gradually becomes open and complex. Higher vocational education system is based on education in ancient times, and its development and progress are greatly related to elite education in the Spring and Autumn Period in China and educational policies carried out in the 5<sup>th</sup> century BC in ancient Greek and India. The development of education cause in ancient China has very profound influence on the establishment of today's higher vocational education ecosystem, such as Confucianism private schools in the Warring States Period, Imperial College and private schools in the Period of Two Han Dynasties and imperial examinations in Sui and Tang Dynasties etc. A lot of talent training related to education cause and establishment of education system are the deep foundation of China's education cause. With the change of the times and social progress, cultural exchange becomes increasingly fast at home and abroad. At the development stage from the medieval era to modern times, academic research thoughts were of continuous progress and reform in foreign countries, generally creating a free academic research atmosphere, combined with the occurrence of university prototype subsequently etc. Thus, a good theoretical and practical foundation is laid for the development of contemporary education ecosystem. Therefore, Chongqing shall take history as a mirror when discussing and studying on problems related to the establishment of higher vocational education ecosystem from the perspective of business development, learn and communicate actively, so as to make unexpected achievements.

## 2. Structural composition of higher vocational education ecosystem

This ecosystem contains producers, consumers and decomposers. From the perspective of natural science, main subjects of ecosystem include two categories, namely producers and consumers. Similarly, main subjects of higher vocational education ecosystem from the perspective of business development can also be divided into the above two categories. Producers in higher vocational education system mainly refer to groups or individuals with educational function and significance, such as higher vocational education colleges, scientific research institutes and organizations etc, which provide opportunities and platform for people with education demand through certain channels like green plants in nature and the products have certain contribution value for the society, such as students with self-worth and social value etc. In a simple sense, consumers in higher vocational education system are beneficiaries of scientific achievements and higher vocational education services etc, mainly include students, companies and employers etc, and could choose and enjoy services provided by education platform according to their demands. Unlike producers and consumers, decomposers are to decompose products of producers and consumers by a certain way or channel (chemical or physical) and play an irreplaceable role in ecosystem. Organizations and groups with this performance in higher vocational education ecosystem mainly include higher vocational education administrative departments and their affiliated functional departments, which play a unique role. In a word, producers, consumers and decomposers are all indispensable for the establishment of higher vocational education ecosystem, and we should be based on current conditions, seize development opportunities, combine fully with business development status of Chongqing, and promote the establishment of higher vocational education ecosystem.

#### 3. Education eco-environment

Unlike natural ecosystem, the establishment of natural eco-environment of higher vocational education ecosystem should be carried out from the following three aspects. Firstly, take education as the core of establishment, combine fully with external environment, and promote the

establishment of compound higher vocational education system and environment; secondly, be based on higher vocational educational institutions, level and the relationship between internal and external education system, and promote good environment establishment of education system; and thirdly, be based on personal development, and specific research content mainly includes external environment and conditions that affect individual physiology and psychology. In a word, the establishment of higher vocational education eco-environment plays an important promoting role in the construction of higher vocational education ecosystem, and rigorous solution deployment and discussion of relevant departments in Chongqing are more required in order to establish higher vocational education system from the perspective of business.

#### 4. Value chain and value net

In higher vocational education ecosystem, the role of value chain and value net is just like food chain and food web in natural ecosystem. Generally speaking, food chain and food web, which are a hierarchical relationship gradually formed by various types and levels of creatures through the relationship of eating and ate, link the entire ecosystem closely, maintain orderly circulation of matter and energy of the entire ecosystem, and are the foundation and guarantee of the development of natural ecosystem. However, in higher vocational education system, food chain and food net have greater values than in natural ecology. The establishment of value chain among each functional department of higher vocational education system, educational institutions and employers can realize information communication and feedback effectively. Value net is a higher level of value chain, and thus could achieve a higher level and broader field of value exchange and accumulation, and play an important role in the development of higher vocational education ecosystem.

### IV. Categories and classification methods of higher vocational education ecosystem

## 1. Classification according to educational level

According to different educational levels of higher vocational education, higher vocational education system can be classified as systems with multiple educational levels such as graduate, undergraduate, higher vocational education and junior college education etc respectively, and each system has different educational environment and educational objectives etc.

## 2. Classification according to attribute of schooling units and disciplines

According to attribute of schooling units, education ecosystem can be classified as national public, provincial, municipal and private education systems etc. According to characteristics of disciplines, higher vocational education system can be classified as comprehensive, multidisciplinary and single-discipline education systems etc.

## 3. Classification according to industry category and educational region

According to characteristics of different industries and training orientation, higher vocational education ecosystem can be classified as education systems of aerospace, medical science and pharmacy, and military etc respectively. According to geographical distribution in China, higher vocational education ecosystem can be classified as three main regions namely the eastern region, central region and western region according to geographical characteristics. There are many classification bases and methods if classify in detail, and the above education ecosystem classification methods are quite significant and important, in order to provide valuable reference for related theoretical researches in the future.

#### V. Analysis and evaluation methods of higher vocational education ecosystem

#### 1. Analysis method of higher vocational education ecosystem

As mentioned in section one, higher vocational education system has characteristics of complexity, nonlinearity and composition etc, and is a comprehensive system. Analysis of higher vocational education eco-environment shall fully combine characteristics of education system, and

take appropriate methods and means, such as application of mathematical techniques and methods, system and linear techniques and methods etc, which play a huge role in analysis of integrity and hierarchy etc of higher vocational education system. In most cases, we generally recommend the combination of mathematics and system analysis for analysis of higher vocational education ecosystem by usually the following steps. Step one: confirm main components of higher vocational education ecosystem generally based on research purpose and requirements that research shall meet. Step two: establish a model, and express the relationship between elements and components with the model intuitively. Step three: analyze mainly exchange process of value information and energy among components. Step four: test model, which is conducive to forming contrast with actual higher vocational education ecosystem and ensuring higher vocational education ecosystem to be objective and reasonable.

## 2. Evaluation methods of higher vocational education ecosystem

According to examination of functional value and perfection status etc of evaluation system of existing higher vocational education ecosystem of Chongqing and even the country, China has inadequate evaluation methods for such ecosystem, and continuous improvement and perfection are required. Generally, we evaluate higher vocational education system from the following three aspects. (1) Evaluation subject, because of different schooling subjects of higher vocational education in China, schooling subjects and forms mainly tend to be national education and investment form, which show powerful government leading role, weaken evaluation power of objective subjects to a certain degree, and hinder the establishment of evaluation system, and thus relevant departments in Chongqing should improve and perfect constantly in this respect. (2) Evaluation function, for the establishment of higher vocational education ecosystem, practical functions of evaluation shall be introduced to actual methods, such as student loan and voluntary choices of college entrance examination etc, in order to comply with talent demands of social development. (3) Evaluation scope, evaluation scope of higher vocational education ecosystem shall be constantly expanded, such as: construction of institutional environment and cultural environment etc. Besides, establishment of specific evaluation methods of higher vocational education ecosystem should try to avoid subjective evaluation, depend on specific materials submitted by departments, quantify evaluation indexes, and evaluation indexes should be comparable and quantitative etc. Meanwhile, include talent training level and quality, academic research level and field, and specific situation of social services etc into evaluation content of education ecosystem, and build a model and data monitoring system that are suitable for comprehensive evaluation, in order to ensure that data collected at different levels and scales could play an effective reference role and realize the goal of evaluating comprehensively higher vocational education system.

#### VI. Conclusions

To sum up, the establishment and development of Chongqing higher vocational education ecosystem from the perspective of business development should be based on its development characteristics, for example: the establishment of Chongqing education ecosystem should combine development conditions of economy, society and education cause etc of Chongqing in order to promote such establishment. Moreover, the establishment of higher vocational education ecosystem should constantly absorb domestic and foreign advanced culture and technologies, and promote continuous improvement and perfection of this ecosystem, to make contribution to national and social construction.

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