

## Research on e-commerce talent training based on service congregation

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**ABSTRACT:** The rapid development of the electronic commerce industry has led to the emergence of the blowout phenomenon because of the demand for talent in the industry chain. Talent is one of the key factors of industrial development that directly affects the sound development of the electronic commerce industry. This article presents an analysis of the present situation of e-commerce personnel training, and further identifies the existing problems. It, then, proposes the multi resource fusion joint training mode based on *experimental teaching, scientific research, enterprise internships, park practice and cooperation*. Thirdly, it describes the collaborative innovation system platform of *comprehensive practice* e-commerce talent training, which takes *coordination and integration* as the main feature. Finally, it presents a list of achievements in the implementation of the talent training innovation strategy.

### INTRODUCTION

E-commerce and logistics are growing as the emerging modern service industry, while the market size has reached up to one trillion Yuan in China in 2013 [1]. The rapid development of electronic commerce and logistics indicates that the sum of the next five years' turnover will account for nearly 20% of GDP.

Zhejiang Province is a developed region in China, with an economy gross and development speed at the top ranks in the country [2]. Its distinctive export-oriented economy, developed professional market, numerous small and medium sized enterprises, and its famous regional economic characteristics provide a significantly good foundation for the development of electronic commerce. And professional e-commerce sites account for the at least 1/3 of national professional Web sites, which is at the forefront of the country [3]. Electronic commerce is a new product of the Internet age. Its significant features are rapid technological development and quick business mode change. The professional e-commerce industry has an urgent need for those with a talent for innovation ability [4].

### AN ANALYSIS ON THE PRESENT SITUATION OF E-COMMERCE PERSONNEL TRAINING

Electronic commerce talent is quite popular in the market, whereas the graduate employment rate from electronic commerce programmes is low [5][6]. The main reason is the e-commerce personnel training. At present, there are several major issues in the process of personnel training as follows:

- Outdated ideas. Electronic commerce is an emerging industry with a fast development pace. There is a large dynamic change in the demand for talent. Some colleges and universities still use traditional ideas of teaching and learning. Such students are often not suitable for meeting the needs of electronic commerce sites.
- A serious lack of teachers. Although electronic commerce is a popular profession, many schools blindly set up the e-commerce programme without adequate analysis of their actual situation. Most existing teachers are from computer, network, management, marketing or other professional backgrounds, with no electronic commerce professional knowledge. The teachers do not have electronic commerce actual practical experience, and quite a few electronic commerce teachers in some schools also come from other professional backgrounds. Many teachers in the electronic commerce teaching are not adequately prepared for the job. Teachers and students are exploring the teaching and learning together.
- Outdated teaching facilities. Some school leaders do not understand the role of electronic business; they regard e-commerce professional teaching as the textbook, a few computers plus the Internet. Some commercial software is inadequate, which leads to the lack of e-commerce operation environment.
- The fuzzy training direction. Many training institutions cannot clearly define the training target of e-commerce talent for future employment. Most training institutions propose flexible targets. This results in a situation that the

students could not meet the market demand based on their school training. And thus, it leads to such a picture that there is a prosperous and encouraging e-commerce HR market, whereas the employment rate is not optimistic.

- The arbitrariness of the curriculum. Because electronic commerce teaching is still in development, the teaching material used and other aspects among teaching institutions are not unified, and are quite random. Many Web sites managers also allege that at present there is a relatively rigid, single teaching mode in electronic commerce content taught at universities. It is difficult for the students to have opportunities to practice, which means that the graduates are not prepared to use the site.
- The lack of skills training. Because the teachers are rarely involved in the actual operation and management of business, the source cases, case discussions, entrepreneurship guidance and practice guidance have been greatly restricted. Although students can practice in the electronic commerce laboratory, the actual business sites are very different from the simulation ones after all.

## INNOVATION OF E-COMMERCE TALENT TRAINING MODE

This article proposes five multi resource fusion linkage platforms: *experimental teaching, scientific research, enterprise internships, park practice and cooperation*, which form the five major service sets for the two innovations and entrepreneurship training programmes.

In view of the existing problems, such as theory divorced from practice, single talent cultivation mode and the low resource utilisation rate, this article firstly proposes ideological thoughts on multi-service linkages and aggregation of innovation and entrepreneurship through the combination of *Government - School - Enterprise - Park*. That is, the cultivation of innovation ability from school, in association with practice ability training from enterprises and operation ability from entrepreneurship parks, under the guidance of government. It includes financial support, tax exemption policies, innovation and entrepreneurship park admission offering support to college student innovation by the government.

The school should guarantee the teaching and research environment, and teachers should transfer basic skills and innovation ability to the students supporting basic knowledge of hardware and software conditions. The enterprises should provide training to improve university students' innovation and entrepreneurship from the real environment. The parks and incubators should provide occupation ability test, entrepreneurship training, entrepreneurship incubating to assess students' ability under such practice platform of innovation and entrepreneurship.

Based on these ideas, five platforms can be created: teaching experiment platform, scientific research platform, enterprise practice platform, park practice platform and cooperation platform. The implementation of the *real complementary, interactive, real, shared* multi resource fusion linkage improves the students' knowledge system development, innovation ability, practice ability, ability and cooperation ability. It forms a new way of cultivating talented students from the government-enterprise-school linkage, promoting progressive electronic commerce of innovation and entrepreneurship.

Due to the particularity of e-commerce personnel training, the five-platform foundation highlights the ideological thoughts on multi-service linkages and aggregation of innovation and entrepreneurship orientation. Each platform service implementation is vertical with horizontal polymerisation, forming a set of services to meet the different levels of training people for *innovation and entrepreneurship* ability.

According to the different cultivation objectives, it is driven by modern business development demand. In classroom teaching, enterprise practice and the actual park operation, there should be stratification, dynamic services selection, matching and connection. The system of knowledge and practice link is regarded as service selection. The training target is regarded as matching the conditions of service. The combination of theory and the practice realises the connection between different levels of service. Consequently, it realises the integration of school, government, enterprise and industrial park resources on e-business *innovation and entrepreneurship* orientation talent training.

## ESTABLISHMENT OF E-COMMERCE TALENT TRAINING COLLABORATIVE INNOVATION SYSTEM

On the basis of the summary of former reform of education and teaching experience, the *practice* concept of education of *coordination and integration* are put forward as the main characteristics. And, on the basis of a collaborative innovation system, it includes a *government, school, enterprise park* four in one training coordination system.

Meanwhile, it relies on 16 items to support and guarantee the system. It stimulates the design of progressive teaching, research and practice as the flexible combination cultivation mechanism. At the same time, through multiple channels of communication between schools and feedback, intercollegiate cooperation in research and development, inter-school experiment teaching resources sharing and interaction, it forms a multi-school linkage, an interactive resources complementary sharing environment. It builds the five platforms of service aggregation, as well as cultivating the innovation and entrepreneurship talent of electronic commerce for the regional economic characteristics. Finally, it could realise the *practice* collaborative innovation education platform.

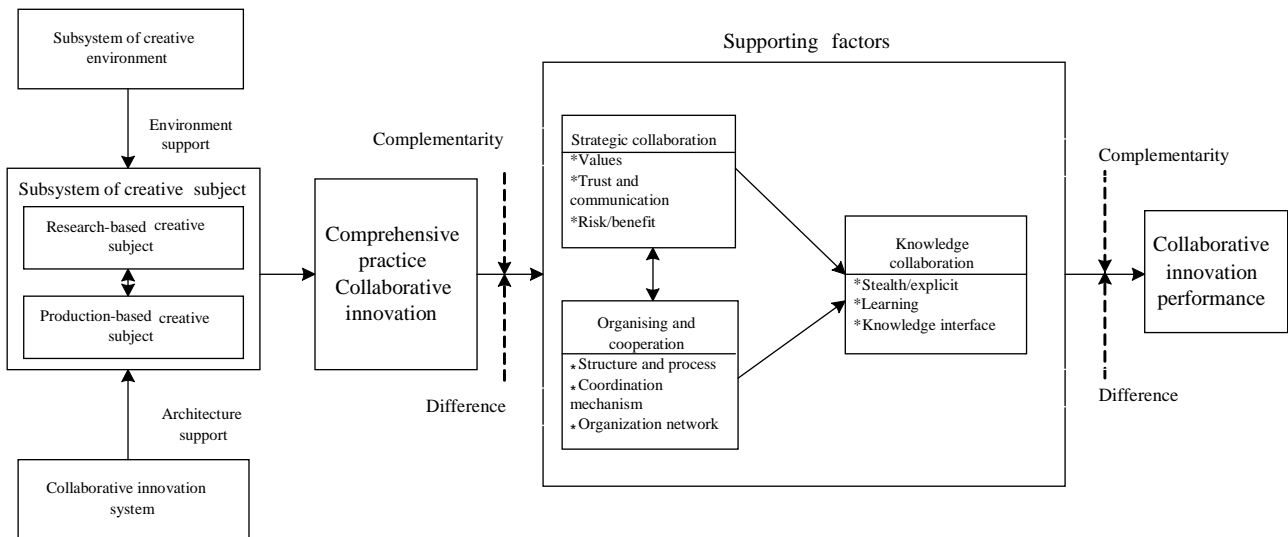


Figure 1: The framework of *comprehensive practice* in education collaboration innovation.

The construction of the curriculum system, the internal stable mechanism, resource sharing and linkage mechanism rely on a modern information technology platform for the sake of multi-directional exchange, diversified cooperation. At the macro level, the main form is through school, enterprise, government, park and industry to make the collaborative innovation implementation.

Figure 1 shows how universities have built *comprehensive practice* in the Education Collaborative Innovation Framework. It comprises two modules: the innovation system module and the coordination module. The innovation system module includes three sub modules; namely, the innovation environment module, the supporting system module and the innovation body module.

The innovation environment sub module mainly provides the corresponding environment supporting conditions, including the multi schools linkage mechanism and the complementary resources environment. The supporting system sub module provides the system guarantee during the innovation process, including the construction of the curriculum system and policy orientation. The innovation body sub module is the practical link for cultivating the innovation and entrepreneurship talent.

Additionally, according to different level requirements, it is further subdivided into the research innovation main body module and the production innovation main body module. The research innovation body module is based on scientific research projects from schools and research institutions, taking scientific research as the main target. The production innovation module is based on Electronic Commerce Park, Hangzhou Park, taking the entrepreneurial practice as the main target, which is an important model of a new generation of electronic commerce and logistics personnel training.

Moreover, the schools proposed a *strategy-knowledge-organisation* in interactive collaborative mode in the innovation practice process, according to the difference and complementarity of problems, which establishes the strategic synergy, organisation synergy and knowledge synergy towards the hierarchical collaborative training cooperative system. During the strategic synergy process, the schools establish a strategic alliance in sharing risks and benefits as the goal based on the *knowledge, technology and information* exchange as the main mode of knowledge creation and service innovation, in order to maintain long-term, stable cooperative relations. Also, it achieves innovation in the strategic level coordination: the park promotes technology innovation by scientific research and talent advantage, while demand helps universities promote scientific research and transformation.

Knowledge synergy focuses on the practice of absorption, digestion, sharing, integration, utilisation and creation in the Innovation Park. The essence is the conversion and extraction of tacit knowledge and explicit knowledge. The schematic diagram is shown in Figure 2. Organisation synergy is a combination of universities, parks, incubators and laboratory resources, providing a full range, deep, specialised collaborative service, according to the market demand. It would optimise the research collaborative innovation external environment to form a good atmosphere for technology transfer.

The three-in-one arrangement between strategic synergy, knowledge synergy and organisation synergy is reciprocal and mutual. The strategic synergy is the foundation through the establishment of good *benefit-risk* equilibrium, which can extend the collaborative innovation. Knowledge synergy is the core, promoting all kinds of effective knowledge flow and sharing integration in the *practice* education platform. And organisation synergy is the guarantee, taking the parallel mode based on cooperation. And, therefore, school, park and incubator can play their respective roles better. This is the final four in one form of school, enterprise, government, park to create favourable conditions for supporting the innovation and entrepreneurship personnel training environment.

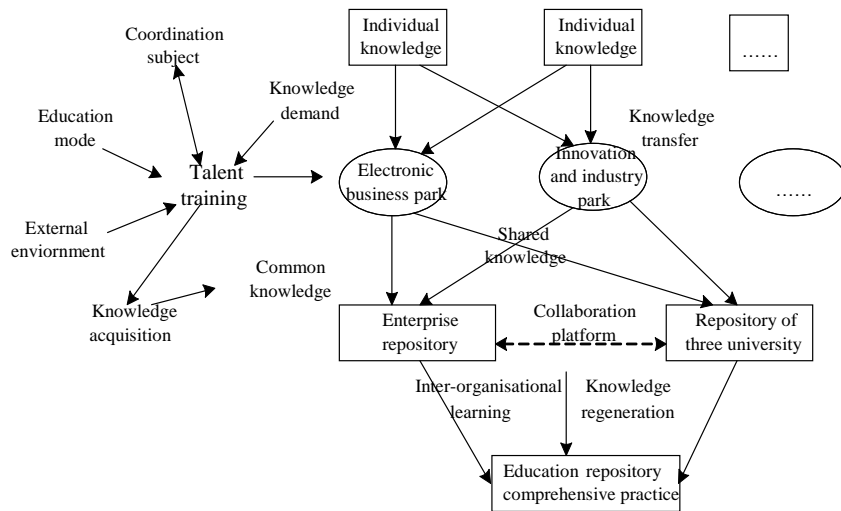


Figure 2: The process of *comprehensive practice* education knowledge collaboration.

The universities operate the scheme based on the school, relying on the market and serving the Zhejiang Province. They take talent training as their target. The curriculum system and collaborative innovation platforms are both developed. Through the effective integration of social resources and school resources, it establishes a multi-channel, systematic training of collaborative innovation system. Consequently, a set of four effective environmental cultures of *school, enterprise, government and park* in one talent training scheme is formed.

- Innovation and entrepreneurship platform establishment of four in one of the school, enterprise, government, park:

First, through the integration of resources, it would realise the win-win reality of school, enterprise, government and park. The school as a linkage associated enterprise, student and park, solves the inventory problem, helps in sourcing and product selection for students in the electronic commerce business. Second, multi-channel, all-round favourable conditions are created for students. Among them, the enterprise as the actual production and operation entity provides technical support and management experience for students. The government provides more preferential access standards and economic support for the student entrepreneurship. The park attracts a large number of students in a more favourable condition for their independent venture and entrepreneurship. Finally, the leading role of the three schools must be played in the development of e-commerce in Zhejiang.

The linkage and interaction of resources sharing characteristics of the training in three universities must be applied, through multiple channels of communication and feedback to teachers, students who can follow the change and update of mode of electronic commerce technology. In that case, it ensures the synchronised development of students' knowledge and the electronic commerce technology, closely integrated with the actual application, as shown in Figure 3.

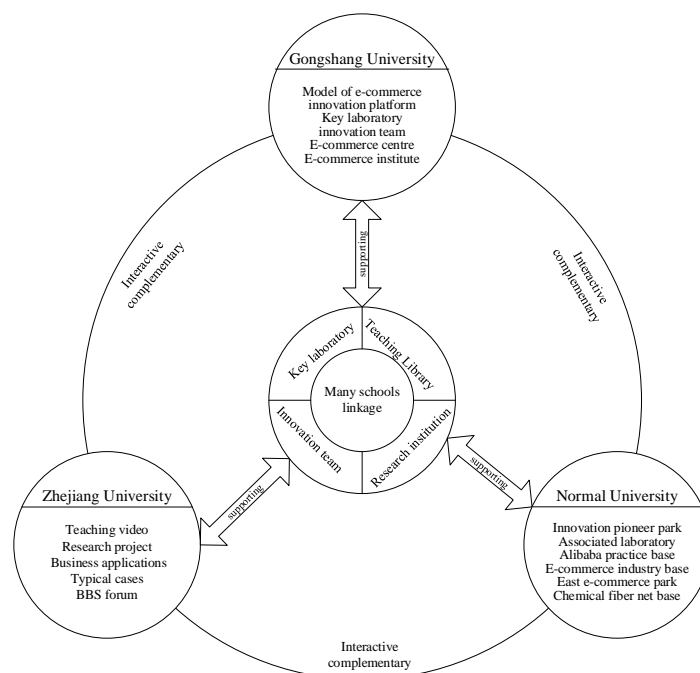


Figure 3: The talent training environment of the linkage and interaction of resources sharing characteristics.

- Innovation and entrepreneurship practice system establishment of four in one of the school, enterprise, government and park:

First, it integrates the delivery platform, e-commerce entrepreneurship competition, the electronic commerce entrepreneurship club, innovation incubation base, forming a complete system of entrepreneurship platform framework. The delivery platform provides products and capital, solving students' practical problems. These students can easily find the needed supply source. The e-commerce entrepreneurship competition can effectively create students entrepreneurial atmosphere, stimulate students' enthusiasm for entrepreneurship, so that many students tend to be on the successful road to entrepreneurship. The innovation incubation base is designed for mutual learning, the resources and experience sharing, which has an important effect on the accurate grasp of the market demand. Second, in order to regulate the students to handle the relationship between professional learning and entrepreneurial practice properly, it should establish the corresponding mechanism.

In this article, the focus is mainly on the students' interests, hobbies, expertise and individual characteristics. But, the system needs to combine with the requirements of network interactive ability, team cooperation ability, project development ability and innovation ability, classifying the mechanical type, imitation type, application type, type and original type. It relies on the 16 supporting items and guarantee system, proposing the actual flexible combination mechanism for talent training of scientific research and teaching practice. Through flexible configuration of knowledge module, experimental/case and other resources, it gradually forms a progressive flexible mechanism of talent cultivation, taking *innovation* as the cultivation objective, as shown in Figure 4.

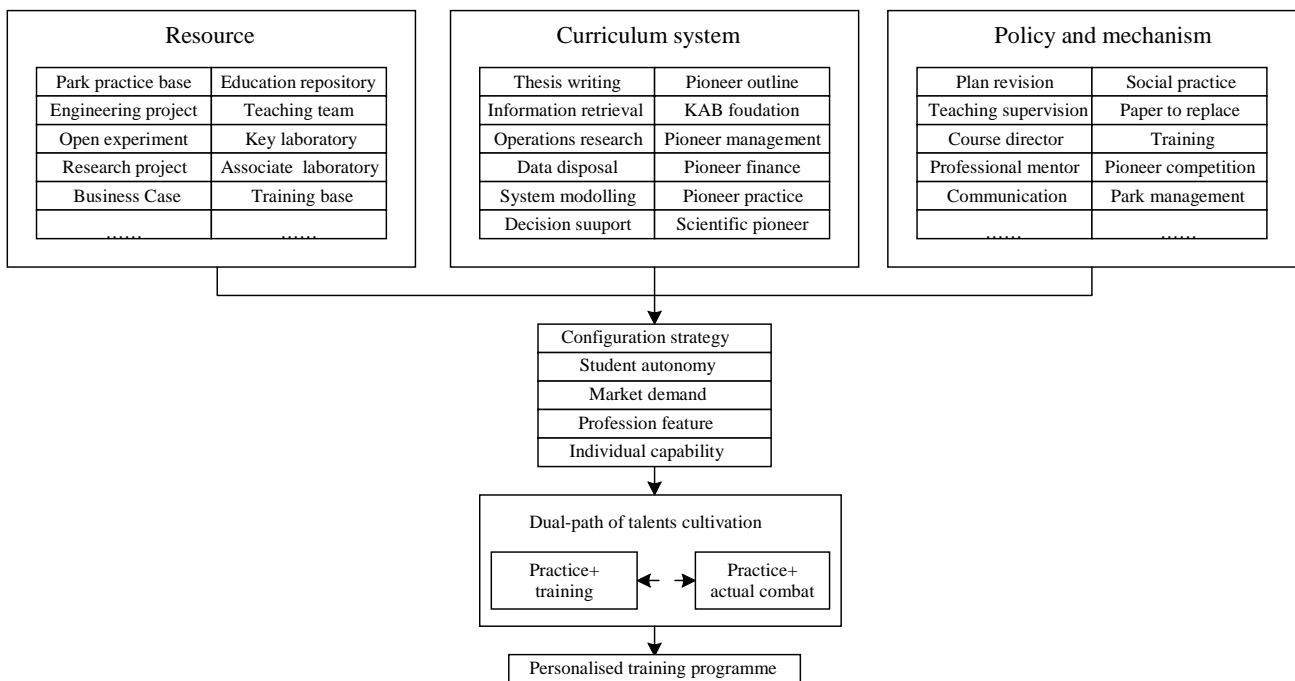


Figure 4: A progressive flexible mechanisms of innovation and entrepreneurship talents cultivation.

#### APPLICATION CASE

The research outcome has led to a full range of applications in the revision and implementation of the curriculum system scheme in these universities. By the end of September in 2013, there were 3,243 electronic commerce undergraduate students, 300 Master's students and doctoral degree students in these schools. Teaching resources and innovative practice platform are involved in seven programmes, as shown in Table 1.

Table 1: Relevant programmes list of teaching reform achievements in three universities.

University	Relevant schools	Relevant programmes
Zhejiang Gongshang University	School of Computer Science and Information Engineering	E-commerce, information management and information system, computer science and technology, software development
Zhejiang University	School of Economics, School of Management, School of Computer	E-commerce, international economics and trade, information management and information system, computer software
Hangzhou Normal University	Alibaba Business College	E-commerce, marketing, international business

A total of 7,600 people participated in the comprehensive experiment and practice, such as the electronic commerce management comprehensive experiment, electronic commerce economic comprehensive experiment and electronic commerce technology comprehensive experiment during the past 5 years. 860 people engaged in the open laboratories, in various types of activities in science and technology that make full use of the resources from colleges and schools. The students' innovative quality and practical ability have improved considerably.

The teaching concept, innovation ability and practice ability have obtained high reputation and praise from other colleges and universities, because of the achievements of the teaching mode adapting social and economic development; e.g. the Zhejiang University has developed a *quality engineering* e-commerce professional knowledge system as the norm. Zhejiang Gongshang University has taken the lead in introducing the concept of innovation and entrepreneurship training. Hangzhou Normal University based on the leading position of Alibaba College in the field of electronic commerce, established an e-commerce innovation park, which forms the talent cultivation environment for the multiple schools linkage. This mode has not only led the three school students to a great success, but has further impacted on the programme settings in other provincial colleges and universities, such as Hangzhou Dianzi University, Zhejiang Sci-Tech University.

## CONCLUSIONS

Continuous development of China's e-commerce industry, puts forward new and higher requirements for the professional cultivation from electronic commerce colleges. If China wants to keep up with the demands of the new era by developing e-commerce talent to meet social demand, it will require the educators in colleges and universities to constantly improve the apparent problems in talent cultivation through the efforts of innovation. Further, it is also necessary to continuously improve the overall quality of teachers in universities and colleges. Consequently, it could enhance the teaching quality to the greatest extent, and cultivate professional e-commerce talent who could meet the current social development demands.

## ACKNOWLEDGEMENTS

This research is supported by the Humanity and Sociology Foundation of the Ministry of Education of China (Grant No. 11YJC630019), the Foundation of Department of Education of Zhejiang Province (Y201329545), the Key Laboratory of Electronic Business and Logistics Information Technology of Zhejiang Province (2011E10005), the Innovative Group of e-Business Technology of Zhejiang Province (2010R50041), the ZJGSU Research Project, Higher Education Research (2014, Xgy14046), as well as the Contemporary Business and Trade Research Centre of Zhejiang Gongshang University (11JDSM02Z).

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