



# Research and Development of Green Pottery Under the Cooperation Platform of University and Enterprise Under Big Data Analysis

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**Abstract.** In order to further understand the local national culture, this paper takes the school enterprise cooperation as the platform, and uses genetic algorithm to study the R & D of Huili Qingtao. Through the simulation study, it is found that the pottery there is named “huilvtao” because of its special chemical composition and mineral composition, so it is used to make various pieces of green pottery. It is also because of its unique geographical location that Hanbao has created a unique ethnic culture in the border area of Hanbao, which is different from Bayu and Chu.

**Keywords:** Genetic algorithm · School enterprise cooperation · Huili green pottery

## 1 Introduction

Huili green pottery is a famous product in Sichuan. Because of the use of “malachite green stone” ingredients and named. The product is gem green, fresh and elegant. There is a clear sound of metal. Glaze does not contain lead, non-toxic, tasteless, high temperature, acid and alkali resistance, unique in Sichuan pottery. In the early 1980s, with the help of Sichuan Academy of fine arts, many kinds of glaze were developed, such as raindrop glaze, iron red glaze, pink blue glaze and so on. The number of products has increased from more than 10 to more than 200, including dragon and phoenix wine sets with rich national style, small and exquisite deformed animals, vases, flower cuttings, wall hanging, table lamps, tea sets, pen washing, etc.

The main raw material of Huili green pottery is white clay, which is made by special technology. The glaze color is made from natural malachite, then added with rice bran mortar and green slurry. The green glaze prepared by experienced glazes is green, crystal clear and extremely bright after firing. In a variety of temperatures, can appear dark green, green and also known as “green vegetables” and other different colors. Because of its green color and unique characteristics, it has been called “green pottery” since ancient times. [2] The Trademark Office of the State Administration for Industry and Commerce announced that “Huili LvTao” was approved for the registration of China’s geographical indication certification trademark. This indicates that “Huili green pottery” has a sign,

and its unique “ID card” with specific humanistic skills and natural resource value has far-reaching significance for promoting the development of Huili green pottery.

With the continuous enrollment expansion of colleges and universities in our country, graduates are facing many difficulties in employment. In order to solve this problem, in addition to policy guidance and creating more employment opportunities, it is of great significance to actively guide and support college students with innovation and entrepreneurship to carry out individual or team entrepreneurship, it is beneficial to create employment opportunities, improve the employment rate and improve the comprehensive quality of talents. The school enterprise cooperation mode can enrich the social experience of college students and improve their practical skills, so as to further stimulate the innovation and entrepreneurship passion of college graduates, Therefore, we must carry out systematic analysis, and then design and develop a college students’ innovation and entrepreneurship experience platform.

## 2 Research on Innovation and Entrepreneurship Mechanism of College Students Based on Multidimensional Dynamic Innovation Model

The innovation and entrepreneurship mechanism of college students involves the government level, the social level, the university level and the enterprise level, which is a system engineering with considerable complexity. The multi-dimensional dynamic innovation model (mdmi) with the dynamic adjustment characteristics of multi factor integration can be used for systematic analysis of the innovation and entrepreneurship mechanism of college students [1]. The multi-dimensional dynamic innovation model can be divided into three sub levels (see Fig. 1): the first level is the entity level, which includes government entity, University entity, enterprise entity and social entity, and is in

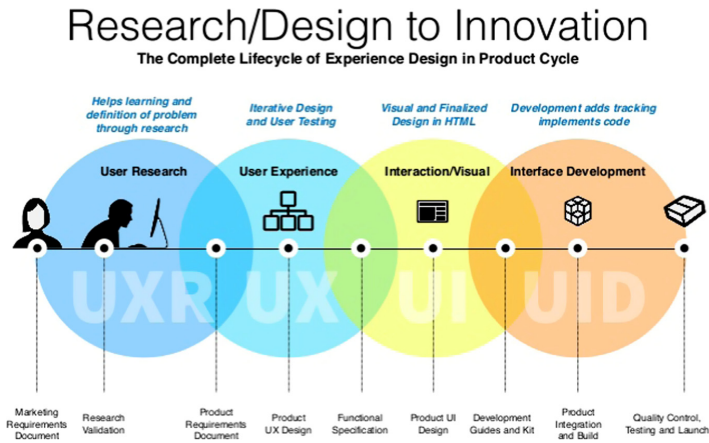


Fig. 1. Research framework of innovation and entrepreneurship mechanism

the dominant position in the whole model; the second level is the influencing factor level, which includes the elements that have great influence on the innovation and entrepreneurship mechanism of college students, and is uncertain, The third layer is the driving layer, including the external factors that drive the innovation and entrepreneurship mechanism of college students, and the driving layer also has uncertainty.

### 3 Research on the Importance of Influencing Factors of College Students' Innovation and Entrepreneurship Based on Multivariate Support Vector Machine

The multidimensional dynamic innovation model established above analyzes the innovation and entrepreneurship mechanism of College Students under the influence of multiple factors from a qualitative point of view, An importance model of College Students' innovation and entrepreneurship influencing factors based on multivariate support vector machine is established. The original SVM model is extended to binary classifier to solve the multivariate classification problem, and the multivariate classification problem is decomposed into multiple binary self classification problems. In order to solve the binary sub classification problem between class J and class k and maximize the boundary between the data, the soft marginal objective function is as follows:

$$\min_{w_j, w_k \in R^d} \frac{1}{2} \|w_j - w_k\|_2^2 + C \sum_{y_i \in \{j,k\}} \xi_i^{jk} \tag{1}$$

$$\frac{1}{2} \sum_{j=1}^c \|w_j\|_2^2 + \frac{1}{2} \sum_{j=1}^c b_j^2 \tag{2}$$

$$\tilde{y}_i = \arg \max_j w_j^T x_i + b_i \tag{3}$$

## 4 Platform Design and Implementation

### 4.1 Platform Requirement Analysis

The principle of requirement analysis needs to meet the following aspects: S1: convenient for users to set the original data and keep it unchanged for a period of time to ensure the stability of the system; S2: ensure that the role is reasonable and unique; S3: the system should have certain pressure resistance and robustness to deal with attacks or data pressure; S2: ensure that the role is reasonable and unique; S4: regular maintenance and update. As shown in Fig. 2. The main function modules of Pinghe include project declaration module, expert audit module, fund management module, project progress tracking module, etc. the project declaration module is the basis of the whole system, responsible for project declaration, budget analysis, etc.; the expert audit module is the core module of Pinghe, responsible for project audit, rationality detection, etc.; The fund management module is mainly used for information interaction between project sponsors and investment users. The project progress tracking module is mainly used to track and promote the implementation status of the project, and is mainly responsible for the final implementation report of the project.

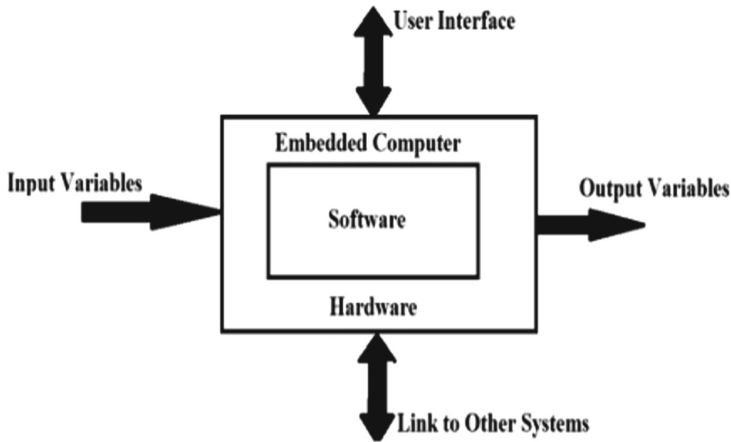


Fig. 2. Platform requirement analysis

## 4.2 Overall Design of the Platform

The function module of student innovation and entrepreneurship experience. The database adopts the database LDK mode, and the key point is to design the data layer 3.3 platform to realize the model reporting, expert review, fund management module in the project. Due to the limited space, only part of the system implementation is displayed. The main frequency of the system is 30 gh. The running memory of the system is 16 GB, and the storage space is 8. It is the system platform for checking the external books. The CPU of the hardware device is Intel Core 5 fineness section audit result B, and the network bandwidth is 20 m [2]. The system data storage software is MSSQL server2015 the servers are connected by LAN, one of which is the master node and the other two are slave nodes. On each Hadoop node (i.e. the server), the first step is to create the user and set the corresponding password; the next step is to modify the/etc./hosts file; the next step is to install and configure SSH, In order to realize the master node's control over the slave node, the last step is to install the Java running environment and Hadoop. After the installation of Hadoop, you need to configure Hadoop. First, you need to configure the environment variables and the Java path. Next, you need to configure the configuration file core- site.xml , hdfs- ite.xml and so on.

## 4.3 Implementation of Project Declaration Module

“The project declaration module is one of the important modules based on the school enterprise cooperation innovation and entrepreneurship platform, which is mainly composed of declaration, modification and other functions. The declaration page includes three parts: the left submenu, the top menu bar and the left submenu of the main page display the corresponding functions, and the page of each module can be opened by clicking the expand button; The top menu bar displays the home page, user management, login / exit buttons; the home page provides information input channels for project applicants. 3.3.3 system login interface users need to log in to the college students' innovation and

entrepreneurship experience platform to carry out the corresponding operation. Users need to enter the user name and password on the login page, The background verifies the validity of the user name and password [3]. After successful verification, it will go to the main page. “Profit seeking” or the pursuit of profit is the natural attribute of enterprises, which is also the internal driving force for enterprises to participate in school enterprise cooperation and form a long-term cooperation mechanism. The author thinks that the opportunity cost of enterprises participating in school enterprise cooperation should be compensated clearly in the revision of vocational education law. The “opportunity cost” here includes two parts. The first is the total amount of enterprise investment that can be estimated by money, such as capital, equipment, technical personnel and posts. The second is the income that can be obtained if these inputs are not used for school enterprise cooperation, but for normal product production. The total amount of compensation should be 120% of the opportunity cost of the enterprise (assuming that the average social profit of the enterprise or industry after calculation).

## **5 Analysis on Actor Network of School Enterprise Cooperation in Higher Vocational Colleges**

After determining the main actors and their relationships in the actor network of school enterprise cooperation, we analyze the translation process according to the problem analysis framework proposed by carlon, which includes four key links: problem solving, benefit giving, recruitment and mobilization, Describe how different heterogeneous actors are “translated” and maintained in the actor network of school enterprise cooperation under the conditions and roles set by the core actors.

### **5.1 Problematization**

The premise of who is the core actor is to make clear who is the core actor. As mentioned above, the tasks of the core actors are: (1) to determine the common goals; (2) to define the categories and interest demands of the actors that may be included in the network; (3) to resolve the contradictions and conflicts of heterogeneous actors; (4) to propose OPP solutions that can be recognized and accepted by different actors. Core actors should have higher authority, coordination and management ability than other actors. From the current domestic school enterprise cooperation, higher vocational colleges often take the initiative to find enterprises to carry out school enterprise cooperation by science and Technology Department, science and technology industry department or school enterprise cooperation office. As a result, many colleges and researchers often refer to the phenomenon of “uneven hot and cold”, “one hot” and so on. The root of this phenomenon lies in the fact that higher vocational colleges do not have the authority, coordination and management ability of core actors, which directly leads to the failure to propose OPP solutions that can be recognized and accepted by different actors, thus forming an interdependent network alliance. In this case, the Ministry of education and local education departments and bureaus (some scholars also proposed that the Ministry of education, the Ministry of human resources and social security, the Ministry of Finance and relevant ministries and commissions jointly set up the top

management organization “school enterprise cooperation committee”) should become the school enterprise Cooperation Bank.

## 5.2 Benefit Endowing

The role of laws and regulations in giving benefits is actually to establish an interest coordination mechanism among different actors, and it is also a means for core actors to ensure that other actors play their roles without “betrayal” behavior, so as to maintain the healthy operation of the whole network. The common practice of European and American developed countries to promote the development of local vocational education is to formulate laws and regulations. Germany promulgated the Vocational Education Law (Basic Law) in 1969 and the Vocational Education Promotion Law (supporting law) in 1981. In 2005, a new vocational education law was promulgated, including “General Provisions”, “Vocational Education”, “organization of vocational education”, “vocational education research, planning and statistics”, “Federal Institute of vocational education”, “punishment rules”, “transitional provisions and bridging provisions”, with a total of 103 articles. This is the right way to cultivate a large number of skilled people.

The vocational education of “school enterprise cooperation, work study combination” is the legal standard. In 1996, China promulgated the “Vocational Education Law” and in 2005, the State Council promulgated the “decision on vigorously developing vocational education”. At the same time, local governments at all levels also formulated and issued many relevant documents, especially in the “Ministry of education, Ministry of Finance on the implementation of the national Model Higher Vocational Colleges Construction Plan” in 2005. After the promulgation of the “opinions on speeding up the reform and development of Higher Vocational Education”, it has focused on supporting 100 higher vocational colleges to carry out key construction, including exploring the school enterprise cooperation system. At the same time, it has also introduced specific policies, including tax incentives, financial support, employment, technology research and development, donations, incentives, etc., to encourage school enterprise cooperation.

## 6 Attach Importance to the Role of Vocational Education Group

From the practice of Vocational Education in China in recent years, vocational education group is conducive to the realization of scale, integration and intensification of vocational education. Vocational education groups have recruited many vocational colleges, secondary vocational schools, enterprises, industry associations, intermediary agencies and relevant government departments, at least in form, initially realizing the complementary resource advantages of heterogeneous actors. What should be done next is to translate the roles, status and interests of different actors in the framework of the new vocational education law, and put forward action plans and development strategies acceptable to all parties. The actor network of school enterprise cooperation needs a vocational education group including all kinds of stakeholders to support, and the selection and recruitment of allies is an important link in the construction of actor network of school enterprise cooperation [4]. Only a sufficient number of allies or member units endowed with appropriate interests can give full play to the attraction and cohesion of actor network. Usually, the

network alliance of school enterprise cooperation actors in Vocational Education Group has the characteristics of circle structure, which is divided into core actors, main actors and outer actors. This requires that in the process of constructing or optimizing the existing vocational education group, the core actors should have good identification ability to other actors, and recruit the appropriate actors through interest endowing, carry out accurate role positioning, and promote the stable operation of the whole school enterprise cooperation actor network.

## 7 Epilogue

Based on the school enterprise cooperation mode, this paper uses multidimensional dynamic innovation model (MDM) to analyze the problems and development trends in the process of College Students' innovation and entrepreneurship activities from multiple perspectives, and constructs a platform for college students' innovation and entrepreneurship experience, which has good performance. The importance of influencing factors of College Students' innovation and entrepreneurship is analyzed by using multiple support vector machine algorithm, the platform is stable, practical and functional. It can better meet the requirements of university innovation and entrepreneurship experience platform.

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