Design of University Students' Entrepreneurial Simulation Platform based on "Internet+"

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Abstract. Combined with the theoretical knowledge of entrepreneurial decisions, the author designs and develops the university students' entrepreneurial simulation platform with the information technology of analog simulation based on the mode of "Software as a Service" (SaaS) of the Internet. This platform can be used for the learning and competition of university students; besides, combining the theoretical knowledge of entrepreneurial decisions learned by university students and integrating theory with practice, this platform can be applied for the decision-making practice of enterprise entrepreneurship. Through simulation analysis, this platform can correct business decisions, reduce the cost of trial and error, get practical experience and greatly save the time cost.

Keywords: Entrepreneurship; Simulation; Internet, University students, Platform design.

1. Introduction

Innovation is the foundation of entrepreneurship, without innovation, entrepreneurship will have no vigor and vitality like water without a source or a tree without roots, and the effectiveness of innovation can be tested only through entrepreneurial practice; entrepreneurship is the carrier and expression of innovation, and innovation and R&D strength is the fundamental support for entrepreneurship; innovation promotes entrepreneurship while entrepreneurship relies on innovation, the two mutually promote and restrict each other and are an inseparable dialectical unity. Entrepreneurship is inseparable from innovation while innovation is not merely the main driving force of scientific and technological progress in contemporary society, but an important factor to boost the development of national economy. Innovative enterprises have also absorbed a lot of outstanding talents. There have been nearly 430,000 entrepreneurs in Silicon Valley, creating 3% of US gross national product. In China, as the government puts forward "mass entrepreneurship and innovation" and releases the policy of streamlining administration and instituting decentralization, the state has offered great convenience and support to market participants. In 2015, as many as 3 million innovative and entrepreneurial enterprises were established within only one year, and the society raises a huge demand for talents with innovative spirits. University students accept new things, new knowledge and new ideas easily, and they are also a group with innovative spirits. In the past 10 years, innovation and entrepreneurship courses have gradually entered the classroom of higher education institutions, and entrepreneurship has gradually become a "required course" before university graduation. However, due to the constraints of place and time, the entrepreneurship classes of most colleges and universities are mostly in the stage of basic theory teaching and are lack of a platform for the practice of a complete system, and the existing curriculum system and teaching model cannot keep up with the pace of social development.

The United States, Britain, Germany and other countries generally use simulation software to assist in teaching management courses, and some simulation software of economic management have been commercialized. For instance, the simulation products of Goventure series products developed by the American Media Spark Company can provide users with more independent rights to select on their own, enterprise management and entrepreneurship can be carried out in industry, agriculture, entertainment industry and more than 20 other industries, and the system is relatively intelligent. Simulation software products have also been well-utilized in the economic management challenges, such as Global Management Challenge (GM C) and Marketing Strategy Simulation (MartStrat). There are also some studies on educational simulation software in China, such as the enterprise management decision system developed by Donghua University and the enterprise competition

simulation system of Guanghua School of Management, Peking University. The entrepreneurial simulation system developed by Kingdee Company is characterized by strong flexibility in the early stage of entrepreneurship, but it lacks the system of entrepreneurial management and the support of decision-making theory of entrepreneurial management.

Combined with the theory of entrepreneurial decisions, the author designs and develops the university students' entrepreneurial simulation platform with the information technology of analog simulation based on the mode of "Software as a Service" (SaaS) of the Internet. This platform can be used for learning and competition; besides, combining the theoretical knowledge of entrepreneurial decisions learned by university students and integrating theory with practice, this platform can be applied for the decision-making practice of enterprise entrepreneurship. Through simulation analysis, this platform can correct business decisions, reduce the cost of trial and error, get practical experience and greatly save the time cost.

2. The Construction Principle of Entrepreneurial Simulation Platform

Entrepreneurship requires not only passion and creativity, the entrepreneurs also need to grasp the management methods and overall management processes of the enterprise's operation, be familiar with the knowledge of corporate management, and university students need to have a comprehensive knowledge of production, marketing and finance. The relationship among the design principles of the system platform is shown in Figure 1:

Figure 1. The relationship among the design principles of the system platform

The simulation platform comprehensively integrates the requirements, production, marketing, finance and other final accounting processes as a whole on the theoretical basis of enterprise decision making. In the construction of decision-making principles, the paper introduces the effect curve of marketing, the game competition model of the market, the gravity model and so on, which realizes the competition simulation of the real environment. In view of the needs for entrepreneurship training of university students, the construction principle is to select a common basic model in the academic field, which is easy to learn and understand and has universal applicability.

This paper studies the construction of the decision-making principles of "Chi's Sweet Home" such as production, marketing, purchase and budgeting. It constructs the optimal decision principle of the same product and a variety of product combinations as well as the sensitivity analysis of production capacity constraints. Moreover, it constructs marketing decisions, including the principle of price marketing decision, the principle of non-price marketing decision, the principle of marketing combination decision and the marketing decision under competitive conditions. Furthermore, it

carries out decision construction on the economic batch and bulk discount purchase of the principle of purchase decision, constructs the cost analysis of comprehensive budget and the principle of profit and loss analysis.

3. The Design of the Entrepreneurial Simulation Platform System

The system is designed and developed in the SaaS mode. The SaaS providers builds all the network infrastructures, software and hardware operating platforms required for informatization to enterprises, and they are responsible for a series of services such as such as all early-stage implementations and late-stage maintenance, and enterprises may use the information system via the Internet without purchasing hardware and software, building computer rooms or recruiting IT staff. Just like turning on a tap for using water, enterprises provide rent business software services for SaaS providers according to actual needs.

SaaS is a mode of providing software services via the Internet, where the provider places the application software on the server, and the user can purchase it on demand. In the SaaS mode, users can log in and use software services through Internet browser without downloading clients, and it is an emerging software development mode based on Internet. This mode reduces or eliminates the traditional software licensing fees, and besides, manufacturers deploy application software on a unified server so as to exempt from expenses for end users' maintenance of server hardware, network security equipment and software upgrade, and update and maintenance are more convenient and flexible as well. The university students' entrepreneurial simulation platform based on the Internet is a potential user group of ten million level. If the system configuration is relatively complex, the terminal used is not compatible, the rental cost of hardware is high and the usage mode is not flexible, it will lead to the poor user experience.

3.1 The Design of Platform System

This design carries out system construction in the SaaS mode with ASP. NET 2. 0 Framework in the storage way of combining SQLServer2009 and XML data files in the three-tier architecture of. NET, which is conducive to late-stage development and maintenance.

The system architecture is shown in Figure 2:

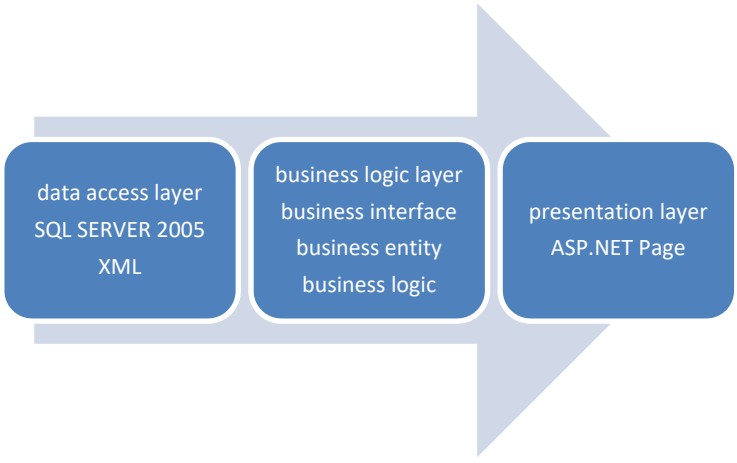

Figure 2. The architecture of the entrepreneurial platform system

The data access layer mainly realizes the increment, update, deletion and query of data, and it is used for the transfer and interaction between data and data with SQL and XML technology. The Saas mode can realize the integration of programs on the Internet, and acquire the functions of the presentation layer through the business logic provided by the software provider. As the interface presented to the user by the system, the presentation layer mainly realizes interaction with the user

and information feedback, while the user can conduct system operation to the web page of the presentation layer through the Internet so as to trigger the entire business process.

3.2 The Design of Function Modules of the Platform

The main methods of system analysis and design include waterfall method, iterative method and object-oriented method, and the function modules of this system is shown in Figure 3:

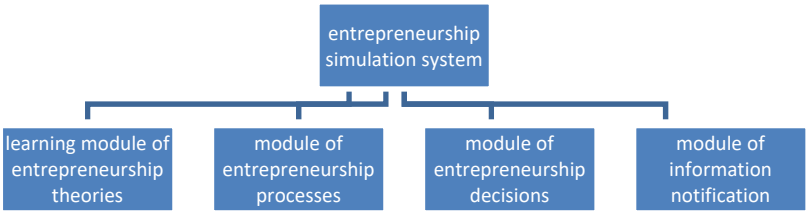

Figure 3. Function modules of the entrepreneurial simulation platform

The learning modules of entrepreneurship theory can be learned through the entrepreneurship guidance on the page, and entrepreneurship guidance pays attention to closely combining theory and operation, which is both supported by entrepreneurship concepts and theories, and has the formulation procedures of establishment processes and decision-making plans of simulation enterprises. It not merely attaches importance to the principle knowledge of entrepreneurship, but covers the setting of various scenes on the entrepreneurship road. The entrepreneurship simulation system includes analyzing the company's industry background, renting houses, writing articles of association, establishment, holding meetings, tax management, handling funds of social security as well as the start-up processes of a great many companies. The entrepreneurship management decision-making module can simulate the environment of the real market, submit the company's decision-making data and view competitors' results, decision-making evaluation results, etc. The information notification module is used to announce and release information to users and communicate with them. On the basis of satisfying users' function actions, it is also characterized by stability and usability, and has simple and good-looking interface.

3.3 The Function Realization of the Platform

The business process of the entrepreneurship simulation platform is shown in Figure 4. The background explanation of entrepreneurship simulation is to introduce the economic and market environment background of the industry in which the company is located currently as well as the organizational structure of the company. In order to make the platform conform to the real market environment, the system manager can set the market environment parameters, economic situation, entrepreneurship cycle as well as multiple economic situation cycles, cultivate the ability of university students to identify market opportunities and improve their adaptability to market economy.

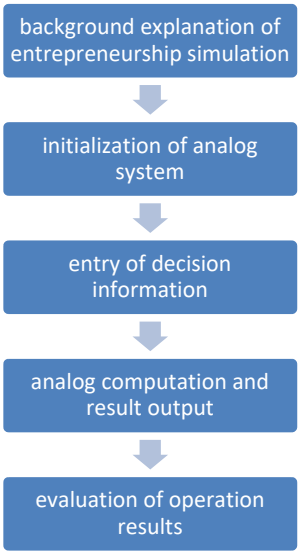

Figure 4. The business process of the entrepreneurship platform

The simulation decision-making data is shown in Table 1. The users as university students can make corporate decisions combined with the company's own circumstances and the market's economic situation based on various market information provided by the simulation system, designate decision-making schemes through the decision-making information of recruitment, and automatically measure the company's operation results after submission. Moreover, users can adjust the scheme through the analysis of result data as well as the overall budget, conduct analog computation of the decision-making results, and view the decision-making results and evaluation.

Table 1. Analog decision data

Data type	Decision-making scheme data project
Purchase type	The number of purchased raw materials, other additional materials, etc.
Production type	The number of production inputs, the number of machines purchased for production, the cost of maintenance, the number of workers, etc.
Development type	The number of scientific research personnel, the cost of product R&D investment, etc.
Market type	Market prices of sales products, advertising investment costs, number of channels, etc.
Finance type	Loan costs, employee benefits, dividend payments, etc.

4. Conclusion

This entrepreneurship simulation platform adopts the SaaS mode and the Internet thinking mode for design, research and development. This entrepreneurship simulation platform has been practically applied in some schools, the feedback results of university students as users are relatively good, and it is expected that it will be promoted nationwide in the near future. This entrepreneurship simulation platform can open up the bottleneck of information asymmetry among entrepreneurial students and enhance the entrepreneurial and innovative capabilities of university students so that they can have a knowledge of market economy and be familiar with the whole process of the company. Furthermore, it integrates the company's decision-making principles such as production, procurement, marketing, accounting and other aspects, and evaluates and analyzes the data through the evaluation system, which is of strong guiding significance for university students' entrepreneurship.

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