Scholar Publishing Group
International Journal of Big Data Intelligent Technology
https://doi.org/10.38007/IJBDIT.2021.020101
ISSN 2790-0932 Vol. 2, Issue 1: 1-9

Model Platform Design of Innovation and Entrepreneurship Dynamic Function Evaluation Theory Based on Big Data

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Keywords: Big Data, Innovation and Entrepreneurship, Dynamic Role, Evaluation Index System

Abstract: "Innovation and entrepreneurship" is an important innovation strategy to change the mode of economic development and realize the new normal of economic development. However, there are few theoretical exploration and practical research on the dynamic perspective of "innovation and entrepreneurship", especially on the evaluation of the effect of "innovation and entrepreneurship" driven development. In view of this, this paper focuses on the analysis of the dynamic role of "innovation and entrepreneurship", explores the essence of "innovation and entrepreneurship" driving economic development, constructs the evaluation theoretical model and evaluation index system of "innovation and entrepreneurship" driving economic development, uses the supply chain management model, designs the evaluation theoretical model platform of innovation and entrepreneurship dynamic role on the basis of big data, and comprehensively applies qualitative and quantitative methods An empirical study is carried out. The research results show that the average response time of the platform is 0.8s under the pressure of the specified number of concurrent users, the throughput is 98 under the pressure and duration of the specified number of concurrent users, the click through rate is 94, the number of transactions per second is 96, and the request processing success rate is 97% under the pressure of the specified number of concurrent users.

1. Introduction

Mass entrepreneurship and innovation are the inevitable requirements of the national development strategy to adapt to the new normal economy. Controlling and selecting talents with innovation and entrepreneurship potential, continuously expanding the talent pool of innovation and entrepreneurship, and providing accurate support and effective incentive measures are the necessary

premise to improve the level of enterprise innovation and service and improve efficiency [1-2]. Innovation and Entrepreneurship Talent work is an important support to promote economic and social development and technological innovation [3]. Innovation and entrepreneurship power evaluation is an important part of innovation and development system and mechanism[4]. The establishment of an evaluation system for scientific and technological innovation and entrepreneurship plays an important role in the establishment of correct jobs. It is necessary to encourage and guide the development of talents, mobilize their enthusiasm for innovation and entrepreneurship, and speed up the creation of talents [5-6].

Innovation is the first driving force of development. At present, with the in-depth development of a new round of scientific and technological revolution and industrial transformation, we must adhere to the fundamental position of innovation in the overall situation of China's modernization, face the boundaries of world science and technology, the main battlefield of economy, and people's life and health [7]. Improve the national innovation system, speed up the construction of scientific and technological team, continue to take the road of breadth and depth of science and technology, and take creating more competitive scientific and technological innovation as the first driving force to promote high-quality development [8-9]. Innovation and entrepreneurship education, as an educational concept and form during the university period, plays an important role in the cultivation of first-class practice and has a unique advantage in promoting the all-round development of students. With the continuous promotion of the construction of undergraduate education, the status and role of innovation and entrepreneurship education in undergraduate education continue to highlight [10].

Under the background of big data innovation and entrepreneurship motivation, this paper uses supply chain management model to design a theoretical model platform for innovation and entrepreneurship motivation evaluation, and establishes a set of dynamic evaluation index system combining quality evaluation standards and other successful experiences. The index system and index weight are adjusted according to the actual situation of the evaluation. At the same time, using the advantages of the Internet, such as intuitive, fast, strong autonomy, a wide range of evaluation objects, dynamic management, easy to store data, reduce errors, efficient and easy to operate, we can establish a good online quality evaluation system, which can provide reference for the construction standard of the platform.

2. Establishment of Innovation and Entrepreneurship Platform and Model

2.1. Characteristics of Innovation and Entrepreneurship

(1) Diversification of subjects

Mass and mass is the "double innovation", which is different from the previous wave of innovation and entrepreneurship. It includes not only the "elite" with high technical level, strong management ability and strong resource integration ability, but also the "grassroots" with limited knowledge, such as migrant workers.

(2) Structure systematization

"Entrepreneurship and innovation" is not the independent innovation and business behavior of individuals, groups or enterprises, but a systematic engineering involving large enterprises, universities, governments and science and technology intermediaries. The government must actively eliminate the institutional barriers hindering innovation and entrepreneurship, create an ecological environment to encourage innovation and entrepreneurship, and create a green channel for innovation and entrepreneurship; colleges and universities must vigorously cultivate innovative

and entrepreneurial talents, skills and quality, actively provide opportunities, environment, resources and resources for students, and transform new ideas into products and services.

(3) Internet sharing

The penetration of Internet technology in various fields has created an important direction for innovation and entrepreneurship. The cooperation of large and medium-sized enterprises in the process of innovation and entrepreneurship reflects the mutual connection and exchange between them. "Double innovation" refers to the sharing of tangible resources between large enterprises and small and medium-sized enterprises, such as innovation and entrepreneurship websites; capital and office systems and operation services, trademark identification, supply channels and market information, breaking the barriers of innovation and entrepreneurship, and constantly improving the efficiency of innovation and entrepreneurship.

2.2. Index Evaluation of Innovation and Entrepreneurship Platform

The index evaluation of innovation and entrepreneurship platform is a comprehensive crisis of the integrity and objectivity of the whole system, including the use of design tools, monitoring tools and influence tools. Different evaluation objectives have different evaluation contents, mainly including the following three aspects:

(1) Macro policy and development status evaluation

This kind of evaluation mainly focuses on the overall planning of innovation and entrepreneurship education. The evaluation of the current situation of entrepreneurship education in Colleges and universities is an important basis for the overall planning of entrepreneurship education in Colleges and universities. By understanding the existing entrepreneurship education, we can constantly improve and optimize the curriculum and system of entrepreneurship education, and promote the awareness and ability of innovative students. Secondly, before the comprehensive evaluation of the current development of entrepreneurship education, we should make full use of the policy evaluation system to evaluate the effectiveness, scientificity and rationality of innovation and entrepreneurship policy.

(2) Process evaluation

The evaluation of the process is a formal evaluation, which is an effective monitoring and analysis of the whole process of the implementation of innovation and entrepreneurship platform indicators, finds problems, puts forward reasonable suggestions, and constantly improves the quality of innovation and entrepreneurship education. In the evaluation of the implementation process, it can not be completed through the evaluation. It should be the indicators in the dynamic development process of the regulatory innovation and entrepreneurship platform.

(3) Influence evaluation

In essence, impact assessment is a kind of summative assessment. Assessment indicators include assessment of relevant impacts, such as objective indicators, subjective indicators of all activities, innovation indicators and business platform. Objective indicators are catalysts of innovation and entrepreneurship activities, which can effectively promote the development of entrepreneurship in China's education, while basic indicators mainly refer to the willingness of individuals to participate in business activities.

2.3. Model Establishment

(1) Supply chain management emphasizes the integration of the business activities of each node into the supply chain. The scope of management includes not only the production and operation

activities within the enterprise, but also the commitment of external suppliers and suppliers, users and end users. In this way, we can better coordinate the relationship between each company node in the supply chain, effectively control the information flow and capital flow in the supply chain, so as to form a flexible and stable partnership and improve the competitiveness of the whole supply chain.

(2) According to the principle of multiple linear regression, the supply chain management model is established by using the data of specific factors.

$$\theta_i = \gamma_{0j} + \sum_{1\to i}^{1} \gamma_{ij}\chi_i + \varepsilon(j=1,2,3) \tag{1}$$

$$\theta_i = \mu_{oj} + \mu_{1j} f_1 + \mu_{2j} f_2 + \mu_{3j} f_3 + \mu_{4j} f_4 + \varepsilon(j=1,2,3) \tag{2}$$

3. Ideas and Methods

3.1. Research Ideas

The research idea of this paper is to establish a set of dynamic evaluation index system through the exploration and analysis of the existing innovation and theory, evaluate the business potential, combined with the quality evaluation standards and other successful experience; the index system and index weight can be adjusted according to the actual situation of the evaluation. At the same time, the advantages of the Internet are used for intuitive, fast, independent, extensive evaluation and dynamic management, and the characteristics of convenient data storage, less error, high performance and convenient operation are used to build a quality evaluation system.

3.2. Data Sources

In this paper, we take the "entrepreneurship and innovation" enterprises as the research object, combined with the dynamic connotation of "entrepreneurship and innovation", give the following conditions to the sample enterprises:

(1) Enterprises are start-ups

(2) Start ups need to innovate in at least one area, such as products or services, technology and business models

(3) The products or services of the latest enterprises can promote at least one of the "new products, new markets and new industries"

Because the growth time of "innovation and entrepreneurship" is very short, the driving force of innovation and entrepreneurship lags behind, and the innovation and entrepreneurship activities are more active in more developed regions. Therefore, this paper selects industries with good economic foundation, innovation ability, human resources and capital as research fields, and collects 580 valid questionnaires.

3.3. AHP Model and Index Weight

The analytic hierarchy process model of this paper includes four levels: the first level is the overall goal of economic development driven by "innovation and entrepreneurship" (the highest level); the second level is the overall goal of economic development. Level B is element level, interaction level and environment level; Level C is production, demand, industry and enterprise

factors, production interaction, demand interaction, enterprise interaction, industry interaction, policy environment and opportunity environment.

4. Hierarchy Index and Platform Design Analysis

4.1. Analysis of Level Indicators

By comparing the two factors with the elements in the previous stage, we can determine the importance of these two factors in the same level, and then construct the judgment matrix to obtain the interpretation weight of the previous level index. The weight calculated by the matrix calculated by the consistency test matrix is the effective weight.

Table 1. Weight of evaluation index system of innovation and entrepreneurship driving role

Objectives	Levels	Weight	Levels	Weight
A	B1	0.279	C1	0.4403
			C2	0.2093
			C3	0.1085
	B2	0.5492	C4	0.25
			C5	0.25
			C6	0.25
	B3	0.1793	C7	0.125
			C8	0.326
			C9	0.875

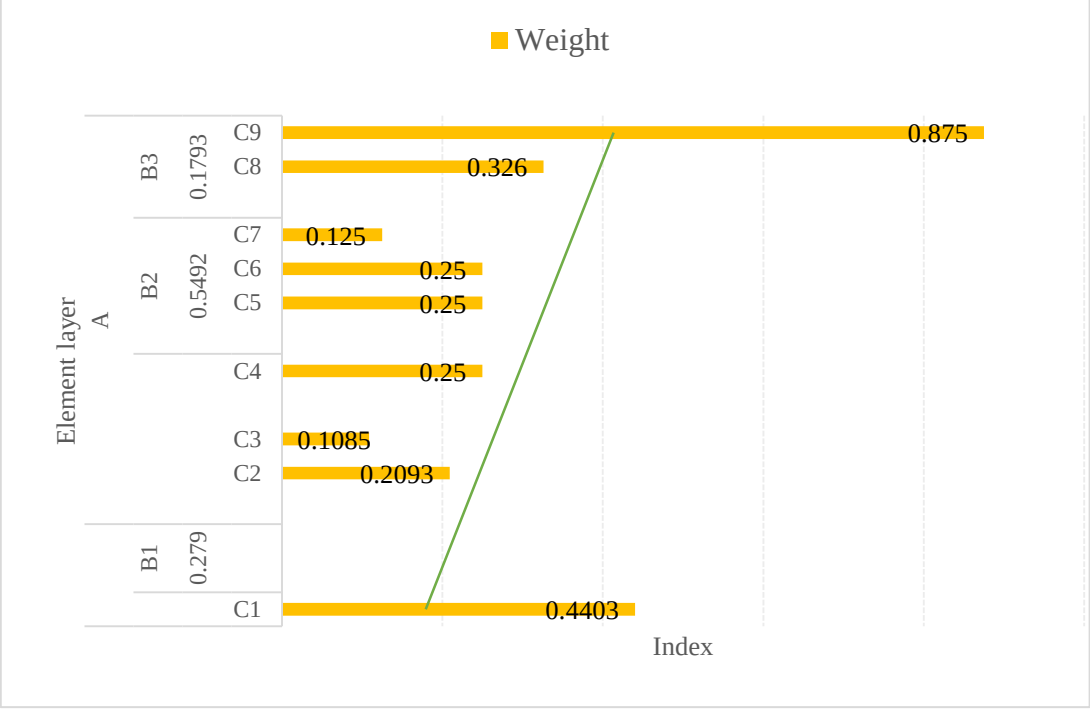

Figure 1. Weight of evaluation index system of innovation and entrepreneurship driving role

It can be seen from Table 1 and Figure 1 that the weight of the element layer (B1) is 0.279, the weight of the interaction layer (B2) is 0.5492, and the weight of the environment layer (B3) is 0.1793. The weight of the innovation and entrepreneurship dynamic impact evaluation system on economic growth and various indicators has been calculated and passed the consistency test. At present, the driving effect of "entrepreneurship and innovation" on the economic development of the sample area is ideal, and in each layer Secondly, most of the indicators in the element layer (B1), interaction layer (B2) and environment layer (B3) are also in the ideal state.

4.2. Platform Design Analysis

The system is coded, the platform must be tested before it is put into use, and the function, performance, use, safety and other aspects must be strictly controlled. Due to the platform development stage may produce a variety of errors, such as syntax errors, boundary errors, logic crisis errors, etc., these errors may lead to the failure to implement the system or the failure to achieve the correct results after implementation. In this paper, through the comprehensive test of the platform, the platform actually meets the design requirements. The test results are shown in Table 2 and Figure 2.

Table 2. System platform performance test

Serial number	connection	speed	pressure	memory
Time	85	74	98	65
Space	87	72	94	68
Speed	89	71	96	67

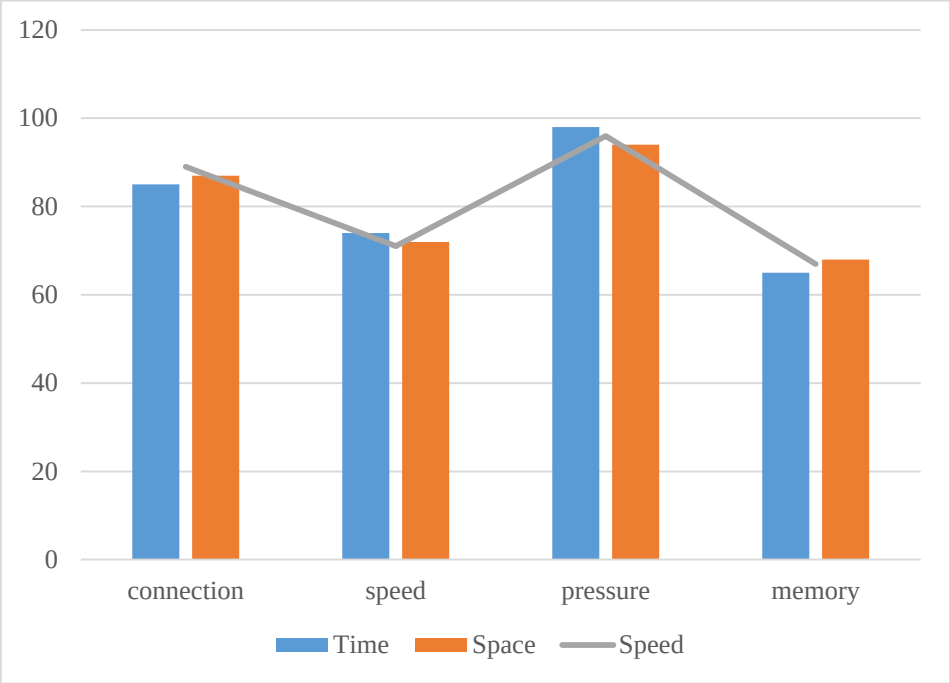

Figure 2. System platform performance test

It can be seen from Table 2 and Figure 2 that according to the random consistency ratio CR < 0.1,

the result of the above crisis matrix A is acceptable, and the weight value of the middle layer B relative to the total evaluation a is an acceptable part. The platform meets the requirements under certain loading conditions, the data obtained under the given loading conditions is stable, and the average response of the request under the pressure of the specified number of concurrent users Under the pressure of the specified number of concurrent users, the output is 0.7, the access rate is 98%, and the number of transactions per second is 96. Under the pressure of the specified number of concurrent users, the success rate of processing requests is 97%. Under the pressure of the specified number of concurrent users, the consumption rate of server resources is 50%, and the CPU utilization rate is 80%.

4.3. Suggestions on Model Platform Design Based on Big Data Evaluation Theory of Innovation and Entrepreneurship Motivation

(1) Strengthen the training and introduction of talents and improve the quality of "double innovation" Talents

Innovation and entrepreneurship need to reform the training system and mechanism. Different types of schools should explore reform teaching measures according to their own characteristics, gradually improve training system, quality standards, evaluate innovative and entrepreneurial talents and cultivate students' innovative and entrepreneurial skills and abilities; meanwhile, encourage teachers and students to improve the quality of business projects. At present, 90% of College Students' entrepreneurship is based on the Internet, and there are problems of insufficient scientific and technological support. Therefore, the handsome students should be encouraged to share Start business with innovation to improve their value creation ability. According to the advantages of regional resources, development strategies and characteristics, we should focus on establishing more prominent and distinctive talent development bases, pay attention to the improvement of innovation and entrepreneurship services, and strive to provide more value-added services for innovation and entrepreneurship.

(2) Accelerate the transformation of scientific and technological achievements and optimize the source of "double innovation" projects

We should implement the measures of state-owned scientific and technological achievements management, reform the form of scientific and technological achievements evaluation, and adopt market-oriented evaluation mechanism of scientific and technological achievements. The basic research posts should pay attention to the theoretical innovation of research results, and the application research posts should pay attention to whether it is beneficial to economic development and social progress. At the same time, we should fully mobilize the enthusiasm of scientific researchers, accelerate the exploration and establishment of the knowledge value identification and evaluation standard system, and promote the formulation and implementation of the knowledge value oriented distribution policy.

(3) Break down border barriers and bridge the three sides

The key to realize the innovation and entrepreneurship power mechanism of mutual benefit and win-win is the linkage of the three parties. Universities must integrate the resources of the government and enterprises, establish a tripartite alliance, build a large-scale incubator incubation chain, vigorously promote the establishment of intellectual property protection and transfer mechanism, encourage private capital to enter the scope of intellectual property protection and transfer, and establish flexible methods of achievement transformation, such as transfer, equity, independent entrepreneurship, etc. The government must strengthen the implementation of

innovation and entrepreneurship policies, safeguard the legitimate rights and interests to create employment opportunities, and create a good atmosphere for the whole society to start businesses and innovation. Enterprises should understand the market prospect of student projects deeply and provide more channels for students to raise innovation and entrepreneurship funds.

(4) Promote the development of real economy and promote the dynamic role of "double innovation"

To improve the "double creation" to promote economic development and enhance innovation and entrepreneurship, we need to further integrate the "double creation" and "Internet plus" action plans, China's 2025 plan and big data development plan to promote the development of new technologies, new formats and new models, and encourage large enterprises to open resources and participate in collaborative innovation, establish innovative and entrepreneurial platforms, and eliminate innovation. Obstacles to entrepreneurship and development.

5. Conclusion

Innovation is the most active and original power to improve productivity. The development of productivity will inevitably lead to the change of production relations and ultimately promote social progress. Innovation driven development, we should deeply grasp the rich connotation of the times, gather the powerful force of innovation and entrepreneurship. Based on the relevant policies of innovation and entrepreneurship, this paper explores the new situation of "mass entrepreneurship and innovation" from the perspective of innovation government service mode, initially establishes the function evaluation system of innovation and entrepreneurship ability, constructs the evaluation index system of innovation and entrepreneurship power function, continuously improves the scientificity and standardization of innovation and entrepreneurship power evaluation, and provides management decision-making reference and inspiration for innovation and entrepreneurship .

Funding

Research project of Humanities and Social Sciences in Jiangxi Province (No. JY19131) & Science and Technology General Project of Jiangxi Provincial Department of Education (No. GJJ202509).

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

References

[1] An H , Park M . A Study on the Evaluation of Fashion Design Based on Big Data Text Analysis -Focus on Semantic Network Analysis of Design Elements and Emotional Terms. Journal of the Korean Society of Clothing and Textiles, 2018, 42(3):428-437. https://doi.org/10.5850/JKSCT.2018.42.3.428

[2] Stergiou C , Psannis K E . Recent Advances Delivered by Mobile Cloud Computing and Internet of Things for Big Data applications: a survey. International Journal of Network Management, 2017, 27(3):1-12. https://doi.org/10.1002/nem.1930

[3] Lin B S , I-Jung L , Yang S Y , et al. Design of an Inertial-Sensor-Based Data Glove for Hand Function Evaluation. Sensors, 2018, 18(5):1545-. https://doi.org/10.3390/s18051545

[4] D Wang, Qu S L , Ding P B , et al. Analysis of Dynamic Fracture Compliance Based on Poroelastic Theory. Part I: Model Formulation and Analytical Expressions. Pure & Applied Geophysics, 2017, 174(5):2103-2120. https://doi.org/10.1007/s00024-017-1511-4

[5] Li H J , Peng M . Online Course Learning Outcome Evaluation Method Based on Big Data Analysis. International Journal of Continuing Engineering Education and Life-long Learning, 2019, 29(4):349-361. https://doi.org/10.1504/IJCEELL.2019.102769

[6] Xing H , Qian A , Qiu R C , et al. A Big Data Architecture Design for Smart Grids Based on Random Matrix Theory. IEEE Transactions on Smart Grid, 2017, 8(2):674-686.

[7] Xu L , Jiang C , Wang J , et al. Information Security in Big Data: Privacy and Data Mining. IEEE Access, 2017, 2(2):1149-1176. https://doi.org/10.1109/ACCESS.2014.2362522

[8] Athey, Susan. Beyond prediction: Using big data for policy problems. Science, 2017, 355(6324):483. https://doi.org/10.1126/science.aal4321

[9] Athey S . [Special Issue Perspective] Beyond Prediction: Using Big Data for Policy Problems. Science, 2017, 355(6324):483-485. https://doi.org/10.1126/science.aal4321

[10] Forkan A , Khalil I , Ibaida A , et al. BDCaM: Big Data for Context-Aware Monitoring-A Personalized Knowledge Discovery Framework for Assisted Healthcare. IEEE Transactions on Cloud Computing, 2017, (4):1-1. https://doi.org/10.1109/TCC.2015.2440269