Construction of the Evaluation Model of Independent Innovation and Entrepreneurship Activity Driven by Big Data

Yanfa Chen[✉] and Wen Tang[✉]

JiangXi Tourism and Commerce Vocational College, Nanchang 330100, Jiangxi, China
`gyx84562@163.com, gyx010306@163.com`

Abstract. In China, information technology has gradually entered a stage of rapid development. Cloud platform services based on big data mining, analysis and personalized information service technology have been widely used in various industries. According to the results of big data statistics and analysis, people can better meet the actual needs of scientific decision-making. The quality of innovation and entrepreneurship education in colleges and universities also needs big data technology to make decisions and guidance. On this basis, this study analyzes the shortage of college students' innovative entrepreneurship education, focusing on the big data technology to improve the quality of innovative entrepreneurship education design, aims to big data driven independent innovation entrepreneurial activity evaluation model construction of a little reference, hope to provide reference for the cultivation of innovative entrepreneurial talents in colleges and universities.

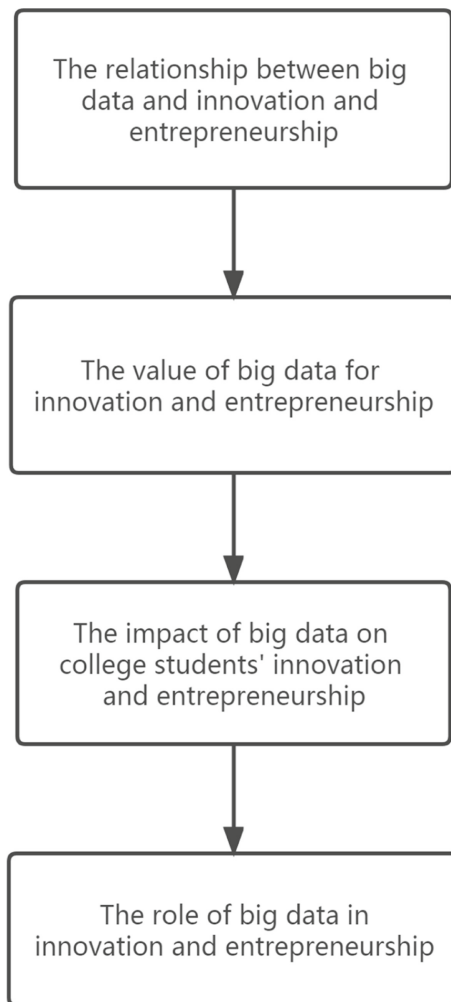**Keywords:** Big data · innovation and entrepreneurship

1 Introduction

With the rapid development of information technology, how to deepen the innovative application of big data in all walks of life has gradually become the focus of the world. Big data is changing the way people produce, live, research and education, and we have moving into the era of big data. The openness, sharing, mining and application of data can not only promote economic development and benefit the society, but also drive the change in the field of education. To improve the quality of talent training in the new era, colleges and universities must adapt to the new characteristics and new needs of the development in the era of big data, and further promote the reform of education and teaching mode, including promoting the in-depth reform of innovation and entrepreneurship education.

2 The Relationship Between Big Data and Innovation and Entrepreneurship

2.1 The Value of Big Data for Innovation and Entrepreneurship

Innovation and entrepreneurship education can promote the gradual transformation of the traditional and theoretical classroom education mode to the personalized education mode focusing on practice through big data technology. At present, China is in the critical period of the transformation and upgrading of the industrial structure. With the continuous improvement of enterprises 'requirements for employees' personal ability, the labor-intensive production mode has been unable to meet the development needs

Fig. 1. The Relationship between Big Data and Innovation and Entrepreneurship

of The Times [7]. At the same time, college students hope to be no longer bound in the traditional classroom education model, but also hope to enjoy personalized education.Big data technology can collect students 'personal daily learning data, and presented in visual way, to guide college students' innovation in the entrepreneurship education activities less detours, gradually let college students produce the wisdom of innovative entrepreneurial knowledge learning path, to break the traditional classroom knowledge update slow, content of old education disadvantages (Fig. 1) .

2.2   The Role of Big Data in Innovation and Entrepreneurship

In the innovation and entrepreneurship education of college students, big data technology can realize the following functions: ① big data technology can help education

Data were analyzed, mined, and visualized, Accurately provide resources suitable for the personal development needs of college students. And to provide a reference for college students to participate in innovation and entrepreneurship practice activities; ② big data technology can build a scientific basic data system for innovation and entrepreneurship [8]. To provide some reference for college students to choose the direction of entrepreneurship, This is also an important support for the incubation of innovation and entrepreneurship projects; ③ big data technology can tap into the product needs of the general public, And to effectively push the new policies on innovation and entrepreneurship. So as to help college students to timely adjust the project plan according to the external environment; ④ utilizes the statistical functions of big data technology, Instructors can evaluate the quality of innovation and entrepreneurship education in real time, Colleges and universities can build an innovation and entrepreneurship education environment that is efficient and accurate and meets the needs of college students, So as to cultivate innovative and entrepreneurial high-quality talents.

2.3   The Impact of Big Data on College Students' Innovation and Entrepreneurship

By 2017, the market size of big data in China has 52.3 billion yuan, which has become the key new technology direction of major enterprises. Its market size will enter the blowout development stage of in 2020. Big data as the key investment direction of Internet enterprises, colleges and universities need to train a large number of relevant high-quality professionals, there are great demand in computer cluster, server architecture and big data application layer; especially storage integration equipment, big data computing chips, distributed server, cloud computing, data collection, cleaning and analysis, should be the focus of innovation and entrepreneurship education [12]. Based on this, when guiding college students to carry out innovation and entrepreneurship projects in practice, universities can study the technical needs of big data statisticians, algorithm engineers, distributed architects and other positions, and realize the seamless connection between talent training and enterprise employment needs through innovation and entrepreneurship competitions and project internships in advance.

3   Challenges Facing Innovation and Entrepreneurship Education in Colleges And Universities in the Era of Big Data

3.1   Widen the Vision

First of all, innovation and entrepreneurship education in colleges and universities should constantly enhance students' awareness of solving common human problems. Innovation-type talent training is not empty, but to cultivate students' ability to analyze and solve problems. In the era of big data, human society is increasingly connected. On the one hand, faster information interaction between countries can make the world more rapidly changing, and the whole human society will show greater uncertainty and complexity; on the other hand, the common problems are more prominent, making the world more united, and the whole human society will face the reconstruction of civilization order and values caused by human-computer collaboration and information interaction. Only by continuously enhancing the students' awareness of solving the common problems of human society can the innovation and entrepreneurship education in colleges and universities have a broader vision and the impetus for sustainable development. Secondly, innovation and entrepreneurship education in colleges and universities should expand students' beneficial learning to human beings. It is a common measure of the world to promote innovation and entrepreneurship, and to strengthen the education of innovation and entrepreneurship. The practical achievements of innovation and entrepreneurship, and the beneficial experience of entrepreneurship and innovation education in other countries, especially in western developed countries, should be useful supplements to the teaching concepts, content system, methods and methods of innovation and entrepreneurship education in Chinese colleges and universities [1]. Only by continuously expanding students' beneficial achievements of human social innovation
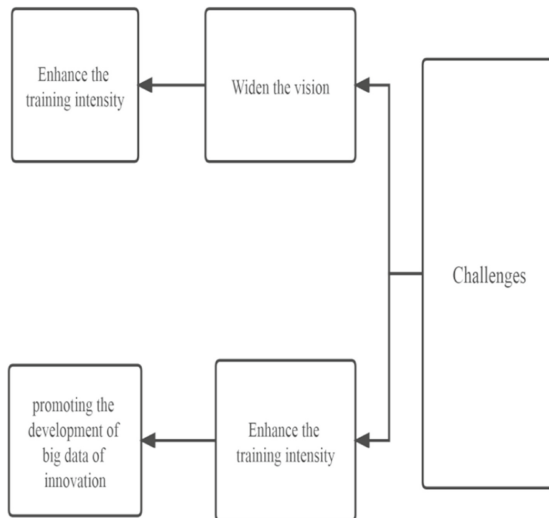
Fig. 2. Challenges of Innovation and Entrepreneurship Education in universities in the Era of Big Data

Table 1. Magnitude and accuracy

magnitude	35	44	31	38
accuracy	23%	31%	29%	415

and entrepreneurship and entrepreneurship have both time validity and space breadth. Only when any innovation and entrepreneurship continuously maintains a leading advantage in international competition and cooperation can it be regarded as real innovation and entrepreneurship. Innovation and entrepreneurship education in colleges and universities needs to improve the level of international teaching, focusing on cultivating students' awareness and ability to participate in international competition and cooperation, including making students pay attention to the cooperation and sharing between people (Fig. 2 and Table 1).

3.2   Enhance the Training Intensity

Innovation and entrepreneurship education is an important way for colleges and universities to train big data talents, which not only enriches the content system of theoretical teaching, but also provides important support for practical teaching. Third, we will promote the development of big data in innovation and entrepreneurship education. Promoting the popularization and application of educational big data is an important part of the national big data strategy; the development of educational big data includes not only the development of university innovation and entrepreneurship education, and also needs to promote and drive the development of big data of the whole education [2]. College students are an important force of "mass entrepreneurship and innovation". Only by effectively promoting the development of big data of innovation and entrepreneurship education in colleges and universities can thousands of college students compete, boost the development of national big data with the development of education big data, and support national modernization with the modernization of education.

4   Construction of Innovation and Entrepreneurship Platform Under Big Data

In order to make the innovation and entrepreneurship big data sharing subject of colleges and universities play its due role, it is necessary to use the information platform to stimulate the sharing object, and deconstruct the system to obtain the five mutually necessary to ensure the smooth completion of this process related operating mechanisms, these mechanisms provide strong support for maintaining the benign operation of the system. The platform confirms the scope, content and method of entrepreneurship and innovation through the open access mechanism. Using the classification and storage mechanism to classify and save the obtained big data of university innovation and entrepreneurship. Then through the integration and sharing mechanism of the university innovation and entrepreneurship big data information data integration, Make it produce a beneficial benefit-sharing relationship, Standard, standardized construction platform, Improve the

security of the built big data resource sharing environment. Using the technical support mechanism to open a software system that meets the requirements of the platform, Connecting university innovation and entrepreneurship information big data resources and Internet information technology, Improve the speed of the integration of innovation and entrepreneurship in online and offline universities, Further research and application of the related technologies of big data, Finally, play the guiding role of the government policy through the management coordination mechanism, Improve the organization and coordination ability of colleges and universities.

The big data analysis algorithm design of the analysis layer of university innovation and entrepreneurship information platform is as follows: A representative stream of innovation and entrepreneurship information transmission of colleges and universities is selected, and the attribute combination of big data distribution is a combination, and the basic logical unit of big data of university innovation and entrepreneurship information is:

Tset = {T1 , T2 ,…, Ta}

Tz = {z, hashkey, visit, maxlife, hits, size,

replace, requesttime, currenttime}

Formula: Tset is a collection of arrangement graphs between the information fusion characteristics of university innovation and entrepreneurship; Tz and z describe the combination target of services and the corresponding keyword attributes of the university innovation and entrepreneurship information search template respectively. By calculating the reliability of the big data of innovation and entrepreneurship information in colleges and universities, the association mapping relationship between the feature vectors of association rules is studied, which is expressed as shown in Fig. 3.

In order to improve the generalization ability of big data analysis algorithm, big data mining is used to complete the adaptive scheduling and access of innovation and entrepreneurship information in colleges and universities, and the objective function is as shown in Fig. 4.

After completing the evaluation of college students' innovation and entrepreneurship ability, it is also necessary to analyze their data and rank their levels, so as to determine the weight of each evaluation index. First, the square root method is used to calculate the

$$F_z = \frac{C_s + \dfrac{C_1}{h_s}}{SIZE_z} \times (C_z)^{c_2}$$

Fig. 3. The calculation formula

$$J_1(h, e_z) = \frac{\varphi(x_z)}{2} h + \frac{1}{2} u_{zD} \sum_{z=1}^{N} e_z^2$$

Fig. 4. The calculation formula

maximum feature root, and then it is normalized, and finally the product of each matrix is obtained. Secondly, after the product value is obtained, the evaluation matrix in the model is verified according to the consistency index calculation formula. The calculation formula of the consistency index is as follows:

$$T = \text{rmax} - n \backslash n - 1$$

In the formula, T is the consistency indicator; ymax is the maximum eigenvalue; n is the number of elements. Then, the consistency index value T obtained by the formula is compared with the average random consistency index. If the result is less than 01, the consistency verification is qualified: if it is greater than or equal to 0.1, the consistency verification is unqualified, and the innovation and entrepreneurship ability of college students is required to be selected again. By ranking the above multiple influencing factors and using the formula, the T value of the selected characteristic elements is less than 0.1, which shows that the consistency is good. The above analysis results are good and scientific, and can be used to evaluate the innovation and entrepreneurship ability of college students.

5   Conclusion

The value of the application of big data technology in innovation and entrepreneurship education is mainly reflected in driving the reform of innovation and entrepreneurship education through data, optimizing the direction of innovation and entrepreneurship education, and finding the market demand for innovative products through data mining and analysis, so as to effectively improve the success rate of college students' innovation and entrepreneurship projects.In view of the deficiencies of innovation and entrepreneurship education and the relationship between big data and the education of innovation and entrepreneurship education, the concept of "data-driven innovation and entrepreneurship" plays the guiding role and the technology application and system construction and the construction of the application system and it will promote the concept and technology construction. The follow-up research will focus on the specific application of the big data application system of innovation and entrepreneurship education in practice, so as to promote the deep integration of big data technology and innovation and entrepreneurship education.

References

1. Fang Chen. Research on the Driving Guidance and Practice Development Direction of Innovation and Entrepreneurship Events under the Background of Big Data [J]. Commercial Exhibition Economy, 2021 (16): 91-93.

2. Guiping Lv, Huanhong Zhao. Research on the Training path of Innovation and Entrepreneurship Ability of Big Data and Accounting Major in Higher Vocational Colleges [J]. Marketing community, 2021 (39): 186-187.
3. Jing Zhang. Thinking on the Optimization Strategy of Innovation and Entrepreneurship Education in Universities in the Digital Era [J]. Journal of Jinan Vocational College, 2021 (03): 80-82.
4. Lan Xiao. Big Data Analysis and Application of Innovation and Entrepreneurship Education in Higher Vocational Colleges [J]. Digital Technology and Applications, 2021,39(11):115-117.DOI:https://doi.org/10.19695/j.cnki.cn12-1369.2021.11.37.
5. Liwen Xia, Huiyi Li. Innovative Research on the Practice of College Students in Higher Vocational Colleges Based on Big Data Analysis [J]. Computer Knowledge and Technology, 2021,17(15):43-44.DOI:https://doi.org/10.14004/j.cnki.ckt. 2021.1446.
6. Shaojuan Zhao. Research on the path of Innovation and Entrepreneurship ecosystem under the Situation of Big Data [J]. Wireless Internet Technology, 2021,18 (11): 99-100.
7. Shuang Wang. Innovation of university employment and entrepreneurship guidance in the Era of Big data [J]. Employment and Security, 2021 (21): 103-105.
8. Xiaobin Yan. Exploration of the management of mass entrepreneurship and Innovation Education in colleges and universities in the Era of Big Data [J]. Research in Continuing Education, 2021 (08): 92-95.
9. Xiaoshuang Li. Thinking on the Innovation and Entrepreneurship Ability of College Students in the Era of Big Data [J]. Technology wind, 2021(20):64-65.DOI:https://doi.org/10.19392/j.cnki.1671-7341.202120030.
10. Yi Li . Construction of the evaluation system of environmental science professional talent training mode under the background of innovation and entrepreneurship and big data [J]. University, 2022 (01): 86-89.
11. Yimei Fan. Research on Innovation and Entrepreneurship Education in Higher Vocational Colleges based on Big Data [J]. Business Theory of China, 2021(14):182-184.DOI:https://doi.org/10.19699/j.cnki.issn2096-0298.2021.14.182.
12. Yunping Chi,Weisheng Wu. Construction of university innovation and entrepreneurship information sharing platform under big data analysis [J]. Modern Electronic Technology, 2021,44(14):81-85.DOI:https://doi.org/10.16652/j.issn.1004-373x. 2021.14. 017.