

Discussion on the Implementation Path of Innovation and Entrepreneurship among College Students in the Context of Big Data

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Abstract: Information technology has assisted in the elevation of the development of human society, thereby accelerating the development process, altering the way of life of human beings, and also changing the way of thinking of human beings. The effect on human society is beyond words. For college students who collectively represent a group of entrepreneurs in the society, the use of big data technology for innovation and entrepreneurship has become the current development trend. The application of big data technology has provided convenience for entrepreneurial activities carried out by college students. In view of this, this article explores the implementation path of innovation and entrepreneurship among college students in the context of big data. At first, the paper introduces the advantages of innovation and entrepreneurship to college students in the era of big data, and then analyzes its current situation. Finally, the paper discusses the implementation path of innovation and entrepreneurship which can be used by the college students as a reference to carry out innovation and entrepreneurship activities.

Keywords: Big data technology; Implementation by college students; Innovation and entrepreneurship

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1 Introduction

Prime Minister Li Keqiang has pointed out and emphasized the role of innovation in his government work report. Besides that, the Ministry of Education,

China also made explicit instructions on improving innovation and entrepreneurship education for college students in order to them to start businesses. The education system must also provide support for students to carry out entrepreneurship practices and actively cultivate innovative spirit and entrepreneurial capabilities in college students. In the era of information, college students' innovation and entrepreneurship practice activities have also become more convenient. A convenient platform for college students to carry out innovation and entrepreneurship practices can be established by collecting and analyzing information from multiple parties through big data, the Internet and other innovative technologies. However, the application of big data presents some challenges. For example, the market competition is fierce, and various innovative ideas makes college students' entrepreneurial practices also face challenges. Therefore, colleges and universities should increase their efforts to educate students about innovation and entrepreneurship, and make full use of big data technology to help students develop innovation and entrepreneurship practices.

2 Advantages of innovation and entrepreneurship to college students in the context of big data

2.1 Advantages of technologies

Big data technology uses conventional software to capture, manage, and process data in a certain range. With its strong discovery, decision-making, and process optimization capabilities, big data processes massive and diverse information. This technology is effective

in mining massive information as well as extracting important and meaningful information effectively. With its high level of practicality and multiple data processing, big data technology can also visualize high value features. Cloud computing technology can be used to mine information at multiple levels and discover potential value in data information. For college students' innovation and entrepreneurship practice activities, big data is used to track, mine and analyze micro-information regarding the activities of students, such as students' basic knowledge, intelligence, information literacy, and communication skills, in order to reveal the rules and core of the practices. Big data technology also systematically and comprehensively monitors and analyzes innovation and entrepreneurship practice activities, understands group behaviors and thinking characteristics, clarifies the needs of students' innovation and entrepreneurship, and delivers the mined information to the corresponding platform group. Colleges and universities would understand the innovative and entrepreneurial thinking skills, conceive and develop new projects, and improve the level of innovation and entrepreneurship of college students according to the information provided^[1].

2.2 Policy advantages

In recent years, with the development of society, China's policies on innovation and entrepreneurship have also been continuously updated, which has created a good policy environment for college students' innovation and entrepreneurship practices, which play an encouraging role in cultivating college students' innovative thinking and promoting their self-employment^[2]. In China, various inclusive policies for college students' innovation and entrepreneurship has been proposed. Apart from that, a number of funds, sites and venues, and legal support have also been provided. According to statistics, in the context of entrepreneurship, more than 30% of college students are in the entrepreneurial stage or have had entrepreneurial experience, and 80% of students have entrepreneurial ideas.

3 Status quo of college students' innovation and entrepreneurship in the context of big data

3.1 Experience of college students in the society

College students spend most of their time in school, with little social experience and insufficient

understanding of the social environment and entrepreneurship. Although big data technology has become the key technology for entrepreneurship, many students have not realized the key role that big data technology plays in the practice and implementation of innovation and entrepreneurship. As a result, it is impossible for them to apply big data technology to the practice of innovation and entrepreneurship. At the same time, some college students lack a creative spirit, do not pay attention to big data technologies, and do not know the trends in employment and entrepreneurship environment in a timely manner. Furthermore, these students are generally exposed to limited information. According to Baidu data, more than 50% of the groups that constantly focus on big data technology are in the 30-39 age group. They are mainly the people who are employed in the society and have a certain level of knowledge. The individuals of 20-29 age group who are concerned about big data accounts for only 30%, indicating that college students and graduates who have just graduated and recently get employed do not have not paid enough attention to big data technology. Thus, it is unlikely that the individuals in this age group is knowledgeable and capable of using big data technology for innovation and entrepreneurship^[3].

3.2 Mastering data mining

At this stage, the proportion of college students who are involved in entrepreneurship is not high, and their entrepreneurial experience is insufficient. This definitely would engender an impact on entrepreneurial enthusiasm in college students. Furthermore, college students do not know how to begin and have no channels to utilize relevant data collected by big data technology. The authenticity and quality of the data are not self-determined. However, the ability to master data mining has a direct effect on the practice of innovation and entrepreneurship. The students who are being less sensitive to data is the main shortcoming of the practice of innovation and entrepreneurship, leading to missed and even failed entrepreneurship opportunities^[4]. In addition, the fundamental advantage of using big data technology includes the collection and analysis of huge amounts of information. The information is representative, but the information is also diverse. The authenticity and accuracy of the information are required to be judged by the college students who are responsible in information collection. Despite that, data collection still relies on physical approach since the

data collection method is not advanced enough, and the information collection function of big data technology is not fully mastered.

3.3 Comprehensive ability of college students

College students not only need to have relevant industry expertise when starting a business, but they need to have innovative thinking and comprehensive business capabilities in order to begin. However, many undergraduate entrepreneurial teams encounter problems such as unclear division of labor and lack comprehensive ability in theoretical knowledge and business capabilities. Facing complex social environments, college students need to have a high level of interpersonal communication ability and impromptu ability to easily adapt to situations.

4 Analysis of implementation path of college students' innovation and entrepreneurship in the context of big data

4.1 Building an innovation and entrepreneurship platform

To implement innovation and entrepreneurship practice activities for college students, big data technology is used to build an innovation and entrepreneurship platform from the university cloud service platform and open education to cultivate innovation ability. On the one hand, to cultivate innovative talents from the perspective of open teaching, the backward and traditional style of modern education should be changed and replaced by using modern information teaching methods, such as MOOC, SPOC, and micro-lessons to establish online and offline teaching modes, from the learning status to the course targets, connecting each independent knowledge point to achieve a gradual transition. Students complete the offline learning by themselves, discover the knowledge associations therein, and stimulate the formation of innovative thinking, as shown in Figure 1.

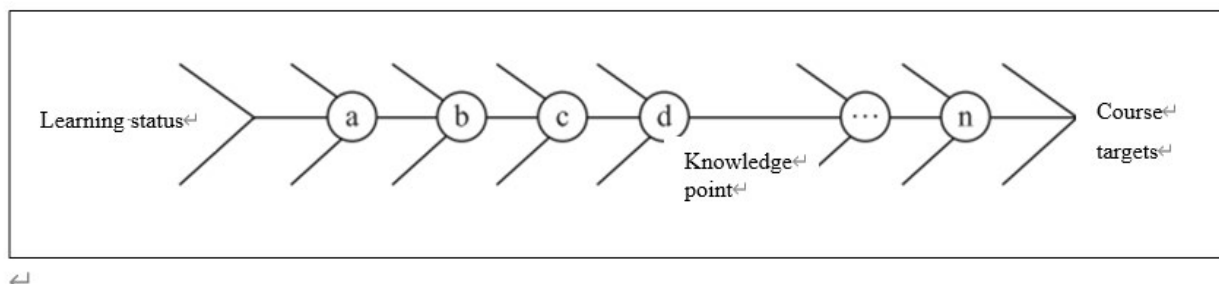


Figure 1. Process of open teaching

On the other hand, big data is analyzed from the perspective of cloud service platforms in colleges and universities, and the course provides teaching on the problems of information mining and project mining in the innovation and entrepreneurship practice activities of college students, and guides and trains students to conduct big data retrieval, collect innovation information, and project incubation^[5]. In addition, with the establishment of an online entrepreneurship platform to realize information sharing, college students can exchange various ideas and information on the platform after class, understand entrepreneurship cases, experiences, new directions, etc., to provide a reference for college students to start a business.

4.2 Using big data to explore innovation opportunities

Big data technology is used to track and investigate entrepreneurial teams and college student groups,

collect behaviors and thinking among them, record their performance, extract high-value information, provide help and guidance for college students with innovative and entrepreneurial capabilities, and deliver targeted information. Big data technology can collect information of similar people in the Internet according to the tracking and analysis information, use the cloud server to build a virtual wireless database, and integrate global innovation ideas to provide reference for college students^[6]. For example, Bangzhuo Education uses big data technology to promote intelligent education and develop brain-enhancing courses in the cloud according to the current state of education and market needs. In view of the current educational situation, the cost of supplementary classes per student is about RMB 70,000 per year, the supplementary class rate reaches 95%, and mathematics, Chinese, and foreign languages almost reach 99%. Other extracurricular classes also exceed

32%. At just 68%, in this regard, Bangzhuo Education promotes intelligent education and launches brain-enhancing courses to help students quickly learn and acquire knowledge points, with an effective rate of more than 85%.

4.3 Carrying out entrepreneurial practice activities

Colleges and universities can establish cooperative relationships with actual enterprises so that the education in colleges and universities can be connected to the society. Besides, this can provide practical experience for college students. Students can learn about the operation of enterprises through internship experience, improve the ability to collect information, analyze, organize, and summarize information to form the foundation in big data technology. At the same time,

colleges and universities can use big data to promote project demonstration activities. Big data and cloud computing technologies can perform real-time record analysis of the dynamic development of innovation and entrepreneurship practices, respond to multiple practice requests, and improve students' entrepreneurial capabilities^[7].

For example, the practice of e-commerce entrepreneurship is shown in Table 1. According to the investigation and analysis of practical activities, both Group A and Group B have insufficient market investigations, insufficient data collection, and insufficient channels. However, Group C has used big data analysis to investigate the market and used the advantages of school-enterprise cooperation to operate and run the business in order to attract more customers. These tactics used by Group C were shown to be advantageous.

Table 1. Analysis of business implementation in Taobao shop practice

Groups	Products	Business	Source of products	Outcome
Group A	Clothing	Individual	Yiwu Mall	No profit, no branding, closed
Group B	Toys	Individual	Ali Baba	After sales issues, closed
Group C	Food	Enterprise	School-enterprise cooperation	Investment, physical advantages, still in operation

Table 2. Analysis of sales profit in Taobao shop

Groups	Time	Sales	Amount of sales (RMB)	Profit (RMB)
Group A	Six months	245	4800	-500
Group B		210	3219	-341
Group C		427	8818	4328

As shown in the (Table 2), we can understand through data analysis that the business profits of the three groups of students in Groups A, B, and C were different. The sales of group A students were only RMB 4,800 in six months, and there was no profit. According to big data analysis, it is known that the clothing quality and audience selection of this group of student stores are untargeted. The sales of Group B store were RMB 3,219, but it was not profitable. According to big data analysis, the after sales response rate of this toy store managed by this group of student was low, accounting for only 89%. In addition, customer reviews regarding the products and store owned and managed by Group B were not favorable. The sales of the store managed by Group C were RMB 8818 and the profit was RMB 4328. According to big data analysis, the food

store managed by this group of students had a large investment and a suitably selected target group which mainly aimed at younger age groups. Moreover, this food store also launched holiday costumes that came with daily sales promotion.

5 Conclusion

In summary, big data is both new technology and new form of thinking. It has changed people's production and lifestyle, promoted the emergence and realization of various new technologies and new thinking, and played an important role in promoting social development. For the innovation and entrepreneurship practice of college students, the use of big data technology to collect and organize massive amounts of information around the world and carry out comprehensive

and multidimensional mining and extraction of information provides a reference for innovation and entrepreneurship practices of college students. At present, major universities need to provide support for college students' innovation and entrepreneurship practices. This article proposes measures for constructing innovation and entrepreneurship platforms, using big data to explore innovation opportunities, and conducting entrepreneurial practice activities using big data technologies. With the help of big data society, higher education, society and enterprises, students can improve their information, communication, and interpersonal skills, establish innovative ideas, and improve their entrepreneurial capabilities.

References

- [1] Li Y. Analysis of the path of college students' innovative consciousness and capability cultivation in the context of big data [J]. *Theoretical Research and Practice of Innovation and Entrepreneurship*, 2018, 1(17): 91-92.
- [2] Liu CL. Research on University Innovation and Entrepreneurship Education Reform in the Context of Big Data [J]. *Economic Research Guide*, 2017 (7).
- [3] Wang T, Lin JB, Wen YY, et al. Research on the Cultivation and Development of University Teachers' Teaching Ability on Innovation and Entrepreneurship Practice in the Big Data Era [C] *Compilation of Scientific Research Achievements of the 13th Five-Year Plan (Volume 6)*. 0.
- [4] Chen XL, Hou R. Exploration of New Paths for College Students' Innovation and Entrepreneurship Education in the Context of Big Data [J]. *Journal of Chifeng University (Natural Science Edition)*, 2017 (16).
- [5] Huang L. Analysis on Innovation and Entrepreneurship of College and University Students in the Context of Big Data [J]. *Guangxi Education*, 2015(43): 8-9.
- [6] Wan SM. Discussion on College Students' Innovation and Entrepreneurship Education in the School-Enterprise Collaborative Education Model: Based on the Theory of Knowledge Sharing [J]. *Journal of Kaifeng University*, 2016 (4).
- [7] Mo GH, Zhang YX. The Innovation Path of Precision Poverty Alleviation Model in the Context of Big Data—No. 10 of the Series of Research on Performance Enhancement Mechanism of Precision Poverty Alleviation [J]. *Theory and Reform*, 2017(1): 125-130.