Analysis of Business Administration Research Layout Based on NSFC Fund Project

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Abstract: In the field of business administration, there has been a trend towards a contraction in the number of approved schemes, with the number of approved schemes decreasing year by year and the amount of appropriations decreasing accordingly. In a large environment, the Ministry of Science and Technology and local governments have issued a series of policies to support enterprise innovation, and the consumption pattern and entrepreneurial pattern triggered by the post-epidemic era will have an impact on the research direction in the field of business administration. Hot topics such as "business innovation", "consumers and behaviour", and "start-ups and behaviour" will continue to be hot. Research topics in the emerging fields of "team and behavior", "E-commerce", "incentive" policy, "listed companies and behavior", "multinational companies and behavior", "shareholder behavior" will continue to be an important direction of enterprise development and management. Among them, "social media", "machine learning", "artificial intelligence", "One Belt, One Road", "blockchain", "new energy vehicles", "medical and health" and other hot issues have attracted attention in recent years, and have had an important impact on social development, although the number of declared projects is not large, and the funding is not large. But they are all important issues to focus on and plan for. In the past two years, the number of approved major research projects in the field of "big data" has been decreasing year by year. Therefore, in the future planning of the field of "big data", emphasis should be paid to the innovation of analysis methods and cross-integration, and it should be linked with social hot issues.

Key words: National Natural Science Foundation, business administration, co-occurrence analysis, social network analysis

1. Introduction

Management science is a comprehensive interdisciplinary subject integrating natural science, engineering science and social science. It is a science based on science. The object of management science cognition is different from basic science research, including the objective law of social organization management activities of human behavior, promoting the cross, integration and development of modern science and technology, and contributing to deepening the understanding of the interaction between human activities and the law of nature [1]. Management science, as an interdisciplinary subject, has been highly valued after it was introduced in China. It is a comprehensive interdisciplinary science integrating natural science, engineering science and social science. It is a science as the core, the science as the core, the

ICBBEM 2023, May 19-21, Hangzhou, People's Republic of China

DOI 10.4108/eai.19-5-2023.2334315

science as the core, the science as the core. The object of management science cognition is different from basic science research, including the objective law of social organization management activities of human behavior, promoting the cross, integration and development of modern science and technology, and contributing to deepening the understanding of the interaction between human activities and the law of nature [1]. Management science, as an interdisciplinary subject, has been widely concerned and made great progress since it was introduced in China. Especially after the reform and opening up, more than 200 universities have set up Chinese management major successively, which has become the forefront of promoting the development of Chinese management [2]. During this period, the first major project of the National Development and Reform Commission, "Important basic scientific issues and key technologies in the emerging e-commerce field", "Business Practices of Chinese Enterprises" and "Research on Enterprise Business Decision-making Driven by Big Data", received strong support. With the support of these funds, the research level, innovation ability and international influence of the discipline of business administration have been greatly improved [3]. Through the continuous adjustment and improvement of the science funding policy, the discipline of business administration has gradually achieved a balanced development [4]. The number and type of projects funded by the National Natural Science Foundation have become one of the important criteria to evaluate the scientific research innovation ability and social service level of universities and research institutions.

2. Research methods and data

2.1 Analysis Method

In this paper, the application time, declaration classification, undertaking institution, project funds, project title and other characteristic items as the analysis object, comprehensive use of statistics, co-occurrence, social network and other methods, these analysis methods are simply described[8]. (1) Method. This paper uses mathematical statistics as the main means to identify and analyze the research object. In the statistical method, this paper gives the density index of scientific research fund, and analyzes the scientific research fund, and gets the density index of scientific research fund. The fund strength index is a measure of the fund strength obtained by various institutions/disciplines. It reflects the difference in the proportion of projects of different institutions/disciplines when the proportion of projects of different institutions/disciplines is equal. The index is calculated using two indicators, namely the number of projects funded and the funding of projects funded.

$$IntensityFi = Numberi / \sum Number \times 1/2 + Moneyi / \sum Money \times 1/2$$

IntensityFi indicates the intensityFi of analysis object i, Numberi indicates the number of funded projects of analysis object i, and intensityFi indicates the intensityFi of analysis object I [5].

$\sum$ Number refers to the total amount of items in the analysis data set, Moneyi refers to the total amount funded by the i-th analysis object [6], and $\sum$ Money refers to the total amount of items in the analysis data set. The two calculated dimensions have the same weight. (2) Symbiotic analysis [7].

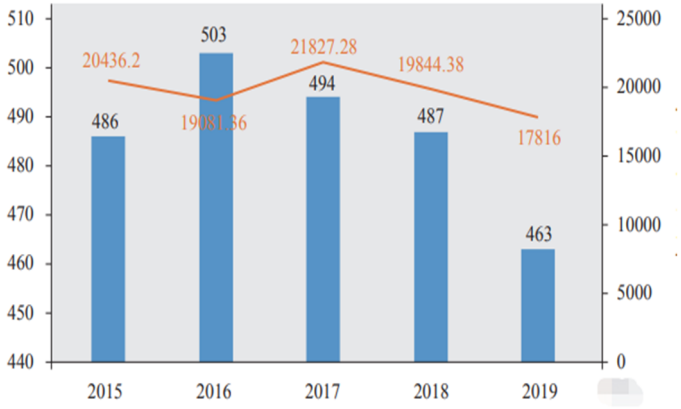
2.2 Data processing and analysis tools

Using EXCEL, DDA and other software for data processing. DDA (DerwentDataAnalyzer) is a kind of Derwent data analysis software, which can input, clean and visualize the data, so as to make the data processing results more accurate [9]. In the process of topic analysis, we will use a combination of natural language processing technology (NLP) and manual screening for keyword segmentation. Use the DDA tool to clean up the subject words; Analysis tools such as VOSviewer and Gephi are used to discover the correlation rules and rules among subject words from the perspectives of subject words and active mechanism. VOSviewer is a kind of knowledge map software that can analyze and visualize the co-occurrence network and show the relationship of collaboration and evolution among different fields [10]. Gephi is an open-source interactive complex network analysis software, which can calculate some common indicators and carry out data visualization.

3 Project Layout

3.1 Project application overview

As can be seen from Figure 1, the number of fund projects approved in the field of business administration reached the highest in 2016, and then decreased year by year to 463 in 2019. In terms of the amount of funding, 2017 received the largest amount of funding, with the average amount of funding reaching 441,800 yuan.



Blue: number of items Orange: amount

Figure 1: Overview of project declaration in the field of business administration

3.2 Project category and organizational structure

In terms of enterprise management, the 10 approved enterprises are listed in Table 1. As shown in Table 2, (1) Sun Yat-sen University applied for the largest number of projects in the field of business administration, with 93 projects approved in the past five years, and the largest number of surface projects, with 52 projects and 34 projects. Fudan University ranked second with 60 approved majors. In five years, Tsinghua University received approval for 52 majors, ranking

third. Nanjing University and Xiamen University, each with 50 majors approved, ranked fourth. The top five universities in terms of the number of programs are also the biggest contributors. (2) The average amount of funding for general research projects and youth research funds of each unit is 480,000 yuan and 180,000 yuan respectively, as shown in Table 1, indicating that the amount of funding for these two kinds of projects is relatively stable. It can be seen that, while the number of projects varies little among some agencies, the average level of funding and the intensity of funding as a whole vary considerably, indicating differences among agencies in access to other types of projects. For example, Xiamen University has an average budget of more than 800,000 yuan, 7.23 million yuan for three major projects and 2.4 million yuan for a key project. In general, the funding for scientific research of Nanjing University is more than 600,000 yuan, and the annual funding for major research programs and outstanding youth research programs is 2.33 million yuan and 1.26 million yuan respectively. The average funding amount of Fudan University and Tsinghua University is more than 580,000 yuan. Fudan University's funding amount for major research projects is 6 million yuan, and that for key research projects is 2.4 million yuan. Some of Tsinghua University's major research projects and the National Fund for Outstanding Young People have exceeded 2 million yuan.

Table 1: Overview of project declaration of Top institutions in the field of business administration

mechanism	Number of items	funding	Average amount of funds	Intensity of subsidy
Sun Yat-sen University	93	4194.41	45.10	4.03%
Fudan University	60	3520.65	58.68	3.01%
Tsinghua University	52	3035.20	58.37	2.60%
Nanjing University	50	3065.36	61.31	2.58%
Xiamen University	50	4230.80	84.62	3.16%
Zhejiang University	49	2904.37	59.27	2.47%
University of International Business and Economics	47	2113.00	44.96	2.03%

From the perspective of project type, this paper analyzes the participation degree of Top institutions in each type of project. Table 2 and Table 3 show the Top organizations for the public and Young Science Foundation projects, with more than 1,000 projects approved in each of these categories. In terms of projects, Sun Yat-sen University ranked first in both the number of project applications and the amount of project approval, so its funding intensity was the highest at 5.13%[10]. Followed by Fudan University, Nankai University, Tsinghua University, Zhejiang University, the intensity of funding is more than 3%. In terms of youth science fund projects, Sun Yat-sen University still tops the list, and most of the top institutions are financial institutions, among which Central University of Finance and Economics, Dongbei University of Finance and Economics and Zhongnan University of Economics and Law all have funding intensity of more than 2%

Table 2: Top institutions in business administration

Surface item			
Organization name	Number of items	funding	Intensity of subsidy
Sun Yat-sen University	52	2490.50	5.13%
Fudan University	37	1784.50	3.66%

Nankai University	32	1537.00	3.16%
Tsinghua University	32	1554.00	3.18%
Zhejiang University	31	1487.87	3.06%
Xiamen University	29	1411.00	2.88%

Table 3: Top organizations for youth programs in Business Administration

Surface item			
Organization name	Number of items	funding	Intensity of subsidy
Sun Yat-sen University	34	615.50	3.37%
Central University of Finance and Economics	25	448.50	2.47%
Dongbei University of Finance and Economics	22	397.50	2.18%
Zhongnan University of Economics and Law	22	393.50	2.17%
University of International Business and Economics	19	348.00	1.90%
Jinan University	19	344.00	1.89%

4.Conclusion:

This paper uses EXCEL, DDA, VOSViewer and Gephi software to sort out and analyze MBA investment plans, and draws the following conclusions.

According to the accumulation of scientific research results and the evolution trend of the subject, combined with China's national conditions, society and the development of science and technology, the emerging topics and potential topics in the field of enterprise management are determined. Emerging research topics include "group and behavior Research", "Accounting Related", "E-commerce", "incentives", "audit related", "Public companies and behavior", "Mergers and Acquisitions", "Corporate Social responsibility", "Multinational Corporations and behavior", "Shareholder behavior", and so on. In terms of topic type structure, topics with certain academic value (including hot topics and emerging topics) will also show different distribution in the three levels of surface topics, youth topics and regional topics, so they are likely to receive higher financial support. At the same time, young subjects account for the majority of possible research topics, so we should be careful about the types of topics planned for possible research topics.

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