

A Comprehensive Analysis of the Transformation and Development Trend of Colleges and Universities in Henan Province from the Perspective of Alumni Donation Intention

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Abstract: Based on the historical development of philanthropy in American colleges and universities, this paper expounds the fields of philanthropy in the process of development. This paper studies and analyzes the trend and significance of university transformation from the perspective of alumni 'willingness to donate. Taking Henan Province as an example, this paper analyzes the trend of university transformation and development based on the donation of local university alumni, and formally analyzes the validity of the results through questionnaire survey.

Keywords: Alumni donation; University transformation; Campus construction; Teaching quality

1. Introduction

University is the embodiment of national competitiveness. How to improve the level of running a university and the quantity and quality of cultivating senior talents is one of the important problems faced by developed countries and some post developing countries in the world. The problem of university funds is one of the reasons that restrict the development of University. The capital source of universities is a prominent problem that higher education is facing all over the world [1]. With the increasingly complex functions of universities, the rising cost of higher education, the increasingly fierce competition among the world's high-level universities, the demand for development funds of universities is also increasing. However, the financial investment of governments in higher education is far from meeting the needs of university development, and the dependence of Universities on social resources is obviously enhanced. The shortage of educational funds is one of the main factors restricting the development of higher education in China [2]. In recent years, China has begun to carry out pioneering research in the academic field of University charitable donation. Although it is in its infancy, and because charitable donation has little role in the development of higher education in China, and lacks sufficient cases and experience for reference, there are also studies worthy of attention. At present, there are only a few scattered articles on this issue in China. In particular, the role of charitable donations in the development of universities has not been

comprehensively, systematically and in-depth analyzed. The donation behavior of Chinese University Alumni started late, and the donation rate of many universities is relatively low [3]. Only in Henan Province, the investigation and analysis of the donation rate shows that the donation income of Chinese University Alumni is obviously regional and different. The appeal of Chinese universities to alumni donation is limited. Therefore, the purpose of this study is to find out the shortage of alumni donation rate of colleges and universities in China by comparing the current situation of alumni donation rate of universities in China and the United States, and to explore the influencing factors of alumni donation income of universities in China from their own factors.

2. A Comprehensive Analysis of the Development Trend of University Transformation

2.1. Influence variables of alumni donation on university transformation

The systematization and effectiveness of the donation management system of university alumni and the operation of the donation fund at professional level can ensure the efficient and reasonable use of donations and meet the donation purpose of alumni to the greatest extent. Since the 1960s, the support provided by the alumni donation foundation has changed from the former general scholarship to the scholarship with a clear purpose [4]. Alumni endowments increasingly require explicit service

agreements. There are less and less funds for universities to decide their own purposes. The following is an analysis of several major alumni donation purposes:

(1) The level of teachers is an important part of evaluating a school. A school with a high level of teachers can get more funds and attract more excellent scholars and students. In personnel training, the role of teachers' level cannot be ignored. Major foundations also pay more attention to teacher training and give donations.

(2) The university library has also been one of the objects of the Carnegie Foundation's funding [5]. The alumni endowment fund has always made a considerable contribution to the library. Before the foundation was established, it donated money to establish a library. Table 1 shows the amount of University Library donated by a university in Henan Province.

Table 1. Donation statistics of university library

Donation charity project	Donation amount (unit: USD)	Cronbach's alpha
Free public library building (2811)	62340	$0.9 \leq \alpha$
Universities include:		-
Library building	62650	$0.7 \leq \alpha < 0.8$
Other buildings	63584	$0.6 \leq \alpha < 0.7$
contribution	69541	$0.5 \leq \alpha < 0.6$
For other ways	65284	$\alpha < 0.5$
Total:	63541	-

(3) The basic definition of vulnerable groups is the disadvantaged groups in the society due to the lack of social, economic and political opportunities [6]. The vulnerable groups in higher education can be defined as those who cannot enjoy equal access to education due to the lack of social and economic opportunities. Including: poor students, female students, disabled students.

(4) Donors set up grants and loan programs in Colleges and universities to help poor students complete their studies [7]. The purpose of funding students from the lowest income families is to enable poor students to have the opportunity to pursue equal higher education. Students in need can apply for loans through related procedures. The maximum loan amount is 46000 yuan for undergraduates and 138500 yuan for postgraduates, which is enough to support students to complete their studies. There is also an income tax law to protect students' scholarships. Scholarships for students other than postdoctoral students are tax-free income and can only be deducted if they are used for course fees, daily necessities, tuition fees and equipment fees [8]. Students aged 18-21 are entitled to social security benefits, which are also tax-free income.

In order to better analyze the donation of alumni, standardize and test the consistency index of the project objectives, which is used to evaluate the effectiveness of the content in the development stage of the project [9]. This measurement is limited to evaluating one-dimensional projects or projects that measure specific skill sets. Project objective consistency (IOC) is used to evaluate the items of the questionnaire, and its score range is -1 to +1.

$$\begin{cases} \text{Congruent} = +1 \\ \text{Questionable} = 0 \\ \text{Incongruent} = -1 \end{cases} \quad (1)$$

$$\text{Value of IOC} = \frac{\text{Total Scores of All Items}}{\text{Number of Items}} \quad (2)$$

According to the above initial path chart, five multiple regression analysis is needed:

In the first regression, the criterion variable is the quality of running a school in a local transforming University, and the predictive variable is discipline construction, personnel training, scientific research, teaching staff and university management;

In the second regression, the criterion variable is personnel training, and the prediction variable is subject construction, scientific research, faculty and university management;

In the third regression, the criterion variable is subject construction, and the predictive variable is university management;

In the fourth regression, the criterion variable is the faculty, and the prediction variable is the discipline construction and university management;

The fifth multiple regression: the criterion variable is scientific research, and the prediction variable is faculty and university management.

Multiple regression analysis 1: the quality of local transformation universities is the criterion variable, and discipline construction, talent training, scientific research, faculty and university management are the predictive variables [10]. The standardized regression coefficient (beta value) is the path coefficient of the path graph. Among them, the standardized regression coefficient of predicted variable discipline construction is 264 (P = 0.000 g 0.001), the standardized regression coefficient of personnel training is 293 (P = 0.000 g 0.01), the standardized regression coefficient of scientific research is 145 (P = 0.000 > 0.05), the standardized regression coefficient of faculty is 016 (P = 0.854 > 0.05), and the standardized regression coefficient of university management

is 1009 ($P = 0.846 > 0.05$) OS, the residual coefficient is 8420. Furthermore, the regression analysis of discipline construction, talent training, scientific research, teaching

staff and university management on the quality of running a local transformation university is recorded in the table below.

Table 2. School running quality of local transformation colleges and universities as criterion variables

Prediction variable	Standardized regression coefficient (beta)	T value	Determination factor (R2)	F value
Discipline construction	210***	39.69	3.614	291
personnel training	264***	36.15	2.840	-
scientific research	190***	34.95	2.512	48.5*
teaching staff	224***	32.15	-1.95	-
University management	179***	-0.09	-0.51	-

Multiple regression analysis 2: take personnel training as the criterion variable, discipline construction, scientific research, faculty and university management as the prediction variable, and carry out regression analysis [11]. The standardized regression coefficient (beta value) is the path coefficient of the path graph. Among them, the standardized regression coefficient of predicted variable

discipline construction is 346 ($P = 0.000 < 0.001$), the standardized regression coefficient of scientific research is 0.17 ($P = 0.354 > 0.05$), the standardized regression coefficient of teaching staff is 537 ($P = 0.00060.001$), the standardized regression coefficient of university management is 108 ($P = 0.000 < 0.001$), and the residual coefficient is 614.

Table 3. Talent cultivation as criterion variable

Prediction variable	Standardized regression coefficient (beta)	T value	Determination factor (R2)	F value
Discipline construction	230***	26.69	244.35	-
personnel training	324***	30.15	295.26	-
scientific research	350***	28.95	-	394.45*
teaching staff	241***	-1.15	-1.52	-
University Management	194***	-0.17	-0.33	-

2.2. Optimization of university transformation mode

Based on the information in the above table, further optimize the transformation mode of colleges and universities. With the increasing cost of education, it is not enough to rely only on government funding. Therefore, multi-channel financing for education has gradually become one of the concerns of colleges and universities [12]. At present, most scholars agree that the source of college education funds in China is mainly four parts: government grants, tuition fees, income generation and donation of colleges and universities. In recent years, colleges and universities in China have begun to pay more attention to charitable donations, and have set up education foundations to promote and develop the sources of education funds. Although the proportion of donation in China is not large at present, it has brought impetus to the development of charity donation in Colleges and universities [13]. The "alumni organization identification model" is established. The model needs the support behavior of female alumni as dependent variable, the recognition degree of "alma mater" as intermediary variable, and the characteristic factors (school running characteristics, reputation, competition, inter organizational competition) and individual factors (length of service, relevant organizations, tutors, satisfaction, emotions, etc.) as independent variables. The influence relationship of the above independent variables is shown as follows Figure 1.

Based on the analysis of the above structure, as many universities currently host personal education in China, the donations they receive and the president of the university are often closely related to the personal influence of the president. If they have a government job, they have a high reputation and social influence, and have a wide range of social relations, It will lead to potential individual donors in their strong cognitive ability and high trust, thus affecting their willingness and behavior [14]. School leaders will be able to get more donations for the school through communication with all sectors of society, and the implementation of these individuals may also maintain and strengthen their long-term friendly relationship with school leaders through donations. In order to effectively promote the donation of alumni, we should first improve the teaching quality of colleges and universities. Only when students receive a good education in school can they increase their satisfaction with the school and increase the possibility of donation to their alma mater after graduation [15]. People with a good education are more likely to succeed in their career, and have greater ability and financial resources to donate. At the same time, the students trained by high-quality teaching are more likely to form a healthy outlook on life and values, pay attention to the significance of donation, and regard dedication as one of the ways to achieve self-worth, which makes education and donation form a virtuous circle. Further, the paper constructs the university trans-

formation model under the influence of alumni donation, as follows Figure 2.

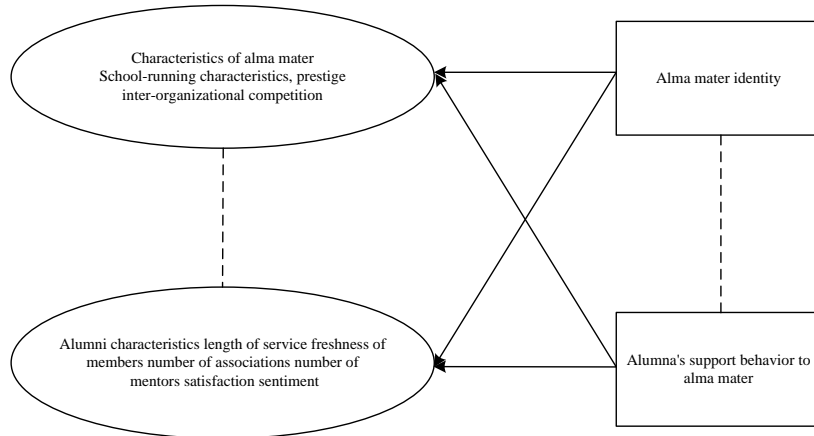


Figure 1. The influence relationship of independent variables in university transformation

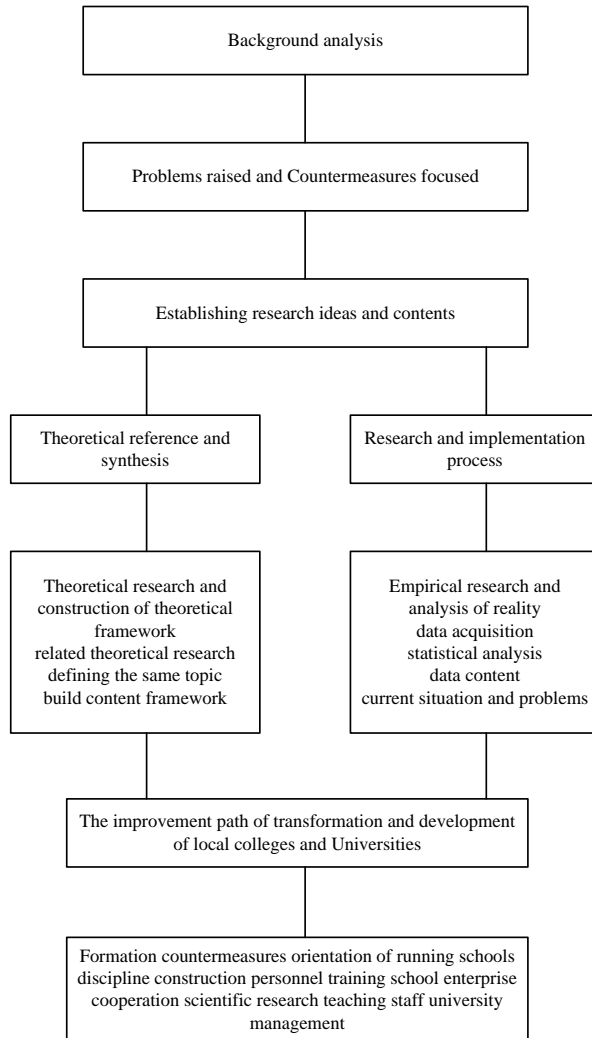


Figure 2. University transformation model under the influence of alumni donation

Through the above analysis, it is not difficult to find that social donation in the field of theoretical research, a complete theoretical system in foreign countries, and domestic research inductive arguments, relatively weak donation in economic research, and specific factors in research, interaction analysis of influencing factors in the process of decision-making behavior, psychological analysis and financing of donors are still in the initial stage, There is a big gap in the research of alumni donation system in developed countries, such as the United States. On this basis, we should further strengthen the service consciousness of the Alumni Association. Only when the University actively pays attention to and supports the development of alumni, can alumni have a sense of belonging, participation and identity to their alma mater, and greatly stimulate their willingness to

donate to their alma mater. On the specific implementation level, alumni association should establish alumni files, and also strengthen the contact with alumni through major activities, school celebrations or alumni associations. The alumni association should not only care and help students in school, but also continue to care for the career and life of alumni in several years or even decades after graduation, so that alumni still have a strong sense of belonging after graduation. After graduation, the alumni association can invite them to come back to school for party, lecture and discussion, and send the journal regularly to let the alumni pay attention to the development of their alma mater. In addition, alumni contact is not only limited to domestic, in the world, can set up foundations, alumni, etc.

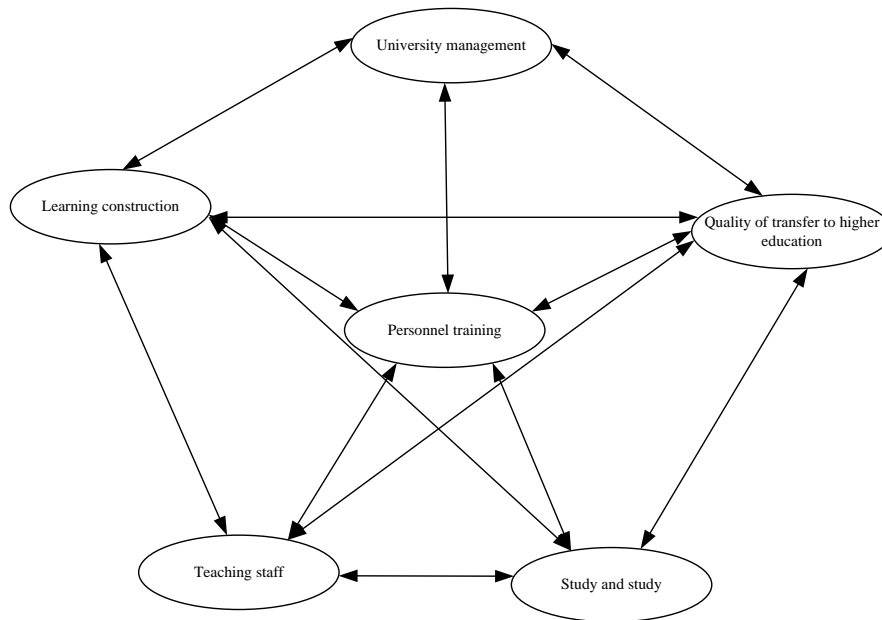


Figure 3. Influence relationship between alumni donation and university transformation trend

University Alumni donation is a necessary way for universities to strive for social resources and improve their own development. The surplus of resources independently controlled by individuals, enterprises and other social forces makes it possible for higher education departments to obtain more resources. Colleges and universities, as a social force, will inevitably be involved in this social change and make corresponding response in the face of the diversified social development form of educational funds. Alumni, as social capital, attach great importance to the value promotion of alumni themselves, which are renewable social capital. The direct interaction between the University and alumni can bring value to both sides, so that the University and alumni are in an equal and mutually beneficial position to discuss, which is an im-

provement for many views of "only looking at the university but not alumni". In the face of alumni donation, colleges and universities should have corresponding institutions and systems. Collected and studied a series of policies and strategic plans related to the transformation and development of colleges and universities. From the relevant policies and strategic planning documents issued and issued in recent years, it is obvious that the issue of "university transformation and development" has been established and resolved at the national level, and has also been highly valued and concerned by different departments in various provinces and cities. According to the spirit of national policy documents and the educational development of various provinces and cities, rele-

vant policy opinions and implementation have been formulated according to local conditions Suggestion.

2.3. Suggestions on the transformation and development of colleges and universities

Based on the above content, the paper further puts forward suggestions for the transformation and development of universities. Because the orientation of running a university means that the running scholars, according to the needs of social, political, economic and cultural development and the environment of the University, determine the direction of development, the goal of struggle, the focus of construction and the characteristics of running a school from the starting point of the running conditions and the current situation of running a school. As a complex social organization, any university can not leave its own conditions and strength to blindly pursue the impossible goals. In this sense, local colleges and universities should not only establish their own identity according to the complex education system or social environment, but also pay attention to its particularity and limitations as a relatively independent system. That is to say, the first step of the transformation and development of local colleges and universities to application-oriented universities is to make clear the orientation of running schools and determine its position in the social system and higher education system, so as to further determine other development directions and running modes. As an important base of national scientific and technological innovation and development knowledge, Fang University's scientific research development level is related to the construction of national innovation system, and also an important indicator of the development level of local universities. To implement the strategy of innovation driven development, stimulate the vitality of scientific and technological innovation, and promote the transformation of scientific and technological achievements, it is fundamentally necessary to build a regional innovation system with regional characteristics and advantages, which takes the government as the leading role, gives full play to the basic role of market allocation of resources, closely links and organically interacts with various types of scientific and technological innovation subjects such as scientific research institutes and enterprises in Colleges and universities.

School orientation transformation. Although many local undergraduate colleges and universities have the name of application-oriented, but there is no application-oriented reality. Some colleges and universities still run schools with the guidance of production knowledge and development science. Only when they really turn to the guidance of knowledge application, technology development, technology transformation and promotion, can they make the orientation of application-oriented education worthy of the name. In addition, some colleges and universities

do not belong to the city management because of their business, personnel, funds, etc., so the relationship with the local is ambiguous. Local colleges and universities should be based on the local government, establish strategic cooperation with the local government, and run schools for local industries and undertakings, so as to connect the transformation factor resources with the local innovation factor resources, so as to truly run "local colleges and universities".

Transformation of governance structure. Establish the governance structure of industrial enterprises' participation, such as Council (board of directors) system, professional steering committee system, etc., and absorb industrial enterprises to participate in school management in all aspects and in all processes To strengthen the connection and cooperation between colleges and universities and the society, we should carry out flat management, expand the autonomy of the secondary departments, explore the establishment of the college and department Council and the professional Steering Committee, gradually delegate the financial management power, the resource allocation power and the teaching management power, and build the unity of responsibility and power, the rational resource allocation, and the smooth operation of the mechanism A strong democratic supervision of the department management system.

Talent training transformation. Establish a training mode of deep integration of production and education, school enterprise collaborative education, invite industry enterprises, government departments, employers and other organizations to participate in the formulation of talent training programs and the design of curriculum system; establish a talent training process led by improving practical ability, take the first line needs of industry enterprises as the source of graduation design topics, and realize the curriculum content and professional standards, teaching process and The connection of production process, the reform of teaching methods, the expansion of students' learning autonomy, the close integration of professional education and innovation and entrepreneurship education, and the cultivation of students' employment ability and innovation and entrepreneurship ability.

Transformation of discipline construction. According to the local industry chain and innovation chain, we should adjust the discipline structure, transform and integrate the traditional majors, set up composite emerging majors, and form a characteristic professional cluster; relying on the school department professional Steering Committee, we should establish a professional evaluation mechanism involving experts from the industry and employers.

Transformation of teaching staff construction. Adjust the structure of teachers, on the one hand, establish a linkage mechanism of teacher training combining schools and industrial enterprises, and train dual qualified teachers through further training, temporary work, practical train-

ing and other ways; on the other hand, share talent resources with industrial enterprises, and build a part-time teacher team by introducing and employing excellent professional and technical talents, management talents and high skilled talents of industrial enterprises Wu. In addition, the system of talent introduction, professional title evaluation and employment, and income distribution should be reformed to favor dual teacher and dual ability teachers.

Transformation of scientific research. Combined with the development of local new industries, new formats and new technologies, and guided by solving the practical problems in production and life, we have carried out extensive application-oriented scientific research activities such as technology development, technology transformation and process innovation; actively carried out collaborative innovation research with industry enterprises, local governments, scientific research institutes, etc.; and promoted the latest production technology, management concepts and industrial development through application-oriented scientific research In order to improve the application quality of classroom teaching and the quality of application-oriented classroom teaching.

Social service transformation. Take the initiative to undertake local continuing education tasks, vigorously develop continuing education and various vocational and technical skills training; actively carry out scientific and technological services, extensively carry out technical exchanges, technology promotion, scientific and technological evaluation, technical consultation, industrial design and other activities with industry enterprises, focus on local economic construction, social construction, cultural construction and other key areas, and provide local

social decision-making consultation and literature Services such as cultural heritage and innovation; infrastructure such as libraries, gymnasiums, art galleries, laboratories, research institutes, science and technology parks and other cultural, sports, scientific research and other infrastructure will be jointly built and shared with local society.

3. Analysis of Experimental Results

In order to deeply understand and grasp the opinions and current situation of the transformation and development of colleges and universities in Shenyang, analyze the problems existing in the transformation and development process of colleges and universities, analyze the influencing factors, and put forward countermeasures and suggestions to promote the transformation and development of local colleges and universities. This survey adopts the form of questionnaire to develop the questionnaire on the current situation of the transformation and development of colleges and universities. According to the principle of random cluster sampling, 30 colleges and universities in Shenyang are selected, and the persons in charge of functional departments (Director / deputy director), President / deputy director, front-line teachers and so on are randomly selected as the measured objects. In this survey, 1060 questionnaires were issued and 1008 questionnaires were recovered, with a recovery rate of 95.1%. Then, the questionnaire was checked and screened one by one, and the invalid questionnaires with centralized, irregular and incomplete answers were eliminated. The remaining 959 valid questionnaires had an effective rate of 95.1%.

Table 4. Questionnaire content setting

First-order dimension	Two level dimension	Importance
Orientation of running schools	1. School running concept	The orientation of running a school is the top-level design at the school level, which determines the direction, level and type of running a school.
	2. School running day standard	
2. Discipline construction	1. Discipline orientation	The construction of discipline and specialty is an important group of local universities and the society, which is the main support and basic carrier of application-oriented personnel training.
	2. Structural layout	
	3. Discipline elements	
3. Personnel training in conventional schools	1. Training plan	The cultivation of regular talents is the real core of the transformation of local colleges and universities, and an important guarantee to improve the quality of education.
	2. Lecture teaching	
	3. Heuristic teaching	
4. school enterprise cooperation personnel training	1. Training plan person	School enterprise cooperation training is an important way to realize the training of applied talents.
	2. Lecture and investment teaching	
	3. Heuristic teaching	
5. Scientific research (transformation of scientific and technological achievements)	1. Transformation and supply capacity of scientific and technological achievements of the school	Scientific research is an important support for the transformation of colleges and universities to serve the local economic development, and an important indicator to measure the level of a school.
	2. The role of intermediary service agencies	
	3. Technological absorption capacity of enterprises	
	4. Institutional and policy factors	
6. Teaching staff	1. School strategic transformation	The construction of teaching staff is an important guarantee to achieve the goal of talent training, and it is also a specific implementer.
	2. Subject application orientation	
	3. Qualification Access; Regular	

	training	
	4. School enterprise cooperation; Evaluation and incentive	

The survey of the basic information of colleges and universities is mainly from the aspects of the school level, the positioning of colleges and universities, whether it is a school in transition, the number of disciplines and enterprises in which they have carried out school enterprise cooperation, the time of school establishment, the scale

of students in school, the main source of school running funds and so on. The following is the demographic variable distribution characteristics of the basic information of colleges and universities. Record the test results based on the above investigation contents, and draw the integration diagram. The details are as follows:

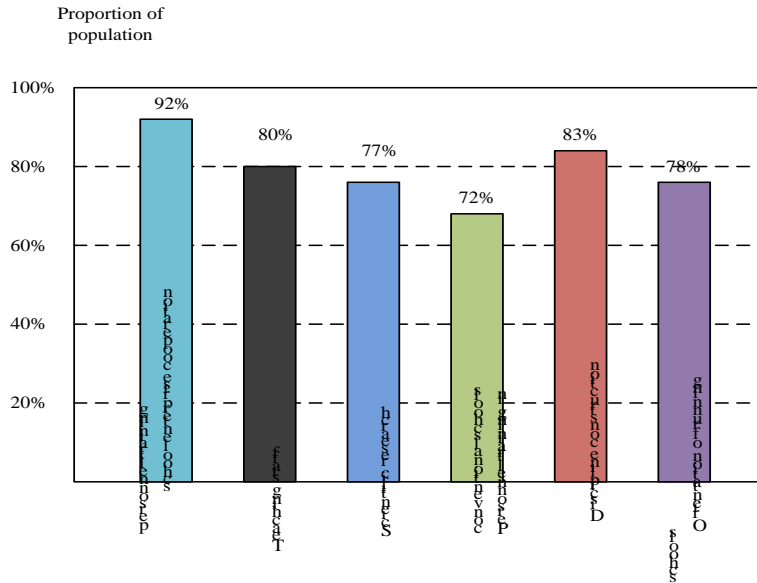


Figure 4. Analysis of questionnaire results

The purpose of this study is to make a theoretical exploration through case study and a typical case study of a university in order to collect first-hand information about the basic situation and influencing factors of the University's alumni donation. Bouvoir pointed out that the role of case is not the representativeness in statistical sense, but the relevance between case and theory, that is, to reconstruct theory by comparing the differences between the cases faced by the researchers and the new cases in the previous theory. This research method emphasizes the generality of special cases. Therefore, this paper is based on qualitative research, but it does not exclude quantitative analysis. In addition, some statistical data are used as auxiliary materials. The specific methods of data collection in this paper include:

(1) Literature method: collect the second-hand information about the status of alumni donation and the relevant social background materials through literature method;

(2) In depth interview: through the in-depth interview between a university and the donation related personnel, further in-depth excavation forms the interaction and influence process of various social forces (donors, recipients, intermediaries, etc.) of University Alumni donation, as well as the activity mode of social forces.

Data analysis method of this paper:

(1) Comparative analysis: a comparative study with the alumni donation model of American universities with developed educational donation, and a new understanding of the theory by comparing the differences between the cases faced by the researchers and the cases presented in the previous theories.

(2) Induction: summarize the interaction mode between social forces and universities in the process of donation.

(3) Use appropriate statistical analysis, such as frequency analysis, frequency analysis, etc., to carry out theo-

retical analysis of relevant data, as the reference and evidence of supporting theory.

4. Conclusion

Since the reform and opening up, the main body consciousness of enterprises, social groups and individuals has been strengthened. These social forces have played an increasingly prominent role in the process of social structure change. Their activity reflects the vitality of society and brings new opportunities and challenges to the development of higher education. The donation of social forces to universities is essentially an informal form of spontaneous social redistribution. Therefore, whether, to whom, how and how to donate are determined by social forces such as individuals, organizations and enterprises. Therefore, in the process of social structure change, the development and change trend of social forces will be inevitably related to the development trend and basic pattern of higher education. The mode of transformation and development of local universities is a constructive, forward-looking, instructive and referential transformation and development method system, which can be divided into three levels: goal, strategy and path. The goal of the transformation and development of local undergraduate colleges and universities is the Application-oriented Undergraduate Colleges and universities. There are three strategies: the overall transformation, the application-oriented partial transformation and the academic application hybrid partial transformation. The transformation and development can take the road of organizational innovation and entrepreneurship, including three steps of "idea leading, system guarantee and culture driving". Different schools have different situations, different transformation strategies, and different emphasis and action strategies in the operation of transformation development mode.

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