International Journal of Computer Information Systems and Industrial Management Applications
ISSN 2150-7988 Volume 18 (2026) pp. 1-12

https://doi.org/10.70917/ijcisim-2026-0360
Article

Construction of Data Science-based Innovative Talent Cultivation Path in the Integration of Civic and Political Education and Dual Innovation Education in Colleges and Universities

Xiaoli Feng [1,*]

[1] College Of Humanities Education, Inner Mongolia Medical University, Hohhot, Inner Mongolia, 010110, China
* Correspondence author: WAshenghuo2024@126.com

Abstract: Civic-political integration of dual-creative education of is the strategic thinking of the training of innovative talents in data science. It is closely related to the cultivation of students' entrepreneurial ability and innovation spirit, this paper identifies the influencing factors of Civic and Political Integration of Dual Innovation Talent Cultivation through the Deferral method, and constructs the index system. Using the DEMATEL-ISM method, the influence matrix is established and the center degree and cause degree are calculated. Draw a multi-layer recursive order structure diagram to determine the hierarchical relationship between the influencing factors. Finally, combining the MICMAC method, the dependency and driving force of each influencing factor are obtained. It provides a theoretical basis for proposing an effective integration path of Civics and dual-creation education. The results show that 15 influencing factors are refined and generalized. Among them, the centrality of innovation motivation (16.552), scientific research and innovation ability (16.211), and local government education expenditure (16.024) ranked high. The influence degree value of the effect of Civic Spirit Guidance ranks first and can influence other factors. Market environment, innovation contest results, and local government education expenditure are the driving force and highly dependent correlates. In summary, 3 aspects of cultivation paths are finally proposed: policy suggestions, diversified environment and culture construction, and multidimensional innovative activities and competitions.

Keywords: indicator system; IDEMATEL-ISM-MICMAC; Deferral Method; Civic Integration

1. Introduction

Nowadays, mass entrepreneurship and innovation have become the main engine and propeller of economic development, and accordingly, the society has put forward higher requirements for talent cultivation in colleges and universities. From the national level, with the in-depth promotion and effective implementation of the innovation-driven development strategy, the country urgently needs a group of high-quality applied talents with innovative spirit and entrepreneurial ability to provide new kinetic energy for the innovative development, so as to promote the optimization and upgrading of the industrial structure and improve the economic and social level [1-3]. This requires colleges and universities to further accelerate the “dual-creation” education reform, that is, innovation and entrepreneurship education reform, “dual-creation” education throughout all aspects of education and teaching and the entire process of talent training [4-5]. As the main channel to carry out ideological and political education in colleges and universities and to realize the fundamental task of cultivating moral

character in colleges and universities, Civics teaching has been highly valued by the state and major universities [6-7]. Therefore, the promotion of dual-creation education and ideological and political education to promote each other has been a necessary road for the reform and development of the education system in colleges and universities. Constructing a mechanism of synergistic parenting between the two can not only enhance the ideological leadership and moral guidance of dual-creation education, but also extend the breadth and depth of civic and political education, and enhance the social practice ability of students in order to be smoothly accepted by the society [8-9]. In the age of information technology, the development of data science and technology provides a new opportunity for the change of ideological and political education in colleges and universities. Under the support of information technology, the systematic integration of ideological and political education in colleges and universities and “double creation” education can reform and innovate the educational work of colleges and universities from multiple perspectives, and help the systematic reform of innovative talent cultivation work based on data science [10-12].

This paper adopts the Delphi method to refine the influencing factors of the cultivation of Civic and Political Integration Dual-creation Data Science Talents, and constructs the influencing factor index system after correction. With the help of DEMATEL method, the influence degree, influenced degree, center degree and cause degree of the influencing factors are solved and quantitatively analyzed to obtain the influence matrix. Based on this, according to the ISM calculation method, the multilevel progressive order structure model of the influencing factors is drawn, and its influence level is divided. Then, using the MICMAC model, after calculating the driving force and dependence degree of each influencing factor, its key influencing factors are identified. Starting from the three dimensions of multi-faceted policy, diversified environment and multi-dimensional innovation, the effective integration path of Civic and Political Education and dual-creation talent cultivation is elaborated.

2. Civic and political education in the perspective of data science dual-creative talent cultivation

Innovation and entrepreneurship education in colleges and universities should be centered on enhancing students' sense of social responsibility, spirit of innovation, entrepreneurial awareness and entrepreneurial ability. The cultivation of students' sense of social responsibility is especially emphasized, which fully indicates that the Ministry of Education has made clear the important position of ideological education in the planning of innovation and entrepreneurship education. New-generation information technologies such as the Internet, big data, the Internet of Things and artificial intelligence have been widely used around the world and have become the core scientific and technological competition between countries. To promote the research, construction, development and application of a new generation of information technology, the most important thing is talents, and how to cultivate data science talents with excellent ideological and political quality, protect national security, bravely take on great responsibilities, and promote the development of digital China, network power and national big data, we need to be guided by "curriculum ideology and politics". Data science talent is an important talent support for the construction of digital China, network power and national big data strategy, which not only needs to have the spirit of innovation, excellent professional knowledge and skills to ensure the research and development of key national information technology technologies and the commanding heights of the information technology powerhouse, but also needs to be loyal to the Party, strictly abide by the state secrets, have good ideological and political qualities, and have patriotic zeal and national sentiments, and stimulate with greater patriotic zeal sentiment the spirit of reform and innovation, and constantly improve the quality and ability. Therefore, the cultivation of “dual-creative” talents in data science with the spirit of reform and innovation requires the integration of “curriculum ideology and politics”. At present, China is in the key period of modern education to accelerate the transformation and development, cultivating high-quality data science “dual-creation” talents should be implemented in the specific education and teaching process and behavior of professional personnel training. High-quality talent is the first to establish morality, so we should make full use of the main channels of classroom teaching to realize all-round, whole process of education.

The rapid development of the social knowledge economy makes the university education from the traditional examination-oriented education model to the pursuit of innovation, focus on the ability of entrepreneurial education to change, college and university Civics teaching is an important part of the content of the teaching of universities, can play an important role in the cultivation of college students' innovation ability and entrepreneurial spirit to enhance the positive role of college students in innovation and entrepreneurial spirit.

3. DEMATEL-ISM-MICMAC model

3.1. Technical routes

DEMATEL (Decision Making Experimentation and Evaluation Laboratory Method), ISM (Structural Modeling Method) with MICMAC (Multiplication of Cross Influence Matrices) are used to deal with the study of complex systems.The route of DEMATEL-ISM-MICMAC modeling is shown in Figure 1.

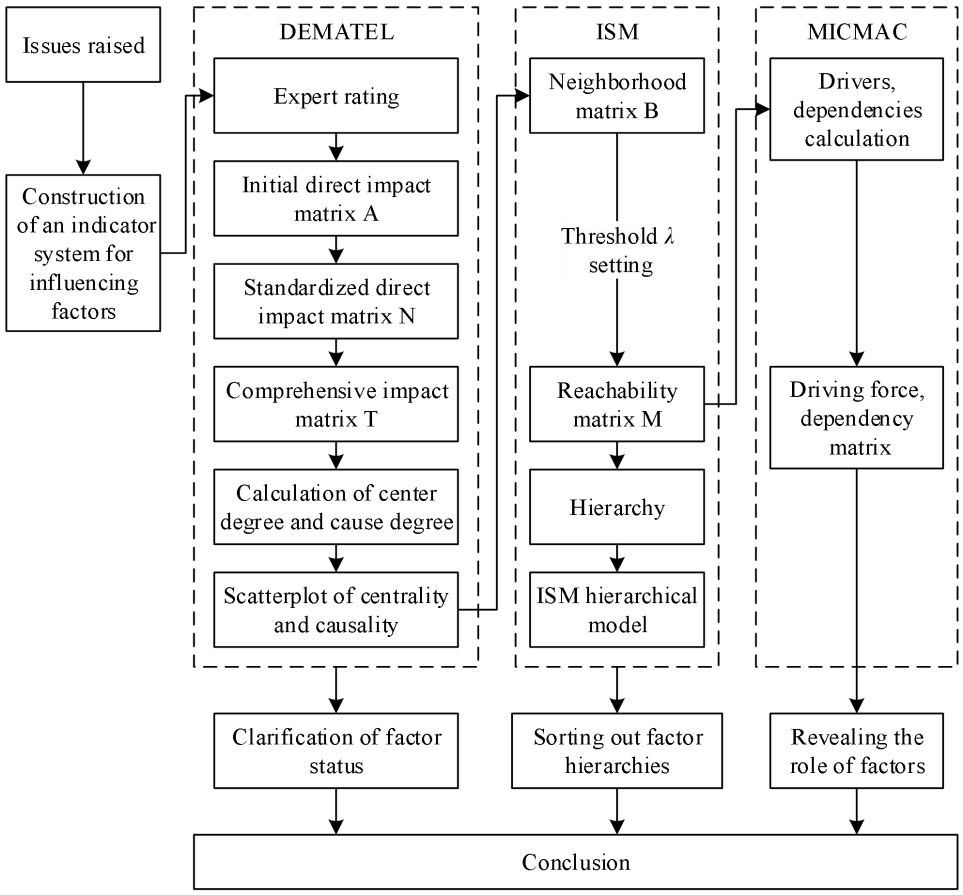

Figure 1. Technical route

The main role of DEMATEL is to analyze the complex correlations between factors, i.e., to analyze the interactions between indicators of resilience, as well as the degree of centrality and causality.ISM is a method used to analyze the complex structural relationships in socio-economic problems, and is able to transform the complex logical relationships between indicators and factors into clear hierarchical diagrams for in-depth study.MICMAC is a method for classifying factors by constructing a Driver - Dependency Matrix to classify factors into autonomous factors, dependent factors, and independent factors for in-depth study of the role of factors in a system. Dependency Matrix, which divides the factors into autonomous, dependent, associated and independent factors, in order to study the role of the elements in the system in depth. Therefore, the combination of the DEMATEL-ISM-MICMAC method is useful for clarifying the position of factors in complex systems, constructing centrality-causality scatter plots, classifying the hierarchy of influencing factors, and investigating the roles of factors by calculating the driving force and degree of dependence. This method is often used to solve the problem of analyzing complex systems, and the same applies to this paper's research on the route of the integration of ideological education and bicultural education in colleges and universities.

3.2. Calculation of the integrated impact matrix

The normalized direct influence matrix Z in the DEMATEL method is obtained by processing the influence relationship matrix O as shown in (1):

$$Z = \frac{o}{Max_{1 \le i \le n} \sum_{j=1}^{n} o_{ij}} \tag{1}$$

The normalized direct influence matrix Z is calculated according to equation (1).

Secondly, limit processing is carried out on the basis of normalized direct impact matrix Z to obtain the integrated impact matrix T, where I is the unit matrix, and the specific calculation formula is shown in (2):

$$T = Z(I - Z)^{-1} \tag{2}$$

3.3. Calculation of degree of centrality and degree of cause

Based on the combined influence matrix T calculated above, determine the degree of influence of each factor f_i, the degree of being influenced e_i, the degree of centrality m_i, and the degree of cause n_i. The specific formulas are shown in (3)-(6):

$$f_i = \sum_{j=1}^{n} t_{ij} (i = 1, 2, \cdots, n) \tag{3}$$

$$e_i = \sum_{j=1}^{n} t_{ij} (i = 1, 2, \cdots, n) \tag{4}$$

$$m_i = f_i + e_i (i = 1, 2, \cdots, n) \tag{5}$$

$$n_i = f_i - e_i (i = 1, 2, \cdots, n) \tag{6}$$

According to the calculation results of formulas (3)-(6), the results of the DEMATEL evaluation of influencing factors are derived, and the cause and effect diagrams are drawn according to the results analyzed in the above table, in which the cause factors are above the coordinate axis, which represent that these factors directly affect the development of data science innovative talent training. The result factors are below the coordinate axis, these factors are affected by the cause factors, indirectly affecting the development of data science innovative talent cultivation, and the larger the value of the centrality of the factors, the greater their importance.

In this paper, when determining the key influencing factors, in addition to considering the cause degree and the center degree value, it is also necessary to synthesize the degree of influence and being influenced between the factors and to conduct an in-depth analysis in conjunction with the actual development situation, in order to draw a comprehensive and accurate conclusion.

3.4. Computing the reachability matrix

Converting from the DEMATEL model to the ISM model, the reachability matrix can be calculated based on the integrated impact matrix T and the threshold λ. The overall system impact matrix $H\left(H = \left[h_{ij}\right]_{21 \times 21}\right)$ is calculated first with the following equations:

$$H = T + I \tag{7}$$

The reachability matrix K represents the presence or absence of influencing relationships between all factors in the system. A threshold value λ is often needed to eliminate less influential relationships to simplify the system structure. In order to facilitate the hierarchical structure, threshold λ is introduced by the experts to eliminate the less influential relationships among the factors. The reachability matrix $K\left(K = \left[k_{ij}\right]_{21 \times 21}\right)$ is obtained as follows:

$$K = \left[k_{ij}\right]_{21 \times 21} = \begin{cases} k_{ij} = 0 & h_{ij} < \lambda \\ k_{ij} = 1 & h_{ij} \ge \lambda \end{cases} \tag{8}$$

When the factors in the overall influence matrix H are greater than the set threshold λ, then 1 is taken, and vice versa 0. Based on the principle of optimality and rationality hierarchical division, combining with the actual situation of the development of the Internet home decoration platform to make judgment, select the most suitable among the many models obtained, and arrive at the threshold $\lambda = 0.37$, which is substituting into the formula to get the reachable matrix K.

3.5. Driving force and dependency calculations

The driving and dependency relationships between the factors in the reachable matrix K are further analyzed by the MICMAC method. Calculate the number of influencing factors with a matrix element of 1 in row i of factor K_i in reachability matrix K to get the driving force of the factor, and the number of influencing factors with a matrix element of 1 in column i of factor K_i to get the dependency of the factor. The larger the value of Driving Force, the easier it is for the factor to influence the other factors. The larger the value of Dependency, the more likely the factor is to be influenced by other factors. The specific formula is as follows:

$$X_i = \sum_{i=1}^{n} k_{ij} (i = 1, 2, \cdots, n) \tag{9}$$

$$Y_i = \sum_{j=1}^{n} k_{ij} (j = 1, 2, \cdots, n) \tag{10}$$

Based on the formula, the driving force and dependence were calculated separately, and the factors were categorized as autonomous (I), dependent (II), linked (III) and independent (IV).

4. Path Exploration of Civic and Political Integration of Dual Creative Talents Cultivation

4.1. Civic and political integration of "dual-creation" education in colleges and universities continues to deepen

In recent years, driven by top-down government policies, colleges and universities around the world have continued to promote changes in the paradigm of talent cultivation, from the preparation of ideological and political integration of "dual-creation" teaching materials, the development of special courses, the creation of quality teachers and teachers, to the on- and off-campus practice platforms and services, etc., are in full swing, and the momentum of development is promising. The willingness, enthusiasm and vitality of college students for "dual creativity" have never been higher, and the tendency has been obviously strengthened, and the results continue to emerge. As of September 2024, the statistics of the 200 model colleges and universities at the level of curriculum, teachers and practice platforms are shown in Table 1.

According to statistics, from 2020 to 2024, the number of students participating in the "Internet+" competition in model universities will increase from 174,000 to 856,000, and the number of participating projects will grow from 33,000 to 211,000. The number of students who participated in the organization of the "Youth Red Dream Journey" reached 442,000. Through a large-sample data survey, China College Student Entrepreneurship Report 2020 found that the entrepreneurial willingness of Chinese college students has continued to rise in comparison with the data of previous years. From the scope of national colleges and universities, the reform of "dual-creation" education in colleges and universities for the integration of ideology and politics has been in full swing, with remarkable achievements, and generally showing a long-term positive trend, which is mainly manifested in the breakthroughs of multiple nodes and the continuous and deep advancement.

Table 1. 200 demonstration colleges and universities

Project	Courses	Faculty	Practical platform
Innovation entrepreneurship education online course/class	3430 courses/3150 quantity of people	——	——
The course "creative fusion" features demonstration/number of classes	6594 courses/3150.7 Ten thousand quantity of people	——	——
Create innovative start-up materials and record libraries	3020 courses/1.2 Ten thousand quantity	——	——
Innovative and entrepreneurial full-time/part-time teachers	——	1.8Ten thousand /4.4 Ten thousand quantity of people	——
The number of teachers and teachers in the training field of the group	——	4053/34.7 Ten thousand quantity of people	——
The first batch of teachers in the repository of excellent innovation and entrepreneurship	——	1.8Ten thousand /4.4 Ten thousand quantity of people	——
Campus innovation and entrepreneurship practice platform	——	——	4658 quantity/1.24 Ten thousand quantity
Practice platform service college entrepreneurs	——	——	857.8 Ten thousand quantity of people
Organize "youth red dream journey" team/participate in students	——	——	5.2 Ten thousand/44.2 Ten thousand quantity of people

4.2. Analysis of Influencing Factors of Civic and Political Integration of Dual Creative Talents Cultivation

In recent years, innovation and entrepreneurship among young people have become a craze, and governments at all levels have introduced measures to provide a more favorable environment for entrepreneurship. Colleges and universities have incorporated innovation and entrepreneurship education into college education. For colleges and universities, it has become an important task of higher education to cultivate modern talents with correct ideology and politics and outstanding innovation ability for the country. It is of great significance to integrate the ideological and political education of college students and the cultivation of dual-innovation talents with each other.

DIM model, i.e. DEMATEL-ISM-MICMAC model, is a new type of system analysis method in which the three methods of DEMATEL method, ISM model and MICMAC method are linked. The study aims to realize three research objectives and systematically sort out the key influencing factors in the process of cultivating top-notch dual-creative talents. This study uses the Delphi method to conduct research, forming a 15×15 matrix with 15 indicators, and inviting five experts to rate the importance and relevance of the evaluation indicators of the Civic and Political Integration of Top-notch and Dual-Innovation Talents Cultivation by adopting the 0~5 scale method (0 is no influence, 1 is a weak influence, 2 is a weak influence, 3 is a slight influence, 4 is a stronger influence, and 5 is a strong influence), and the experts invited are the experts who are carrying out the innovation and entrepreneurship or have had the experience of innovation and entrepreneurship. The invited experts are high-level and high-precision talents who are conducting innovation and entrepreneurship or have had innovation and entrepreneurship experience, including one expert in the field of innovation and entrepreneurship in schools, two top-notch innovative talents in enterprises, and two high-skilled talents who have participated in innovation and entrepreneurship projects. Using the SPSSAU platform to analyze the reliability of the scoring results, the reliability coefficient is 0.952, which is greater than 0.9, indicating that the research data reliability is of high quality, and the scoring results are applicable to the subsequent research.

The indicators of the influencing factors of the cultivation of top-notch dual-creative talents in the integration of ideology and politics are shown in Table 2. The three levels including multi-faceted policy, multi-dimensional environment and multi-dimensional innovation are refined and summarized

to total 15.

Table 2. Impact factor index system

Primary indicator	Secondary indicator	Tertiary index
The culture of thinking and politics is developed A	Multifaceted policy A1	Local government education expenditure A11
		Talent introduction policy A12
		Entrepreneurship incentive policy support A13
		The policy support of the talent policy A14
		The effect of thinking on the spirit A15
	Multiple environment A2	Market environment A21
		Social environment A22
		Financing environment A23
		Service environment A24
		Cultural environment A25
	Multidimensional innovation A3	Degree of teaching innovation A31
		Level of curriculum innovation A32
		Participate in innovation A33
		Scientific innovation ability A34
		Innovation competition results A35

4.2.1. The DEMATEL model

Using DEMATEL method to quantitatively analyze the 15 influencing factors, solving for the degree of influence D, the degree of being influenced C, the degree of centrality M and the degree of cause R. Considering the complexity of the calculation, this study used Python 3.8.2 software to perform the operation, and the DEMATEL results were obtained after the unified organization as shown in Table 3.

According to the table, it can be seen that the top three factors in terms of centrality are participation in innovation enthusiasm (A33), scientific research and innovation ability (A34), and local government education expenditure (A11), which indicates that these three factors are the most important for the cultivation of Civic-Political Integration of Top-notch Dual-creation Talents, and are ranked in the forefront of the degree of influence, and need to be regarded as the key constraints to be managed by the control. The centrality of each influence factor in the policy factor is at a high level and close to each other, indicating that the policy factor has a higher status in the system of influencing factors for the cultivation of top-notch dual-creative talents in the integration of Civic and Political Sciences, and that relevant policies and Civic and Political Sciences education methods should be reasonably formulated to promote the high-quality cultivation of top-notch dual-creative talents.

Table 3. DEMATE results

Factor	D	Rank	C	Rank	M	Rank	R	Rank	Factor type
A11	8.216	2	7.812	5	16.024	3	0.412	5	Causal factor
A12	7.802	7	8.095	3	15.937	4	-0.304	9	Result factor
A13	8.081	3	7.304	9	15.381	7	0.781	3	Causal factor
A14	7.974	4	7.082	10	15.043	8	0.913	2	Causal factor
A15	8.320	1	6.063	15	14.386	10	2.264	1	Causal factor
A21	7.890	5	7.501	6	15.394	6	0.401	6	Causal factor
A22	7.405	9	6.811	11	14.213	12	0.592	4	Causal factor
A23	7.033	11	6.712	12	13.345	13	0.334	7	Causal factor
A24	6.036	14	6.114	14	12.154	14	-0.083	8	Result factor
A25	6.916	12	7.483	7	14.394	9	-0.574	11	Result factor
A31	6.875	13	7.384	8	14.242	11	-0.511	10	Result factor
A32	5.630	15	6.263	13	11.883	15	-0.635	13	Result factor
A33	7.823	6	8.742	2	16.552	1	-0.922	14	Result factor
A34	7.102	10	9.121	1	16.211	2	-2.026	15	Result factor
A35	7.441	8	8.053	4	15.514	5	-0.618	12	Result factor

4.2.2. ISM model

The overall influence matrix obtained from the DEMATEL method was repeatedly calculated and tested to determine the threshold value λ = 0.49, and was calculated using Python 3.8.2 to obtain the reachable matrix, and then the multilevel recursive order structural model of the influence factors of the cultivation of Civic and Political Integration of Top-notch Dual-creation Talents was drawn according to the ISM calculation method as shown in Figure 2. Each influencing factor is characterized by multilevel recursive order and is divided into five levels from bottom to top. The third category is the bottom-level factors, and the effect of the guidance of the Civic and Political Spirit (A15), the service environment (A24), and the level of curriculum innovation (A32) constitute the root factors of the influencing factor system, which have a profound and continuous influence on the cultivation of top-notch talents. Civic and political spirit guiding effect (A15) ranks first in the value of cause degree, ranks medium in the value of center degree, and ranks first in the value of influence degree, which indicates that the effect of Civic and political spirit guiding effect (A15) will have a strong influence on other factors.

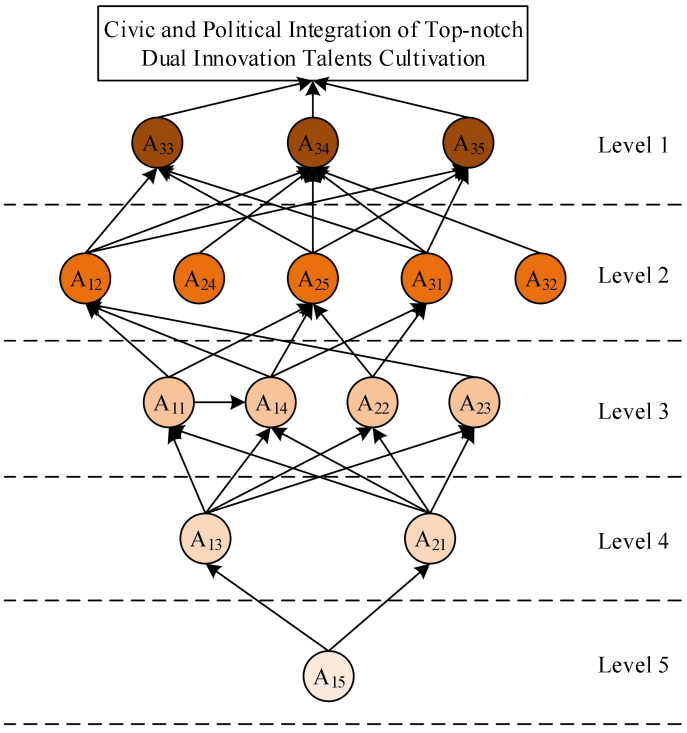

Figure 2. Multistage hierarchical model

4.2.3. The MICMAC model

After calculating the driving force and degree of dependence of each influencing factor according to the above table, Matlab was used to draw the influencing factor driving force - degree of dependence matrix, where the driving force indicates the degree of influence on other factors and the degree of dependence indicates the degree of influence by other factors. Taking the average value of drive and dependence as the dividing line, the final division is divided into four quadrants, and the results are shown in Figure 3. Region Ⅰ belongs to the autonomous factors with low driving force and low degree of dependence, region Ⅱ belongs to the driving factors with high driving force and low degree of dependence, and the policy support of top-notch talents (A14), the effect of the guidance of the spirit of civic and political (A15), and the social environment (A22) are easy to influence other factors in the whole system. Region Ⅲ belongs to the high driving force and high dependence correlation factors, the market environment of the region (A21), the results of the innovation contest (A35), and the education expenditure of the local government (A11). Region Ⅳ belongs to the dependent factors with low driving force and high degree of dependence, the cultural environment (A25), the degree of teaching innovation (A31), and the scientific research innovation ability (A34) are located in the high level in the ISM, and they are easily influenced by other factors in the system, which will have a direct impact on the cultivation of top-notch talents, and they are the aspects that need to be emphasized in the cultivation process.

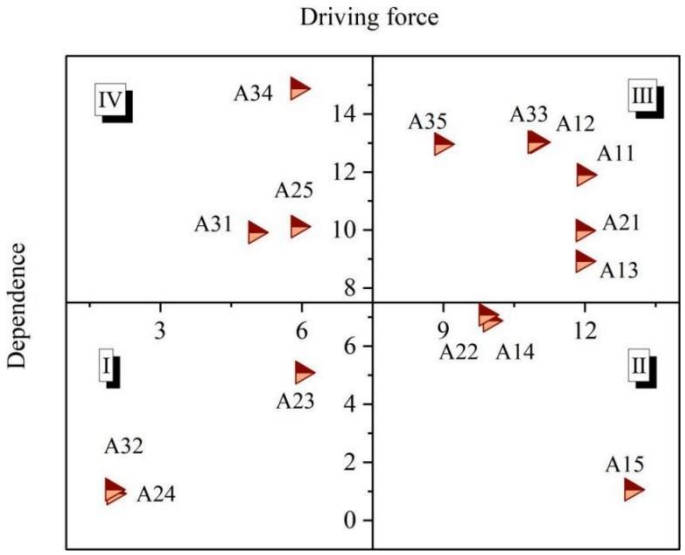

Figure 3. Drive and dependence

4.3. Effectiveness of Civic and Political Integration of Dual Creative Talent Cultivation Mode

The cultivation of students' innovation and entrepreneurship ability under the leadership of curriculum Civics and Politics is an innovative practice of organic integration of Civics and Politics education and professional education, which improves students' professional skills while shaping their correct values, cultivates dual-creation of big data technology and applied talents with innovative thinking, practical ability and family and national sentiments, and provides a strong support of talents for China's innovation-driven development strategy.

According to the school's applied talent cultivation objectives, the program has constructed a dual-creation talent cultivation system that integrates ideological and political education, and implements the talent cultivation program in various forms, such as actual projects, patent research and development, and disciplinary competitions. The specific awards are shown in Table 4. Over the past four years, a university data science and big data technology major 20 grade: 60 people, 21 grade: 65 people, 22 grade: 85 people, 23 grade: 90 people, a total of 300 students, the vast majority of which participated in the party school training, including 48 party activists, 8 official party members of the students in the 20th grade and 10 preparatory members of the party totaling 12 people. Data Science and Big Data Technology students have a solid professional foundation, and the students of this major have won 119 awards at the college level and above.

Table 4. Specific awards

Prize type	National motivational award	Outstanding student	School student	Outstanding student cadre	The school's excellent communist youth league
N	10	6	30	10	28
Prize type	The school is excellent	The national special prize of 2024 is the scholarship	Scholarships for the 2024	The prize of 2024 is the scholarship	2024 outstanding cadres
N	8	2	5	16	4

Over the past four years, students have participated in various competitions and social practice activities such as College Student Programming Competition, with fruitful practice results, and have won more than 154 awards of various types above the school level, including 22 awards of disciplinary competitions at the provincial level or above, and the main disciplinary competitions awards are shown in Table 5. Under the guidance of teachers, students have actively declared projects, and have been approved for 10 national research and innovative experimental programs for university students, 16 provincial research and innovative experimental programs for university students, and 10 university research and innovative experimental programs for university students.

Table 5. Contest award

Award level	Specific award	Quantity
National level	The 14th blue bridge cup competition individual competition, the Chinese university student computer design competition national final	10
provincial-level	Chinese university students' computer design competition is the national college it skills competition in the south of China	16
The first prize of the provincial competition	2023 the national college it skills competition, the ninth "Internet +" innovation and entrepreneurship competition, the 14th blue bridge cup competition individual	2
Second prize of provincial competition	Chinese university students' computer design competition is a competition for the icpc silk road invitation in south China region, the 9th "Internet" innovation and entrepreneurship competition, hunan university college students' engineering training comprehensive ability competition	8
Third prize in provincial competition	The 9th "Internet +" innovation and entrepreneurship competition, baidu's star programming competition, the 9th "Oriental wealth cup" national college student financial challenge	6
College students' research	innovative experimental project	10

4.4. Research on the Effective Integration Path of Civic and Political Education and the Cultivation of Dual-Creative Talents

The important significance of the mutual integration of civic and political education and dual innovation talent education has been elaborated in the previous article. In recent years more and more colleges and universities have taken it as an important educational task, but in practice there are still problems such as backward concept of innovation and entrepreneurship education, mutual separation of civic and political education and innovation and entrepreneurship education, single education method, and insufficient curriculum.

(1) Policy Suggestions for Talent Cultivation

Under the new development situation, the relevant departments of colleges and universities should actively follow the trend of the times and face up to the actual problems existing at this stage. The government should formulate a relevant support system to strengthen the funding of technological innovation and research in strategic emerging industries. Actively build a new model for the integration and development of ideological and political education and entrepreneurship and innovation education, give full play to the advantages of both, and cultivate graduates with outstanding ideological and political excellence and outstanding entrepreneurial ability for the country, the society and the enterprises. Give full play to the leading role of ideological and political education and cultivate the entrepreneurial spirit of hard work among college students, which on the one hand allows students to

understand the theory of ideological and political education more deeply, and on the other hand can further stimulate the entrepreneurial enthusiasm of students.

(2) Diversified Environment and Cultural Construction

Focus on campus culture construction. Campus culture is jointly created by teachers, students and staff, carrying the excellent culture and connotation essence of the Chinese nation. Ideological and political education occupies an important position in school education, and is closely related to the development direction of campus culture, and the two are intertwined to promote the overall growth of students. Integrating innovation and entrepreneurship education with ideological and political education into campus culture construction creates an excellent environment for students. The configuration of infrastructure and soft environment is a very important link for the cultivation and introduction of high-level talents.

(3) Multi-dimensional Innovation Activities and Competitions

Carrying out skill competitions and innovation and entrepreneurship competitions can not only cultivate high-quality laborers, high-level skilled and innovative and entrepreneurial talents, but also cultivate students' spirit of tenacity and hard work, craftsmanship of excellence, teamwork of solidarity and cooperation, professional quality of observing the operation norms of the post, and innovative spirit of constantly exploring and practicing innovation.

Invite successful entrepreneurs and other entrepreneurial elites with solid theoretical foundation and practical experience to join the faculty, and constantly improve the professional level of innovation and entrepreneurship education faculty. Give full play to the main role of college students, cultivate college students' innovation and entrepreneurship associations around the world, actively build a comprehensive service platform for college students' innovation and entrepreneurship, cohesion of college students with entrepreneurial aspirations, and carry out innovation and entrepreneurship activities in various forms with rich contents.

5. Conclusion

This paper adopts the methods of literature research and Deferral method to identify the influencing factors of Civic and Political Integration of Dual Creative Talents Cultivation. Quantitative analysis of influencing factors is carried out by constructing the DEMATEL-ISM model, and key influencing factors are identified by combining the MICMAC method. On this basis, a targeted effective integration path for the cultivation of Civic-Political fusion dual-creation talents is proposed. The results show that the three factors of innovation motivation, scientific research and innovation ability and local government education expenditure are the most important for the cultivation of dual-creation talents in the fusion of Civic-Political spirit. Civic and political spirit guides the effect of the cause degree value and influence degree ranked first, and the influence degree value both ranked first. Market environment, innovative competition results, and local government education expenditure belong to the correlative factors with high driving force and high dependence. Therefore, 3 aspects of cultivation paths are proposed: policy, environment, and innovation activities.

References

1. Zhao, X., & Wang, X. (2022). The influence of college entrepreneurship education system on the cultivation of applied innovative talents. Frontiers in Psychology, 13, 844234.
2. Zhao, Z. (2016, December). Research on education and cultivation of college students in innovation and entrepreneurship. In 2016 3rd International Conference on Education, Language, Art and Inter-cultural Communication (ICELAIC 2016) (pp. 233-236). Atlantis Press.
3. Jixiang, Z., & Yuezhou, Z. (2019). Research on innovation and entrepreneurship talent training model for application-oriented university under perspective of collaborative innovation. International Journal of Information and Education Technology, 9(8), 575-579.
4. Lu, D., & Mei, J. (2022). Research on the optimization path based on the cultivation of innovative and entrepreneurial talents in colleges and universities. Frontiers in Educational Research, 5(16), 72-75.
5. Zhou, Q. (2019). Research on Talent Cultivation Strategy of Adult Universities under the Background of “Mass Entrepreneurship and Innovation”. Creative Education, 10(13), 3392-3401.

6. Gao, H. W. (2023). Innovation and development of ideological and political education in colleges and universities in the network era. International Journal of Electrical Engineering & Education, 60(2_suppl), 489-499.
7. Zhang, J. (2024). Innovative Pedagogical Approaches in University Ideological and Political Education. International Journal of Educational Research, 127, 63626.
8. Zhuo, S. (2019, January). Organic Integration of Innovation and Entrepreneurship Education and Ideological and Political Education in Colleges and Universities. In 2018 International Workshop on Education Reform and Social Sciences (ERSS 2018) (pp. 55-60). Atlantis Press.
9. Xie, J. (2021). Research on Cooperative Mechanism of Innovation and Entrepreneurship Education and Ideological and Political Education in Colleges and Universities. Learning & Education, 10(8), 231-232.
10. Hao, F. (2022). THE CULTIVATION OF COLLEGE STUDENTS'INNOVATION AND ENTREPRENEURSHIP ABILITY BY IDEOLOGICAL AND POLITICAL EDUCATION FROM THE PERSPECTIVE OF EDUCATIONAL PSYCHOLOGY. Psychiatria Danubina, 34(suppl 1), 132-134.
11. Wang, X. (2024). Research on the influencing factors and upgrading paths for innovation and entrepreneurship education in universities under the background of sustainable development goals: a QCA empirical study on new engineering of Chinese and foreign universities. International Journal of Sustainability in Higher Education, 25(7), 1426-1452.
12. Zhou, J. (2020, October). Ideological and political teaching reform of computer network course based on thinking innovation. In Journal of Physics: Conference Series (Vol. 1648, No. 4, p. 042112). IOP Publishing.