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Research on the Evolution of Digital Intelligence Governance Policies and Practice Paths in Private Universities for The Digital Transformation of Higher Education

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Abstract: In the context of the digital transformation of higher education, digital intelligence governance in private universities has become a key path to improve management efficiency. This paper takes the digital intelligence governance policy texts of private universities from 2010 to 2025 as the object, and uses the BERTopic thematic model to conduct semantic mining and evolution analysis. The study finds that the policy content covers ten core themes: Student Cultivation and High-Quality Development, University Education System and Work Construction, Construction of Campus Information Infrastructure, Comprehensive Reform of Education and Teaching, Collaborative Promotion of Education Development Policies, Digital Literacy and Competency Cultivation, Construction of Smart Campus Service System, College Governance and Informatization Collaboration, Integrated Innovation of Digital Teaching, and Strategic Advancement of Education Modernization; The policy evolution has gone through three stages: Construction period, technology empowerment and system expansion period, and Governance deepening and integration enhancement period, presenting a context from system establishment to technology empowerment to governance deepening. This study provides a decision-making reference and practical reference for improving the digital intelligence governance system of private universities and promoting the modernization of governance.

Keywords: Private Universities; Digital Intelligence Governance; Policy Evolution; Practical Path.

1. Introduction

The deep integration of digital technology and higher education is driving profound changes in governance models. The "14th Five-Year Plan and the Outline of Long-Range Objectives for 2035" explicitly requires focusing on key areas such as education and promoting the widespread application of digital services. The report of the 20th National Congress of the Communist Party of China further proposed to "promote the digitalization of education", pointing out the direction for the transformation and upgrading of private universities. According to statistics from the Ministry of Education, as of 2025, there will be a total of 829 private universities in the country, accounting for 28.40% of the total number of universities, and its flexible mechanism has significant advantages, but in the process of digital construction, a large number of multi-source heterogeneous data has developed with the derivation of business models, structures, and processes, and problems such as "data islands", inconsistent governance standards, and data security have become increasingly prominent. How to combine "data + intelligence" digital intelligence collaborative governance to break through resource bottlenecks and improve management efficiency has become a key issue that private universities urgently need to address.[1][2].

Digital intelligence governance refers to a new governance model that integrates digital and intelligent technologies, takes data and algorithms as the core driving force, and relies on the platform to achieve deep integration of digitalization and intelligence. Focusing on the digital intelligence governance of higher education, scholars at home and abroad have carried out multi-dimensional exploration. In terms of the opportunities and challenges of digital transformation, Al-Samarraie and Al-Rahmi[4]. systematically analyzed the problems in the digital transformation of higher education, such as insufficient hardware support, the "digital divide" between teachers and students, and privacy and security concerns. Mei Bing [3] focused on the improvement of digital literacy of college teachers, and discussed practical problems and system construction paths. Li Mingyu [1] proposed differentiated development countermeasures in view of the current situation and dilemma of digital transformation in private universities in China. In terms of quantitative analysis of policy texts, Pan Cheng et al [5] used the BERTopic model to reveal the thematic characteristics and evolution of public cultural data governance policies, Wang Shiyong et al [6]. conducted a textual quantitative analysis of the changes in China's Internet governance policy based on the LDA model, and Li Shenghui et al [7] Combining BERTopic and fsQCA methods, this paper explores the efficiency improvement path of the scientific and technological talent policy system from the perspective of "individual-organization" interaction. In terms of governance guarantee mechanism, Gu Kunkun et al. [8] proposed the system and technical strategy of data security governance in colleges and universities from the perspective of data security, while Jia Yunfei [9]. discussed the guarantee mechanism of digitalization of grassroots social governance from the perspective of legal risk.

On the whole, the existing research has laid the foundation for digital intelligence governance in colleges and universities in terms of digital transformation, policy text analysis and governance guarantee, but there are still two limitations: first, the research objects are mostly concentrated in first-class universities or the public domain, and the systematic analysis of digital intelligence governance policies in private universities is still insufficient; Second, the existing discussion is mainly qualitative description, and there is a lack

of quantitative analysis and dynamic evolution investigation of policy texts. Therefore, this paper focuses on the digital intelligence governance policies of private universities, systematically sorts out the relevant policy documents from 2010 to 2025, and refines the core themes and evolution trends, in order to provide decision-making reference for improving the digital intelligence governance system of private universities and explore the governance practice path that meets its characteristics.

2. Analysis of the evolution of digital intelligence governance policies in private universities

2.1. Study Design

2.1.1. Model Basics

In this study, the BERTopic topic model was used for policy text mining. The model uses a pre-trained language model to convert text into semantic vectors, automatically identifies topic clusters through UMAP dimensionality reduction and HDBSCAN density clustering, and extracts various keyword descriptions. Its calculation formula is:

$$\text{Attention}(Q,K,V)=\text{softmax}\left(\frac{QK^T}{\sqrt{d_k}}\right)V \quad (1)$$

The model evaluates three indicators, namely topic coherence based on word embeddings, topic diversity and clustering coefficient, to measure the semantic cohesion within the topic, the semantic distinction between topics and the overall quality of clustering, respectively, to ensure the rationality and reliability of the mining results.

2.1.2. Data Sources and Acquisition

This study takes the top 50 private universities in the 2025 "Soft Science China University Rankings" as the data source, and collects the policy documents publicly released on the official websites of each university from January 1, 2010 to December 31, 2025 through the Selenium automated crawler tool and the keywords "digital transformation" and "smart campus", and obtains a total of 294 text records. The data covers the policy title, release time, body content, publishing institution and remark information, which provides sufficient support for analyzing the theme composition and evolution trend of digital intelligence governance policies in private universities, as shown in Table 1.

Table 1. Data description table

Variable name	Variable meaning	Data type	Notes
Title	The specific title of the policy release	Text-based	None
Release time	The precise timing of the policy issuance	Time type	None
Content	The process of policy release	Text-based	None
Colleges	The name of the institution issued by the policy	Text-based	None
Note	Supplementary explanation of the content of the policy	Text-based	None

2.1.3. Research Process

After data cleaning and word segmentation preprocessing of 294 policy texts, the Sentence-BERT pre-trained language model is used to convert each text into a semantic vector, and the topic clusters are automatically identified through UMAP dimensionality reduction and HDBSCAN density clustering. According to the time node of policy release, the period from 2010 to 2025 is divided into three stages: Construction period (2010-2020), technology empowerment and system expansion period (2021-2024), and Governance deepening and integration enhancement period (2025-present). Provide practical path suggestions for improving the digital intelligence governance system of private universities.

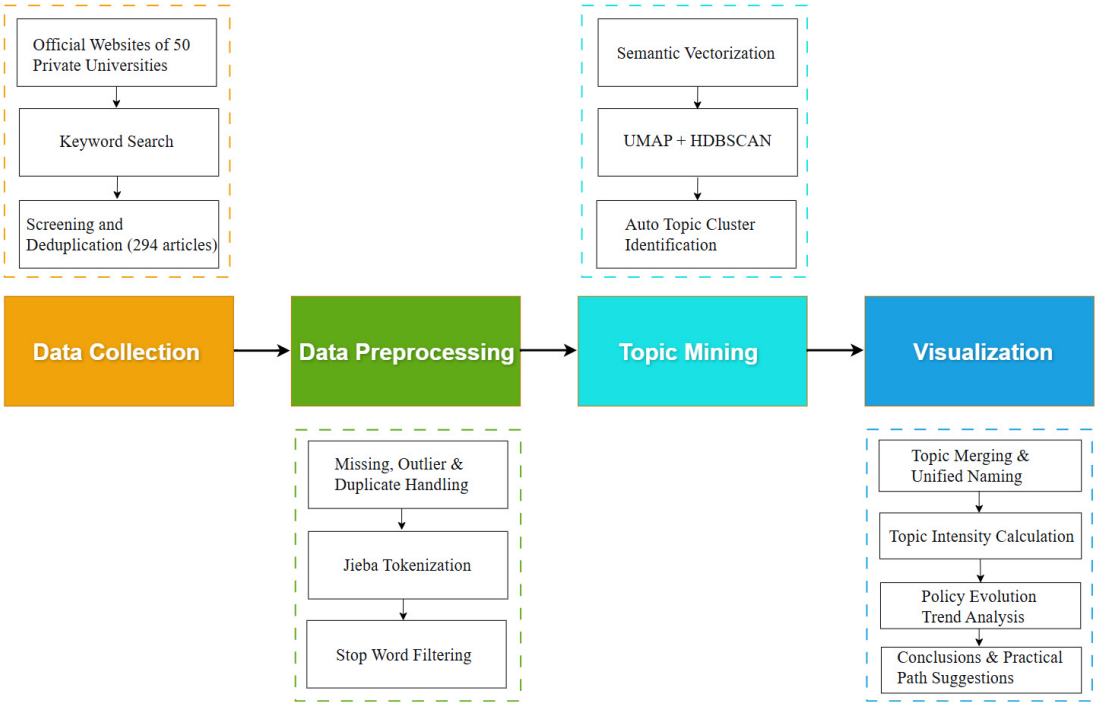


Fig 1. Research flowchart

2.2. Policy Analysis and Theme Identification

2.2.1. Word Segmentation and Stop Word Processing

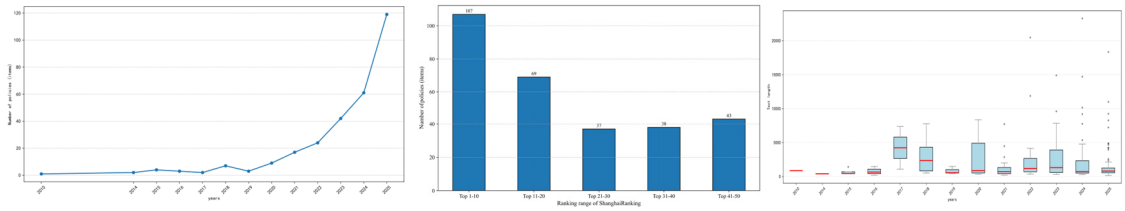
After confirming the data quality, the Jieba word segmentation tool was used to segment the text, and only five types of real words, such as nouns, verbs, and adjectives, were retained to enhance the distinction ability of theme modeling. Then, according to the list of disabled words of Harbin Institute of Technology, 2355 functional words without actual semantic contribution, such as particles, prepositions, and conjunctions, were filtered. The participle and part-of-speech screening effects are shown in Table 2.

Table 2. Demonstration of word segmentation and part-of-speech screening effects

Original text	Jieba participle original	Jieba participle filter parts of speech
According to the "Jiangsu Higher Education Society on Doing a Good Job in the Digital Transformation and Teaching of Higher Education in 2024"...	According to, Jiangsu Province, higher education, society, about, do well, year, higher education, digitalization, transformation, and, education...	Society, do a good job, digitalization, transformation, education, modernization, practice, research, special, project, construction, declaration, notice, church, notice...
Building a beautiful China is an important goal of building a modern socialist country in an all-round way, and it is the realization of China...	Construction, beautiful, China, is, comprehensive, construction, socialism, modernization, country, of, important, goal...	construction, comprehensive, construction, socialism, modernization, country, important, goal, achievement, Chinese nation, greatness, rejuvenation...
According to the "Measures for Information Disclosure in Colleges and Universities" (Order No. 29 of the Ministry of Education), the "List of Information Disclosure Matters in Colleges and Universities"...	According to, colleges and universities, information, disclosure, measures, Ministry of Education, orders, colleges and universities, information, disclosure, matters, ...	Information, Measures, Ministry of Education, Order, Information, Matters, List, Education Office, Letter Number, Universities, Information, Work, Guidelines, Trial.....

2.2.2. Policy Analysis

Before constructing the model, this study analyzes the temporal distribution, institution distribution and text characteristics of policy texts. From Figure 2 (left), it can be seen that the number of policy releases has shown a continuous upward trend, with a flat growth rate from 2010 to 2020, with an average of less than 10 articles issued per year, and has risen rapidly since 2021, reaching a historical peak of 118 articles in 2025, showing the phased characteristics of slow growth from the initial period, to the rapid rise of technology empowerment period, and then to the concentrated outbreak of governance deepening period. Figure 2 (middle) shows that the top 10 universities have published a total of 107 articles, the largest number, the 21st-30th place has dropped to the lowest (37 articles), and the 31st-50th place has rebounded. Figure 2 (right) reflects the gradual rise in text length from the median of 100-150 words in the previous period to the maximum value of 18,000 words in 2025, and the transformation of policy formulation from brief notice to systematic in-depth planning.



Policy Release Trend Trend (2010–2025) | Policy Count by Ranking Interval | Text Length Distribution (2010–2025)

Fig 2. Basic situation map of the policy text

In order to reveal the differences in policy concerns of different institutions, TF-IDF keyword extraction was carried out on the policy texts of 50 private universities, and the results are shown in Table 3. From the statistical point of view, each school has its own characteristics: comprehensive and technical application colleges and universities focus on technical issues such as "informatization" and "digitalization"; For example, Changchun university of architecture and civil engineering and Anyang university focus on "architecture", Qilu medical university focuses on "morphology", and Chengdu college of arts and sciences focuses on "accounting"; High-frequency words such as "safety", "rectification" and "training" reflect the focus of some colleges and universities on safety governance, standardized construction and teacher promotion, showing a trend of expansion from a single information construction to a multi-dimensional comprehensive governance pattern such as safety management, talent training, and discipline development.

2.2.3. Thematic Model Construction and Feature Extraction

In this study, the BERTopic model was used to mine the theme of policy texts. The model uses the Sentence-BERT pre-trained language model to convert each policy text into a semantic vector, automatically identifies topic clusters through UMAP dimensionality reduction and HDBSCAN density clustering, and extracts various keyword descriptions.

In terms of stage division, this study divides the period from 2010 to 2025 into three periods according to the change trend of the number of policy texts issued and the phased shift of policy concerns. In 2010, the Outline of the National Medium and Long-term Education Reform and Development Plan (2010-2020) elevated "education informatization" to the national strategic height, and the number of policies grew slowly in the following ten years, mainly focusing on system construction and daily management, so it was classified as Construction period.

Table 3. The core keyword TF-IDF value of different institutions

Serial number	Colleges	Core keywords	TF-IDF value
1	Shenyang institute of technology	Peace	0.190940
2	Changchun university of architecture and civil engineering	Architecture	0.187326
3	Xi'an mingde institute of technology	Rectification	0.169398
4	Xiamen university of technology	Training	0.166488
5	Guangzhou institute of science and technology	Informatization	0.161125
6	Lijiang culture and tourism college	Elementary school	0.149890
7	University of sanya	Both sides	0.146005
8	Qilu medical university	Morphology	0.131864
9	Wanjiang university of technology	Teaching management	0.127568
10	Anyang university	Architecture	0.111860
11	Sias university	Training	0.111657
12	Wenhua college	Wenhua	0.095430
13	Changsha medical university	Sports	0.094311
14	Nanchang institute of science & technology	Campus	0.092256
15	Chengdu college of arts and sciences	Accounting	0.091456
16	Chengdu jincheng college	Topic	0.087473
17	Cangzhou jiaotong college	Architecture	0.078695
18	Beijing city university	Numbers	0.078592
19	Nanchang institute of technology	Information	0.077336
20	Zhejiang shuren university	Information	0.074910
21	Zhuhai college of science and technology	Informatization	0.072449
22	Zhongyuan institute of science and technology	Brain	0.060604
23	Guangdong baiyun university	Deputy curator	0.059591
24	Xi'an international university	Classroom	0.059186
25	Nanfang college guangzhou	Education	0.058196
26	Zhengzhou technology and business university	Education	0.058125
27	Dalian neusoft university of information	Data	0.057553
28	Xinxiang institute of engineering	Education	0.052558
29	Wuchang university of technology	Manpower	0.049898
30	East university of heilongjiang	School	0.048551
31	Minnan university of science and technology	Polytechnic	0.047763
32	Tianjin ren'ai college	Digital	0.044742
33	Yango university	Community	0.044082
34	Moutai institute	Education	0.043935
35	Sanjiang university	Construction	0.040448
36	Weifang university of science and technology	Our hospital	0.039521
37	Yantai institute of science and technology	Orientation	0.039247
38	Qingdao huanghai university	Teaching	0.038637
39	Xinyang university	Group learning	0.038425
40	Jiangxi institute of technology	Information	0.037142
41	Neusoft institute guangdong	Patriotism	0.036319
42	Zhengzhou university of science and technology	Informatization	0.036107
43	Wuhan donghu university	Students	0.033788
44	Shanghai Jian qiao university	Education	0.031066
45	Changchun guanghua university	Build bridges	0.028816
46	Xi'an Peihua university	Teaching	0.026748
47	Wuxi taihu university	Peihua	0.025204
48	Harbin Huade university	Education	0.025163
49	Wuhan university of bioengineering	School	0.024736
50	Chengdu jincheng college	Development	0.020691

In 2021, the "Regulations on the Implementation of the Law of the People's Republic of China on the Promotion of Private Education" was promulgated, providing legal protection for the digital running of private universities, and the number of policies has surged, and "smart campus" and "data governance" have become core issues, marking the entry into a period of technology empowerment and system expansion. In 2025, the "Opinions on Accelerating the Digitalization of Education" will be released, and the policy focus will shift to "one-stop" digital intelligence student community and full-process data governance, and the number of policies will also reach a historical peak, thus entering a period of governance deepening and integration and quality improvement. The evaluation indicators of each stage of the BERTopic model are shown in Table 4.

It can be seen from Table 4 that the theme coherence in the Construction period is the highest (0.5763), indicating that the policy issues at this stage are relatively concentrated and the semantic clustering effect is good, the coherence of technology empowerment and system expansion period is reduced to 0.4775, reflecting the expansion and semantic complexity of policy issues, and the Governance deepening and integration enhancement period is further reduced to 0.4728, and the decline rate is narrowed, indicating that the

topics tend to stabilize after expansion.

Table 4. Evaluation indicators of each stage of the BERTopic model

Stage	Thematic coherence	Subject dversity	Contour factor
Construction period (2010-2020)	0.5763	0.8333	0.1966
Technology empowerment and system expansion period (2021-2024)	0.4775	0.8000	0.0801
Governance deepening and integration enhancement period (2025 to present)	0.4728	0.8667	0.1034

In terms of theme diversity, the three stages remained above 0.80, with the highest period of Governance deepening and integration enhancement period (0.8667), followed by the Construction period (0.8333), and the period of technology empowerment and system expansion period slightly lower (0.8000). In terms of contour coefficient, the absolute values of the three stages are at a low level (0.0801-0.1966), indicating that the overall boundary of the theme is relatively blurred. Among them, the contour coefficient of the Construction period is the highest (0.1966), the technology empowerment and system expansion period is the lowest (0.0801), and the Governance deepening and integration enhancement period has rebounded (0.1034), indicating that with the expansion and refocus of policy issues, the tightness of the theme cluster has experienced a process of "decline-recovery".

Table 5. Number of BERTopic model topics for each policy stage

Stage	Number of samples	Number of valid topics	Topic Name	Keywords (Top5)
Construction period	31	3	Student Cultivation and High-Quality Development	Students, Colleges, Schools, Learning, High quality
			University Education System and Work Construction	Education, Construction, Universities, Work, Students
			Construction of Campus Information Infrastructure	Informatization, Campus, Construction, Campus Construction, Informatization Construction
Technology empowerment and system expansion period	144	4	Comprehensive Reform of Education and Teaching	Education, Students, Development, Teaching, Schools
			Collaborative Promotion of Education Development Policies	Build, Develop, Promote, Educate, Strengthen
			Digital Literacy and Competency Cultivation	Education, Digitalization, Competence, Students, Cognition
			Construction of Smart Campus Service System	Service, Campus Network, System, Service, Login
Governance deepening and integration enhancement period	119	3	College Governance and Informatization Collaboration	Work, College, School, Development, Information
			Integrated Innovation of Digital Teaching	Digitalization, Teaching, Education, Teachers, Technology
			Strategic Advancement of Education Modernization	Education, Construction, Development, Strengthening, State

The Construction period identifies three major themes: "Student Cultivation and High-Quality Development", "University Education System and Work Construction" and "Construction of Campus Information Infrastructure", which reflects the characteristics of the foundation laying at this stage with talent training as the starting point and system construction and facility laying as the support. The theme of Technology empowerment and system expansion period has been expanded to four directions: " Comprehensive Reform of Education and Teaching", "Collaborative Promotion of Education Development Policies", "Digital Literacy and Competency Cultivation", and "Construction of Smart Campus Service System", and the policy attention tends to be diversified and systematic driven by technology. The Governance deepening and integration enhancement period has converged into three major themes: "College Governance and Informatization Collaboration", "Integrated Innovation of Digital Teaching" and "Strategic Advancement of Education Modernization", and the policy agenda has shifted from large-scale empowerment to connotative quality improvement and fine governance.

2.3. Analysis of Policy Evolution

The BERTopic model is used to model the themes of the three policy stages, obtain the document-topic probability distribution of each stage, and calculate the average intensity of each theme at different stages to track the evolution trend of policy issues. In view of the differences in the expression of the automatically generated hashtags in each stage, this study retains the BERTopic clustering results and manually merges and names the topics of the three stages according to their core semantics, and finally forms the above ten core categories as shown in Fig. 3.

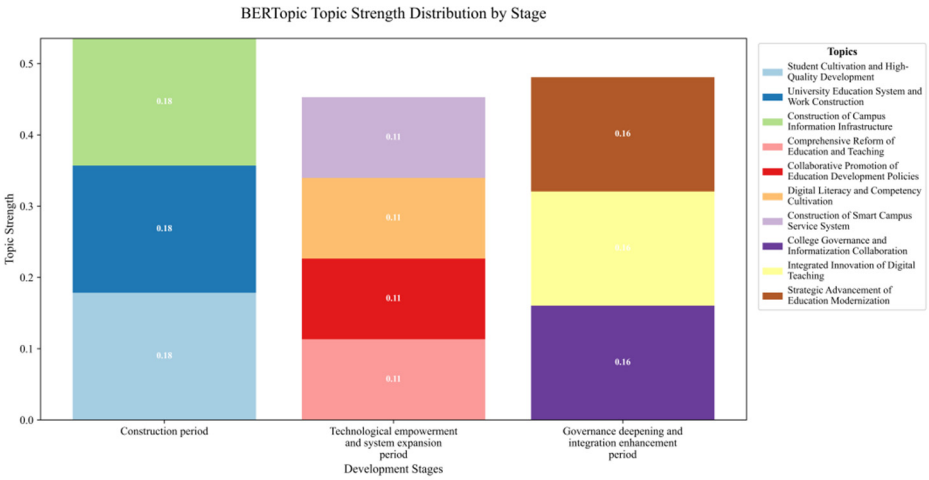


Fig 3. Distribution of BERTopic theme intensity by policy stage

There are 3 effective themes during the Construction period, and the intensity of each theme is 0.18, covering Student Cultivation and High-Quality Development, University Education System and Work Construction, and Construction of Campus Information Infrastructure. The intensity of the three themes is completely equal, indicating that this stage is balanced in three aspects: information hardware laying, institutional norms and student development, and has not yet formed a single dominant driving force, but the infrastructure and system construction have laid the foundation for subsequent digital intelligence governance. The theme of Technology empowerment and system expansion period has been expanded to 4, and the intensity of each theme is 0.11, covering Comprehensive Reform of Education and Teaching, Collaborative Promotion of Education Development Policies, Digital Literacy and Competency Cultivation, and Construction of Smart Campus Service System. This highly average distribution indicates that policy attention is evenly dispersed among multiple topics, reflecting the characteristics of systematic expansion of comprehensive rollout and hand in hand, but the boundaries between topics may be relatively blurred, and the surge in the number of samples also confirms the activity of policy response and issue diffusion at this stage. The theme of Governance deepening and integration enhancement period converged to 3, and the intensity of each theme was 0.16, forming three core contexts: College Governance and Informatization Collaboration, Integrated Innovation of Digital Teaching, and Strategic Advancement of Education Modernization. This reflects the shift in the focus of the current policy from breadth expansion to deep integration, focusing on the sinking of governance mechanisms, the integration of digital teaching and the guidance of national strategies, presenting a pattern of balanced efforts by the three parties.

Therefore, according to the above policy evolution law, the digital intelligence governance policy of private universities needs to adopt differentiated promotion strategies at different stages. During the Construction period, information infrastructure, institutional norms and talent training quality assurance systems should be promoted simultaneously to avoid focusing on hardware over software. During the Technology empowerment and system expansion period, it is necessary to increase the integration of smart campus service systems, promote the linkage mechanism of teaching reform, digital literacy and policy coordination, and prevent the dispersion of resources; In the Governance deepening and integration enhancement period, it is necessary to strengthen the governance capabilities of data-based colleges, promote the deep integration of digital teaching and education modernization, and build a digital intelligence governance ecology with multi-party collaboration between education administrative departments, university managers, teachers and students, and industry enterprises. At the same time, it is necessary to establish a dynamic evaluation mechanism for cross-stage policy effects, regularly monitor the achievement of various thematic goals, and provide an evidence-based basis for the continuous optimization of digital intelligence governance in private universities.

3. Conclusions and Suggestions for The Development of Practical Paths

This study takes the digital intelligence governance policy texts of private universities from 2010 to 2025 as the object, and uses the BERTopic model to mine and analyze the theme. The results show that the policy evolution has gone through three stages: Construction period, Technology empowerment and system expansion period, and Governance deepening and integration enhancement period. Among them, the Technology empowerment and system expansion period has the largest sample size and the largest number of topics, covering Comprehensive Reform of Education and Teaching, Collaborative Promotion of Education Development Policies, Digital Literacy and Competency Cultivation, and Construction of Smart Campus Service System, which is the key hub for the transition of policies from "system construction" to "system integration". The theme of Governance deepening and integration enhancement period has further converged into the three cores of College Governance and Informatization Collaboration, Integrated Innovation of Digital Teaching, and Strategic Advancement of Education Modernization, which directly points to the deep concerns of current digital intelligence governance. There are a total of 7 themes in the two stages, which not only undertake the information hardware and institutional foundation of the Construction period, but also cover the multiple exploration paths of the Technology empowerment and system expansion period, and at the same time respond to the focus of the Governance deepening and integration enhancement period, and the policy development is still evolving. Taking these 7 themes as the basis for practical path suggestions can provide forward-looking reference for future policy optimization. Based on this, this study proposes the following seven practical paths from three dimensions: value management,

organizational system and technical tools.

3.1. Value Management Dimension

First, deepen the Comprehensive Reform of Education and Teaching. The theme keywords "Education, Students, Development, Teaching, Schools" of "C Comprehensive Reform of Education and Teaching" show that digital technology has fully entered the main position of teaching. Private universities should systematically reconstruct the talent training plan, integrate artificial intelligence, data analysis, virtual simulation and other elements into the curriculum system, and build a "intelligent + professional" cross-curriculum group; Comprehensively promote new teaching models such as blended teaching and flipped classrooms, build smart classrooms and online learning platforms, realize data collection and intelligent analysis of learning conditions in the whole teaching process, and provide support for personalized teaching and accurate evaluation.

Second, improve Digital Literacy and Competency Cultivation. The theme keywords of "Digital Literacy and Competency Cultivation" "education, digitalization, ability, students, cognition" emphasize that human literacy is the foundation of governance effectiveness. private universities should include digital literacy in general compulsory courses, and offer courses such as data thinking, artificial intelligence ethics, and network security to all students; At the same time, a special plan for improving teachers' digital literacy will be implemented, and a "dual-teacher" teacher team that "understands technology, is good at teaching, and can innovate" will be cultivated through workshops, enterprise practices, teaching competitions, etc., and digital literacy assessment will be included in the professional title evaluation and student comprehensive quality evaluation system.

Third, strengthen Integrated Innovation of Digital Teaching. The theme keywords of "Integrated Innovation of Digital Teaching" "digitalization, teaching, education, teachers, technology" point to the deep embedding of technology and teaching. private universities should build smart courses and virtual teaching and research rooms to promote a new teaching ecology of online and offline integration and human-machine collaboration; Establish a data-driven teaching quality monitoring system, conduct real-time diagnosis and continuous improvement of classroom teaching, learning behavior, and academic results, and reshape the teaching paradigm and quality ecology by digital means.

3.2. Organizational System Dimension

First, the promotion of education development policies. The continued high popularity of the theme of "education, construction, and development" reflects the core driving role of macro policy guidance in digital intelligence governance. It is recommended that the education authorities further improve the top-level design of digital intelligence governance in private universities, formulate classification guidance policies, and clarify the digital transformation goals and evaluation standards of different types and levels of private universities. At the same time, establish a dynamic monitoring and feedback mechanism for policy implementation, form a three-level policy promotion chain of "national guidance, local support, and school-based implementation", and build a systematic data intelligence system, including data standards, processes and responsibility allocation, to ensure the pertinence and effectiveness of policy implementation.

Second, school-enterprise cooperation and college development. "Enterprise, digitalization, college" highlights the landing path of school-enterprise collaboration at the level of secondary colleges. private universities should take colleges as the main body to study the organizational structure and division of labor practice paths of digital intelligence governance, and cooperate with leading enterprises in the industry to build industrial colleges, digital intelligence laboratories and industry-education integration training bases. Establish and improve the data ethics guarantee system, strengthen the moral and institutional practice foundation of data governance, promote real projects of enterprises into classrooms, industry technical standards into courses, and enterprise tutors into teaching teams, explore the construction of a full-process data intelligence chain, and form a talent training model of "school-enterprise co-education, resource sharing, process co-management, and win-win results".

3.3. Technical Tool Dimension

First, digital transformation and platform construction of education. The keyword "education, construction, and development" in the deepening period of governance shows that the policy focus has shifted from hardware facilities to data-driven systematic construction. private universities should focus on key technologies such as big data, cloud computing and the Internet of Things, and strive to build an integrated digital platform covering teaching, scientific research and management. Actively adopt data mining and intelligent management tools, build a data intelligence application platform, integrate various data resources, provide one-stop data services, realize the aggregation, sharing and whole process integration of educational data, and provide a technical foundation for precise governance and scientific decision-making.

Second, the construction of Smart Campus Service System. "Enterprise, Digital, College" introduces the technical practice dimension of external collaboration. private universities should strengthen strategic cooperation with information technology enterprises, promote the iterative upgrading of smart campus infrastructure, and deploy the Internet of Things and intelligent sensing equipment on a large scale in the fields of campus security, energy management, logistics services, libraries, etc., to achieve real-time monitoring, intelligent scheduling and emergency early warning of campus operation status. Through the analysis of the practical path of technical tools, we explore how to improve the effect of digital intelligence governance and data resource allocation in private universities, and comprehensively improve the management efficiency and campus life experience of teachers and students.

4. Summary

The study systematically analyzes digital intelligence governance policies in private universities (2010–2025) using the BERTopic model, revealing a three-stage evolution from infrastructure construction to technology empowerment and then to governance deepening. Ten core themes are identified, and corresponding practical paths in value management, organizational systems, and technical tools are proposed to support governance modernization and decision-making in private higher education.

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