Proceedings of ICILLP 2025 Symposium: Property Law and Blockchain Applications in International Law and Legal Policy
DOI: 10.54254/2753-7048/2025.LD28831

Analysis of International Policy Text on Digital Leadership from the Perspective of Policy Instruments

Xuyi Zhang

Suzhou University of Technology, Suzhou, China
Zxy18552981985@163.com

Abstract. With the rapid advancement of digital technology, digital leadership has emerged as a type of leadership, attracting extensive scholarly and practical attention. Initially applied in enterprises, digitalization has evolved into a pivotal means for countries to enhance political leadership and drive social progress through digital government technologies. Nations and major international organizations have issued digital-related policies. From the perspective of policy instruments, this study systematically analyzes 18 international policy texts on digitalization from different countries and regions. By summarizing the types and application characteristics of policy instruments, it identifies the common policy priorities in building digital leadership. The research reveals that countries generally emphasize infrastructure construction, digital skills training, and data governance, with policy instruments applied in diversified and combined ways. The analysis outlines the global landscape of digital leadership, facilitating international cooperation and exchange, and offers suggestions for guiding future policy documents toward a more coordinated and efficient global digital governance framework.

Keywords: Digital Leadership, Policy Instruments, International Policy Text Analysis, Digital Governance

1. Introduction

In the digital era, information technology is evolving rapidly, and scholars are exploring the integration of emerging technologies with management systems. Avolio & Kahai proposed the concept of e-leadership, emphasizing the role of information tools in influencing cognitive attitudes and performance outcomes, mainly applied in virtual teams and e-commerce. With the rise of big data and artificial intelligence, e-leadership has expanded beyond tool use, gradually evolving into digital leadership. Unlike traditional efficiency- and goal-oriented leadership, digital leadership highlights cost reduction, efficiency improvement, organizational innovation, and sustainable development. Research on digital leadership initially focused on corporate contexts such as digital transformation and innovative team development but has since extended to the public sector. In this domain, digital leadership is closely tied to digital government, where leaders employ digital technologies to achieve organizational goals and provide better services for citizens [1]. As global digitalization accelerates, competition among countries for digital leadership intensifies, and transformation in the public sector proves more complex than in private enterprises.

© 2025 The Authors. This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (https://creativecommons.org/licenses/by/4.0/).

DOI: 10.54254/2753-7048/2025.LD28831

To address these challenges, this study selects 18 international policy texts issued between 2012 and 2025. The sample covers international organizations, including the European Union (EU), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the Organization for Economic Cooperation and Development (OECD), as well as countries such as the United States, Germany, the United Kingdom, China, and Japan. A two-dimensional "policy instruments-policy content" framework is constructed to examine the core components and implementation paths of digital leadership policies. While most existing research remains at the conceptual or localized practice level, systematic policy analysis remains insufficient. By filling this gap, this study reveals international strategies and governance logic in digital transformation, offering both theoretical contributions and practical references to guide governments in formulating digital leadership strategies and advancing global digital governance more effectively.

2. Research design

2.1. Research data source

To conduct a comprehensive study on international policies related to digital leadership, this study takes policy documents from major international organizations, developed countries, and developing countries as the research objects. Specifically, these include digital leadership policy reports issued by international organizations such as UNESCO and the EU, as well as relevant policy texts from countries including the United States, Germany, the United Kingdom, Singapore, and China. Policy samples are sourced from public documents, annual reports, and strategic plans released on the official websites of international organizations and governments of various countries, ensuring the authority and timeliness of information. In the data collection process, this study adopts a systematic literature retrieval method, using keywords such as "digital leadership" and "digital governance" for retrieval, covering texts in English, Chinese, Japanese, and German, to maximize the presentation of the understanding and practice of digital leadership in different regions.

To maintain the consistency of research objects in terms of hierarchy, this study only selects national-level policy documents and excludes local or regional documents. Finally, a total of 18 policy texts from 2012 to 2024 are screened out as research samples (see Figure 1). From the perspective of time distribution, international attention to digital leadership has increased year by year, and the issuance of relevant policies has accelerated significantly since 2020, reflecting the urgent global demand for the transformation of leadership toward digitalization.

DOI: 10.54254/2753-7048/2025.LD28831

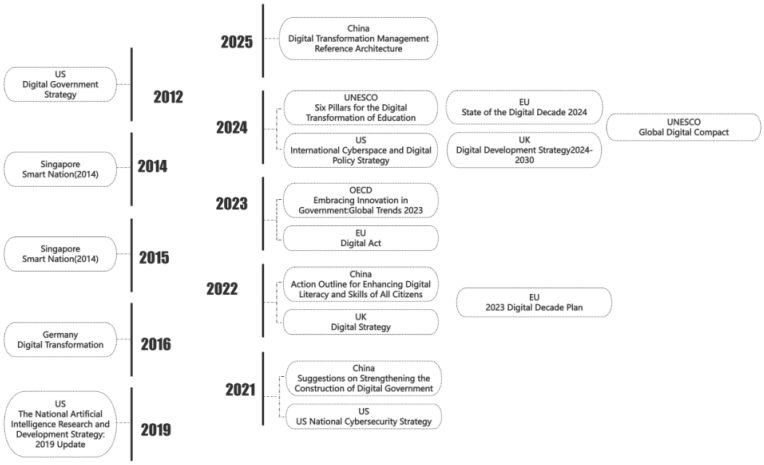


Figure 1. Distribution of international digital leadership policy texts

2.2. Content analysis method

This study adopts the content analysis method to interpret policy documents. Berelson pointed out in Content Analysis in Communication Research that content analysis is an objective, systematic, and quantitative descriptive research method for communication content. It excels in converting textual documents into quantifiable data for analysis and is widely applied in the field of social sciences [2]. Content analysis encompasses two types: qualitative analysis and quantitative analysis [3]. This study integrates both approaches: qualitative analysis focuses on extracting core concepts, goal positioning, and implementation paths from policy texts to identify the policy tendencies of different countries or organizations in the development of digital leadership [4]; quantitative analysis verifies the universality and typicality of qualitative results by counting the frequency and distribution of keywords, and reveals overall trends and differences.

The research process mainly consists of five steps: (1) Determine the research questions and analysis units; (2) Select representative data samples; (3) Formulate a coding scheme; (4) Conduct coding and reliability testing; (5) Interpret data results and conduct theoretical analysis [5-8]. Among these, the design of the coding scheme is particularly critical, which can be divided into two approaches: theory-driven and data-driven [9, 10]. This study combines both approaches and establishes a scientific and reasonable coding system on the basis of repeatedly reading the texts.

In specific operations, this study takes policy texts as the analysis object, drawing on UNESCO's digital literacy framework, the OECD, and relevant policy provisions on digital skills and leadership in various countries, and uses Nvivo 15 software for coding, obtaining a total of 251 valid codes. The results of reliability testing show that the reliability coefficients of policy content and policy instruments are both above 0.87, indicating high consistency and stability.

2.3. Two-dimensional framework for policy analysis

X-Dimension: Policy Instruments: The implementation of public policies relies on a variety of policy instruments. As a key means for governments to implement policies, the selection, comparison, and application of policy instruments are of great significance for analyzing the effectiveness of government public policy implementation [11, 12]. This study draws on the three-category classification of policy instruments proposed by Rothwell and Zegveld, which has been widely used in research on science and technology innovation and service-related policies [13]. On

DOI: 10.54254/2753-7048/2025.LD28831

this basis, this study classifies digital leadership policy instruments into three categories: (1) Supply-side policy instruments: mainly used to provide resources, infrastructure, and technical support; (2) Demand-side policy instruments: emphasize market orientation and promote the popularization and application of digital technology through guidance and incentive mechanisms; (3) Environmental policy instruments: focus on creating a policy environment conducive to digital development, such as regulatory norms and publicity and education.

Y-Dimension: Policy Content: Policy content covers policy goals, key areas, and specific measures. Combining the connotation of digital leadership, this study divides it into four first-level indicators: Digital Security and Protection, Digital Development Strategy and Planning, Digital Resource Environment Construction, and Digital Inclusion and Equity. On this basis, secondary indicators under each first-level indicator are further refined (see Figure 2). For instance, Digital Inclusion and Equity includes measures related to digital access for vulnerable groups, the popularization of digital skills, and bridging the digital divide.

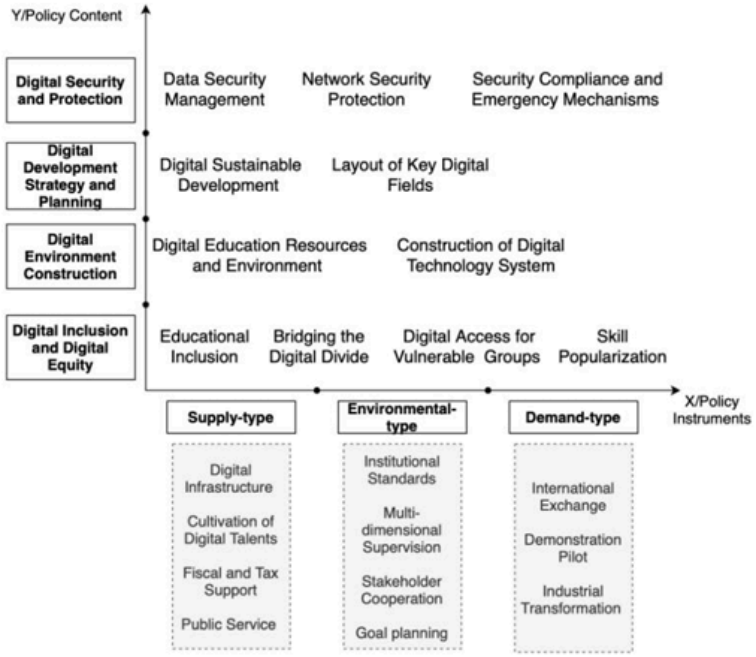


Figure 2. Two-dimensional policy analysis framework

3. Results and analysis

3.1. X-dimension: types of digital leadership policy instruments

By sorting out policy instruments and policy content, a two-dimensional X-Y framework of "policy instruments-policy content" is finally formed. As shown in Table 1, the distribution of the three types of instruments in the sample policies is as follows: Environmental policy instruments account for the highest proportion (43.43%), followed by supply-side policy instruments (40.24%), and demand-side policy instruments account for the lowest proportion (16.33%). Among them, Environmental policy instruments focus on creating a sound institutional environment and social atmosphere for digital application, and promote the implementation of policies related to digital technology and digital governance through multi-stakeholder cooperation mechanisms, with high application efficiency; Supply-side policy instruments play an important role in digital infrastructure

DOI: 10.54254/2753-7048/2025.LD28831

construction, technical platform development, and digital talent training; Demand-side policy instruments focus on market incentives and guidance mechanisms, and stimulate market vitality and innovation momentum through international cooperation, demonstration pilots, and industrial transformation.

Table 1. Proportion of policy instrument types

Types of Policy Instruments (x)		Frequency of Reference Points	Proportion	Total
Supply-type	Digital Infrastructure	28	27.72%	101 40.24%
	Cultivation of Digital Talents	30	29.70%	
	Fiscal and Tax Support	14	13.86%	
	Public Services	29	28.72%	
Environmental-type	Institutional Standards	42	38.53%	109 43.43%
	Multi-dimensional Supervision	28	25.69%	
	Stakeholder Cooperation	28	25.69%	
	Goal Planning	11	10.09%	
Demand-type	International Exchange	25	60.98%	41 16.33%
	Demonstration Pilot	6	14.63%	
	Industrial Transformation	10	24.39%	

Supply-side Policy Instruments: The proportion of Supply-side policy instruments is relatively high, especially in the cultivation of digital talents, with 30 reference points, accounting for 29.70%. This indicates that in the process of digital transformation, governments attach great importance to the cultivation and introduction of digital talents and focus on building a multi-level and multi-field digital talent system. For example, China clearly proposes to implement the "Digital Skills Enhancement Plan" in the National Medium- and Long-Term Talent Development Plan Outline (2025-2030), focusing on strengthening talent cultivation in cutting-edge technology fields such as artificial intelligence, big data, and blockchain. The EU also emphasizes in the Global Digital Compact improving citizens' digital literacy and skills through education and vocational training to promote the in-depth integration of digital technology and industries. These policies highlight the key role of digital talents in driving economic and social development.

The supply of public services (28.72%) is mainly reflected in the construction of public service platforms; by building various digital service platforms, convenient and efficient digital resources and service support are provided for the public. For example, UNESCO has launched the "Global Open Science Cloud Platform", aiming to promote the cloud-based storage of global scientific research data and provide cross-regional and cross-field data support for researchers. Singapore and Germany promote the coordinated development of public services and industrial innovation by establishing national-level digital technology application centers. In addition, infrastructure construction, as an important component of Supply-side policy instruments, has also received widespread attention. The improvement of high-speed networks, cloud computing centers, and Internet of Things facilities provides solid physical support for digital transformation. For example, the Japanese government promotes the full coverage of 5G networks and the deployment of edge computing facilities through the "Super City" plan, building intelligent transportation, medical, and energy management systems to provide an efficient and stable network environment for digital application scenarios.

DOI: 10.54254/2753-7048/2025.LD28831

Fiscal and tax support accounts for a relatively low proportion in Supply-side policy instruments, only 13.86%, which is mostly used to subsidize the research and development of digital technology and provide tax incentives to reduce the innovation costs of enterprises. For example, the United States proposes to establish a "Digital Technology Research and Development Fund" in the Digital Defense Act, which is specifically used to support basic research and application transformation in key technology fields such as artificial intelligence, quantum computing, and cybersecurity. Instead of relying solely on tax leverage for regulation, excessive capital investment may distort the market competition mechanism and inhibit the formation of the market's independent innovation capabilities. However, moderate fiscal and tax incentives are still important means to stimulate the vitality of enterprise digital transformation, and the key lies in balancing policy intensity and market mechanisms.

Environmental Policy Instruments: Among Environmental policy instruments, institutional standards account for the highest proportion (38.53%), including the formulation of laws and regulations, technical specifications, and industry standards to regulate the application boundaries of digital technology, market order, and government governance behavior. For example, the EU clearly defines data ownership, usage rights, and circulation rules in the Data Act, laying a legal foundation for the healthy development of the data element market, while strengthening the regulatory framework for cross-border data flow to ensure the fair sharing and secure circulation of global digital resources. Institutional standards are crucial, as they not only provide a stable rule system for the development of the digital society but also effectively reduce the uncertainty risks brought about by technological innovation.

Multi-dimensional supervision and stakeholder cooperation each account for 25.69%. The former emphasizes that the government should comprehensively use legal, administrative, and technical means in the development process of digital technology to establish a multi-level and dynamic supervision system. The EU proposes to build a "digital regulatory sandbox" in the Digital Decade Development Report, allowing enterprises to test emerging technologies in a controlled environment while accepting real-time supervision and evaluation from government agencies. This model not only improves the flexibility and adaptability of supervision but also enhances enterprises' confidence in innovation and awareness of compliance. Stakeholder cooperation emphasizes the collaborative interaction between the government, enterprises, academia, and the public, and promotes the sustainable development of digital technology through co-construction and sharing. Both international organizations and various countries attach great importance to the collaborative role of multiple subjects in promoting the development of digital technology. For example, UNESCO advocates the establishment of a "Global Digital Cooperation Network," bringing together the efforts of governments, technology enterprises, and research institutions around the world to jointly address global issues such as artificial intelligence ethics, data privacy, and algorithm transparency.

Goal planning accounts for the lowest proportion (10.09%), which is mostly reflected in emphasizing macro directions and phased goals. Hence, its proportion is relatively low. When formulating goal planning, countries can further refine and decompose goals into specific industries or fields and phased goals to ensure the targeting and operability of policy implementation.

Demand-side Policy Instruments: Among Demand-side policy instruments, international exchange accounts for more than 50%, reflecting that countries generally attach importance to global cooperation and experience sharing. By participating in international organizations, signing multilateral agreements, and conducting bilateral dialogues, countries can not only share technological innovation achievements but also coordinate policy frameworks to reduce cross-

DOI: 10.54254/2753-7048/2025.LD28831

border digital barriers and build a win-win pattern. For example, the Global Digital Trade Agreement provides unified trade rules and data circulation standards for countries, greatly promoting the efficient allocation of global digital resources.

Industrial transformation accounts for a relatively low proportion (14.63%), and its core lies in empowering traditional industries through digital technology. The British government has launched the "Industrial Digitalization Strategy," aiming to transform manufacturing, agriculture, and services through technologies such as artificial intelligence, the Internet of Things, and blockchain to improve total factor productivity. This strategy emphasizes market orientation and encourages enterprises to accelerate the pace of digital upgrading through fiscal subsidies, tax incentives, and innovation funds. The application of industrial transformation needs to be enhanced; it is urgent to increase support and supervision for the digital transformation of various industries through policy guidance and resource allocation.

Demonstration pilot policies explore replicable paths through pilot regions; for example, Singapore's "Smart Nation Demonstration Park" focuses on testing smart city solutions. Such policies have promotional value and can provide references for other countries or regions.

3.2. Y-dimension: digital leadership policy content

In terms of the policy content dimension, governments of various countries generally prioritize digital security and protection. Represented by the EU's General Data Protection Regulation (GDPR), it has become the world's most influential regulatory framework through strict data processing compliance requirements and data breach emergency response mechanisms. This regulation mandates enterprises to report data breaches within 72 hours and take remedial measures, reflecting high attention to privacy protection and cyberspace governance.

Table 2. Proportion of policy content dimensions

Policy Content (y)		Frequency of Reference Points	Proportion	Total
Digital Inclusion and Digital Equity	Educational Inclusion	14	21.88%	64 25.50%
	Bridging the Digital Divide	18	28.12%	
	Digital Access for Vulnerable Groups	8	12.50%	
	Skill Popularization	24	37.50%	
Digital Environment Construction	Digital Educational Resources and Environment	16	32.65%	49 19.52%
	Construction of Digital Technology System	33	67.35%	
Digital Development Strategy and Planning	Digital Sustainable Development	13	37.14%	35 13.94%
	Layout of Key Digital Technology System	22	62.86%	
Digital Security and Protection	Data Security Management	36	34.95%	103 41.04%
	Network Security Protection	21	20.39%	
	Security Compliance and Emergency Mechanism	46	44.66%	

According to Table 2, digital inclusion and equity is the second most important topic in the policy content dimension, accounting for 25.50%. This topic emphasizes ensuring that all social groups can

DOI: 10.54254/2753-7048/2025.LD28831

access and use digital technologies and resources fairly. Governments of various countries attach great importance to the popularization of digital skills; bridging the digital divide, including differences in digital technology access and application between urban and rural areas, regions, and different social groups, is a key task to achieve digital inclusion. A typical case is the U.S. "Digital Education Popularization Program," which deploys broadband networks in remote and low-income areas and provides free digital skills training courses for students and unemployed people to narrow the digital divide and promote the overall digital inclusion of society.

The topic of digital resource environment construction accounts for 19.52%, mainly covering the optimization of digital educational resources and environment and the construction of digital technology systems. Among them, the content related to the construction of digital technology systems appears more frequently, accounting for 67.35%. This direction focuses on building an efficient, intelligent, and secure technical support system. However, the construction of digital educational resources and environment still needs to be further strengthened, especially in the development and sharing of digital teaching resources in the basic education stage, where there are obvious shortcomings. There are problems of imbalance and disconnection between digital educational resources and digital system structures.

The topic of digital development strategy and planning accounts for 13.94%, among which the content related to the layout of key digital fields accounts for 62.86%, indicating that countries attach great importance to the strategic layout of key industries and fields in promoting the digital process. For example, Germany has vigorously promoted the in-depth integration of artificial intelligence, intelligent manufacturing, and the Internet of Things in the field of Industry 4.0 to achieve the intelligent upgrading of manufacturing and enhance global competitiveness through the development of key digital fields. The path of digital sustainable development is a development concept that has emerged in recent years; although its proportion is relatively low, it cannot be ignored, involving ecological protection and social welfare in the digital process. Countries have begun to incorporate green computing, low-carbon data centers, and electronic waste recycling into policy frameworks, striving to achieve a balance between technological progress and environmental carrying capacity.

3.3. X-Y dimension: cross analysis

A cross-statistical analysis of the coding results of X-dimension policy instruments and Y-dimension policy content is conducted, and a cross-analysis matrix is finally formed (see Table 3).

Table 3. Cross-statistical matrix of policy instruments - policy content coding

X-Y Dimension	Digital Inclusion and Equity	Digital Environment Construction	Digital Development Strategy and Planning	Digital Security and Protection	Total
Supply-type	33	29	13	26	101
Environmental-type	24	9	10	66	109
Demand-type	7	11	12	11	41
Total	64	49	35	103	251

Environmental instruments effectively improve the stability and risk resistance of digital systems by improving the legal and regulatory system, strengthening the regulatory framework, and establishing a multi-subject collaborative governance model. For example, the EU has built a strict

DOI: 10.54254/2753-7048/2025.LD28831

data security governance system through the General Data Protection Regulation (GDPR), promoting enterprises to fulfill their privacy protection responsibilities in the digital process. At the same time, the government increases investment in cybersecurity infrastructure and promotes collaborative cooperation between the public and private sectors to form a multi-level security defense system. Such institutionalized environmental policy instruments not only improve the level of digital security but also create a foundation of trust for the wide application of digital technology, further promoting the healthy development of the digital ecosystem.

Supply-side instruments provide intellectual and infrastructure support for digital inclusion and equity. By increasing investment in digital education, optimizing the digital talent training system, and improving the construction of basic network facilities, the balanced allocation of digital resources among different regions and groups is promoted. In addition, through policies such as the Digital Fair Employment Act, gender equality in employment in the digital field is promoted. For example, the United Kingdom and the United States have established special funds to support the construction of digital teaching environments in schools in remote areas and carry out digital skills training programs for vulnerable groups to narrow the digital divide and improve the overall digital literacy and participation ability of society. In addition, Canada is also actively promoting digital equity policies; through the "Digital Canada" plan, it has invested billions of Canadian dollars to expand high-speed Internet coverage in rural and remote areas to ensure equal digital access across the country.

Demand-side instruments inject continuous impetus into digital development strategy and planning by using international exchange and cooperation mechanisms, including technical cooperation, standard mutual recognition, and joint R&D platforms. Through the "Belt and Road" Initiative, China has jointly built the "Digital Silk Road" and carried out digital technology cooperation projects with countries along the route to promote the interconnection of strategic infrastructure and the coordinated development of the digital industry. In addition, international organizations such as the United Nations and the World Bank also actively promote the construction of a global digital governance framework and coordinate national policies through multilateral cooperation mechanisms to promote the application of digital technology in the field of sustainable development.

4. Research implications

The rapid development of digitalization has brought opportunities while also exacerbating global digital inequality and discrimination. Both international digital technology barriers and differences in gender, region, and class in the digital field among groups pose challenges to the inclusive development of digitalization. To promote the co-construction and sharing of digitalization, it is necessary to strengthen international cooperation, break technological monopolies, and improve the participation of vulnerable groups in the digital field. By establishing open and shared digital platforms and encouraging multiple stakeholders to participate in the development and distribution of digital resources, the inequality caused by the digital divide can be effectively reduced. In addition, governments of various countries should improve the legal system for digital rights protection to ensure that the basic rights of individuals in the digital space are not violated.

With the support of supply-side instruments, digital education has become the core of development, and digital literacy education is a key path to improving the digital capabilities of the whole people. By integrating digital skills courses into the basic education system, promoting the joint training of compound digital talents by universities and enterprises, and building a digital learning system covering the whole life cycle, the balance between the supply and demand of digital

DOI: 10.54254/2753-7048/2025.LD28831

talents is further ensured, the dynamic adjustment needs of the talent structure in the digital era are adapted to, and support is provided for the organic connection of the education chain, talent chain, industrial chain, and innovation chain.

The digital era is an era of close global connection; the rapid development of digital technology is reshaping the way and connotation of international exchanges. Cooperation between countries is no longer limited to traditional trade and diplomacy but carries out in-depth cooperation in the fields of digital infrastructure construction, data resource sharing, and digital technology innovation. By building an open, inclusive, and fair digital governance system, countries can jointly address global challenges such as cybersecurity, privacy protection, and technological ethics.

5. Conclusion

Based on the theory of policy instruments, this study takes 18 international digital leadership policy texts from 2012 to 2025 as samples, constructs a two-dimensional framework of "policy instruments-policy content" using the content analysis method, and completes 251 valid codes (reliability coefficient > 0.87) with Nvivo15. The research finds that policy instruments present the characteristics of "environmental-type (43.43%) as the leading, supply-type (40.24%) as the follow-up, and demand-type (16.33%) as the weak". The policy content focuses on digital security and protection (41.04%) and digital inclusion and equity (25.50%). Cross-analysis shows that environmental-type instruments are applicable to digital security, supply-type instruments support digital inclusion, and demand-type instruments contribute to international coordination. On the whole, a pattern of "setting rules with systems and strengthening foundations with resources" is formed, but market incentives are insufficient.

This study also has limitations. In the selection of samples, policy texts from Africa and Latin America and local policies are missing. At the same time, there are deficiencies in the depth of research methods; when analyzing data results, the policy effects are not effectively linked. In the future, this study will be improved by expanding the sample size and combining discourse analysis with effect data.

Combining the current research status and the development trend of digital leadership, future research can focus on policy differences in underdeveloped regions, tracking the implementation effects of policies, and the coordination between digital leadership and green development.

References

[1] Ushaka Adie, B., Tate, M., & Valentine, E. (2024). Digital leadership in the public sector: a scoping review and outlook. International Review of Public Administration, 29(1): 42-58.
[2] Qin, Y. (2016). A review of the application of content analysis method in public policy research in China. Journal of Shanghai Economic Management College, 14(06): 9-17.
[3] Qiu, J. P., Wang, Y. F., & Yan, D. W. (2006). A review of the research and development of content analysis method. Advances in Information Science, 6(00): 1-45.
[4] Qiu, J. P., & Zou, F. (2004). A study on content analysis method. Journal of Library Science in China, (02): 14-19.
[5] Lian, Y. Q., Yan, L., & Shi, S. X. (2025). Text analysis of China's digital economy policies based on policy instruments and LDA model. Science Focus, 20(04), 42-55. https: //doi.org/10.15978/j.cnki.1673-5668.20250405.
[6] Glaser, B. G., & Strauss, A. L. (1967). The discovery of grounded theory: Strategies for qualitative research. Chicago: Aldine.
[7] Stemler, S. P. (2001). An introduction to coding qualitative data. Educational Measurement: Issues and Practice, 20(3), 3-13.
[8] Lakoff, G., & Johnson, M. (1980). Metaphors we live by. University of Chicago Press.
[9] Winter, D. A. (2011). Metaphors, framing and strategic change in organizations. Qualitative Research in Organizations and Management: An International Journal, 6(3), 277-296.

DOI: 10.54254/2753-7048/2025.LD28831

[10] Glaser, B. G., & Strauss, A. L. (1967). The discovery of grounded theory: Strategies for qualitative research. Aldine.
[11] Wang, C. X., Li, L. Z., Yu, Q. Q., & Zhang, P. (2025). Analysis of international policy texts on the application of artificial intelligence in education from the perspective of policy instruments. Modern Educational Technology, 35(06), 66-75.
[12] Gu, J. G. (2006). The significance, foundation and dimensions of policy instrument research. Journal of Public Management, (04), 58-61+110.
[13] Rothwell, R. A., & Zegveld, R. M. (1985). The international politics of chemical and biological weapons. Macmillan.