Journal of Contemporary Educational Research, 2026, Volume 10, Issue 4
http://ojs.bbwpublisher.com/index.php/JCER
Online ISSN: 2208-8474
Print ISSN: 2208-8466

Digital Intelligence-Driven Optimization of Administrative Efficiency: A Case Study of University Party and Government Office

Jinpeng Bi[1]*, Guangchun Xiao[1], Yanbin Shi[1], Jin Du[1], Xiaofan Liu[2]

[1]Faculty of Mechanical Engineering, Qilu University of Technology (Shandong Academy of Sciences), Daxue Road, Jinan 250353, Shandong, China
[2]China Coal Education Association, Beijing 100713, China

Author to whom correspondence should be addressed.

Abstract: In the era of digital intelligence, the digital transformation of university governance has become inevitable. As the administrative hub of secondary colleges, the Party and Government Office undertakes critical responsibilities, including policy implementation, document management, conference coordination, and overall administrative integration. Its operational efficiency plays a pivotal role in shaping institutional governance capacity and promoting high-quality development. Taking the Party and Government Office of the Faculty of Mechanical Engineering at Qilu University of Technology as a case study, this paper examines its functional roles and analyzes key challenges, including inefficient workflows, fragmented information systems, limited intelligent applications, and insufficient digital competencies among staff. To address these issues, the study proposes an integrated optimization framework that emphasizes platform development, process reengineering, data governance, intelligent application, and team capacity building. This framework aims to facilitate the transition from manual operations to digitally enabled management, enhance decision-support capabilities, and promote proactive service delivery.

Keywords: Digital intelligence; Party and Government Office; University administration; Operational efficiency; Digital transformation

Online publication: May 15, 2026

1. Introduction

Within the organizational structure of modern universities, the Party and Government Office at the secondary college or school level functions as a comprehensive administrative unit that integrates party affairs, administrative management, coordination, and service provision. It serves as a critical interface between university-level decision-making bodies and grassroots teaching and research units, while also acting as a central hub for information dissemination, resource allocation, and organizational coordination. Accordingly,

the operational efficiency of the Party and Government Office directly influences the effectiveness of institutional operations, the quality of administrative services, and the overall level of governance.

With the rapid advancement of emerging technologies, including big data, cloud computing, artificial intelligence, and mobile internet, higher education has entered a new phase of digital transformation [1–3]. National strategies that emphasize the development of a "Digital China" and the digitalization of education have further accelerated this process, placing increasing demands on university administrative systems. In this context, Party and Government Offices are required to enhance operational efficiency, strengthen collaborative integration, support data-driven decision-making, and improve service delivery.

In recent years, both academic research and institutional practice have made notable progress in advancing the digital transformation and efficiency improvement of university administrative offices [4–6]. For instance, Hou [7] addressed key challenges in the era of digital intelligence and proposed strategies such as improving cross-departmental collaboration, optimizing workflow processes, strengthening talent development, promoting data-driven governance, and enhancing institutional support mechanisms. Ma [8] examined the current conditions of administrative work in secondary colleges of private universities and highlighted the necessity of digital transformation, proposing measures including increased technological investment, improved data security, and enhanced digital competencies among staff. Using a mixed-methods approach, Zhang [9] analyzed the core dimensions, major barriers, and collaborative mechanisms of digital transformation in university administration, providing both theoretical insights and practical guidance for integrating digital technologies into administrative management.

Against this background, this study takes the Party and Government Office of the Faculty of Mechanical Engineering at Qilu University of Technology as a case study to explore how digital intelligence can be leveraged to enhance administrative efficiency and support the modernization of university governance.

2. Responsibilities and main challenges of the Party and Government Office

2.1. Core work responsibilities

The Party and Government Office of the Faculty of Mechanical Engineering at Qilu University of Technology is a comprehensive functional unit operating under the leadership of the departmental Party Committee and administrative authorities. Its responsibilities cover the full spectrum of party affairs, administrative management, and service support. Specifically, the office plays a central role in promoting and supervising the implementation of institutional decisions and ensuring the effective execution of governance responsibilities, including strict Party governance.

It is responsible for the management of official documents, including receipt, circulation, drafting, review, and issuance. It also undertakes comprehensive writing tasks such as the preparation of policy documents, work plans, reports, and leadership speeches, while simultaneously managing archival resources and advancing the digitalization of archives.

In addition, the office is responsible for organizing and coordinating key meetings, maintaining records, and communicating resolutions. It serves as an important liaison unit for both internal coordination and external communication, while also undertaking service reception tasks. Its responsibilities further extend to discipline inspection support, petition handling, confidentiality management, and administrative operations such as vehicle coordination and seal management. Moreover, it is responsible for information reporting, communication management, and the maintenance of office network infrastructure, ensuring the stable

operation of communication systems. Overall, the office integrates administrative coordination, service delivery, and governance support, forming a central pillar of departmental operations.

2.2. Main challenges in current operations

Despite its comprehensive functional scope, the Party and Government Office faces several critical challenges in the context of digital transformation and high-quality institutional development.

2.2.1. Outdated workflows and limited efficiency

Many routine operations still rely heavily on manual and paper-based processes. For instance, document circulation depends on physical transmission and handwritten approvals, resulting in delays and risks of loss. Meeting coordination often involves repetitive manual communication, leading to inefficiencies in scheduling. Similarly, procedures such as seal usage and vehicle requests require offline approval, increasing time and administrative burden. A significant proportion of staff effort is consumed by repetitive tasks such as data entry and statistical reporting, creating a pattern of high workload but limited productivity.

2.2.2. Fragmented information systems and weak collaboration

The absence of an integrated information management platform has led to fragmented data storage across disparate systems and standalone documents, forming information silos. Data related to party affairs, administration, teaching, and research are not effectively interconnected, hindering timely information sharing. As a result, coordination between the office, academic units, laboratories, and university-level departments is often inefficient. Redundant data collection and inconsistent statistical standards further undermine data reliability and cross-departmental collaboration, ultimately affecting decision-making quality.

2.2.3. Limited depth of digital application

The adoption of digital technologies remains at a relatively superficial level, primarily limited to basic electronic documentation and network-based office functions. The integration of advanced technologies such as artificial intelligence and big data analytics is minimal. There is a lack of intelligent tools to support document drafting and review, as well as insufficient systems for real-time monitoring and automated early warning in task supervision. Data analysis largely depends on manual processing, with limited capabilities for in-depth analysis or visualization, thereby restricting the role of data in supporting evidence-based decision-making.

2.2.4. Insufficient digital competencies and talent support

Most office staff are experienced in traditional administrative work but lack systematic training in digital technologies. Their familiarity with advanced office systems, data analytics tools, and intelligent applications remains limited, constraining their ability to innovate work processes through digital means. Furthermore, there is a shortage of interdisciplinary professionals who possess both administrative expertise and digital competencies, which significantly impedes the effective implementation of digital transformation initiatives.

2.2.5. Conventional service model and suboptimal user experience

Service delivery to faculty and students is still largely based on passive, offline processes. The absence of a unified online service platform means that tasks such as leave approval, certification processing, and

information inquiries often require multiple in-person visits and repeated submission of materials. This results in slow response times, low convenience, and reduced user satisfaction, highlighting the need for a more integrated and user-centered service model.

3. Pathways for optimizing work efficiency through digital intelligence

In response to the aforementioned challenges, and grounded in the practical context of the Party and Government Office, this study proposes an integrated optimization framework. This framework is characterized by platform construction as the foundation, process reengineering as the core, data governance as the key, intelligent application as the driving force, and team development as the supporting mechanism, forming a systematic pathway for enhancing operational efficiency through digital intelligence.

3.1. Development of an integrated digital office platform

3.1.1. Upgrading the collaborative office system

Based on the existing smart campus infrastructure, the Office Automation system should be comprehensively upgraded to establish an integrated collaborative platform that unifies party affairs and administrative functions. This platform should cover key business areas such as document circulation, document drafting, meeting management, task supervision, seal application, vehicle scheduling, and archive management. Through this approach, all processes can be digitized, standardized, and fully traceable. At the same time, mobile office functions such as WeChat Mini Programs should be developed to support real-time approval, information delivery, and task monitoring. This enables staff to perform their duties without being constrained by time or location, thereby significantly improving flexibility and responsiveness.

3.1.2. Integration with university-level systems

To eliminate fragmented information systems, the platform should be effectively connected with existing university-level systems, including those for personnel, research, finance, and student management. Through unified data standards, key information such as faculty profiles, research projects, and student records can be automatically synchronized. This approach avoids redundant data entry and ensures consistency across systems. It also establishes a solid data foundation for cross-departmental collaboration and integrated management.

3.1.3. Establishment of a one-stop service platform

A unified online service platform should be created to centralize high-frequency services for faculty and students. These services include seal applications, certificate issuance, leave requests, meeting room reservations, and information inquiries. The platform should support the entire service process, including application submission, approval, progress tracking, and result feedback. By allowing data to circulate efficiently within the system, the platform can reduce the need for in-person procedures and significantly improve service convenience and user satisfaction.

3.2. Process reengineering for efficiency enhancement

3.2.1. Standardization and optimization of workflows

All core business processes should be systematically reviewed and optimized in accordance with the

principles of simplification, standardization, and efficiency. Redundant steps should be removed, and repetitive processes should be consolidated. For example, document circulation can be improved through automatic notifications and deadline reminders. Meeting organization can be streamlined by enabling automatic generation of meeting notices, scheduling of venues, and notification of participants. Standardized process manuals should be established to ensure consistency and clarity in all operations.

3.2.2. Automation of routine tasks

Routine and repetitive tasks should be automated through the application of intelligent technologies. Tasks such as document formatting, meeting record organization, data aggregation, and regular reporting can be handled by intelligent tools. Artificial intelligence can assist in drafting documents and extracting key information, while automation tools can collect and summarize operational data. This significantly reduces manual workload and improves both accuracy and efficiency.

3.2.3. Establishment of a closed-loop supervision mechanism

An intelligent supervision system should be developed to ensure effective task management. Key tasks should be decomposed into specific items with clearly defined responsibilities, deadlines, and requirements. The system should track progress in real time and issue timely alerts when deadlines are approaching or exceeded. This enables a complete management cycle that includes task assignment, progress monitoring, early warning, feedback, and evaluation, thereby ensuring accountability and execution quality.

3.3. Strengthening data governance for evidence-based decision-making

3.3.1. Standardization of data management

A comprehensive data governance framework should be established to regulate data collection, classification, and management. Clear standards should be defined for each type of data, along with designated responsibilities for data management. All business data should be centrally managed within the integrated platform to ensure accuracy, consistency, and timeliness. At the same time, data security measures such as classification management, secure storage, and backup mechanisms should be strengthened.

3.3.2. Advanced data analysis and visualization

Data from different domains, including party affairs, administration, teaching, research, and services, should be integrated for comprehensive analysis. Visual dashboards should be developed to display key indicators such as work progress, resource utilization, and user satisfaction in real time. Through in-depth analysis, it becomes possible to identify operational bottlenecks and inefficiencies, which provides a scientific basis for process optimization and management improvement.

3.3.3. Data-driven decision support

An intelligent decision-support system should be developed based on both historical and real-time data. This system can analyze trends and predict future demands, such as peak periods for administrative services. It can also generate analytical reports and provide optimization recommendations. In this way, decision-making can be supported by reliable data, improving both accuracy and effectiveness.

3.4. Deepening intelligent applications and innovating work models

3.4.1. Intelligent support for document and meeting management

Advanced language processing technologies can be applied to improve document management. These technologies can support functions such as automatic proofreading, format standardization, and key information extraction. In meeting management, intelligent tools can assist with agenda planning, automatic generation of meeting records, and summarization of key points. These applications significantly reduce manual effort and improve overall efficiency.

3.4.2. Intelligent management of party affairs and administration

An integrated intelligent management system should be established for party affairs. This system should include functions such as party member information management, organizational activities, and performance evaluation. Through full-process digital management, it becomes possible to improve transparency and standardization. Similarly, administrative functions such as seal management and vehicle allocation can be optimized through digital approval processes, dynamic resource allocation, and traceable records.

3.4.3. Enhancement of digital security and confidentiality

Given the sensitive nature of party and government work, strong digital security measures are essential. Technologies such as data encryption, access control, and operation logging should be implemented to protect critical information. In addition, regular training in cybersecurity and confidentiality should be provided to staff in order to strengthen awareness and compliance. Emergency response mechanisms should also be established to ensure the stable and secure operation of digital systems.

3.5. Strengthening team development and digital competence

3.5.1. Targeted digital skills training

A structured training system should be developed to enhance the digital capabilities of office staff. Training programs should cover platform operation, data analysis tools, intelligent applications, and cybersecurity practices. Through regular training sessions and practical guidance, staff can gradually improve their ability to apply digital technologies in their daily work.

3.5.2. Cultivation of interdisciplinary talent

Efforts should be made to cultivate professionals who possess both administrative expertise and digital skills. Staff should be encouraged to engage in continuous learning and participate in relevant training programs. At the same time, individuals with technical backgrounds can be introduced to support digital initiatives. A collaborative mechanism that integrates administrative knowledge and technical expertise should be established to promote innovation.

3.5.3. Incentive and evaluation mechanisms

Performance evaluation systems should incorporate indicators related to digital competence and efficiency improvement. Incentive mechanisms should be established to recognize individuals and teams that achieve outstanding results in digital transformation. These measures can enhance motivation and foster a culture that values innovation and continuous improvement.

4. Conclusion

The Party and Government Office of secondary colleges plays a fundamental role in both implementing institutional governance decisions and providing administrative services to faculty and students, and its operational efficiency is therefore critical to the high-quality development of universities. This study identifies key challenges in traditional administrative operations and proposes a systematic optimization framework driven by digital intelligence, integrating platform construction, process reengineering, data governance, intelligent application, and team development. Through the coordinated implementation of these strategies, the office can transition from manual and fragmented operations to an integrated, intelligent, and data-driven management model, thereby enhancing efficiency, improving service quality, and strengthening decision-support capabilities. In the future, with the continuous advancement of emerging technologies, further integration of digital intelligence with administrative practice will be essential to support the modernization of university governance systems and the sustainable development of higher education institutions.

Funding

This research was carried out with financial support of the Construction and Practice of the Education Quality Index Evaluation System for Engineering Professional Degree Postgraduates (SDYJG21175), Shandong Higher Education Association Special Project: Research on the Construction of Digital Textbooks for "Thermodynamics and Fluid Mechanics" Based on Digital-Intelligence Integration and Competency-Oriented Approaches (SDGJ2025LGB23), Teaching Research Project (2025zd03) from Qilu University of Technology (Shandong Academy of Sciences).

Disclosure statement

The authors declare no conflict of interest.

References

[1] Mabotha PAP, Ngcamu BS, 2026, Digital Transformation in the Higher Education Sector: A Systematic Literature Review. Administrative Sciences, 16(1): 1.

[2] Benavides LMC, Tamayo Arias JA, Arango Serna MD, et al., 2020, Digital Transformation in Higher Education Institutions: A Systematic Literature Review. Sensors, 20(11): 3291.

[3] Akour M, Alenezi M, 2022, Higher Education Future in the Era of Digital Transformation. Education Sciences, 12(11): 784.

[4] Singun A, 2025, Unveiling the Barriers to Digital Transformation in Higher Education Institutions: A Systematic Literature Review. Discover Education, 4: 37.

[5] AlKa'bi A, 2023, Proposed Artificial Intelligence Algorithm and Deep Learning Techniques for Development of Higher Education. International Journal of Intelligent Networks, 4: 68–73.

[6] Gering Z, Feher K, Harmat V, et al., 2025, Strategic Organisational Responses to Generative AI-Driven Digital Transformation in Leading Higher Education Institutions. International Journal of Organizational Analysis, 33(12):

132–152.

[7] Hou B, 2025, Research on Innovation of Work in University Party and Government Offices under the Background of Digital Intelligence Era. Journal of Liaoning Teachers College (Social Sciences Edition), 27(03): 135–137.

[8] Ma Y, 2025, Research on Paths for Improving Work Efficiency of Secondary College Offices in Private Universities Empowered by Digital Intelligence. Office Operations, (13): 8–10.

[9] Zhang L, 2025, Analysis of the Digital Transformation of University Administrative Management in the Information Age. Journal of Higher Education Teaching, 2(5): 305–309.