

PROMOTING THE USE OF EDUCATIONAL MANAGEMENT FOR ADMINISTRATIVE PERSONNEL BASED ON INTELLIGENT TECHNOLOGY AT SOUTHWEST JIAOTONG UNIVERSITY HOPE COLLEGE, CHINA *

Xi Liu¹ and Dech Boonprajak²

¹⁻²Shinawatra University, Thailand

Corresponding Author's Email: west.liu@outlook.com

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Abstract

With the rapid advancement of intelligent technologies, higher education institutions are increasingly required to reform their educational management systems. However, application-oriented private universities often face significant resource constraints that complicate the implementation of digital-intelligent management. This study investigates the promotion of educational management based on intelligent technology among administrative personnel at Hope College of Southwest Jiaotong University, with the aim of understanding existing challenges, constructing a contextualized management model, and evaluating its effectiveness in practice. Guided by three research objectives, this study adopted a mixed-method research design. Qualitative data were collected through semi-structured interviews to explore the current status and challenges of digital-intelligent educational management, while quantitative data were obtained from a questionnaire survey administered to administrative personnel. Descriptive

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statistics, correlation analysis, and difference analysis were employed to examine educational management performance across multiple dimensions, complemented by qualitative thematic analysis and open-ended responses to provide contextual interpretation.

The findings reveal that, although administrative personnel generally recognize the value of intelligent technologies, digital-intelligent educational management is constrained by fragmented platforms, insufficient data integration, limited personnel capacity, rigid institutional procedures, and resource limitations. To address these challenges, this study proposes the RB-ILC Triadic Synergy Model, which integrates managerial characteristics, institutional logic, and resource bricolage as key interacting elements shaping educational management performance. Empirical evidence demonstrates that management performance emerges through non-linear and synergistic interactions among these elements rather than through isolated or linear mechanisms.

Furthermore, the evaluation of the model's effectiveness indicates that digital-intelligent educational management contributes to improvements in administrative efficiency, service quality, and data-supported decision-making under resource-constrained conditions. However, the effectiveness of the model varies across managerial groups, depending on factors such as age, years of teaching-management experience, professional roles, and levels of participation in decision-making. These findings highlight the context-sensitive and conditional nature of digital-intelligent educational management reform.

This study contributes to the literature by extending resource bricolage theory to the field of educational management and by proposing an explanatory and operational model tailored to application-oriented private universities. Practically, the RB-ILC model provides guidance for university governance, administrative capacity building, and policy and platform design aimed at advancing sustainable digital-intelligent educational management.

Keywords: Digital-intelligent educational management, Educational management performance, Administrative personnel, Resource bricolage, Institutional logic

Introduction

The global modernization of higher education has been profoundly driven by the rapid advancement of intelligent technologies such as artificial intelligence, big data, cloud computing, and blockchain, which are reshaping instructional formats, management structures, and governance logic in higher education institutions worldwide (OECD, 2021). In China, the national education digitalization strategy has provided a clear top-level design for this transformation: the 20th National Congress of the Communist Party of China (2022) proposed building a high-quality education system and advancing lifelong learning for all, followed by the launch of the Education Digitalization Strategic Action and the 14th Five-Year Plan for Educational Informatization, both aiming to establish a nationwide digital education system by 2035 (Ministry of Education, 2025). These policies have accelerated the shift of university educational management from traditional experience-based practice to an intelligent, data-driven, and precision-oriented model, characterized by collaborative governance, evidence-based decision-making, and a student-centered educational philosophy. Intelligent technologies have become an essential pathway for upgrading university governance systems, optimizing core management functions such as curriculum scheduling and quality monitoring, and facilitating the transition from control-oriented to service-oriented governance (Williams et al., 2020).

However, significant disparities exist in the digital-intelligent transformation between research-oriented public universities and application-oriented private universities in China. Unlike public universities with abundant resource investment, mature technical systems, and robust policy support,

application-oriented private universities face structural constraints in capital, faculty capacity, technological infrastructure, and platform development. Many such institutions prioritize platform construction over practical application and technological integration over management optimization, lacking systematic and adaptive transformation pathways, which hinders the achievement of expected digital governance outcomes (Baker & Nelson, 2005). Southwest Jiaotong University Hope College, one of the first application-oriented private undergraduate institutions in Sichuan Province, has actively responded to national policies by implementing academic affairs, thesis management, and online teaching platforms, initially improving educational management efficiency and laying a foundation for intelligent governance. The COVID-19 pandemic further accelerated the adoption of blended teaching and platform utilization at the college, advancing its digital transformation process. Nevertheless, as a resource-constrained private university, it still confronts multiple intractable challenges: the lack of sustainable funding for platform operation and maintenance leads to fragmented system functions and limited data interoperability; disparities in digital literacy and technological proficiency among administrative personnel and teachers impede effective platform utilization; rigid institutional processes remain highly manual, accompanied by persistent data silos and the absence of standardized protocols, resulting in low management efficiency and limited visible transformation outcomes (Venkatesh et al., 2003).

In view of the aforementioned background and challenges, the study focuses on three key research questions: first, what is the current status and main challenges of educational management based on intelligent technology among administrative personnel at Hope College of Southwest Jiaotong University; second, how to create a model of educational management based on intelligent technology that adapts to changing technological and resource conditions; third, how to evaluate the effectiveness of this model in improving administrative

performance and educational management outcomes in resource-constrained contexts.

In terms of research scope, the population of this study comprises administrative personnel engaged in teaching management at Southwest Jiaotong University Hope College, including staff from the Academic Affairs Office, the Information Center, and teaching management-related personnel in secondary colleges or departments. Geographically, this study is confined to Southwest Jiaotong University Hope College located in Chengdu, Sichuan Province, China, ensuring the typicality and representativeness of the case. The variable design is constructed based on the RB-ILC Triadic Synergy Model, encompassing independent variables (managers' basic characteristics), mediating variable (Resource Bricolage Strategy), and dependent variable (Educational Management Performance).

This study carries notable theoretical and practical significance. Theoretically, it extends the application of resource bricolage theory to the context of educational management in resource-constrained application-oriented private universities, proposes the RB-ILC Triadic Synergy Model to reveal the non-linear synergistic interaction mechanisms shaping educational management performance, and constructs a six-dimensional performance evaluation system to enrich theoretical measurement tools for higher education governance modernization. Practically, it identifies key challenges of digital-intelligent transformation in the case university, provides a low-cost and highly adaptable reform path based on the RB-ILC model, and offers actionable references for university governance, administrative capacity building, and policy design.

Objectives

1) To systematically investigate the current status of intelligent technology adoption in educational management and identify key challenges including platform fragmentation, insufficient data integration, limited professional capacity, rigid institutional procedures, and resource inadequacies.

2) To construct a contextualized and adaptive educational management model, namely the RB-ILC Triadic Synergy Model, which integrates managerial characteristics, institutional logic, and resource bricolage to align with the specific operational conditions of application-oriented private universities.

3) To evaluate the model's effectiveness in enhancing administrative efficiency, service quality, and data-supported decision-making within resource-constrained contexts, while exploring how factors such as age, years of teaching-management experience, professional roles, and decision-making participation influence its performance.

Literature Review

The digital-intelligent transformation of educational management has emerged as a core focus in higher education reform and governance modernization, particularly for application-oriented private universities facing resource constraints. This literature review synthesizes key theoretical foundations, international and Chinese research trends, critical influencing factors, and theoretical underpinnings of core variables, while identifying existing research gaps and articulating the innovative positioning of the current study.

Theoretical Foundations

The theoretical framework of this research is built on five interrelated theories that collectively explain the transformation logic of digital-intelligent educational management. First, the Information System Success Model (ISSM) proposed by DeLone and McLean (2003) provides a benchmark for evaluating

platform effectiveness through three key dimensions: system quality, information quality, and service quality. Petter et al. (2013) emphasized that platform integration and service responsiveness are critical for resource-constrained institutions, as poor integration often leads to low utilization even for technically advanced systems. Second, the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003, 2012) explain user adoption behavior through constructs such as perceived usefulness, effort expectation, social influence, and facilitating conditions. Davis (1989) highlighted that perceived usefulness is a primary predictor of technology adoption, which is particularly relevant for private universities where administrative personnel may hesitate due to workload concerns or limited training. Third, Educational Data Mining (EDM) and Learning Analytics (LA) (Baker & Siemens, 2014) underpin data-driven governance, enabling administrators to monitor learning behaviors, predict risks, and provide personalized interventions—capabilities that maximize the value of existing data for resource-limited institutions. Fourth, Lewin’s (1951) three-stage change model (“Unfreeze–Change–Refreeze”) and the OECD’s digital governance logic (2021) address organizational adaptation, emphasizing the need for cultural alignment, data ethics, and institutional legitimacy in sustaining reform. Fifth, Resource Bricolage Theory (Baker & Nelson, 2005) is central to the study, as it illustrates how organizations can creatively recombine existing resources to overcome constraints. Desa (2012) confirmed that bricolage strategies (e.g., module integration, role reconstruction) yield low-cost, context-adaptive solutions for resource-scarce universities.

International and Chinese Research Trends

International research on digital-intelligent educational management has advanced toward integrated intelligent governance systems, with three dominant trends. First, studies on system integration and performance evaluation (Williams et al., 2020) focus on optimizing interoperability between subplatforms (e.g.,

Learning Management Systems, Academic Affairs Platforms) to enhance resource allocation and data transparency. Second, AI-driven learning analytics and decision support research (Siemens & Long, 2014) embeds artificial intelligence into educational decision-making to enable personalized teaching recommendations and academic early warning systems. Third, international organizations such as the OECD (2021) and UNESCO (2021) have developed policy frameworks emphasizing data ethics, platform integration, and teacher capacity building. Despite these advancements, most international research focuses on system-wide governance, with limited attention to the role of administrative personnel in promoting intelligent technology adoption.

In China, research on educational management digitalization has accelerated under national initiatives such as the “Education Digitalization Strategic Action” and the “14th Five-Year Plan for Educational Informatization.” However, the field remains dominated by three preliminary research directions. First, platform construction and case summarization (Li, 2023) highlight modular design and process reconstruction but lack in-depth analysis of governance effectiveness and evaluation mechanisms. Second, data mechanism and feedback analysis (Zhang, 2022) explores the value of student behavior and teaching log data in academic early warning and quality feedback, but most studies remain descriptive without empirical modeling or algorithmic validation. Third, research on organizational mechanism and institutional adaptation (Wang, 2022) proposes concepts like “flexible governance” and “teacher participatory management” but lacks systematic theory construction and multi-case validation. A comprehensive comparison reveals that international research emphasizes the triadic linkage of “system-data-governance” with solid theoretical foundations, while Chinese research leans toward technology deployment and single-platform optimization, with insufficient mechanism abstraction and empirical rigor.

Critical Influencing Factors

Six key influencing factors shape the digital-intelligent reform of educational management in private universities: conceptual leadership, technological support, personnel capabilities, institutional standardization, resource conditions, and performance orientation. Conceptual leadership provides directional guidance, as coherent recognition of “intelligent governance” from top management to frontline practice determines reform motivation. Technological support ensures system flexibility, adaptability, and data interoperability, avoiding “tool rigidity” that reduces user engagement. Personnel capabilities—including digital literacy and data application skills—are critical, as insufficient training and role redefinition limit effective platform utilization. Institutional standardization requires flexible, data-driven governance frameworks to replace rigid traditional procedures, while resource conditions demand a “lightweight system + adaptive resources” strategy to balance reform ambitions with resource constraints. Performance orientation, through a two-dimensional evaluation system of process and outcome indicators, ensures reform sustainability.

The seven independent variables (age, position and academic title, years of management experience, department, technology adaptability, decision-making participation) are grounded in established theories. Age reflects generational differences in technology acceptance, with younger administrators more likely to embrace innovation (Davis, 1989; Venkatesh et al., 2012). Position and academic title indicate authority and legitimacy, enabling higher-ranking administrators to drive reform more effectively (Chen, 2023). Years of management experience influence institutional familiarity and reform adaptability, aligning with Lewin’s (1951) change model. Departmental differences lead to varying reform priorities, as seen in the Academic Affairs Office’s focus on curriculum quality versus the Information Center’s emphasis on technical stability (Williams et al., 2020). Technology adaptability, a key

determinant of adoption per TAM/UTAUT (Venkatesh et al., 2003), is particularly relevant for resource-constrained universities with limited training. Decision-making participation strengthens ownership and collaboration, enhancing reform effectiveness (Wang, 2025; OECD, 2021).

Conceptual Framework

Despite significant progress, existing research exhibits three critical gaps: a lack of a “six-dimensional” mechanism perspective that integrates concepts, technology, personnel, institutions, resources, and effectiveness; insufficient path-based modeling with clear causal links and feedback mechanisms; and limited focus on application-oriented private universities, with most studies centered on resource-abundant public institutions. To address these gaps, the current study proposes the RB-ILC Triadic Synergy Model (Resource Bricolage–Institutional Logic–Capacity Enhancement) to reveal dynamic interactions between core elements driving reform. The conceptual framework is shown in Figure 1, with managerial characteristics as independent variables, resource bricolage strategy as the mediator, and educational management performance as the dependent variable.

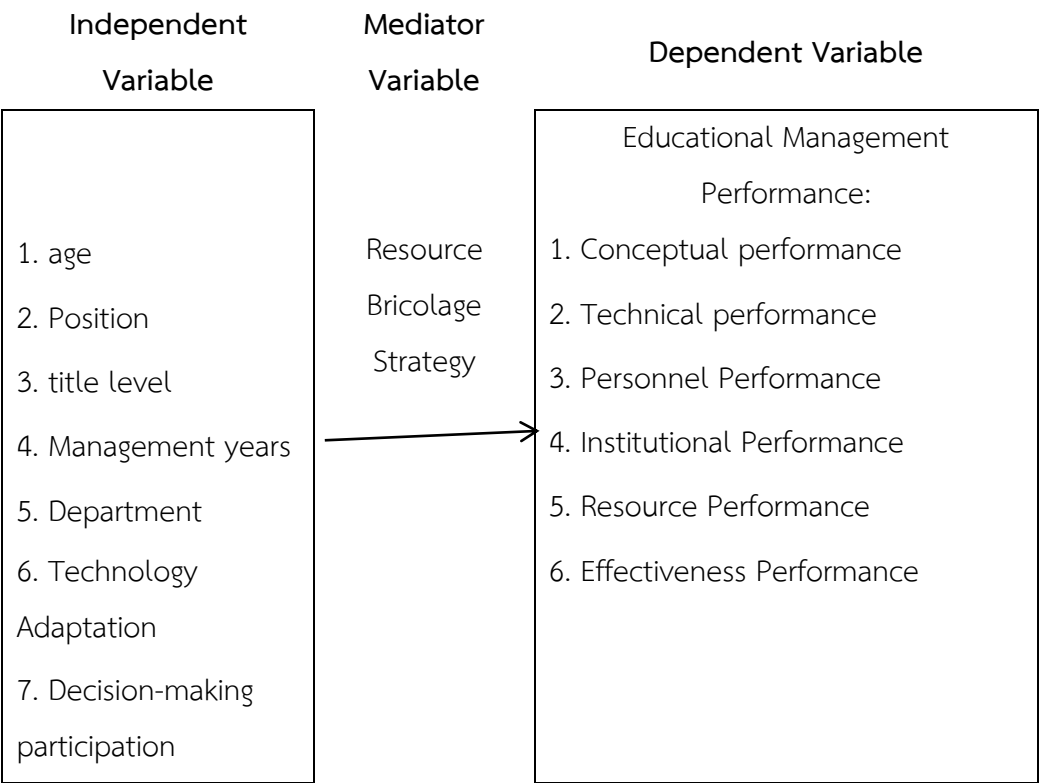


Figure 1. Conceptual framework

Methodology

This study adopted an exploratory sequential mixed-method design, centered on quantitative analysis supplemented by qualitative validation, to systematically explore the digital-intelligent educational management reform for administrative personnel at Southwest Jiaotong University Hope College. The research followed a four-phase path: theory construction → questionnaire quantification → interview verification → model closure, with the RB-ILC (Resource Bricolage – Institutional Logic – Capacity Building) Triadic Synergy Model as the core theoretical framework. This model guides the entire research process, ensuring consistency between theoretical logic and empirical testing.

The relationship between the four research phases and research objectives is shown in Table 1.

Table 1. Four-Phase Research Design of the Study

Research Phase	Main Purpose	Link to Research Objectives
Phase 1: Theory Construction	Identify influencing factors and propose RB-ILC conceptual model	Objective 1: To study the current status and influencing factors of educational management reform
Phase 2: Questionnaire Quantification	Collect quantitative data to test variable relationships	Objective 2: To analyze how different factors and mechanisms affect reform outcomes
Phase 3: Interview Verification	Validate findings and enrich explanations through qualitative evidence	Objective 3: To refine the mechanism and verify practical feasibility
Phase 4: Model Closure	Integrate quantitative and qualitative results into a closed-loop model	Integrated into Objectives 1–3: To create a practical and adaptable model for private universities

Research Instruments

Three types of research instruments were employed: structured questionnaires, semi-structured interview outlines, and platform behavioral data. The questionnaire consisted of 35 items divided into three parts: basic

information (9 items), perceptions and participation in digital-intelligent reform (30 items), and open-ended questions (5 items). The 30 structured items adopted a 5-point Likert scale, with score interpretations shown in Table 2.

Table 2. Likert's Sub-interpretation Table

Score range	Interpretation of results
4.24 - 5.00	Very high
3.43 - 4.23	High
2.62 - 3.42	Medium
1.81 - 2.61	Low
1.00 - 1.80	Very low

The semi-structured interview outline included three parts: interviewee background information, current status and barrier identification, and improvement suggestions. Platform behavioral data were retrieved from core educational management systems, including login frequency, approval process time, and functional module usage logs.

Validity and Reliability

For validity, the questionnaire was reviewed by the PhD Committee and five experts in education management and informatization. The Index of Item-Objective Congruence (IOC) for all items exceeded 0.5, indicating good content validity. For reliability, Cronbach's Alpha coefficient was used, with the overall scale reliability at 0.91 and all dimension-level coefficients above 0.80, demonstrating excellent internal consistency (Table 3).

Table 3. Reliability Test Results of Measurement Scales

Dimensions	Number of items	Cronbach alpha value
Conceptual dimension	3	0.868
Technical dimension	3	0.788
Personnel dimension	3	0.777
Institutional dimension	3	0.864
Resource dimension	3	0.892
Effectiveness dimension	3	0.835

Data Collection

The study population included teaching-management personnel at Southwest Jiaotong University Hope College, covering the Academic Affairs Office, Information Center, and secondary colleges. A total of 230 questionnaires were distributed, with 227 valid responses (effective response rate 98.69%), exceeding the minimum sample size of 146 calculated using Taro Yamane's formula. Additionally, 12 managers from different departments and levels were selected for semi-structured interviews to ensure data complementarity.

Questionnaire data were collected through the university's internal network and Questionnaire Star platform, with anonymous responses guaranteed. Interviews were conducted face-to-face or online (30–45 minutes each) within one week after the questionnaire survey, audio-recorded and transcribed with informed consent. Ethical considerations included voluntary participation, anonymity, and approval from the College's Research Ethics Committee.

Data Analysis Methods

For data analysis, quantitative data were preprocessed using Excel and SPSS, followed by descriptive statistics, reliability and validity tests, correlation analysis, difference analysis, and PLS-SEM (SmartPLS 4.0) for structural modeling and mediation effect testing. Qualitative data were coded and thematically analyzed using NVivo 12, following Braun and Clarke's six-step framework. Triangulation was achieved by integrating questionnaire, interview, and platform behavioral data to enhance result robustness.

Results

Qualitative Findings from Interviews

Thematic analysis of 12 interviews identified six core dimensions of challenges and expectations. In the conceptual dimension, respondents advocated for full-process digital closed-loop management and a "unification + personalization" model. The technical dimension revealed insufficient platform compatibility, poor data interoperability, and delayed technical support. The personnel dimension highlighted inadequate digital literacy training and lack of incentive mechanisms. Institutional rigidities, such as redundant approval processes and lagging system updates, were key constraints. Resource allocation was uneven, with insufficient funds for operation and maintenance and over-reliance on external technical services. Despite these challenges, digital reform has reduced repetitive work and improved basic administrative efficiency, with potential for personalized talent cultivation.

Demographic Characteristics of Samples

Sample demographic characteristics showed a relatively balanced gender distribution (54.63% male, 45.37% female), with the 31–40 age group as the main force (42.73%). Most respondents had high technical adaptability (78.85% rated "very high" or "higher") and frequent platform usage (70.49% used daily or weekly).

Reliability and Validity Test Results

Reliability and validity tests confirmed the scale's robustness. The KMO value was 0.958, and Bartlett's sphericity test was significant ($p < 0.001$), indicating good structural validity.

Descriptive Statistics of Research Dimensions

Descriptive statistics showed that the conceptual dimension had the highest average score (4.060), while the resource dimension had the lowest (3.756) and the greatest variability (coefficient of variation 26.191%) (Table 4).

Table 4. Descriptive Statistics of Each Research Dimension

Name	Sample size	Average	Standard deviation	Variance	Kurtosis	Skew	Coefficient of variation (CV)
Conceptual dimension	227	4.060	0.860	0.739	0.790	-1.093	21.176%
Technical dimension	227	3.786	0.822	0.676	-0.026	-0.678	21.712%
Personnel dimension	227	3.932	0.786	0.618	0.063	-0.811	19.988%
Institutional dimension	227	3.850	0.929	0.863	0.003	-0.772	24.134%
Resource dimension	227	3.756	0.984	0.968	-0.504	-0.594	26.191%
Effectiveness dimension	227	3.902	0.849	0.720	0.091	-0.759	21.754%

Correlation Analysis Results

Correlation analysis indicated significant positive correlations between the effectiveness dimension and all other dimensions ($p < 0.01$), with the strongest correlation with the personnel dimension ($r = 0.815$) (Table 5).

Table 5. Pearson Correlation Matrix Among Research Dimensions

	Conceptual dimension	Technical dimension	Personnel dimension	Institutional dimension	Resource dimension	Effectiveness dimension
Conceptual dimension	1					
Technical dimension	0.684 **	1				
Personnel dimension	0.726 **	0.767 **	1			
Institutional dimension	0.641 **	0.803 **	0.807 **	1		
Resource dimension	0.571 **	0.776 **	0.721 **	0.838 **	1	
Effectiveness dimension	0.720 **	0.782 **	0.815 **	0.803 **	0.744 **	1

* $p < 0.05$ ** $p < 0.01$

Difference Analysis Results

Difference analysis revealed significant variations by age and years of teaching management ($p < 0.001$) across all dimensions, with older and more experienced managers showing higher scores. Professional titles had a significant effect on the resource dimension ($F = 3.224$, $p = 0.013$), and decision-making participation significantly influenced the technical ($F = 2.874$, $p = 0.024$) and

resource dimensions ($F = 3.179$, $p = 0.014$). No significant differences were found by gender, job type, department, technical adaptability, or platform usage frequency.

Model Validation Results

Empirical results supported the RB-ILC model's operational logic. Resource bricolage strategies mediated the relationship between managerial characteristics and educational management performance. The model's effectiveness was confirmed by improvements in administrative efficiency, service quality, and data-driven decision-making, with contextual variations based on individual and institutional factors.

Discussion

This study addressed three core research objectives through mixed-method research, and the findings carry important theoretical and practical implications. First, the study identified the current status and challenges of digital-intelligent educational management at Southwest Jiaotong University Hope College, including fragmented platforms, insufficient data integration, limited personnel capacity, rigid institutions, and uneven resource allocation. These findings are consistent with previous studies on resource-constrained higher education institutions (Desa, 2012; Petter et al., 2013), and further confirm that resource constraints and institutional rigidity are core bottlenecks for digital transformation in application-oriented private universities, rather than technical deficiencies alone.

Second, the study constructed and validated the RB-ILC Triadic Synergy Model, which explains how educational management performance emerges from the synergistic interaction of resource bricolage, institutional logic, and managerial capabilities. This finding breaks the limitations of existing single-factor analysis and reveals the non-linear synergistic interaction mechanisms shaping

educational management performance. Different from the linear technology adoption perspective emphasized in traditional TAM/UTAUT theories (Venkatesh et al., 2003), this study demonstrates that management performance is the result of the joint action of individual capabilities, institutional environments and resource recombination strategies, which extends the application boundary of resource bricolage theory in the field of educational management.

Third, the study confirmed the model's effectiveness in resource-constrained contexts, with differentiated impacts across age, experience, and decision-making participation groups. The finding that older and more experienced managers show higher performance scores is slightly different from the common assumption that younger groups have higher technology acceptance. A possible explanation is that managers with richer experience have a deeper understanding of institutional processes and stronger ability to integrate resources across departments, thus achieving better performance in resource bricolage practices. This result complements existing research on the influencing factors of educational management digitalization, and highlights the context-sensitive and conditional nature of digital-intelligent educational management reform.

Theoretical contributions of this study include three aspects. First, it extends resource bricolage theory to the educational management field, providing a new theoretical perspective for understanding digital transformation in resource-constrained universities. Second, it constructs a six-dimensional educational management performance evaluation system covering conceptual, technical, personnel, institutional, resource and effectiveness dimensions, enriching theoretical measurement tools for assessing higher education governance modernization. Third, it fills the theoretical gap in digital-intelligent educational management studies targeting application-oriented private universities, as most prior research focuses on resource-abundant public institutions.

This study also has several limitations. First, the single-case design limits the generalizability of the findings to some extent. Second, the study focuses on the correlation mechanism between variables, and the causal relationship needs to be further verified by longitudinal research. Third, resource bricolage is mainly measured qualitatively in this study, and a mature quantitative measurement scale needs to be developed in future research. Future research could adopt longitudinal or cross-institutional designs, develop quantitative measures for resource bricolage, and explore the influence of leadership style and organizational culture on reform outcomes.

Recommendation

Based on the empirical findings of this study and the operational logic of the RB-ILC Triadic Synergy Model, targeted recommendations are proposed to advance digital-intelligent educational management for administrative personnel in application-oriented private universities, with a focus on addressing resource constraints and systemic bottlenecks. These recommendations span university-level governance, administrative personnel development, policy design, and platform optimization, aiming to foster sustainable and context-adaptive reform.

At the university governance level, institutions should prioritize digital-intelligent educational management as a systemic reform rather than a technical add-on. University leaders need to establish an integrated management framework that aligns strategic planning, institutional regulations, and digital platform development. This involves clarifying decision-making authority for cross-departmental collaboration, streamlining rigid administrative procedures to accommodate data flow and real-time feedback, and embedding digital-intelligent objectives into institutional policies. Resource allocation should be optimized to address the imbalance between platform procurement and long-term operation, with dedicated funds earmarked for system maintenance,

professional module development, and personnel training. Leadership support should be manifested through active participation in reform initiatives, which legitimizes adaptive practices and encourages administrative personnel to engage in resource bricolage. Additionally, universities should establish a cross-departmental coordination mechanism to break data silos, with unified standards for data entry, storage, and sharing to enhance interoperability among different platforms.

For administrative personnel, capacity building should focus on developing digital literacy, data application skills, and resource bricolage capabilities. Universities should design hierarchical and categorized training programs tailored to different age groups and professional roles, covering platform operation, data analysis, and intelligent management concepts. Peer-learning opportunities and cross-functional task teams can facilitate knowledge sharing and collaborative problem-solving, enabling personnel to flexibly recombine existing resources, integrate modular platform functions, and optimize workflows under resource constraints. Increasing administrative personnel's participation in decision-making processes, such as platform selection, function design, and reform planning, strengthens their sense of ownership and ensures that technological tools align with practical management needs. Incentive mechanisms should be established to recognize and reward active participation in digital-intelligent reform, such as incorporating digital management performance into work assessments to mobilize enthusiasm and commitment.

In terms of policy design and platform development, policymakers and developers should prioritize usability, interoperability, and contextual adaptability to suit the resource-limited realities of application-oriented private universities. Policies should encourage modular platform design and incremental implementation, allowing institutions to integrate and adapt digital tools gradually without excessive upfront investment. Platform developers should adopt a user-centered approach, simplifying complex interfaces, enhancing

system stability, and optimizing core functions such as data collaboration, intelligent reminders, and mobile adaptation. Technical support systems need to be strengthened, with options for on-demand technical outsourcing or the cultivation of in-house technical teams to ensure timely responses to system failures and functional optimization. Flexible policy frameworks should be established to support localized innovation, avoiding standardized solutions and enabling universities to tailor reform strategies to their specific institutional contexts, disciplinary characteristics, and management needs. Data security and privacy protection mechanisms must be reinforced, including improving data encryption, operation traceability, and access control to address concerns about sensitive data leakage.

Cross-institutional collaboration and experience sharing should be promoted to amplify the impact of reform. Application-oriented private universities should establish inter-school exchange platforms to share successful practices in resource bricolage, platform integration, and institutional adaptation. Educational administrative departments can support the establishment of pilot reform projects, disseminating mature models and solutions to similar institutions to accelerate collective progress. Regular evaluation and feedback mechanisms are essential to monitor reform effectiveness, with the six-dimensional performance evaluation system developed in this study serving as a practical tool for ongoing optimization. Universities should conduct periodic assessments of conceptual recognition, technical application, personnel capacity, institutional adaptation, resource allocation, and reform outcomes, using the results to adjust strategies and resource input dynamically.

By integrating these recommendations, application-oriented private universities can navigate resource constraints and structural barriers, leveraging the RB-ILC model to realize the synergistic interaction of resource bricolage, institutional logic, and capacity building. These measures not only enhance the

efficiency and quality of educational management but also promote the transformation of governance philosophy from control-oriented to service-oriented, ultimately advancing the modernization of educational governance in resource-constrained contexts.

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