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THE DEVELOPMENT OF LEADERSHIP STYLE MODEL FOR ADMINISTRATORS IN VOCATIONAL COLLEGES IN GUIZHOU

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ABSTRACT

The objectives of this research were: 1) to study the current levels of leadership style for administrators in vocational colleges in Guizhou Province, China; 2) to develop a leadership style model for administrators in these vocational colleges; and 3) to evaluate the adaptability and feasibility of the proposed model. The sample consisted of 205 teachers for the questionnaire survey, 14 administrators for semi-structured interviews, and 12 experts for model evaluation. Research instruments included: 1) a questionnaire, 2) a structured interview, and 3) an evaluation form. Data were analyzed using percentage, mean, standard deviation, and content analysis. The results revealed that the current level of leadership style among administrators was high across all five dimensions, with Ethical Leadership ranked highest, and Information Leadership and Digital Leadership the lowest. A leadership development model comprising 33 actionable measures across the five dimensions was constructed based on interview findings. Expert evaluation confirmed that the model demonstrated high adaptability and feasibility, with Digital Leadership and Ethical Leadership receiving the highest ratings, and Transformational Leadership the lowest. This study provides an empirically grounded, context-sensitive framework for leadership development in vocational colleges.

KEYWORDS: Leadership style, Development model, Vocational colleges

1. INTRODUCTION

Vocational education in Guizhou Province stands at a critical juncture, transitioning from quantitative expansion to qualitative development. Situated in southwestern China, Guizhou is characterized by its multi-ethnic composition, pronounced urban-rural disparities, and rapid emergence as a digital economy hub. While its vocational colleges bear the core mission of supplying skilled talent for regional industrial upgrading, they grapple with a unique constellation of governance challenges that undermine their effectiveness and sustainable development.

First, systemic resource constraints present a fundamental challenge. Key indicators—including per-student funding, the proportion of high-quality "dual-qualified" instructors, and the value of training equipment—consistently lag behind national averages (2022 data). These limitations directly impede institutional capacity for advanced teaching and holistic development. Second, the complex socio-cultural context of Guizhou, marked by features such as high collectivism, moderate power distance, significant ethnic diversity, and a stark urban-rural divide, renders many leadership and management practices transplanted from Western or other domestic models ineffective. Leadership behaviors must be deeply embedded within local socio-cultural networks to genuinely drive organizational change. Third, a critical development misalignment exists. Under the dual national mandates of "Digital Economy" development and "Rural Revitalization", local industry demands are evolving rapidly (e.g., big data, new energy, mountain agriculture). However, the structure of academic programs, talent cultivation models, and curricula in vocational colleges often fail to keep pace, evidenced by a low industry-program alignment coefficient (e.g., 0.54), revealing a structural disconnect between educational supply and regional economic needs.

Within this complex environment, institutional administrators function as pivotal "institutional actors". Their leadership philosophies and behavioral patterns profoundly influence resource allocation efficiency, organizational adaptive capacity, and, ultimately, educational quality. Yet, existing research on leadership in vocational colleges predominantly focuses on macro-policy analysis or the application of generic leadership theories. A significant gap remains: a lack of in-depth exploration and practical pathway design for a comprehensive, contextualized leadership model tailored to administrators who must navigate the superimposed challenges of resource scarcity, cultural plurality, and digital transformation specific to Guizhou.

Consequently, this study addresses a pressing intellectual and practical gap: How can a leadership development model be constructed that integrates insights from international leadership theory while being deeply rooted in Guizhou's specific socio-economic and cultural soil to effectively address its urgent needs for high-quality vocational education? This model seeks to systematically answer core, contextual questions: Under resource constraints, what leadership styles can optimize internal governance? Within a culturally diverse setting, how can leadership behaviors foster consensus and mobilize the organization? Amidst technological disruption, how should leaders steer their institutions through digital transformation and foster innovation?

The anticipated contributions of developing such a model are threefold. For policymakers, it offers an empirically grounded, locally-adaptive leadership competency framework, informing initiatives like the "Skills Guizhou" action plan and leadership development policies for vocational colleges. For vocational institutions and administrators, it provides a systematic blueprint for self-assessment and development, guiding leaders to evolve from "administrative managers" into "educational ecosystem builders" and "organizational change catalysts". For scholarship, it helps fill the research void on contextualized leadership models for vocational colleges in China's western ethnic regions, contributing an empirical case to the discourse on the "localization" and "contextualization" of leadership theory.

Grounded in these identified problems and knowledge gaps, this study aims to develop a leadership style development model for administrators in Guizhou's vocational colleges through rigorous empirical research. While acknowledging leadership as a core driver of organizational adaptation in complex environments (Yukl, 2012) and drawing upon integrative leadership theories (e.g., Bass's transformational leadership, Brown's ethical leadership) and situational adaptation perspectives, its primary focus shifts from theoretical derivation to the diagnosis of and response to Guizhou's concrete contextual challenges.

1.1. Research Objectives

1. To analyze the current levels of leadership style for administrators in vocational colleges in Guizhou.
2. To propose the development of leadership style model for administrators in vocational colleges in Guizhou.
3. To evaluate the adaptability and feasibility of the development of leadership style model for administrators in vocational colleges in Guizhou.

2. RESEARCH METHODOLOGY

2.1. Population and the Sample Group

2.1.1. The Population

The population of this research is 421 teachers from 7 vocational colleges in Guizhou.

2.1.2. The Sample Group

According to Krejcie and Morgan sampling table (1970), the sample group of this research is 205 teachers from vocational colleges in Guizhou. By using stratified random sampling and simple random sampling.

The 7 vocational colleges in this research are as follows: Guizhou IndustryPolytechnic College, Guiyang Healthcare Vocational University, Guizhou Vocational College Of Economics And Business, Guizhou Vocational College of Finance and Economics, Guizhou Vocational College of Culture and Tourism, Guizhou Technical College of Machinery and Electricty, Qiannan Polytechnic For Nationalities.

2.2. The interviewee

The interviewee in this research is 14 administrators in vocational colleges in Guizhou. The **qualifications** of interviewee are as follows: 1) At least 5 years of work experience in administrator in vocational colleges in Guizhou, 2) Received the certificate in the field of educational administration, leadership, or innovation, 3) Graduated with master's degree or above.

2.3. Expert group

The experts for evaluating the suitability and feasibility of guidelines is 12 experts from vocational colleges in Guizhou. The qualifications of the experts are as follows: 1) At least 5 years of work experience in administrator in vocational colleges in Guizhou, 2) Received the certificate in the field of educational administration, leadership, or innovation, 3) Graduated with master's degree or above.

2.4. The Variable

According to the analyzed of related theories and research,characteristics of the development of leadership style model for administrators are as follows:

1. Information leadership,
2. Transformational leadership,
3. Ethical Leadership,
4. Innovative Leadership,
5. Digital Leadership.

2.5. Instrument Development Process

The instrument used in this research was a questionnaire. The researcher followed the following steps:

The instrument used in this research was a questionnaire. The researcher followed the following steps:

1. Study relevant theories, documents, and research related to leadership styles in vocational education to establish the conceptual framework for instrument development. Key literature included foundational works on transformational leadership, ethical leadership, innovative leadership, digital leadership, and information leadership. This comprehensive review enabled the identification of the five core dimensions underpinning the study: Information Leadership, Transformational Leadership, Ethical Leadership, Innovative Leadership, and Digital Leadership.
2. Content analysis was conducted to synthesize the core components and behavioral indicators associated with each of the five leadership dimensions. Drawing upon both Western theoretical paradigms and Chinese contextualized studies, a preliminary pool of items was generated to reflect the multifaceted nature of each construct. This process ensured that the instrument captured both universal leadership attributes and culturally specific manifestations relevant to vocational college administrators in Guizhou.
3. A questionnaire was developed based on the synthesized dimensions and behavioral indicators. The initial draft comprised two sections: Part 1 solicited demographic information (gender, educational background, and work experience), while Part 2 contained Likert-scale items measuring the five leadership dimensions. Each dimension was operationalized through multiple items derived from the literature review and content analysis. The draft instrument was then submitted to the dissertation advisory committee for review, revision, and refinement to ensure alignment with the research objectives and appropriateness for the target population.
4. The questionnaire was reviewed by five experts specializing in educational administration, leadership studies, and research methodology to establish content validity. These experts evaluated each item for clarity, representativeness, and congruence with the defined constructs. The Item-Objective Congruence (IOC) index was calculated for all items, with values ranging from 0.80 to 1.00, indicating strong content validity. Items falling below the acceptable threshold were revised or eliminated based on expert feedback.
5. The questionnaire was revised based on the experts' suggestions to produce a complete

version. Revisions included rewording ambiguous items, refining response anchors, and reorganizing the item sequence to enhance clarity and flow. The revised instrument incorporated 38 items across the five dimensions, with response options structured on a five-point Likert scale ranging from 1 ("lowest level") to 5 ("highest level").

6. The revised questionnaire was piloted with 5 teachers from vocational colleges in Guizhou Province who were not part of the main study sample. This pilot test aimed to assess the instrument's clarity, comprehensibility, and technical adequacy. Reliability analysis was conducted using Cronbach's Alpha Coefficient, which yielded an overall reliability of 0.94, indicating excellent internal consistency. Item-level analysis confirmed that all items contributed positively to the overall reliability, and no items required deletion.
7. The questionnaire, having undergone rigorous quality checks for content validity and reliability, was subsequently administered to the full sample of 205 teachers from the seven participating vocational colleges in Guizhou Province. Data collection was conducted over a four-week period, with questionnaires distributed through both online platforms and in-person visits to maximize response rates. All respondents were assured of anonymity and confidentiality, and participation was entirely voluntary.

3. DATA COLLECTION

Tools for Data Collection: This research was conducted according to the following steps:

1. A letter from the Graduate School of Rajabhat Bansomdejchaopraya University was sent to the vocational colleges involved in this research: Guizhou IndustryPolytechnic College, Guiyang Healthcare Vocational University, Guizhou Vocational College Of Economics And Business, Guizhou Vocational College of Finance and Economics,Guizhou Vocational College of Culture and Tourism,Guizhou Technical College of Machinery and Electricty, Qiannan Polytechnic For Nationalities. The questionnaires were distributed to 205 teachers from the following universities: Guizhou IndustryPolytechnic College, Guiyang Healthcare Vocational University,Guizhou Vocational College Of Economics And Business, Guizhou Vocational College of Finance and Economics, Guizhou Vocational College of Culture and Tourism,Guizhou Technical College of Machinery and Electricty,Qiannan Polytechnic For Nationalities.
2. The researcher collected data by self-administering 205 questionnaires. Of these, 205 were returned, representing a 100% response rate.

4. RESEARCH RESULTS

This research investigated approaches to developing the leadership competencies at vocational colleges in the following areas: Guizhou IndustryPolytechnic College, Guiyang Healthcare Vocational University, Guizhou Vocational College of Economics and Business, Guizhou Vocational College of Finance and Economics, Guizhou Vocational College of Culture and Tourism, Guizhou Technical College of Machinery and Electricty, Qiannan Polytechnic for Nationalities. The researchers summarized the findings in the following sections.

4.1. The analysis results of the personal information of the respondents, classified by gender and educational background. The researcher presented the data by frequency and percentage

Table 4.1: Personal Information (n = 205)

Personal Information		Frequency	Percentage
Gender	Male	73	35.61
	Female	132	64.39
	Total	**205**	**100**
Educational background	Bachelor's degree	56	27.32
	Master's degree	143	69.76
	Doctor's degree	6	2.93
	Total	**205**	**100**
Work experience in Education	1-3 years	49	23.9
	4-6 years	38	18.54
	More than 7 years	118	57.56
	Total	**265**	**100**

According to table 4.1, found that most respondents were 132 females, accounting for

64.39%, and 73 males, accounting for 35.61%. The educational background of respondents was mainly a master's degree for 143 people, accounting for 69.76%.

4.2. The analysis results of leadership style for administrators in Vocational Colleges in Guizhou. The researcher presented the data by Mean and standard deviation

Table 4.2: Mean and standard deviation of the level of leadership style for administrators in five aspects (n = 205)

	leadership style for administrators in Vocational Colleges in Guizhou	$\overline{X}$	S.D.	Level	Order
1	Information Leadership	3.72	1.02	high	4
2	Transformational Leadership	3.73	1.05	high	3
3	Ethical Leadership	3.76	0.99	high	1
4	Innovative Leadership	3.74	1.03	high	2
5	Digital Leadership	3.72	1.00	high	4
Total		**3.73**	**1.01**	**High**	

According to table 4.2, found that the level of leadership style for administrators in Vocational Colleges in Guizhou. In five aspects was at a high level ($\overline{X}$ = 3.73). Considering the results of this research aspects ranged from the highest to the lowest level were as follows: the highest level was ethical Leadership ($\overline{X}$ = 3.76), followed by innovative Leadership($\overline{X}$ = 3.74) and Transformational Leadership ($\overline{X}$ =3.73), Information Leadership and digital Leadership was the lowest level ($\overline{X}$ = 3.72).

4.3. The analysis results of interview data about the development model of leadership style for administrators in Vocational Colleges in Guizhou.

The interviewee in this research is 14 administrators in vocational colleges in Guizhou, with the following qualifications: 1) At least 5 years of work experience in administrator in vocational colleges in Guizhou; 2) Received the certificate in the field of educational administration, leadership, or innovation; 3) Graduated with master's degree or above.

The development of leadership style model for administrators in vocational colleges in Guizhou,combined with the interviews,the researcher proposed 33 measures in 5 aspects. There are 7 measures for information leadership, 6 measures for transformational leadership, 6 measures for ethical leadership, 7 measures for innovative leadership, 7 measures for digital leadership.

Information leadership consists of 7 measures, as follow: 1)Establish a unified institutional data platform integrating academic affairs, student affairs, research, logistics, and other systems; 2)Formulate clear data-sharing rules and a tiered access control mechanism to dismantle information silos; 3)Establish a dedicated data analysis team or data application group and incorporate key data indicators into the decision-making process; 4)Implement tiered and categorized digital literacy training for administrators, administrative staff, faculty, and students, supported by corresponding assessment and incentive mechanisms; 5)Adopt a "data-driven meetings" mechanism that mandates reporting based on concrete data; 6)Appoint part-time information coordinators and develop guidelines for information classification and sharing; 7)Conduct regular "management by walking around" to establish routine bottom-up feedback channels.

Transformational Leadership consists of 6 measures, as follow: 1)Restructure the performance indicator system to incorporate qualitative developmental outcomes, such as teaching quality, research achievements, professional growth, and pedagogical innovation, into core metrics; 2)Clearly articulate the concrete benefits that innovation and change bring to individual faculty members (e.g., promotion credits, development opportunities); 3)Establish mutual support models such as "teaching communities" and "mentorship programs" to foster a supportive environment; 4)Regularly organize thematic seminars, workshops, or "conceptual reframing workshops" to provide intellectual stimulation; 5)Leaders lead by example, practicing a "follow me" philosophy rather than a "you go do it" command style; 6)Introduce external perspectives, such as industry experts, to challenge entrenched practices and encourage "academic debate".

Ethical Leadership consists of 6 measures, as follow: 1)Adhere to the principle of "rules first" by establishing and publicly disclosing clear decision-making criteria and accountability bases in advance; 2)Implement a multi-stakeholder review mechanism involving administrators, faculty representatives, and industry experts, utilizing anonymous scoring and cross-review; 3)Ensure full transparency by

publicly disclosing the decision-making process, rationale, and outcomes, and maintaining complete records; 4)Establish effective channels for appeals, reconsideration, and feedback, overseen by a third-party committee; 5)Clearly differentiate between "developmental accountability"(aimed at improvement) and "reward/punishment accountability" (aimed at assigning blame); 6)When individual differences are involved, avoid a "one-size-fits-all" approach and reasonably consider role characteristics and personal circumstances.

Innovative Leadership consists of 7 measures, as follow: 1)Conduct "strategic anchoring" to prioritize support for innovation projects closely aligned with the institution's core mission (e.g., serving local industries); 2)Establish a two-dimensional "value-feasibility" assessment model or a simplified evaluation framework to screen projects quantitatively; 3)Set up a "micro-innovation fund" or adopt a "phased resource allocation" strategy to manage risks; 4)Integrate and revitalize existing resources through means such as cross-departmental sharing, industry-college collaboration, and internal staff redeployment; 5)Institutionalize non-blaming "project retrospectives" or "phase reviews" to promote learning from failure; 6)Leaders openly discuss their own failures to model "intelligent failure" and build a climate of psychological safety; 7)Convert innovation outcomes into clear credits or rewards integrated into promotion or performance evaluation systems.

Digital Leadership consists of 7 measures, as follow: 1)Formulate a clear digital transformation strategy and proactively communicate its relevance to individual development; 2)Establish a systematic evaluation mechanism covering process indicators (e.g., platform usage rates) and outcome indicators (e.g., improvements in teaching efficiency); 3)Directly utilize evaluation results in annual strategic reviews to dynamically adjust training focus and resource allocation; 4)Deliver "task-driven" or "workshop-style" training focused on practical scenarios such as professional title evaluation and project proposal writing; 5)Utilize collaborative office platforms to set time limits and automatic reminders for information sharing, thereby enhancing process efficiency; 6)Foster a digital collaboration culture by designing digital projects that require cross-departmental collaboration and providing recognition to successful teams; 7)Incorporate digital collaboration outcomes and resource-sharing contributions into performance evaluation or promotion credit systems.

4.4. The analysis results of the evaluation of the adaptability and feasibility of the development model of leadership style for administrators in Vocational Colleges in Guizhou. The researcher presented the data by Mean and standard deviation.

This section aims to evaluate the suitability and feasibility of the development model of leadership style for administrators in vocational colleges in Guizhou. For this purpose, 12 experts from vocational colleges in Guizhou were invited to participate in the assessment. A 5-level rating scale was used (Highest; High; Average; Low; Lowest). Respondents could only select one level. The calculation results are shown in the following tables:

Table 4.10: Mean and standard deviation of the adaptability and feasibility of development model of leadership style for administrators in Vocational Colleges in Guizhou in 5 aspects (n = 12)

The development model of leadership style for administrators in Vocational Colleges in Guizhou		Adaptability			Feasibility		
		$\overline{X}$	S.D.	Level	$\overline{X}$	S.D.	Level
1	Information Leadership	4.43	0.64	high	4.16	0.84	high
2	Transformational Leadership	4.30	0.81	high	4.04	0.83	high
3	Ethical Leadership	4.50	0.55	highest	4.33	0.64	high
4	Innovative Leadership	4.38	0.76	high	4.22	0.81	high
5	Digital Leadership	4.51	0.60	highest	4.30	0.75	high
	Total	**4.42**	**0.67**	**high**	**4.21**	**0.77**	**high**

According to Table 4.10, the results reveal that the adaptability and feasibility of the measures associated with the dimension of leadership style among administrators in vocational colleges in Guizhou reached a high level across five aspects, with values ranging from 4.04 to 4.51 (adaptability: $\overline{X}$ = 4.42; feasibility: $\overline{X}$ = 4.21). These findings indicate that the development leadership style model for administrators in the dimension of leadership style exhibits satisfactory adaptability and feasibility. The highest-rated item was Digital Leadership (adaptability: $\overline{X}$ = 4.51, feasibility: $\overline{X}$ = 4.30), followed by Ethical Leadership (adaptability: $\overline{X}$ = 4.50, feasibility: $\overline{X}$ = 4.33), whereas the lowest-rated item was Transformational Leadership (adaptability: $\overline{X}$ = 4.30, feasibility: $\overline{X}$ = 4.04).

5. DISCUSSION

The research was the Development of Leadership Style Model for Administrators in Vocational Colleges in Guizhou Province in China. The researcher summarized the conclusion into 3 parts, the details are as follows: 1) The current levels of leadership style for administrators in vocational colleges in Guizhou. 2)The development of leadership style model for administrators in vocational colleges in Guizhou. 3)The adaptability and feasibility of the development of leadership style model for administrators in vocational colleges in Guizhou Province, China.

5.1 The current levels of leadership style for administrators in vocational colleges in Guizhou.

The results revealed that all five leadership dimensions—Ethical, Innovative, Transformational, Information, and Digital Leadership—were perceived by teachers as being practiced at a high level. Notably, a structural differentiation emerged: value-oriented dimensions (Ethical, Innovative, Transformational) formed an upper tier, while technology-oriented dimensions (Information, Digital) constituted a lower yet still high tier. Ethical Leadership attained the highest mean score.

This configuration is theoretically interpretable through multiple lenses. From the perspective of Bush's (2003) paradigms of educational management, the ascendancy of Ethical Leadership reflects the institutionalization of both the "formal model"—emphasizing hierarchical authority, rational procedures, and accountability—and the "collegial model"—emphasizing consensus-building and shared norms. In highly institutionalized public education contexts, these paradigms privilege ethical considerations as central to organizational effectiveness rather than as discretionary leadership virtues.

Leithwood et al.'s (2007) "Four Paths Model" provides complementary insight, demonstrating that school culture accounts for 27% of leader influence on student outcomes. The high endorsement of Ethical Leadership suggests that Guizhou's administrators intuitively recognize culture shaping as a primary influence pathway, empirically validating the model's applicability to Chinese vocational education.

The item-level analysis within the Ethical Leadership dimension further illuminates this pattern. The highest-rated items—"Administrators demonstrate personal integrity and strong moral character" and "Administrators actively cultivate an organizational culture characterized by mutual respect and inclusion"—correspond to Brown et al.'s (2005) "moral person" dimension. The comparatively lower-rated items—"Administrators establish and maintain a transparent accountability system" and "Administrators ensure equitable resource allocation"—reflect the greater complexity of the "moral manager" dimension, which requires not only individual commitment but also institutional capacity and structural support (Treviño et al., 2003).

Indigenous Chinese leadership research offers additional explanatory power. Li and Shi (2005) demonstrated that transformational leadership in the Chinese context incorporates a distinctive "moral modeling" dimension absent from Bass's original model, reflecting the Confucian premise that legitimate authority derives from moral exemplarity. Zhu et al. (2011) further suggested that Chinese ethical leadership integrates Western theories with indigenous values such as harmony and collectivism. Within this culturally embedded framework, administrative effectiveness is not perceived as distinct from moral integrity; rather, integrity constitutes the foundational precondition for effectiveness.

The comparatively lower performance in Information and Digital Leadership reflects the institutionalization lag characteristic of technology-oriented competencies. Fullan's (2007) transformational leadership model posits that sustainable improvement requires simultaneous progress in policy coherence, reculturing, and capacity building. While Guizhou's vocational colleges have achieved substantial progress in policy coherence and normative reculturing, capacity building in technological domains remains at an earlier institutionalization stage. This uneven development across Fullan's three mechanisms is theoretically expected rather than anomalous.

5.2. The development of leadership style model for administrators in vocational colleges in Guizhou.

The objectives of the present research include: 1)To study the current levels of leadership style for administrators in vocational colleges in Guizhou; 2)To develop the leadership style model for administrators in vocational colleges in Guizhou; 3)To evaluate The adaptability and feasibility of the development of leadership style model for administrators in vocational colleges in Guizhou were including 5 following aspects: Information, Transformational, Ethical, Innovative, and Digital Leadership. The sample population for this study consists of student affairs administrators from 7

vocational colleges in Guizhou. The interviewees were 14 administrators. The research instruments were documents analysis, questionnaire, and structured interview. The statistic to analyze the data were percentage, mean, and standard deviation.

The details are as follows.

5.3. The adaptability and feasibility of the development of leadership style model for administrators in vocational colleges in Guizhou Province, China.

The Ethical Leadership comprises six systematically interlocked measures. This dimension demonstrates the strongest theoretical coherence and exhibits the most pronounced alignment between empirical diagnostic findings and conceptual development prescriptions.

The Ethical Leadership includessix systematically interlocked measures: 1)Administrators demonstrate personal integrity and strong moral character in their actions and values; 2)Administrators adhere to principles of fairness and justice in all their decisions and actions; 3)Administrators establish and maintain a transparent and credible accountability system; 4)Administrators actively cultivate an organizational culture characterized by mutual respect and inclusion; 5)Administrators ensure that resource allocation processes are equitable and justified, and outcomes are fair; 6)Administrators display genuine altruistic concern and a sense of moral responsibility towards the community and stakeholders.

6. RECOMMENDATIONS

6.1. Implications

The findings provide actionable guidance for key stakeholders. For policymakers, a strategic shift is needed from resource allocation to capacity empowerment. This involves establishing a provincial leadership competency framework based on the study's five-dimensional model, integrating it into appraisal and promotion systems to institutionalize leadership development. A dedicated "Digital Leadership Pilot Program" should be launched, using competitive, action-research-oriented funding to develop data governance and digital strategy, rather than merely procuring hardware. Furthermore, ethical governance must be strengthened by mandating transparency in decision-making and resource allocation, transforming ethical leadership from individual virtue into an institutional norm.

For vocational college leaders, the findings reveal a pattern of "value-oriented strength and technology-oriented weakness." Leaders should institutionalize annual self-assessments using the 33 behavioral indicators to construct individualized development profiles. They must formulate personalized plans targeting two to three priority dimensions, such as leading a cross-departmental digital project to build digital leadership skills. Crucially, leaders should actively construct distributed leadership networks by empowering roles like information coordinators and innovation ambassadors, thereby embedding leadership capacity throughout the institution.

For teacher development and training institutions, the dominant lecture-based models require fundamental reconstruction. Curricula should be organized around authentic governance problems, such as mapping institutional data to dismantle information silos. To address cultural sensitivities around failure, training should introduce depersonalized "failure learning" modules using anonymized cases. Finally, cross-institutional leadership communities should be built through paired partnerships between digitally advanced and developing colleges, focusing on co-creating concrete outputs like industry demand platforms.

6.2. Future Research

While this study makes significant contributions, its limitations suggest several future research directions. First, longitudinal and quasi-experimental designs are needed to move beyond cross-sectional diagnosis. Three- to five-year cohort studies tracking leadership development, coupled with intervention studies comparing institutions implementing the model against control groups, would establish causal relationships between specific interventions and competency growth.

Second, future research should employ multi-source measurement, incorporating 360-degree feedback to mitigate self-report bias. Developing objective behavioral indicators, such as the frequency of data-supported decisions for informational leadership or platform usage logs for digital leadership, would provide more robust evidence of enacted leadership.

Third, cross-regional and cross-cultural validation is essential. Replicating the model in other western Chinese provinces would test its generalizability, while China-ASEAN comparative studies could examine how cultural contexts shape leadership configurations and test the boundaries of Western theories. Finally, research must trace the distal effects of administrator leadership on student outcomes, constructing mediational models to link leadership practices to employability and digital literacy, thereby affirming the ultimate purpose of educational leadership.

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