

The Influence of Research-Based Auditing on Rural Revitalization: A Study of Pathways and Mechanisms

Yanan Wang

Guangdong University of Petrochemical Technology, No. 139, Guandu Second Road, Maoming
City, Guangdong Province, China
764607535@qq.com

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Abstract: Research-based auditing, as a problem-driven auditing model that emphasizes systematic analysis and forward-looking research, can not only strengthen supervisory mechanisms by revealing issues in policy implementation but also promote the achievement of policy goals by proposing optimization suggestions. It provides strong support for the implementation of the rural revitalization strategy. Based on agency theory, fiduciary responsibility theory, and resource dependency theory, this paper conducts an in-depth analysis of the application of research-based auditing in rural revitalization and its enabling mechanisms. It presents a comprehensive enabling pathway mechanism for research-based auditing that includes: breaking down "information silos" and addressing "execution deviations" to promote the efficient realization of policy goals; establishing a three-tiered defensive line of "early warning—control—optimization" to enhance risk prevention and performance improvement; triggering institutional change through the "audit-induced pressure effect" to promote innovation in institutional mechanisms; ultimately achieving a paradigm revolution in research-based auditing to enhance governance effectiveness. This paper not only contributes to enriching the theory of national auditing but also provides practical guidance for the high-quality implementation of the rural revitalization strategy.

1. Introduction

Research-based auditing, as a problem-oriented auditing model that emphasizes systematic analysis and forward-looking research, can provide strong support for the implementation of the rural revitalization strategy. By revealing issues in policy implementation, research-based auditing not only strengthens the supervision mechanism but also promotes the achievement of policy goals by offering optimization suggestions. Therefore, exploring the impact pathways and strengthening strategies of research-based auditing on rural revitalization not only helps enrich the theory of national auditing but also provides practical guidance for the high-quality implementation of the rural revitalization strategy [1-4].

2. The Definition of Research-Based Auditing

Research-based auditing refers to an auditing model that integrates scientific research methods and in-depth analytical techniques during the auditing process to systematically identify, diagnose, and solve structural and institutional problems present in the auditing object, providing actionable improvement strategies for decision-makers. Its core feature is to break through traditional auditing. For example, in the field of rural revitalization, research-based auditing not only focuses on whether funds are used in compliance with regulations but also analyzes the efficiency of fund allocation and the institutional and systemic roots of policy execution deviations, proposing targeted institutional optimization plans [5-6].

3. The Path and Mechanism of Research-Based Auditing's Impact on Rural Revitalization

Based on agency theory, trustee responsibility theory, and resource dependence theory, this paper analyzes the empowering role of research-based auditing on rural revitalization from the following three perspectives.

3.1. Agency Theory Perspective: Reducing Information Asymmetry, Strengthening Supervision and Incentives

3.1.1. Application of Agency Theory in Rural Revitalization

In the implementation of the rural revitalization strategy, the higher-level government formulates the policies for rural revitalization, and the local governments are responsible for policy execution. At the same time, the higher-level government allocates special funds, while the local government is in charge of fund usage and project management. At the same time, the higher-level government supervises the effectiveness of policy implementation through performance evaluation, with local governments held accountable for the results. However, due to information asymmetry, local governments may falsify data, misappropriate funds, or inefficiently use resources, leading to deviations from rural revitalization policy goals, affecting the achievement of these goals, and even causing resource waste and a crisis in social trust [7-8].

3.1.2. Empowering Path and Mechanism of Research-Based Auditing

Research-based auditing, through systematic data collection, analysis, and field research, can effectively reduce information asymmetry, strengthen supervision mechanisms, and optimize incentive mechanisms, thus empowering the implementation of the rural revitalization strategy. Its empowering role is reflected in the following three aspects:

(1) Reducing Information Asymmetry

Research-based auditing uses big data technologies to comprehensively collect and analyze the usage of funds, project progress, and policy implementation in rural revitalization, providing accurate and transparent information support to the principal.

(2) Strengthening Supervision Mechanisms

Research-based auditing implements full-process supervision of rural revitalization policy execution through pre-warning, in-process monitoring, and post-evaluation. Besides, Research-based auditing reveals issues and promotes the implementation of the accountability mechanism.

(3) Optimizing Incentive Mechanisms

Through performance evaluation and case studies, research-based auditing proposes differentiated evaluation indicators, encouraging agents to focus more on the long-term and sustainable goals of the policy. Besides, research-based auditing suggests dynamic adjustments to

fund allocation and policy priorities to ensure that resources are directed toward more efficient areas, based on auditing findings,.

3.2. Trustee Responsibility Theory Perspective: Strengthening Responsibility Fulfillment and Enhancing Policy Execution Effectiveness

3.2.1. Application of Trustee Responsibility Theory in Rural Revitalization

In the implementation of the rural revitalization strategy, local governments, as the policy executors, bear multiple responsibilities, including driving industrial development, improving people's livelihoods, and protecting the ecological environment. However, due to information asymmetry, imperfect incentive mechanisms, and insufficient supervision mechanisms, some local governments face issues such as shirking responsibility, policy execution deviations, or formalism, leading to the ineffective realization of rural revitalization policy goals[9-10].

3.2.2. Empowering Path and Mechanism of Research-Based Auditing

(1) Clarifying Responsibility Boundaries

Through systematic analysis of the policy goals and execution paths of rural revitalization, research-based auditing can clarify the responsibility boundaries of governments at various levels and village-level organizations, preventing shirking or overlapping responsibilities. Addressing the issue of unclear functions of townships linking villages, a "township responsibility list" is proposed, clarifying the specific responsibilities of townships in industrial promotion, infrastructure construction, and public service provision. In addition, research-based auditing can also clarify the specific responsibilities of village-level organizations in fund usage, project management, and public service provision by analyzing their roles in rural revitalization.

(2) Strengthening Responsibility Fulfillment

Based on clarified responsibility boundaries, research-based auditing reveals issues in policy execution and encourages local governments to fulfill their economic, social, and ecological responsibilities. By reviewing the use of funds and economic benefits in rural revitalization projects, research-based auditing pushes local governments and village-level organizations to fulfill their economic responsibilities. In addition, by reviewing the status of rural infrastructure construction and public service provision, research-based auditing pushes local governments and village-level organizations to fulfill their social responsibilities. Besides, by reviewing the ecological protection and development status, research-based auditing pushes local governments and village-level organizations to fulfill their ecological responsibilities.

(3) Enhancing Policy Effectiveness

Research-based auditing provides optimization suggestions to enhance policy execution coordination and effectiveness. By analyzing issues in cross-regional collaboration, research-based auditing offers suggestions to optimize coordination in policy execution. In addition, research-based auditing constructs a scientific performance evaluation system to improve the effectiveness of policy implementation.

3.3. Resource Dependence Theory Perspective: Optimizing Resource Allocation and Enhancing Sustainable Development Capacity

3.3.1. Application of Resource Dependence Theory in Rural Revitalization

Due to irrational resource allocation, low usage efficiency, and insufficient endogenous development capacity, some rural areas face problems such as fund accumulation, low land

utilization rates, and talent loss, severely limiting their sustainable development capacity. Current rural areas face the following prominent issues in resource acquisition and usage such as low fund usage efficiency, with some areas suffering from fund accumulation or inefficient usage due to lack of scientific planning and effective supervision; land resource waste, with some areas having idle or inefficient land use due to lack of a unified land resource allocation mechanism; severe talent loss, with rural areas struggling to attract and retain high-level talent due to limited living conditions and development space, leading to a shortage of talent resources and hindering industrial transformation and sustainable development.

3.3.2. Empowering Path and Mechanism of Research-Based Auditing

(1) Optimizing Resource Allocation

Research-based auditing systematically analyzes resource allocation and usage efficiency, providing optimization suggestions to ensure that resources are directed toward key areas and weak links [9-11]. By analyzing the use of special funds, research-based auditing can identify issues such as fund accumulation and inefficient usage, offering optimization suggestions. For example, in the case of fund misappropriation, research-based auditing recommends establishing a "negative list for fund usage" to define prohibited expenditure; for fund accumulation, it suggests creating a "dynamic monitoring platform for fund usage" to provide real-time warnings for inefficient expenditures. In addition, by analyzing land resource usage, research-based auditing offers suggestions for land resource integration and optimization. Besides, by analyzing the demand and supply of talent in rural areas, research-based auditing provides suggestions for optimizing talent resource allocation.

(2) Enhancing Resource Acquisition Capacity

Research-based auditing provides policy suggestions through research analysis to enhance rural areas' resource acquisition and endogenous development capacity. First, research-based auditing analyzes the resource endowment and industrial foundation in rural areas and offers suggestions for developing specialized industries. Second, research-based auditing analyzes the investment environment in rural areas and provides suggestions for attracting social capital. Third, research-based auditing proposes a "reverse enclave economy" model to support underdeveloped regions in leveraging innovation resources from developed regions, thus enhancing the technological innovation capacity of rural areas.

(3) Promoting Sustainable Development

Research-based auditing identifies risk points in resource usage and provides risk prevention measures to ensure the sustainable utilization of resources. First, research-based auditing identifies risk points in fund usage (such as fund misappropriation and inefficiency) and suggests risk prevention measures. Second, research-based auditing identifies risk points in ecological protection and development and provides risk prevention measures. Third, research-based auditing proposes long-term mechanisms for resource usage to ensure sustainable resource utilization.

4. Comprehensive Empowering Effect: Promoting Rural Revitalization and High-Quality Rural Development

Through systematic analysis, forward-looking research, and dynamic governance mechanisms, the comprehensive empowering effect of research-based auditing can be broken down into three dimensions that is efficient achievement of policy goals, risk prevention and performance improvement, and institutional and mechanism innovation. This forms a "problem identification—strategy generation—institutional optimization" closed-loop governance model.

4.1. Efficient Achievement of Policy Goals: Breaking the "Information Silos" and "Execution Deviations"

Research-based auditing promotes the high-quality implementation of rural revitalization policy goals through three main paths: reducing information asymmetry, strengthening responsibility fulfillment, and optimizing resource allocation.

4.1.1. Breaking Information Asymmetry: Data-Driven Precision Governance

For example, attempts to build a Rural Revitalization Fund Flow Traceability Chain, blockchain technology can achieve full transparency in the fund flow from provincial finance to village-level accounts. Multi-source data fusion and analysis are also attempted, integrating data from various departments such as finance, natural resources, and agriculture, to create a Policy Execution Effectiveness Index.

4.1.2. Strengthening Responsibility Fulfillment: Constraint Mechanisms Based on Trustee Responsibility Theory

A responsibility list system is established to decompose rural revitalization policy goals into quantifiable responsibility indicators (such as "the number of jobs created per ten thousand yuan of fiscal investment" and "ecological restoration area compliance rate"), which are incorporated into local government performance evaluations. An innovative dual-check mechanism is implemented to audit both project issues and decision-making responsibilities.

4.1.3. Enhancing Resource Allocation Efficiency: From Extensive Allocation to Targeted Investment

By constructing a "precise matching and dynamic optimization" mechanism for resources such as land, funds, and labor, a coupling configuration of these resources is achieved. A demand-responsive distribution model is employed, leveraging the village-level governance big data platform to implement differentiated resource allocation strategies, overcoming the diminishing marginal returns of traditional egalitarian distribution models.

4.2. Risk Prevention and Performance Enhancement: Building a "Warning—Control—Optimization" Three-Level Defense Line

Through systematic risk identification and the reconstruction of the performance management system, research-based auditing achieves the transformation from passive response to active prevention and control.

4.2.1. Risk Warning System: Scene-Based Application of Digital Twin Technology

An AI-based risk warning model is used to construct a "Rural Revitalization Project Risk Map," inputting parameters such as land nature, investment intensity, and ecological sensitivity to predict the likelihood of project failure. Satellite remote sensing and Internet of Things (IoT) sensors are used for real-time monitoring of ecologically sensitive areas, enabling intelligent monitoring of ecological red lines.

4.2.2. Process Control Mechanism: Full Lifecycle Audit Intervention

A major project database admission mechanism is established to implement pre-feasibility audits.

In addition, big data dashboards are used to monitor policy execution in real time, allowing for dynamic corrections during execution.

4.2.3. Performance Management System Reconstruction: From "GDP Worship" to "Multi-Dimensional Value"

A 12-indicator evaluation system encompassing economic, ecological, and social factors (such as energy consumption per unit output, pesticide reduction rate, and villagers' satisfaction) is built as a comprehensive performance index. A performance-linked mechanism is established, connecting audit evaluation results to subsequent fund allocation and cadre promotion.

4.3. Institutional and Mechanism Innovation: Triggering Institutional Change through the "Audit Pushback Effect"

Research-based auditing reveals deep contradictions, forming a "problem exposure—pressure transmission—system response" transformation chain.

4.3.1. Breakthrough in Fund Management System: From Static Control to Dynamic Adaptation

A fund accumulation warning and redistribution mechanism is established, where funds that have been idle for more than three months automatically trigger redistribution procedures. A negative list plus positive incentives approach is implemented, creating a "negative list for rural revitalization fund usage" (such as prohibiting investment in oversupplied industries), while also setting up an "innovation project tolerance fund" that allows 10% of funds to be used for high-risk, high-reward project trials.

4.3.2. Reconstruction of Cross-Regional Collaboration Mechanism: Shared Interests and Risk-Sharing

The study encourages less developed regions to cooperate with developed regions to set up "reverse enclave" R&D centers and share tax percentages. Establish market-based ecological compensation mechanisms such as carbon sink trading platforms.

4.3.3. Upgrade of Project Execution Standards System: From "Extensive Management" to "Precise Standardization"

This study establishes a standardized manual and digital supervision system for village-level projects. Villagers can upload construction quality photos in real time, and the system can automatically identify problems and issue alerts.

4.4. Governance Efficiency Leap: The Paradigm Revolution of Research-Based Auditing**

The comprehensive empowerment of research-oriented auditing in the "Hundreds, Thousands, and Tens of Thousands Project" is, in essence, a revolution in governance paradigms.

4.4.1. Transformation of Governance Logic

This study shifted from "compliance orientation" to "value creation", and promoted the upgrading of policy objectives from "whether there is" to "how well it performs".

4.4.2. Deepening of Technological Empowerment

The application of technologies such as blockchain, AI, and remote sensing has elevated auditing from "experience-based judgment" to "data-driven intelligent decision-making."

4.4.3. Diffusion of Institutional Innovation

Grassroots-initiated practices discovered through auditing (e.g., dynamic land adjustment mechanisms) are refined and elevated to provincial-level policies, forming an innovation chain of "grassroots exploration—audit discovery—institutional promotion."

5. Conclusions

This paper conducts an in-depth analysis of the application of research-based auditing in rural revitalization and its enabling mechanisms. It presents a comprehensive enabling pathway mechanism for research-based auditing that includes: breaking down "information silos" and addressing "execution deviations" to promote the efficient realization of policy goals; establishing a three-tiered defensive line of "early warning—control—optimization" to enhance risk prevention and performance improvement; triggering institutional change through the "audit-induced pressure effect" to promote innovation in institutional mechanisms; ultimately achieving a paradigm revolution in research-based auditing to enhance governance effectiveness.

In the future, with the improvement of the digital governance system and the continuous innovation of auditing mechanisms, research-based auditing is expected to become a core governance tool for addressing the urban-rural dual structure and achieving common prosperity.

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