

Audit Supervision Empowering Innovation in the Internal Control Mechanisms of Forestry Enterprises

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Abstract: With the expansion of business operations in forestry enterprises, traditional internal control mechanisms can no longer meet current needs. It is imperative for forestry enterprises to innovate their internal control systems, strengthen the role of internal controls, and enhance operational and management standards. This study proposes the approach of using audit supervision to empower internal control in forestry enterprises. It discusses the functions of audit supervision in improving information transmission efficiency and reinforcing the authority of internal control, summarizes the operational characteristics of forestry enterprises, analyzes existing problems and shortcomings in their internal control practices, and puts forward strategies for internal control innovation based on audit supervision. The research aims to facilitate the development of internal control mechanisms better suited to the current stage of development in forestry enterprises, enabling timely identification and resolution of internal financial and managerial issues, thereby promoting sustainable development and expansion.

Keywords: Audit Supervision; Forestry Enterprises; Internal Control Reform.

1. Introduction

Forestry enterprises are experiencing accelerated growth. In the context of an evolving market economy, their operators are placing greater emphasis on accounting practices and internal control management.[1] To meet development requirements in the new era, these enterprises must innovate their management frameworks, adopt more contemporary and advanced management philosophies, and establish robust internal control systems. Such enhancements will significantly strengthen their overall capabilities and secure a more pronounced competitive edge in the market. Given the increasing complexity of forestry operations—characterized by diverse asset portfolios, extended management chains, and susceptibility to policy shifts—traditional internal control mechanisms often fall short of addressing current managerial demands.

Concurrently, the role of audit supervision has been transforming. Moving beyond conventional financial compliance reviews, it now encompasses advisory and interactive functions aimed at business activities, effectively assisting organizations in optimizing their operations. It is therefore crucial to leverage the inherent independence and professional expertise of audit supervision to empower the internal control functions within forestry enterprises. This approach can help overcome the limitations inherent in traditional models and drive meaningful innovation in internal control practices.

2. The Empowering Role of Audit Supervision in Internal Control Mechanism Reform

2.1. Mitigating Information Asymmetry in Internal Control

Information communication forms the foundation of internal control. High-quality information input and feedback are essential for environmental assessment, risk identification,

and the execution of control activities. In many large enterprises, factors such as organizational complexity, extended production cycles, and inter-departmental conflicts can constrain both the quality and speed of information transmission, often resulting in information asymmetry.[2] When information is distorted, delayed, or selectively disclosed, internal control systems struggle to make well-informed decisions, thereby heightening operational and compliance risks.

Audit supervision provides verification and assurance of information. Through systematic and standardized methodologies, it examines and evaluates business activities, financial conditions, and the effectiveness of internal controls, thereby enhancing the authenticity and completeness of both financial and operational data. Backed by reliable information, internal control activities gain accuracy and clear direction, which ensures their proactive and forward-looking nature. Moreover, audit supervision helps establish an efficient, transparent, and consistent information environment, effectively preventing internal control failures caused by misinformation.

2.2. Strengthening the Authority of Internal Control

Within organizations, internal control is often perceived as a “soft constraint.” In pursuit of operational efficiency, business units may bypass or loosely interpret control requirements, thereby undermining the authority and effectiveness of internal control. In contrast, the audit function typically holds a prominent position in the corporate governance structure, with most audit departments reporting directly to the board of directors. By endorsing and aligning with internal control frameworks, audit supervision elevates the authority of internal control and ensures its consistent implementation across all processes.

Audit reports can highlight existing operational deficiencies and non-compliance, clearly identify responsible parties, and generate substantial internal pressure for corrective action.[3] Management is required to respond to

audit findings, implement remediation plans according to schedule, and undergo follow-up reviews by the audit department, thereby driving tangible improvements. This process transforms internal control into a mandatory discipline. By closely linking daily operations with accountability, it ensures strict adherence across departments and imbues control activities with stronger enforceability and corrective power. Furthermore, the independent status of the audit function serves as a check on management, providing an impartial environment for the internal control system and helping deter managerial misconduct.

2.3. Delivering Professional Solutions for Internal Control

As audit functions continue to evolve, they now encompass advisory and service-oriented roles. Drawing on a holistic understanding of the enterprise and specialized analytical expertise, audit professionals can offer tailored recommendations to optimize and innovate internal control practices. During the audit supervision process, existing internal control workflows are systematically analyzed, and weaknesses are identified from financial, operational, and compliance perspectives.[4] Based on these insights, audit teams provide practical solutions for internal control enhancement. For instance, audit reports may suggest improvements to management models and pinpoint key control points in daily operations, thereby helping to close control gaps and foster the continuous innovation of internal control processes.

3. Operational Characteristics of Forestry Enterprises

3.1. Distinctiveness of Resources

The core business of forestry enterprises revolves around living forest resources, which are categorized into biological assets and forestland assets, imparting a high degree of distinctiveness to their asset structure. Biological assets, primarily composed of forest stands, are dynamic and complex in nature, continuously undergoing natural processes of growth, appreciation, and decline. This necessitates extensive measurement and management efforts in daily operations. Furthermore, these assets are influenced by uncontrollable natural factors such as climate change, pests and diseases, soil conditions, and water availability, requiring enterprises to make continual adjustments in response. Tree age and market volatility—the latter being particularly unpredictable—also add complexity, making traditional inventory and valuation methods inadequate. Effective day-to-day monitoring is therefore essential to track changes in the stock, value, and quality of forest resources, significantly heightening the difficulty of internal control.

Forestland resources possess dual attributes as both economic assets and spatial entities. They serve not only as the physical space for production and operation but also as indispensable means of production and valuable assets.[5] The management of forestland must comprehensively address factors such as ownership, geographical boundaries, ecological functions, and tenure rights to achieve effective risk control. Consequently, forestland management permeates the entire business cycle, requiring robust internal control mechanisms to ensure the security of these resources, regulate operational activities, and guarantee that land use remains within legal boundaries.

3.2. Complexity of Operations

Modern forestry enterprises have evolved beyond the traditional model of timber production, expanding into secondary and tertiary industries to form diversified business systems. This diversity in operational models and projects across different departments increases both the complexity and scope of internal control. For instance, business activities may span primary industries such as seedling cultivation and forest management, secondary industries including logging, processing, and furniture manufacturing, and tertiary sectors like forest tourism, wellness services, and carbon sink trading. These varied operations differ considerably in terms of business processes, revenue models, risk profiles, and cycle lengths. Forest management, for example, involves long-term cycles requiring sustained investment, while eco-tourism focuses on short-term marketing and service system development. Therefore, internal control systems must be flexible, differentiated, and modular to adapt to different business lines and ensure their effectiveness.

In addition to operational diversity, the geographical dispersion of activities presents further management challenges. Many forestry enterprises operate across widely scattered units, with considerable distances between forest farms and processing plants, resulting in an operational profile characterized by numerous points, extended lines, and broad coverage.[6] This spatial fragmentation lengthens management chains, increases the risk of information distortion, and complicates real-time supervision of on-site compliance and operational efficiency.

3.3. Strong Policy Dependence and Externalities

Forestry enterprises are not only engaged in economic activities but also bear responsibilities for ecological construction and environmental protection, making them subject to stringent government regulations. Their daily operations are heavily reliant on policies and legislation: forestland acquisition and use must comply with land-use planning, logging is governed by strict quota systems, and timber transportation requires permits—essentially embedding every operational link within a dense regulatory framework. Internal control must therefore ensure policy compliance through efficient tracking, interpretation, and internalization of regulations, while continuously supervising business activities to maintain legal operations.

Forestry operations generate substantial ecological benefits, such as water conservation and carbon sequestration, which carry significant positive externalities. However, these values often cannot be directly monetized through market mechanisms. This disconnect may create tensions between the pursuit of profit maximization and ecological responsibilities, potentially leading enterprises to prioritize economic gains over ecological balance. Internal control systems must therefore act as a constraint on corporate behavior, ensuring that ecological red lines are not crossed. Yet, as forestry enterprises continue to diversify, the constraining effect of internal control tends to diminish.

3.4. Exposure to Multiple Risks

Due to the influence of resources, policy, market, and other factors, forestry enterprises operate in a complex business environment that challenges their sustainability. Forest assets—the core of their business—require substantial human

resources for maintenance to prevent illegal activities such as logging and to mitigate damage from forest fires and pests. Given the dual economic and ecological nature of forest resources, enterprises must manage both financial and ecological risks, as ecological damage can lead to asset loss and regulatory penalties. Moreover, as operations diversify and business cycles lengthen, financial risks are further amplified. Factors such as interest rate fluctuations and inflation affect market returns and contribute to operational uncertainty.

4. Common Issues in Internal Control Mechanisms of Forestry Enterprises

4.1. Inadequate Response to Special Risks

Effective internal control for forestry enterprises must address their unique risks, yet many current systems rely on generic templates, resulting in critical control blind spots. For example, static valuation methods fail to monitor the dynamic growth of forest assets; real-time monitoring for pests and fires is lacking; environmental assessments are superficial and unable to enforce ecological red lines; and passive policy responses—without tracking or interpretation functions—increase non-compliance risks as regulations evolve.

4.2. Poor Information Communication

Efficient information communication is foundational for internal control, but the wide scope, complexity, and spatial dispersion of forestry operations hinder this process. Information is often fragmented, with siloed management systems using different standards across departments, impeding the cross-referencing of financial and operational data and leading to incompleteness. Data may also be altered during transmission, resulting in severe distortion and the failure of internal control feedback mechanisms to respond to risks.[7]

4.3. Ineffective Control Activities

Driven by profit-seeking motives, many internal control systems remain theoretical, with key control points bypassed and insufficient oversight of daily operations, creating loopholes. In areas such as sales, fund management, and procurement, ineffective segregation of duties enables fraud and fund misappropriation. Decentralized organizational structures weaken the top-down execution of control standards, and the lack of remote monitoring tools prevents real-time compliance checks, making geographically distant sites particularly vulnerable.

4.4. Weak Control Environment

Most forestry enterprises have been restructured from traditional forest farms, with slow progress in governance reform and no established internal control culture. Employees generally lack risk awareness and a sense of responsibility for internal control, while senior management shows insufficient support, leading to operational resistance. Additionally, audit departments often lack independence due to organizational structure issues, hindering impartial evaluations and collaboration with internal control teams.

5. Innovation of Internal Control Mechanisms in Forestry Enterprises Empowered by Audit Supervision

5.1. Risk-Oriented Precision Risk Control

Audit supervision can shift internal control from a passive to an active stance, enabling targeted responses to the unique risks faced by forestry enterprises.[8] Ecological compliance should be elevated to the same strategic level as financial compliance, with environmental audits rigorously inspecting the implementation of environmental policies and logging regulations to guide internal control efforts. Audit findings should provide actionable recommendations to translate environmental requirements into specific control points and acceptance criteria, thereby reducing ecological risks.

To adapt to changing environments, a dynamic control mechanism should be established in collaboration with audit supervision. Real-time monitoring of forest asset risks—using technologies such as GIS and IoT—can track resource stock and pest threats. Internal control departments should develop supervision systems with early warning processes to enable rapid risk response. Furthermore, a policy adaptation mechanism led by a dedicated audit team can track national and local regulations, analyze their impact on internal control, and provide optimization suggestions, allowing internal control models to evolve alongside ecological, economic, and policy environments.

5.2. Smart Interconnection for Enhanced Information Communication

Audit supervision should play a key role in data governance and information optimization by auditing internal communication processes to build a more transparent and efficient system.[9] This involves examining information flows across business units, identifying cross-departmental breakpoints, and developing integrated solutions to enhance communication for internal control monitoring. Audit departments should regularly communicate control risks and deficiencies with other departments to break down silos and foster a collaborative relationship between audit and internal control functions.

Based on audit requirements, an integrated management system covering financial accounting, resource management, procurement, sales, and production should be established. This system would consolidate data from forest management, logging, transportation, and sales, automate information verification, and enable seamless data flow to ensure consistency and support high-quality internal control. Auditors should have real-time access to data for off-site monitoring of abnormal transactions and irregularities, with findings synchronized to internal control teams to enhance authority and continuity.

5.3. Enhancing Internal Control Authority through Rigorous Management

Forestry enterprises should refine their internal control systems to standardize operations. A dedicated control organization with clear roles and checks and balances should be established. In collaboration with management, auditors can identify high-fraud-risk areas, develop standardized operating procedures and control checklists, and digitize key information for mandatory sharing. Remote monitoring via real-time data capture can ensure compliance with control

standards, addressing the attenuation of control effectiveness caused by spatial dispersion.

To enforce control standards, audit results should be linked to performance evaluations and accountability mechanisms. Departments with control deficiencies should be tracked through rectification logs, and repeated non-compliance should impact individual compensation and departmental assessments. This approach helps build a rigid control culture and enhances execution at all levels.

5.4. Building an Internal Control Culture as a Governance Foundation

To improve the control environment, forestry enterprises must cultivate an internal control culture that encourages voluntary compliance. Audit supervision can drive this cultural transformation through training, communication, and case studies, helping employees understand the role of audit in problem-solving, management improvement, and value creation. This reduces resistance and positions audits as opportunities for self-improvement. Financial teams should align control measures with business needs to enhance overall management quality.

Maintaining the independence of internal audit is crucial. Audit departments should report directly to the board and have autonomy in budget, personnel, and assessments.[10] Linking self-evaluations to audit findings can encourage departments to regularly review control effectiveness, making them primary responsible parties for internal control and fostering proactive risk awareness.

6. Conclusion

Audit supervision significantly enhances internal control by addressing issues related to information asymmetry and authority. In the context of expanding business scope and increasing complexity, forestry enterprises should leverage the empowering role of audit supervision to innovate their control mechanisms through risk management, information integration, and cultural development. This approach helps identify control gaps, establish robust systems, drive modernization, and achieve strategic objectives. A dynamic internal control system ensures continuous adaptation to environmental changes, ultimately improving both economic and social benefits.

References

- [1] Vukman, K., Klarić, K., Greger, K., & Perić, I. (2024). Driving efficiency and competitiveness: Trends and innovations in ERP systems for the wood industry. *Forests*, 15(2), 230.
- [2] Lu, Q., Zhou, Y., Luan, Z., & Song, H. (2024). The effect of SMEs' ambidextrous innovations on supply chain financing performance: balancing effect and moderating effect. *International Journal of Operations & Production Management*, 44(2), 424-461.
- [3] Jahidi, Z., Danuri, M. S. M., & Abd Karim, S. B. (2024). Regulatory Non-Compliance and Its Limitations Towards Risk Minimisation in the Oil and Gas Industry. *Journal Of Project Management Practice (JPMP)*, 4(1), 42-61.
- [4] OLAJIDE, J. O., OTOKITI, B. O., NWANI, S., OGUNMOKUN, A. S., ADEKUNLE, B. I., & EFEKPOGUA, J. (2021). Developing Internal Control and Risk Assurance Frameworks for Compliance in Supply Chain Finance. *IRE Journals*, 4(11), 459-461.
- [5] Xu, L., Liu, X., Gatto, A., Vasa, L., & Zhao, X. (2025). Valuation of ecosystem services from forests in Chinese rural areas based on forest resource investment. *Humanities and Social Sciences Communications*, 12(1), 1-21.
- [6] Engler, B., Hartmann, G., Mederski, P. S., Bont, L. G., Picchi, G., Alcoverro, G., ... & Schweier, J. (2024). Impact of forest operations in four biogeographical regions in europe: Finding the key drivers for future development. *Current Forestry Reports*, 10(5), 337-359.
- [7] El Bechychy, I., & Alloui, A. (2024). Financial Integrity: An In-Depth Exploration of Internal Control and Audit Triumphs in Fostering Resilient Business Strategies. *SCIENTIA*, 118.
- [8] Shahimi, S., Zainuldin, M. H., & Oon, E. Y. N. (2025). Future-Proofing Business: The Changing Landscape of Internal Audit: Clusters of Future Studies: Corporate Foresight; Environment Futures. In *Future of Business in Asia: Exploring Pathways to Tomorrow's Business Landscape* (pp. 193-212). Cham: Springer Nature Switzerland.
- [9] Manginte, S. Y. (2024). Fortifying transparency: Enhancing corporate governance through robust internal control mechanisms. *Advances in Management & Financial Reporting*, 2(2), 72-84.
- [10] Njagi, M. (2023). Independence of internal auditors: significance, guidelines, and influencing factors. *East African Finance Journal*, 2(1), 56-63.