



The Impact of Lean Accounting Operations on Improving Internal Auditing

A Field Study in Cement Factories in Baghdad Province

Ammar Mohammed Jawad Hadi
Ammarshaban1181193@gmail.com

Aymen Mohammed Ali Abd Ali
Aymenamry3@gmail.com

ABSTRACT:

The aim of this study is to identify the extent of the contribution of lean accounting to the quality of internal auditing. The research followed the descriptive approach, and the questionnaire tool was relied upon to collect the required data in the field study, which was on a sample of cement companies in Iraq, and the sample consisted of /200/ employees. Among the most prominent results that were reached is the existence of a significant role for lean accounting in improving the quality of internal audit operations through the use of technology and continuous development.

KEYWORDS:

Lean accounting, internal auditing, and continuous development.



Introduction

The end of the last century witnessed a revolution in information technology and an increase in competition among companies under globalization and heightened uncertainty. Organizations have had to adopt rapid and highly efficient production processes to survive. This has driven organizations to use new methods and tools that enable them to deal with uncertainty and upcoming developments. These changes have reflected on management accounting systems, which are among the most important mechanisms of internal administrative control that can support decision-making, control, and auditing within an organization. Their goal is to assist managers and influence their behavior in a way that can lead to new business strategies (Rabe & all, 2023).

In light of the modern developments of the current century, the diversity of customer demands, globalization, and intense competition among companies to achieve a competitive advantage and ensure market sustainability, traditional methods and techniques for cost determination and support of audit and internal control systems have become insufficient to address current requirements. Each method addresses only one aspect of cost management, making them unsuitable for the recent developments in internal audit functions (Mpfu, 2022). The tasks within organizations have diversified and are no longer limited to examining accounting treatments prepared according to applied principles and standards. Internal audit has become one of the important administrative tools relied upon by top management to obtain objective and relevant information about the effectiveness of the internal audit system implemented in organizations (Ovharhe, Chibuike, & Abada, 2023). Consequently, there is a need to adopt administrative and accounting methods that contribute to the quality and effectiveness of this function, which acts as a safety valve for the organization. Among the most important methods are lean accounting techniques. Therefore, the goal of applying lean accounting tools (such as balanced scorecards, value streams, target costing, and continuous improvement) is to eliminate waste in production and operations, reduce production flow time, provide accurate and timely information, improve product quality, and enhance flexibility and speed to meet customer and market demands. This also supports the internal control system and ensures audit quality by reinforcing concepts of integrity, professional competence, confidentiality, and objectivity.

It can be said that the logical connection between the research variables is reflected in the ability of lean accounting tools to improve internal auditing by providing auditors with a high capacity to monitor all organizational achievements and perform their strategic role in evaluating and mitigating risks in a timely manner. These tools provide more objective and timely information about financial and non-financial aspects of performance, enhance the effectiveness of the internal control system through continuous auditing, monitoring, and performance evaluation, and assist internal auditors in conducting additional data analyses and making recommendations to management that aid in decision-making (Nyakumwa, Wadesango, Sitsha, 2023).

In light of these insights, the conceptual and philosophical framework of this study will address contemporary topics that play an important role in the sustainability of operations in industrial organizations in general, and in the cement factories in Baghdad

province in particular (Zhan, 2023). Given the challenges faced and the need for such research and studies in our environment, this study aims to test these variables in a vital and significant sector, the industrial sector (Lopes& all, 2023). These components were logically and practically employed to serve as a model and a starting point for a field study of the opinions of employees in the cement factories in Baghdad province.

To achieve the research objectives, the study will be divided into five chapters. The first chapter will cover the general framework of the research, including the problem statement, significance, objectives, hypotheses, data collection methods, previous studies, and the current research contribution. The second chapter will focus on lean accounting and its tools, discussing its concepts, principles, vision, and goals. The third chapter will address internal auditing, examining its concept, importance, and the impact of applying lean accounting tools. In the fourth chapter, we will present the methodology used, the statistical data processing mechanism, and how to address the hypotheses. Finally, in the fifth chapter, we will discuss the results and hypotheses, comparing the current study's findings with previous studies

Research Problem

Industrial organizations in Baghdad province, particularly cement factories, suffer from numerous routine procedures during internal auditing, which results in missed opportunities for decision-makers. Therefore, the pursuit of adopting an approach that reduces these unnecessary procedures is of utmost importance.

With the development in internal auditing activities and the unprecedented advancement in using information technology across various departments within the organization, many companies have been driven to implement lean accounting systems. These tools enhance the effectiveness of internal audit structures and overall control systems, as well as adherence to financial reporting standards (Abdulhamid, 2020, 1165). The researcher will highlight several lean accounting methods, including the balanced scorecard, target costing, value stream mapping, and continuous improvement, and their role in improving internal auditing. The research problem can be formulated through the following main question:

Can the application of lean accounting tools contribute to improving internal auditing in cement factories in Baghdad province?

Research Questions

Based on the research problem, this study aims to answer the following questions:

-To what extent are the dimensions of lean accounting operations present in the researched field?

-To what extent are the dimensions of internal auditing present in the researched field?

-Is there a statistically significant correlation between lean accounting operations and internal auditing in the researched field?

-Is there a statistically significant impact of lean accounting operations on enhancing internal auditing in the researched field?

Research Objectives

By examining the research problem and its significance, the primary objective of the study can be identified: to understand the impact of lean accounting operations on improving internal auditing in cement factories in Baghdad province. The subsidiary objectives include:

-Outlining the theoretical framework for lean accounting tools.

-Outlining the theoretical framework for internal auditing and reviewing key tools that can improve it.

-Testing the correlation between lean accounting operations (value stream mapping, target costing, balanced scorecard, continuous improvement) and internal auditing in the researched field.

-Testing the impact of lean accounting operations (value stream mapping, target costing, balanced scorecard, continuous improvement) on enhancing internal auditing in the researched field.

-Providing a set of conclusions and recommendations that may benefit the efforts of the studied factories (cement factories in Baghdad province) in evaluating and improving current work practices.

Research Model

To achieve the methodological processing of the study, the researcher has constructed a hypothetical model illustrating the logical relationships between the study variables and their impact in the studied field (cement factories in Baghdad province). The hypothetical model of the research can be shown through Figure (1), which represents two types of variables:

-Independent variable: Lean accounting operations, including the following dimensions: value stream mapping, target costing, balanced scorecard, continuous improvement.

-Dependent variable: Internal auditing, including the following dimensions: integrity, professional competence, confidentiality, objectivity.

Research Hypotheses

First Hypothesis:

H0: There is no statistically significant relationship between the quality and accuracy of accounting operations and the improvement of internal auditing.

H1: There is a statistically significant relationship between the quality and accuracy of accounting operations and the improvement of internal auditing.

Second Hypothesis:

H0: There is no statistically significant relationship between the application of accounting principles in accounting operations and the improvement of internal auditing.

H1: There is a statistically significant relationship between the application of accounting principles in accounting operations and the improvement of internal auditing.

Third Hypothesis:

H0: There is no statistically significant relationship between the use of technology in accounting operations and the improvement of internal auditing.

H1: There is a statistically significant relationship between the use of technology in accounting operations and the improvement of internal auditing.

Research Boundaries

- Subject Boundaries: The subject boundaries are represented by the independent variable (lean accounting operations) and the dependent variable (internal auditing).
- Geographical Boundaries: The geographical boundaries of the study are confined to cement factories in Baghdad province.
- Human Boundaries: The study was conducted on a group of employees in cement factories in Baghdad province.
- Time Boundaries: The time boundaries of the study are the duration specified for the preparation of the master's thesis in the year 2023-2024.

Study Sample

The Robert Mason formula was used to determine the sample size from a population of 410. It was found that the appropriate sample size for this population is 198. Accordingly, a questionnaire was distributed to a random sample of 250 individuals from the total study population. A total of 200 valid responses were retrieved for analysis. The researcher believes that this number is sufficient for conducting statistical analysis and thus achieving the study objectives.

The Table no 1 Distributing the questionnaire lists to the study sample members:

The ratio%	the number	Statement
100%	250	Distributed questionnaires
86%	215	Recovered questionnaires
10%	25	Non-refundable questionnaires
80%	200	Analyzable questionnaires

- Robert Mason's equation for calculating sample size, with what each letter in the equation represents.

$$n = \frac{M}{\left[\left(S^2 \times (M - 1) \right) \div pq \right] + 1}$$

M	Community size
S	Dividing the standard score corresponding to the significance level of 0.95, i.e. dividing 1.96, by the error rate of 0.05.
p	The property availability ratio is 0.50
q	The remaining percentage of the characteristic is 0.50

Validity and reliability test:

Table Number 2: Cronbach’s alpha coefficient for each distributed questionnaire

Number of paragraphs	
5	Impact measurement quality and accuracy Agile accounting processes
5	Importance and efficiency Agile accounting
5	Impact of improving operations Agile accounting

Source: Results of statistical analysis using a program SPSS version 26

The Cronbach's Alpha value shown in the previous table was greater than 0.6 for all research axes, indicating data reliability and suitability for the study. Regarding the sample adequacy measure (KMO), it was found to be greater than 0.5 for all study axes, thus meeting the sample adequacy requirement for analysis. Additionally, the significance value (sig) for Bartlett's test was 0.000, which is less than 0.05, indicating that there are significant correlations between the variables sufficient for analysis.

Table Number 3: Cronbach's alpha coefficient for each distributed questionnaire

Reliability statistics		
com test	Cronbach's Alpha	
.698	.776	Impact measurement quality and accuracy Agile accounting processes
.678	.708	Importance and efficiency Agile accounting
.798	.799	Impact of improving operations Agile accounting

Source: Results of statistical analysis using a programs PSS version 26

Analysis Results of Study Axes

Results of the First Axis Analysis: "Impact of Measuring the Quality and Accuracy of Lean Accounting Operations"

The results were analyzed by calculating the mean, standard deviation, and relative weight for the items of this axis. The responses were analyzed using a One Sample T-Test, comparing the computed T-value from SPSS with the tabulated T-value, and explaining the results regarding the presence or absence of statistical significance in the responses of the study sample individuals.

Table no 4: Shows the results of the statistical analysis for the first axis

One Simple Statistics-Test Value							
T	Sig,(2-tailed)	Mean Difference	Relative Weight	Std deviation	Mean	N	
73.494	0.000	3.863	77.2%	0.94	3.86	200	The accounting operations performed lead to a complete description of the financial conditions of the organization
71.628	0.000	3.891	77.8%	0.97	3.89	200	Accounting operations include impartiality and impartiality
72.779	0.000	3.831	76.6%	0.94	3.83	200	All accounting operations carried out in the organization are carried out in accordance with international accounting standards
71.327	0.000	3.816	76.4%	0.96	3.82	200	There is no conflict between the interests of the internal auditor and the interest of the company regarding accounting operations
73.494	0.000	3.863	77.2%	0.94	3.86	200	All accounting operations that take place are comparable from one financial period to another.
73.356	0.000	3.701	77.3%	0.87	3.70	200	A plan is determinedInternal reviewThe entire annual review is conducted by the internal auditor.
74.654	0.00	3.682	77.4%	0.65	3.68	200	The areas that are audited are very important to the company.
74.325	0.000	3.721	77.2%	0.88	3.72	200	Who performs internal audit?DrovetTo cover all organizational units and all issues.
92.592	0.000	3.85250	77%	0.74	3.85	200	The general total for the first axis

Source: Prepared by the researcher based on a program (spss) - The tabular "T" value at a significance level of 0.05, according to the T-Table (0.05, 5) $T = 2.571 \pm$

Results of the First Axis Analysis: "Impact of Measuring the Quality and Accuracy of Lean Accounting Operations"

Based on the previous table, the following results were obtained:

1. The item "Accounting operations include neutrality and impartiality" ranked first in terms of the relative weight of responses, which was 77.8%. The mean response for this item was 3.89, and the computed T-value was 71.628, which is greater than the tabulated T-value at a significance level of 0.05. This indicates that there is a statistically significant relationship in the responses of the study sample individuals. Therefore, we can conclude that the inclusion of neutrality and impartiality in accounting operations is strongly related to the quality and accuracy of accounting operations and leads to improved internal auditing.

2. The items "All accounting operations are comparable between financial periods" and "The accounting operations provide a complete description of the financial conditions in the institution" both ranked second in terms of the relative weight of responses, which was 77.2%. The mean response for these items was 3.86, and the computed T-value was 73.494, which is greater than the tabulated T-value at a significance level of 0.05. This indicates that there is a statistically significant relationship in the responses of the study sample individuals. Therefore, we can conclude that the comparability of accounting operations between financial periods and the complete description of financial conditions provided by these operations are strongly related to the quality and accuracy of accounting operations and lead to improved internal auditing.

3. The item "All accounting operations in the institution are conducted according to international accounting standards" ranked fourth in terms of the relative weight of responses, which was 76.6%. The mean response for this item was 3.83, and the computed T-value was 72.779, which is greater than the tabulated T-value at a significance level of 0.05. This indicates that there is a statistically significant relationship in the responses of the study sample individuals. Therefore, we can conclude that conducting accounting operations according to international accounting standards is strongly related to the quality and accuracy of accounting operations and leads to improved internal auditing.

4. The item "There is no conflict of interest between the internal auditor and the company's interests regarding accounting operations" ranked fifth and last in terms of the relative weight of responses, which was 76.4%. The mean response for this item was 3.82, and the computed T-value was 71.327, which is greater than the tabulated T-value at a significance level of 0.05. This indicates that there is a statistically significant relationship in the responses of the study sample individuals. Therefore, we can conclude that the lack of conflict of interest between the internal auditor and the company is strongly related to the quality and accuracy of accounting operations and leads to improved internal auditing.

Overall, the analysis of the responses for the first axis "Impact of Measuring the Quality and Accuracy of Accounting Operations" shows that the mean was 3.85 out of 5, which is considered a good percentage. The standard deviation was 0.74, and the relative weight was 77%. The computed T-value was 92.592, which is greater than the tabulated T-

value at a significance level of 0.05. This indicates a positive evaluation by the study sample individuals regarding the questions of the first axis.

The results were analyzed by calculating the mean, standard deviation, and relative weight for the items of this axis. The responses were analyzed using a One Sample T-Test, comparing the computed T-value from SPSS with the tabulated T-value, and explaining the results regarding the presence or absence of statistical significance in the responses of the study sample individuals.

Second Axis: Importance and Efficiency of Internal Auditing in the Institution

In this axis, we will study the impact of the importance and efficiency of internal auditing in the institution and its reflection on the operations of lean accounting, as presented in the following table:

Table no 5: Shows the results of the statistical analysis for the second axis

One Simple Statistics-Test Value=							
T	Sig,(2-tailed)	Mean Difference	Relative Weight	Std deviation	Mean	N	
71.634	0.000	3.703	74%	0.92	3.70	200	Internal audit works to protect the organization's assets as stipulated in internal control procedures.
77.008	0.000	3.866	77.4%	0.90	3.87	200	Internal audit provides information about weaknesses in internal control systems.
77.008	0.000	3.866	77.4%	0.90	3.87	200	The recommendations of the internal auditor are taken into account in all operations, especially accounting and technical operations.
67.790	0.000	3.784	75.6%	1.00	3.78	200	The internal auditor performs inspections, verification, and provides advice to management about the processes he has reviewed.
70.048	0.000	3.841	76.8%	0.98	3.84	200	The internal auditor provides information to senior management accurately in order to

							make appropriate decisions.
76.056	0.000	3.801	75.6%	0.88	3.80	200	There is regular follow-up by staffInternal audit workTo examine the actions taken to correct the problems found.
71.897	0.000	3.791	76.6%	0.78	3.79	200	The Internal Audit Director is keen to provide the best audit programs that are accurate and transparent.
72.658	0.000	3.772	74.8%	0.98	3.77	200	The internal auditor is committed to applying professional internal audit standards to ensure the quality of all audit activities.
92.908	0.000	3.81187	76.2%	0.73	3.81	200	The general total for the second axis

Source: Prepared by the researcher based on a program(spss) - The tabular “T” value at a significance level of 0.05, according to the T-Table (0.05, 5)T = 2.571±

Results of the Second Axis Analysis: "Importance and Efficiency of Internal Auditing in the Institution"

Based on the previous table, the following results were obtained:

1. The items "Internal audit provides information about weaknesses in internal control systems" and "Management takes internal auditor recommendations in all operations, especially financial and technical ones" ranked first in terms of the relative weight of responses, which was 77.4%. The mean response for these items was 3.87, and the computed T-value was 77.008, which is greater than the tabulated T-value at a significance level of 0.05. This indicates that there is a statistically significant relationship in the responses of the study sample individuals. Therefore, we can conclude that internal audit providing information about weaknesses in internal control systems and management adhering to internal auditor recommendations in all operations, especially financial ones, are strongly related to the importance and efficiency of internal auditing in the institution.

2. The item "Internal audit provides accurate information to senior management for appropriate decision-making" ranked second in terms of the relative weight of responses, which was 76.8%. The mean response for this item was 3.84, and the computed T-value was 70.048, which is greater than the tabulated T-value at a significance level of 0.05. This indicates that there is a statistically significant relationship in the responses of the study sample individuals. Therefore, we can conclude that internal audit providing accurate

information to senior management for appropriate decision-making is strongly related to the importance and efficiency of internal auditing in the institution.

3. The item "Internal audit conducts examination, verification, and provides advice to management regarding reviewed operations" ranked third in terms of the relative weight of responses, which was 75.6%. The mean response for this item was 3.78, and the computed T-value was 67.790, which is greater than the tabulated T-value at a significance level of 0.05. This indicates that there is a statistically significant relationship in the responses of the study sample individuals. Therefore, we can conclude that internal audit conducting examination, verification, and providing advice to management regarding reviewed operations is strongly related to the importance and efficiency of internal auditing in the institution.

4. The item "Internal audit protects the assets of the institution as stipulated in internal control procedures" ranked fifth and last in terms of the relative weight of responses, which was 74%. The mean response for this item was 3.70, and the computed T-value was 71.634, which is greater than the tabulated T-value at a significance level of 0.05. This indicates that there is a statistically significant relationship in the responses of the study sample individuals. Therefore, we can conclude that internal audit protecting the assets of the institution as stipulated in internal control procedures is strongly related to the importance and efficiency of internal auditing in the institution.

Overall, the analysis of the responses for the second axis "Importance and Efficiency of Internal Auditing in the Institution" shows that the mean was 3.81 out of 5, which is considered a good percentage. The standard deviation was 0.73, and the relative weight was 76.2%. The computed T-value was 92.908, which is greater than the tabulated T-value at a significance level of 0.05. This indicates a positive evaluation by the study sample individuals regarding the questions of the second axis.

The results were analyzed by calculating the mean, standard deviation, and relative weight for the items of this axis. The responses were analyzed using a One Sample T-Test, comparing the computed T-value from SPSS with the tabulated T-value, and explaining the results regarding the presence or absence of statistical significance in the responses of the study sample individuals.

Third Axis Analysis: "Impact of Improving Lean Accounting Operations"

The results of the third axis analysis will be presented next, including the mean, standard deviation, relative weight, and the outcome of the statistical analysis using One Sample T-Test to evaluate the significance of the study sample individuals' responses.

Based on the detailed analysis provided from your previous table and interpretation, here is a summary of the findings and conclusions drawn from the study regarding the impact of internal audit quality on improving internal audit processes through accounting operations quality:

Table no 6: Shows the results of the statistical analysis for the third axis

One Simple Statistics-Test Value=							
T	Sig,(2-tailed)	Mean Difference	Relative Weight	Std deviation	Mean	N	
71.997	0.000	4.156	83.2%	1.03	4.16	200	The internal auditor ensures that all accounting operations are prepared in accordance with generally accepted accounting principles.
68.544	0.000	3.984	79.6%	1.04	3.98	200	The internal auditor works to provide accurate accounting information because of the independence he enjoys.
69.073	0.000	3.894	77.8%	1.01	3.89	200	The internal auditor works to constantly improve his capabilities, which contributes to the improvement and effectiveness of accounting processes within the organization.
66.987	0.000	3.869	77.4%	1.03	3.87	200	The internal auditor works by using modern accounting information systems to develop methods of accounting operations.
74.774	0.000	4.013	80.2%	0.96	4.01	200	The internal auditor has a comprehensive understanding of the nature of the organization's work, which contributes to improving the quality of accounting operations.
73.288	0.000	3.891	79.8%	1.17	3.89	200	Internal auditors are committed to continuous professional development.
74.569	0.000	3.541	78.6%	0.89	3.54	200	Internal auditors have some practical experience in the field of internal auditing.
72.654	0.000	3.651	78.8%	0.95	3.66	200	The entire annual audit plan is determined by the internal auditor.
85.700	0.000	3.98312	79.6%	0.83	3.98	200	The sum of the third axis

Source: Prepared by the researcher based on a program(spss) - The tabular "T" value at a significance level of 0.05, according to the T-Table (0.05, 5)T = 2.571 ±

Paragraph 1 (83.2% Weight):

- Summary: This paragraph emphasizes that internal auditors ensuring all accounting operations are prepared according to accepted accounting principles is significantly associated with improving internal audit processes through accounting operations quality.

- Statistical Analysis: Mean of responses was 4.16, with a calculated "T" value of 71.997, indicating a statistically significant relationship among sample responses.

- Conclusion: Internal auditors' adherence to accounting principles improves the quality of accounting operations, thereby enhancing internal audit processes.

Paragraph 2 (80.2% Weight):

- Summary: Comprehensive understanding of the organization's nature by internal auditors contributes significantly to improving the quality of accounting operations.

- Statistical Analysis: Mean response was 4.01, with a "T" value of 74.774, showing a statistically significant relationship.

- Conclusion: A thorough understanding of the organization by internal auditors enhances the quality of accounting operations and thus improves internal audit processes.

Paragraph 3 (79.6% Weight):

- Summary: Independence of internal auditors leads to the provision of accurate accounting information.

- Statistical Analysis: Mean response was 3.98, with a "T" value of 68.544, indicating a statistically significant relationship.

- Conclusion: The independence of internal auditors contributes to providing accurate accounting information, thereby enhancing internal audit processes.

Paragraph 4 (77.8% Weight):

- Summary: Continuous improvement of internal auditors' capabilities significantly enhances accounting operations quality.

- Statistical Analysis: Mean response was 3.89, with a "T" value of 69.073, showing a statistically significant relationship.

- Conclusion: Ongoing development and improvement of internal auditors' capabilities are linked to enhancing internal audit processes through accounting operations quality.

Paragraph 5 (77.4% Weight):

- Summary: Use of modern accounting information systems by internal auditors improves accounting operations methods.

- Statistical Analysis: Mean response was 3.87, with a "T" value of 66.987, indicating a statistically significant relationship.

- Conclusion: Utilizing advanced accounting information systems by internal auditors is associated with improving internal audit processes through accounting operations quality.

Overall Analysis:

- The third axis, "Impact of improving internal audit processes through accounting operations quality," received an average score of 3.98 out of 5, with a standard deviation of 0.83 and a weight of 79.6%.

- The "T" value calculated for this axis was 85.700, indicating a statistically significant positive evaluation by the study sample.

Study Conclusions:

- There is a strong correlation between the quality and accuracy of accounting operations and the improvement of internal audit processes.

- This relationship enhances the robustness and effectiveness of internal controls and audit processes, leading to increased efficiency and operational effectiveness overall.

These conclusions underscore the critical role of maintaining high-quality accounting practices in achieving accurate financial reporting and decision-making, thus promoting organizational stability and growth.

Table no 7: It shows the hypotheses, statistical results, and results of these hypotheses:

The result	R	T.Test	Hypothesis
Statistical significance is smaller than 0.05 and the rate is greater than 3.5. There is statistical significance that the rate is greater than 3.5.	0.885	6.834	The impact of measuring the quality and accuracy of accounting operations
Statistical significance is smaller than 0.05 and the rate is greater than 3.5. There is statistical significance that the rate is greater than 3.5.	0.85	7.211	The importance and efficiency of internal auditing in the organization
Statistical significance is smaller than 0.05 and the rate is greater than 3.5. There is statistical significance that the rate is greater than 3.5.	0.79	5.410	The impact of improving internal audit processes through the quality of accounting processes

Source:Prepared by the researcher based on analytical tables.

Based on your provided recommendations for improving internal audit operations and achieving organizational goals, here is an English translation:

Recommendations:

1. Development of Accounting Process Registration:

- Companies should work on developing processes for recording accounting operations and rely on appropriate accounting tools, technology, and software.
- Ensure proper disclosure of financial data and enhance the quality of this data to support appropriate investment decisions and safeguard company assets.

2. Collaboration Across Departments:

- Collaboration among the accounting, auditing, internal audit, and other departments ensures good management of the company, preserves the interests of all parties, and reduces improper procedures. It also enhances performance across these departments.

3. Empowering Board of Directors:

- Activate the role of the board of directors and apply disclosure and transparency controls, building institutional systems based on control tools.

4. Compliance with International Accounting Standards:

- Implement disclosure rules that align with international accounting standards, relying on financial management control in companies and internal auditing.

5. Collaboration for Risk Management:

- It is essential for internal audit, accounting, IT, board of directors, and executive management to collaborate to activate company operations, predict future risks, and prepare necessary plans to avoid or mitigate these risks.

6. Modern Accounting, Auditing, and IT Methods:

- Implement modern and advanced accounting, auditing, and IT methods like COSO principles and international accounting standards in internal control, oversight, and internal auditing systems.

7. Enhancing Efficiency:

- Strengthen the efficiency and effectiveness of IT, accounting, and auditing departments to integrate them and facilitate the work of external auditors.

8. Good Governance Practices:

- Apply good governance rules in companies by adhering to regulatory and audit procedures, allowing management to self-regulate its activities.

9. Promoting Fairness and Transparency:

- Companies must commit to enhancing fairness, transparency, and fair treatment for all stakeholders, including shareholders and investors.

10. Clarifying Roles and Responsibilities:

- Management should clearly define the roles, responsibilities, duties of board members, executive management, internal auditors, and financial management, along with the authorities delegated to executive management.

11. Expanding Social Responsibility:

- Expand corporate social responsibility activities alongside core business activities.

12. Continuous Learning:

- Continue efforts towards continuous learning by intensifying courses and conferences related to IT, accounting, and auditing, ensuring employees gain updated skills to effectively perform their duties amidst rapid developments in financial, accounting, auditing, and IT fields.

13. Monitoring Accounting and Audit Standards:

- Keep abreast of developments in accounting and auditing standards and their relationship with accounting information systems.

These recommendations collectively aim to enhance internal audit operations, strengthen financial transparency, improve decision-making processes, and foster efficient governance within companies.

References

- Lopes, C., Almeida, B., Leite, J., & Morais, M. (2023). The influence of internal audit departments on external municipal audit reports. *Journal of Public Budgeting, Accounting & Financial Management*, 35(5), 644-666.
- Mpofu, C. M. (2022). *Lean Accounting: a Connection to Strategic Partnership & Collaboration Between Management Accountants and Operations Managers* (Doctoral dissertation, University of Missouri-Saint Louis).
- Nyakumwa, B., Wadesango, N., & Sitsha, L. (2023). The Impact of Internal Audit Function on Corporate Governance: A Case of NSSA, Zimbabwe (2018-2022). *Journal of Economic & Social Development (1849-6628)*, 10(2).
- Ovharhe, O. H., Chibuike, C. U., & Abada, A. M. (2023). Lean accounting and lean entrepreneurship. *American Journal of Social Development and Entrepreneurship*, 2(2), 1-8.
- Rabe, M., Chudy-Laskowska, K., Widera, K., Norek, T., Bartkowiak, A., Łopatka, A., & Magdziarczyk, M. (2023). Lean management accounting, elimination of waste in the company. *Journal of Sustainable Development of Transport and Logistics*, 8(2), 184-194.
- Zhan, X. (2023). Public Sector Internal Audit, a Tool for Assessing the Achievement of the Development Objectives by the Public Authorities. *LUMEN Proceedings*, 19, 113-126.