

## IMPROVING THE ORGANIZATIONAL AND METHODOLOGICAL BASIS OF COST ACCOUNTING AND INTERNAL AUDIT IN THE PULP AND PAPER INDUSTRY

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**Annotation:** In this article, the organizational and methodological foundations of cost accounting and internal audit in the pulp and paper production sector are analyzed and opportunities for their improvement are discussed. Additionally, it examines how these improvements can contribute to the efficient management of enterprise activities, cost optimization, and strengthening financial control. Scientific proposals and practical recommendations are provided based on the research results.

**Key words:** Pulp and paper production, cost accounting, internal audit, efficiency, organizational foundations, methodological foundations, economic analysis, financial control, profitability, competitiveness.

### 1. Introduction

Currently, the pulp and paper production industry requires the development of systems that ensure effective and competitive operations, along with the production of high-quality products. In this context, the correct organizational and methodological foundations of cost accounting and internal audit are of great importance.

Building a New Uzbekistan is closely related to strengthening financial discipline, saving resources and reducing unproductive expenses both at the republican level and in relations with foreign investments. In the report of President Sh.M. Mirziyoyev, at a video selector dedicated to the development and reform of agriculture in Uzbekistan, was instructed to "... organize an internal audit service for the targeted use of funds allocated by international financial organizations, the budget and banks" [1].

In Uzbekistan, various reforms and initiatives are being implemented to develop industrial sectors, including the pulp and paper production industry. These reforms also include improving the organizational and methodological foundations of cost accounting and internal audit within the industry. Cost accounting involves accurately identifying and controlling the resources consumed at each stage of the production process. To achieve this, it is essential to implement modern accounting and reporting systems, accurately classify costs, and automate accounting processes. Effective cost management can lead to a reduction in product costs and an increase in production profitability.

Internal audit performs the function of checking and evaluating the legality, reliability, and efficiency of the financial and economic activities within an enterprise. During the internal audit process, all aspects of the enterprise's operations are examined, and recommendations are provided to address identified deficiencies and errors. To improve the internal audit system, it is necessary to develop methodologies and regulations that comply with international standards. The results of this research will contribute to enhancing the competitiveness, ensuring the financial stability, and strengthening the market position of enterprises in the pulp and paper production industry.

## 2. Literature review.

Improving the organizational and methodological foundations of cost accounting and internal audit in the pulp and paper production industry helps in efficiently managing enterprise operations, optimizing costs, and strengthening financial control. Various specialists and researchers have conducted studies in this area and have proposed different approaches in their research.

Cadez and Guilding (2008): Strategic management accounting plays a crucial role in the strategic decision-making process. They emphasize that through the analysis of strategic costs, competitiveness can be enhanced. According to them, strategic cost information is of great importance in achieving high efficiency.

Simmonds (1982): Strategic pricing and brand evaluation are also essential. Pricing and the market position of the brand are key elements in strategic management accounting [13].

Ayman Abdelrahim and Husam-Aldin N. Al-Malkawi (2022): They have integrated the main factors influencing internal audit effectiveness into a conceptual model. According to them, effective internal audit significantly contributes to improving risk management, internal control, and governance processes within organizations [2].

Nerantzidis et al. (2020): In their study of internal auditing in the public sector, they focus on various thematic areas, including management and operational efficiency. They recommend conducting comparative studies among countries in future research [3].

Turetken, Jethefer, and Ozkan (2020): They provide a list of indicators and factors influencing internal audit effectiveness. They believe that an effective internal audit helps organizations understand their current state and improve it in the future [4].

These scholars' perspectives highlight key directions for improving cost accounting and internal auditing in the pulp and paper production industry. They provide recommendations for enhancing the efficiency of costs and audits using various approaches and models in their research.

## 3. Research methodology.

In the article, systematic approach, analysis and synthesis, comparative analysis, grouping, induction and deduction, logical inference, comparison of statistical data, and other methods have been used.

## 4. Analysis and results discussion.

The pulp and paper production industry is one of the sectors that requires advanced technological processes and substantial expenditures. Effective organization of cost accounting and internal auditing in this sector is crucial for ensuring the long-term sustainable development of enterprises.

In pulp and paper production, cost accounting involves identifying and controlling the resources consumed at each stage of the production process. Through accurate classification and accounting of costs, management can achieve the following:

Accurate cost accounting helps determine the actual cost of the product, which is essential for establishing pricing policies and ensuring competitiveness.

Proper accounting of resources enables efficient use and reduction of waste.

Comprehensive and reliable information on costs allows for strategic decision-making.

The pulp and paper production industry is one of the industrial sectors with significant importance in both national and global economies. The pulp and paper production industry plays a crucial role in national and global economies. Its economic significance is demonstrated through its product range, job creation, export opportunities, economic growth and investments, utilization of renewable resources, and the development of research and innovations. Developing and improving this sector is essential for the stable and successful development of the national economy.

The pulp and paper production industry produces a wide range of products, including writing paper, printing paper, sanitary and hygiene products, cardboard and boxes, wrapping and packaging materials. These products are necessary for various fields such as education, healthcare, trade, agriculture, and industrial companies and institutions. Ушбу тармоқ миллионлаб иш ўринларини яратиб, аҳолининг иқтисодий барқарорлигини таъминлайди. Целлюлоза-қоғоз саноати

ишлаб чиқаришда тўғридан-тўғри иш ўринлари билан бир қаторда, транспорт, савдо ва логистика соҳаларида ҳам кўплаб иш ўринларини таъминлайди.

Pulp and paper products contribute significantly to the national economy by increasing export volumes. This sector is a major export area for many countries. For example, Finland, Canada, the USA, and Brazil are major exporters of pulp and paper products. The pulp and paper industry contributes greatly to economic growth. Investments in enterprises within this sector and the introduction of new technologies result in increased production efficiency, which helps overall economic growth. For example, the introduction of modern recycling and energy-saving technologies reduces production costs and lowers product prices. The pulp and paper production industry uses natural resources, particularly renewable wood resources, which helps ensure ecological sustainability. Recycling processes reduce waste and the efficient use of resources minimizes the environmental impact on the economy.

The pulp and paper production industry invests in research and innovations, helping to develop new materials and technologies. This contributes to economic growth and enhances competitiveness.

**Table 1.**

**Analysis of paper production technology and its efficiency indicators at the pulp and paper plant<sup>1</sup>**

№	Name of Processes	Efficiency Indicators of Technological Processes
	<b><u>Preparation:</u></b>	
1.	1. Debarking the wood	In this process, the bark is removed from the wood, leaving it in log form. The wood is then cut to the required sizes using special machines and converted into chips. This raw material is stored in piles in an open area for one year.
	2. Burning the wood bark and generating steam	
	3. Cutting wood into chips and piling	
	<b><u>Regeneration:</u></b>	
2.	1. Washing and cleaning the chips with alkali	The raw material is cleaned in a special cylinder for 2 hours at 158 degrees Celsius using alkaline solutions.
	2. Boiling the chips in a regeneration boiler	At a temperature of 1000 degrees Celsius, resin is produced from the wood mass.
	3. Bleaching the dissolved wood mass	In this process, the wood mass is bleached with chlorine dioxide.
	<b><u>Paper Production:</u></b>	
3.	1. Sending the bleached wood mass to reservoirs through a screw conveyor	The dissolved wood mass is sent to reservoirs at a speed of 1060 m/s.

<sup>1</sup> <https://www.youtube.com/watch?v=JQ2erKVzF0g>

	2. Synthesizing the paper mass in the reservoir	95% of the water is squeezed out of the paper mass in the reservoir.
	3. Monitoring the quality of the finished paper product using an "Analyzer" device	2 tons of wood are used to produce 1 ton of paper products.
4.	<b><u>Selling the finished product or processing it as a semi-finished product:</u></b>	
	1. Sending the finished product to customers	Wrapping and packaging paper rolls weighing 35 tons and 60 km in length.
	2. Packaging the paper as a semi-finished product for office purposes	Cutting the paper to the customers' specifications for office use, wrapping it in cellophane, and transporting it to the customers.

The processes listed in the table are necessary to ensure the efficiency of each stage in paper production. The paper production process at the pulp and paper plant consists of several important stages, each with its own specific technologies. The main raw materials in this process are wood and cellulose.

Each process is aimed at obtaining high-quality products based on technological indicators. The paper production technology at the pulp and paper plant requires highly automated and technological processes. Quality control and technological innovations at each stage ensure the production of high-quality products by the enterprise.

At the same time, we will examine the analysis of internal and external factors affecting the cost of production (Table 2).

**Table 2.**  
**Values of Internal and External Factors Affecting the Cost of Production, million soums<sup>2</sup>**

Year	Cost of Production	Salaries and Social Security Contributions	Material Costs	Depreciation of Fixed and Intangible Assets	Taxes and Insurance Payments	Loans and Debts
2018	100 509 467,0	6 636,2	180 946,0	11 759,5	12 275,2	266 700,0
2019	108 757 769,0	8 608,5	124 537,7	14 518,8	3 216,0	260 330,0
2020	159 962 455,0	12 523,8	110 149,5	17 500,2	4 714,0	254 000,0
2021	165 759 800,0	15 577,5	214 972,1	17 998,6	5 217,0	247 670,0
2022	204 639 347,0	16 738,6	209 990,0	14 893,3	6 319,0	241 340,0
2023	240 009 599,0	18 964,4	205 875,0	16 788,6	7 483,0	235 010,0

<sup>2</sup> «GLOBAL KOMSCO DAEWOO» The author's work is based on the information of the limited liability company

This table shows the forecast calculations of various factors affecting the cost of production from 2018 to 2023. The columns and their values in the table are described as follows.

The cost of production has consistently increased from 2018 to 2023. This trend may be associated with economic growth or inflation. The funds spent on salaries and social security contributions increase annually, indicating a high demand for labor. Material costs significantly decreased in 2019, but have increased again in subsequent years. Depreciation costs of fixed and intangible assets fluctuate yearly, peaking in 2021. Taxes and insurance payments vary year by year, with a notable increase starting in 2021. The amount of loans and debts also changes annually, reaching the highest value in 2023.

This analysis helps to better understand the factors affecting the cost of production and can be useful in making future plans.

Table 3.

**Analysis of the Number of Employees and Income of "GLOBAL KOMSCO DAEWOO" LLC for 2019-2023<sup>3</sup>**

Indicators Name	2019 y		2020 y		2021 y		2022 y		Change, in % (2023/2021)	
	Average Number of Employees, persons	Salary Income, thousand soums	Average Number of Employees, persons	Salary Income, thousand soums	Average Number of Employees, persons	Salary Income, thousand soums	Average Number of Employees, persons	Salary Income, thousand soums	Average Number of Employees, persons	Salary Income, thousand soums
<b>Economic Activity total</b>	226	7 731 907,6	260	11 182 050,3	276	14 036 036,0	285	16 720 984,0	281	20 119 778,0
<i>Including:</i>										
<b>Managers</b>	19	1 215 267,0	20	1 519 950,6	21	1 807 816,0	21	3 009 777,0	8	1 132 800,0
<b>Specialists</b>	30	944 440,7	20	1 064 721,7	24	1 356 706,4	26	2 484 260,0	47	4 532 978,0
<b>Technical Staff</b>	32	1 007 403,4	39	1 553,448,1	1	42 595,2	1	95 548,0	49	2 250 000,0
<b>Service Staff</b>	31	975 922,0	55	2 086 673,7	98	3 982 827,4	101	4 825 199,0	25	1 740 000,0
<b>Production Workers</b>	114	3 588 874,5	126	4 957 256,2	132	6 846 091,0	136	6 306 200,0	152	10 464 000,0

In Table 3 above, the analysis of the number of employees and income of "GLOBAL KOMSCO DAEWOO" LLC from 2019 to 2023 is provided. Below are the main trends and explanations for this information.

The number of employees and their salary incomes have increased year by year. In 2023, compared to 2021, the number of employees decreased by 1.8%, but salary incomes increased by 43.4%. The number of managers is not large, but their salary incomes have significantly increased year by year. The number of specialists and their salary incomes have also steadily increased. The number of technical staff decreased in 2021, but increased again in 2022 and 2023. Their salary incomes have also increased. The number of service staff sharply decreased in 2021, but their salary incomes have increased until 2023. The number of production workers decreased in 2023, but their salary incomes increased by 40.7% compared to 2021.

These data can be useful in analyzing the number of employees and income of "GLOBAL KOMSCO DAEWOO" LLC. Changes in the number of employees and income indicate the trends in various types of activities.

<sup>3</sup> «GLOBAL KOMSCO DAEWOO» author's development based on the information of the limited liability company



Table 4.

**Analysis of the Expenses of "GLOBAL KOMSCO DAEWOO" LLC  
for 2019-2023<sup>4</sup>**

№	Indicators Name	2019	2020	2021	2022	2023
1	Expenses for maintaining the workforce – total (line 401 + 406)	77 731 907,6	84 586 235,7	101 564 170,5	86 717 790,4	34 326 664,8
2	Income in the form of wages accrued to individuals – total (sum of lines 402 to 405), including:	10 548 084,5	12 598 023,0	14 036 036,0	16 720 984,0	20 119 778,0
3	Wages calculated based on piece rates, tariff rates, and salaries according to the accepted forms and systems of payment, for the work actually performed	10 111 506,7	10 201 506,9	10 485 788,6	11 203 812,0	14 015 174,7
4	Incentive payments	3 605 807,6	3 809 607,6	988 092,0	4 632 712,0	4 766 901,1
5	Compensation payments	69 506,2	72 291,3	74 481,4	22 198,0	873 242,2
6	Payments for non-worked time	2 190 205,6		2 487 674,0	862 262,0	464 460,0
7	Payments and expenses not considered in wage writing – total (lines 407 + 408 + 409 + 410 + 420 + 424), including:	69 506 987,5	74 567 904,1	87 528 134,5	69 996 806,4	14 206 886,8
8	Expenses for staff training and retraining, scholarships for students, and similar expenses	39 546,1	43 526,8	45 153,5	67 799 734,4	10 465 350,0
9	Expenses for social protection of employees (sum of lines 411 to 419), including:	39 544 667,5	40 294 416,9	85 601 006,7	1 917 832,0	2 601 536,8
10	Mandatory insurance contributions (social taxes)	1 182 907,7	1 209 741,9	1 578 624,4	1 917 832,0	2 414 373,8
11	Payments (contributions) for mandatory and voluntary insurance					52 552,0
12	Expenses for payments to medical institutions for medical services provided to employees		18 905,6			21 267,0
13	Payments for vouchers for employees and their family members for health restoration and rest		17 390,2			0,0
14	Expenses for paying temporary disability benefits	24 597 506,4	39 067 284,8	84 022 382,3		113 344,0
15	Other expenses for maintaining the workforce, including:	284 540,7	310 789,8	203 202,6	279 240,0	
16	Business travel expenses	164 590,6	180 093,6	192 242,6	264 600,0	
17	Cost of provided special clothing, special footwear, and other personal	105 904,2	120 966,2			

<sup>4</sup> «GLOBAL KOMSCO DAEWOO» author's development based on the information of the limited liability company

	protective equipment, milk, and therapeutic-prophylactic meals					
18	Compensation for the use of personal vehicles for business travel within and beyond the norms established by legislation	8 790,4	9 730,0	10 960,0	14 640,0	
19	Taxes related to the employment of foreign labor	1 197 097,5	1 267 055,0	1 678 771,7		1 140 000,0

This table shows the expense analysis of “GLOBAL KOMSCO DAEWOO” LLC for 2019-2023. Below is the data from the table and its analysis. Expenses for maintaining the workforce increased from 2019 to 2021, decreased in 2022, and increased again in 2023. Similarly, salaries and social security contributions decreased in 2021 and then increased again.

Additionally, the government of Uzbekistan is paying great attention to privatizing industrial enterprises and creating favorable conditions for investors. In this process, it is important to streamline the management of state enterprises and align their financial reporting with international standards. Ensuring transparency in accounting and auditing systems is also required to attract private investors. Efforts are being made in Uzbekistan to implement International Financial Reporting Standards (IFRS). This helps ensure that cost accounting and internal auditing in the pulp and paper production industry are conducted in accordance with international standards. Similarly, methodologies and regulations that comply with international standards are being introduced for internal audit. The introduction of information technology and automation in industrial enterprises helps to manage production processes efficiently. As a result of reforms in this area, cost accounting and auditing processes in enterprises are being automated, ensuring accurate and correct accounting of data. In Uzbekistan, great attention is being paid to innovations and research in industrial sectors. In the pulp and paper production industry, it is possible to optimize costs and improve product quality by introducing and researching new technologies.

### 5. Conclusions and suggestions.

Improving the organizational and methodological foundations of cost accounting and internal audit in the pulp and paper production industry is of crucial importance for ensuring effective management processes. Accurately determined cost accounting based on organizational and methodological foundations helps enhance the financial stability of the enterprise, ensure efficient use of resources, and reduce the cost of production.

Internal audit is crucial for enhancing the efficiency of enterprise activities and strengthening financial control. The quality organization and regular monitoring of internal audit processes contribute to the long-term sustainable development of the enterprise.

The following are proposed to improve the cost accounting system: implement modern information technologies to automate cost accounting and analysis; develop and implement a system for accurate and correct classification of costs; regularly prepare and analyze cost reports.

The following recommendations have been developed to improve internal audit: develop and implement methodologies and regulations in accordance with international internal audit standards; organize special training programs and workshops for internal auditors; grant autonomy and independence to internal audit departments to ensure the impartiality of their conclusions and recommendations; integrate cost and audit data into the strategic planning process; strengthen financial control and regularly monitor cost efficiency; enhance efficiency by introducing technological innovations in production processes; effectively manage the supply chain and optimize costs.

By implementing these recommendations, it is possible to improve the organizational and methodological foundations of cost accounting and internal audit in the pulp and paper production industry. This will help ensure the long-term development of the enterprise, enhance its competitiveness, and secure its financial stability.

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