



THE IMPACT OF AN INTEGRATED MANAGEMENT ACCOUNTING AND CONTROLLING SYSTEM ON THE PROFITABILITY OF SALES OF CONSTRUCTION MATERIALS

N.E. Zhiyenbay ¹ , G.D. Amanova^{2*} , A.D. Nurzhanov ³ 

^{1,2}L.N. Gumilyov Eurasian National University, Astana, Kazakhstan

³IFRS Group Leader, JSC “Navoi Mining and Metallurgical Combine”, Navoi, Uzbekistan

E-mail: ¹nurman.zhiyenbay@moore.kz, ²amanova_gd@enu.kz, ³a_nurjanov@ngmk.uz

Abstract. The study *aims* to determine how management accounting, cost analysis, and budgeting contribute to cost control, sound pricing decisions, and improved profitability in the construction materials market. *Methods* – The methodology combines the analysis of selling expense structure, cost classification by responsibility centers and sales channels, and the assessment of commercial efficiency. Full costing and direct costing are applied alongside break-even analysis, activity-based costing (ABC), and activity-based budgeting (ABB). The empirical basis comprises official construction statistics for Kazakhstan for 2023–2025 and a company case study incorporating a six-month operating budget and a three-month cash flow forecast. *Results* – The analysis identifies the principal cost drivers and reveals differences in the contribution margins generated by individual product groups and sales channels. The findings demonstrate that integrating management accounting with budgeting improves the transparency of selling expenses, strengthens control over deviations, and provides a more reliable basis for pricing and product-mix decisions. *Conclusions* – The study concludes that an integrated accounting and analytical system can enhance cost management, optimize cash flows, and improve the profitability and financial stability of construction-sector trading enterprises. Its effectiveness can be further strengthened through digital visualization, advanced analytics, and forecasting based on interconnected financial and operational indicators.

Keywords: management accounting, cost analysis, building materials, budgeting, controlling, profitability, cash flows, margin analysis, ABC costing.

Introduction

The modern building materials market is highly dynamic and competitive, driven by technological changes, product diversity, fluctuations in raw material prices, and logistics costs. Increased competition between trading and manufacturing companies requires them to make informed management decisions quickly in order to maintain cash

Received 27.12.2025. Revised 03.08.2026. Accepted 31.08.2026. Available online 30.09.2026

*Corresponding author

flow stability, optimize costs, and increase sales profitability. In these conditions, the role of management accounting as the basis for forming a reliable information and analytical business support system increases significantly.

Management accounting, focused on the needs of internal users-management, sales managers, and financial analysts-provides timely data on the structure and dynamics of expenses, financial results, and the efficiency of resource use. It serves not only as a tool for processing and systematizing information, but also as a key element of the controlling system, allowing the consequences of management decisions to be predicted and evaluated.

For companies selling building materials, cost analysis that takes into account the specifics of this segment is particularly important: a wide range of products, seasonal demand, a high proportion of logistics and distribution costs, and sales volumes dependent on project activity in the construction sector. In such an environment, it becomes critically important not only to record costs, but also to identify their dependencies, drivers, and impact on the profitability of product groups.

The relevance of the study is due to the need to develop integrated management accounting and analytical support systems capable of ensuring cost transparency, operational control of deviations, and expanded analytics of sales profitability by customer segment, product range, and sales channel. The introduction of budgeting models, marginal analysis methods, ABC/ABB approaches to cost allocation, and strategic controlling tools aimed at improving the company's financial stability and investment attractiveness plays a special role.

As domestic enterprises adapt to digital transformation and growing consumer expectations in terms of service quality, management accounting must evolve towards automation, data visualization, and predictive analytics. This will improve pricing accuracy, reduce inefficient costs, and ensure sustainable growth in profits from commercial operations. The object of the study is the processes of management accounting and cost analytics in the trade of building materials, including the budgeting system, cash flow control, and sales profitability assessment.

The subject of the study is methods and models for integrating management accounting, cost analytics, and cash flow budgeting to optimize financial stability and increase the profitability of commercial activities of enterprises in the construction sector. The purpose of the study is to justify methodological approaches to improving the accounting and analytical system for managing the costs of selling construction materials in order to increase the profitability of commercial activities.

Research objectives: to analyze theoretical approaches to the classification and accounting of selling expenses; to investigate the mechanisms for forming an information base for management decision-making in management accounting and controlling systems; to develop a model for budgeting and cash flow management in the trade of building materials; to assess the impact of the cost structure and cost factors on sales profitability in terms of product groups and sales channels; to form directions for improving accounting and analytical support for management decisions in order to increase the company's financial stability.

An integrated model is proposed to link management accounting, cost analysis, and cash flow budgeting within a single decision-making process. It brings together the collection and classification of data, marginal and ABC analysis, cash flow forecasting, and scenario calculations. In practical terms, this makes it possible to consider financial risks together with working capital requirements and expected operating results. For companies selling construction materials, the model can therefore be used both for day-to-day cost control and for planning further business development.

Literature review

Recent studies increasingly consider management accounting not simply as a system for recording costs, but as an information source for managerial decisions. Its usefulness becomes particularly evident when cost data are combined with cash flow forecasts and analysis of sales profitability. In this context, the role of management accounting information in both operational and strategic management is discussed by Grishkina, S. N., & Chestnova, K. S. (2023) and Dmitrieva, I. M. (2025).

The digitization of business processes and the introduction of analytical technologies create the conditions for the transformation of traditional cost accounting methods into flexible models that enable data-driven management decisions. Russian and foreign researchers have noted the importance of using modern costing methods, such as ABC costing and activity-based budgeting (Kovaleva & Strizhak, 2022; Drury, 2022). These approaches make it

possible to analyze the cost structure and assess the contribution of individual types of expenses (logistics, warehousing, marketing, administrative) to the formation of margins by product segments and customer categories.

Scientific literature emphasizes the need for detailed analysis of commercial expenses related to product sales and the development of sales infrastructure. These articles highlight the impact of payment terms with suppliers and customers, logistics schemes, and customer service levels on the financial results of enterprises (Golovina, A. N., Komarova, O. V., & Nevyantsev, I. B., 2024; Kolcheva, 2023). The role of budgeting and cash flow management as a key controlling tool that ensures business stability and prevents cash gaps is also considered (Plotnikova, 2022; Datar, S. M., & Rajan, M. V., 2024).

A separate group of studies is devoted to the specifics of management accounting in the construction industry and the production and logistics business. These works describe the features of cost allocation, profitability analysis, material flow management, and resource investments (Maltseva, 2022; Isabekova, 2023). However, the problem of analytical support for the costs of selling construction materials is not sufficiently covered in the scientific literature: studies are fragmentary and consultative in nature, without forming a comprehensive model of integration of management accounting, controlling, and budgeting for assessing the profitability of commercial operations (Alieva, N. M., 2023; Okereke, R. A., Zakariyau, M., & Eze, E. C., 2022).

Modern studies on management accounting emphasize that cost information should not be limited to recording expenses, but should serve as a basis for managerial decision-making, profitability analysis, and strategic control. Activity-based costing and integrated cost systems are considered important tools for identifying cost drivers and improving profitability management (Bhimani, A., Datar, S. M., Horngren, C. T., & Rajan, M. V., 2023; Al-Mekhlafi, M. A., & Othman, M. S. E., 2023). In addition, strategic cost management and performance measurement systems make it possible to link cost control with pricing, sales efficiency, and long-term competitive advantage (Yang, F., 2024; Barros, R. S., & Ferreira, A. M. D. S. C., 2023).

A number of authors also note that management accounting systems should be integrated with budgeting, responsibility accounting, and controlling mechanisms in order to support planning and operational monitoring of financial results (Garrison et al., 2026; Hansen et al., 2022; Mowen, M. M., Hansen, D. R., & Heitger, D. L., 2023). The contingency approach shows that the effectiveness of such systems depends on the organizational context, business model, and management needs of the enterprise (Hammouch, H., Manta, O., & Palazzo, M., 2024; Wang, Y., Li, P., Al-Sayed, M., & Gong, Y., 2025; Bruesch, A., & Quinn, M., 2024). Therefore, the literature confirms the need to develop modern management accounting methods focused on the analytical assessment of selling costs, cost driver identification, and forecasting the financial results of construction materials sales.

Based on the above, a summary of scientific positions confirms the need to develop modern management accounting methods focused on the analytical assessment of the costs of selling building materials and forecasting financial results.

Research methods

The central aspect of the study is the analysis of methodological and practical approaches to the formation of an accounting and analytical system for managing the costs of selling building materials and assessing its impact on the profitability of commercial operations. The study aims to examine the structure and characteristics of cost accounting, identify the most effective management accounting and controlling tools, and identify budgeting and predictive analytics models that facilitate the timely identification of financial risks and improve the quality of management decisions.

The research hypothesis is that the effectiveness of managing the costs of selling building materials depends on the degree of integration of management accounting, budgeting, and analytical controlling tools. The use of extended cost classification, marginal analysis, and predictive budgeting is expected to improve profitability and financial stability. ABC costing and activity-based budgeting are included in the conceptual model but are not separately estimated because activity-level cost-driver data are unavailable for the case study.

The source base of the study consisted of anonymized internal management data from a trading company used to prepare a six-month operating budget and a three-month cash flow forecast; official construction statistics of the Bureau of National Statistics of the Republic of Kazakhstan for 2022–2024; regulatory documents in the

field of accounting; scientific publications; and industry analytical materials. The official statistics were used to characterize the external market environment, while the company data were used for the case-based profitability and liquidity calculations.

The analytical work included: studying the structure of commercial and operating costs; classifying expenses by functional purpose and behavior; developing a cash flow budgeting model; factor analysis of sales margins; assessing the impact of accounts receivable and accounts payable turnover on financing needs; development of an integrated information and analytical support system for management decisions.

The methodological basis was a systematic approach that provided a comprehensive review of management accounting, budgeting, and controlling as a single analytical platform. Methods of logical and economic-statistical analysis, budget and factor analysis, ABC costing, comparative and scenario analysis were applied. Quantitative indicators were verified for reliability, and qualitative conclusions were formed on the basis of expert assessment of reporting data and regulatory requirements.

Results and discussion

To incorporate the official statistical data stated in the research methodology, the dynamics of construction activity in Kazakhstan were examined for 2023–2025. Construction output is used as an external demand-side indicator reflecting the market environment in which suppliers of construction materials operate; it is not treated as a direct measure of the sales performance of Seven Refractories Asia LLP.

Table 1 – Dynamics of construction activity in Kazakhstan, 2023–2025

Indicator	2023	2024	2025
Volume of construction works, KZT billion	7,612.8	9,062.1	10,847.0
Physical volume index, % of the previous year	115.1	115.3	117.5

Note: compiled by the authors based on data from the Bureau of National Statistics of the Republic of Kazakhstan (2024, 2025, 2026).

The official statistics indicate sustained growth in construction activity during the period under review. The nominal volume of construction works increased by approximately 42.5% between 2023 and 2025. This expansion suggests a growing activity base for demand for construction materials. At the same time, growth in the external market does not automatically result in higher company profitability, because the financial result also depends on procurement costs, logistics expenses, customer payment terms, inventory turnover, and the efficiency of working capital management.

Accounting and analytical support is a set of methods, tools, and procedures aimed at creating an information base for making management decisions. In the context of managing expenses for the sale of building materials, this system includes cost identification, classification, budgeting, monitoring, and analysis of deviations.

Sales expenses should be grouped rationally according to their functional purpose (purchasing, logistics, sales, management), according to how they are allocated to cost (direct and indirect), and according to their dependence on sales volume (fixed and variable). This classification provides a basis for the application of management analysis methods, including ABC costing, marginal analysis, break-even point assessment, and scenario modeling.

With regard to expenses related to the sale of construction equipment, this system should perform the following functions:

- identification and classification of expenses;
- documenting and accounting for transactions that generate expenses;
- preparing and analyzing sales and procurement budgets;
- monitoring cash flows by type of activity;
- identifying deviations and their causes;
- preparing analytical reports for controlling and management.

The costs of selling construction equipment include: the cost of purchasing materials and equipment, logistics costs, warehousing operations, sales department operating costs, marketing costs, and administrative costs related to customer service. For analytical purposes, it is advisable to group costs into several categories (Figure 1).

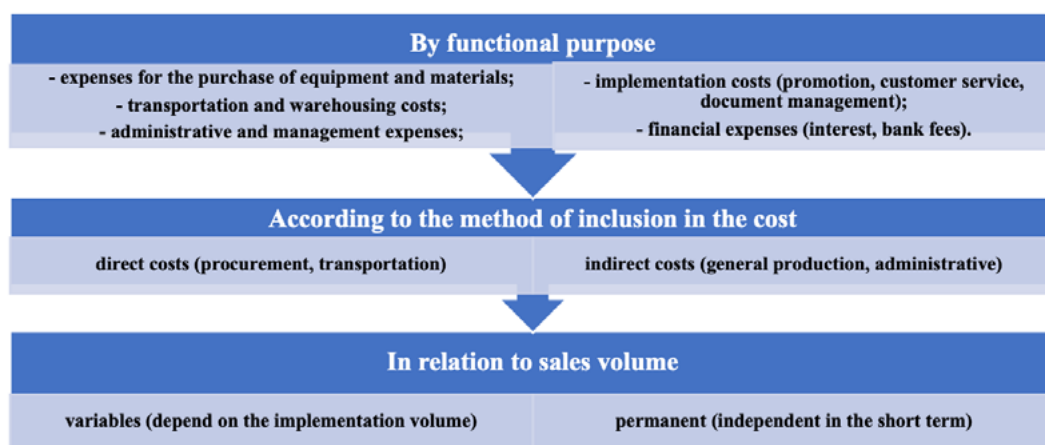


Figure 1 – Classification of expenses when selling construction equipment and materials

Note: compiled by the authors based on data from (Plotnikova, O. V., 2022; Datar, S. M., & Rajan, M. V., 2024)

The presented structure for classifying the costs of selling construction materials is based on three key analytical criteria, each of which plays an important role in management accounting and decision-making.

First, classifying costs by functional purpose allows you to determine which business processes and responsibility centers bear the main burden of expenses. The costs of purchasing materials and equipment form the basis of the cost of goods sold. Transportation and storage costs reflect the efficiency of logistics and inventory management. Selling expenses are mainly associated with the sales process and revenue generation, whereas administrative and finance-related costs support the overall activities of the company. Looking at these groups separately helps to understand where resources are concentrated and where inefficient spending may arise.

The second criterion concerns the way costs are assigned to products and sales. Direct costs can be traced to a particular product or transaction and can therefore be included directly in the calculation of its margin. Indirect costs require an allocation basis. Under ABC costing, this allocation is based on cost drivers that reflect the activities giving rise to the expense. The choice of appropriate drivers is important because it affects both the estimated profitability of product groups and the information used for pricing decisions.

The third criterion is the behavior of costs in relation to sales volume. Variable costs change as the level of activity changes, while fixed costs remain relatively stable within the relevant short-term range. Separating these two groups makes it possible to calculate contribution margin and the break-even point and to assess how changes in sales volumes may affect profit.

These classifications are most useful when considered together. Functional grouping shows where a cost arises, the direct and indirect classification determines how it is attributed to products, and the fixed and variable classification shows how it behaves when activity changes. This structure can then be used for budgeting, profitability analysis, and identifying areas where tighter cost control is required.

Payment terms also differ depending on the type of customer. In the company considered in this study, sales to business customers are mainly made on credit, while cash payments are more common among private buyers. This significantly affects the structure of cash flows and risks. In management accounting, one of the key tools for ensuring the financial stability of trading companies is the cash flow budget (CFB). It is a plan of cash inflows and outflows that reflects the company's need to finance current operations, investments, and obligations to counterparties. Unlike the income statement, the cash flow statement takes into account the time lag between the recognition of income/expenses and actual cash flows, which allows for the timely identification of cash gaps and liquidity management.

For companies engaged in the sale of building materials, such as Seven Refractories Asia LLP, this is particularly important given the high proportion of deferred payments, significant inventory levels, and the sensitivity of cash flows to seasonal fluctuations in the construction market.

Table 2 – Six-month operating budget, USD thousand

Indicators	October	November	December	January	February	March
Credit sales	250	250	250	260	260	280
Cash sales	60	60	65	75	80	90
Credit purchases	170	180	180	200	200	200
Other operating expenses (excluding depreciation)	90	90	90	122	123	123

Note: compiled by the authors based on data from Seven Refractories Asia LLP

Analytical approaches to assessing expenses and cash flows. Seven Refractories Asia LLP sells building materials on credit and for cash. Selling building materials to different categories of buyers implies differences in financial conditions, which requires the use of flexible accounting and analysis models. Credit sales generate accounts receivable and asset impairment risks, which necessitates the calculation of provisions, control of turnover, and assessment of the impact of payment terms on borrowing requirements.

Model for distributing credit sales proceeds: 80% - proceeds within the first month, one month after sale; 10% - in the second month; 8% - in the third; 2% - written off as bad debt. A similar time logic applies to purchases: 75% is paid after one month, 25% after two months.

This affects the formation of accounts payable, liquidity management, and forecasting cash gaps. Regular operating and administrative payments are also provided for. Operating expenses (sales, logistics, office) are paid as they arise, which requires daily monitoring of cash outflows and analysis of costs by item.

Budgeting as a key analytical tool based on available data, a cash flow budget for the company was drawn up for the first quarter of the year: January, February, and March. The main calculations included: a forecast of credit and cash sales receipts; a forecast of payments for purchases; accounting for operating expenses; accounting for investments in the purchase of equipment (lifts); determination of final cash balances and possible cash gaps.

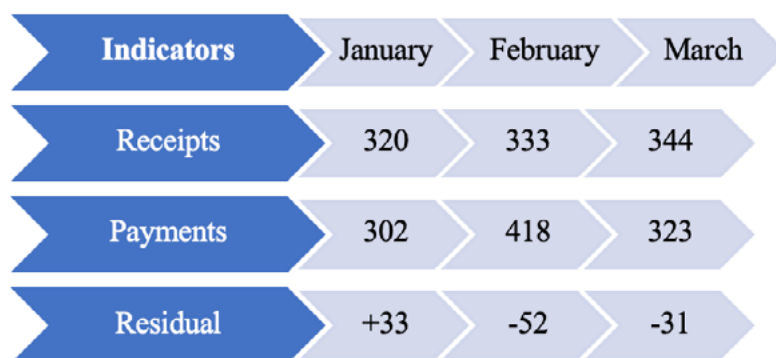


Figure 2 – Budgeting results

Note: compiled by the authors based on data from Seven Refractories Asia LLP

The analytical interpretation of the data is reflected in the cash flow budgeting system (CFBS), which generates cash flow forecasts and identifies cash gaps.

Based on the calculations, a budget model for the first quarter has been developed, including forecasts of receipts and payments, operating expenses, and investments in equipment. The calculations showed a cash gap in the second month, which requires the use of short-term financing or a change in payment policy (Table 3).

Table 3 – Cash flow budget for January–March, USD thousand (opening cash balance: USD 15 thousand)

Indicator	January	February	March
Beginning cash balance	15	33	-52
Receipts from customers	320	333	344
Total cash on hand	335	366	292
Payments to suppliers	180	195	200
Other operating expenses	122	123	123
Capital expenditures	0	100	0
Net cash flow for the month	+18	-85	+21
Ending cash balance	33	-52	-31

Note: compiled by the authors based on data from Seven Refractories Asia LLP

Table 3 presents an aggregated example of a cash flow budget for January–March with an initial cash balance of US\$15,000. The budget structure is designed to identify the company's ability to maintain liquidity under existing sales and purchase financing conditions. In January, there is a small positive net flow (+18), and the balance grows to \$33,000. In February, due to a large payment for equipment (\$100,000) with a comparable level of operating payments, a significant negative flow (-85) is formed, resulting in a negative balance of \$52,000. In other words, without external financing, there would be a cash gap. In March, operating activities again generate a positive flow (+21), but the balance remains negative (-\$31 thousand), meaning that the liquidity problem is not completely resolved.

To assess the impact of sales and procurement policies on the company's liquidity, a cash flow statement was compiled based on aggregated data for three months with an initial cash balance of \$15,000. The model takes into account the time structure of credit sales (80% is collected in one month, 10% in two months, 8% in three months, and 2% is recognized as bad debt) and payments for purchases (75% in one month, 25% in two months), as well as current operating expenses and capital investments.

Calculations show that, if the current payment pattern continues, operating cash flows are positive in January (USD 18 thousand) and March (USD 21 thousand). However, the USD 100 thousand equipment payment in February produces a net cash outflow of USD 85 thousand. The closing cash balance falls from USD 33 thousand to -USD 52 thousand and then partially recovers to -USD 31 thousand, indicating a sustained cash deficit.

A graphical representation of the cash balance dynamics confirms that the key source of liquidity risk is not so much operating expenses as the mismatch between the capital investment schedule and the accounts receivable collection cycle. For companies engaged in the sale of building materials, including Seven Refractories Asia LLP, this means the need for closer integration of the cash flow budgeting system with management accounting and controlling: reviewing payment terms to suppliers, optimizing inventories, phased investment schedules, or using short-term debt financing to smooth cash gaps.

Revenues from sales are generated with a time lag relative to the moment of sale. In January, cash receipts are calculated based on credit sales made in previous months, reflecting the practice of deferred payments. In February and March, revenues are generated on a similar basis, taking into account sales figures for December, November, and October, as well as current sales (taking into account the share of payments at different times). This cash flow pattern allows for a clear assessment of the dependence of cash flows on the effectiveness of accounts receivable management.

Payments to suppliers are also distributed over periods depending on the terms of payment for purchases. Under the assumed payment pattern, January supplier payments relate to December purchases and a portion of purchases made in November. The same timing rule is then applied to February and March. As a result, the date of cash payment does not coincide with the period of the related purchase. This difference is important when assessing working capital requirements and determining payment terms with suppliers.

Operating expenses are included in the month in which the corresponding cash outflow is expected. Capital expenditures are presented separately. In the example, the equipment payment in February causes a sharp increase in cash outflows even though operating activity remains relatively stable. The timing of such investments therefore has a direct effect on the company's liquidity position.

Monthly net cash flow is calculated as total cash receipts less total payments. The closing cash balance is then determined by adding the monthly net cash flow to the opening balance. In this case, the calculation clearly shows the periods in which available cash is insufficient and additional financing may be required.

The cash budget therefore provides a practical view of how working capital and the timing of receipts and payments affect the company's liquidity. It allows for the timely identification of financial risks associated with increasing payments or decreasing revenues and the adoption of corrective decisions, including those related to credit policy management, payment schedules with suppliers, procurement volumes, or investment expenditures. For companies operating in the field of building materials trade, such control is a key factor in ensuring sustainability and increasing the profitability of commercial operations. This example in the article serves as a model for: working capital control; calculation of cash gaps; optimization of payment terms and collection of accounts receivable.

Managing accounts receivable and accelerating inventory turnover are key factors in increasing profitability in Kazakhstan. The findings confirm the role of budgeting as a tool for forecasting and controlling liquidity, as well as for justifying management decisions on cost optimization. Controlling in the field of construction equipment sales is based on: detailed information on expenses, including their structure and dynamics; analytical reporting that allows identifying deviations; forecast models, including budgets and scenario calculations; assessment of financial risks associated with accounts receivable and accounts payable; justification of management decisions aimed at improving financial stability. The accounting and analytical system ensures transparency and predictability of financial flows, improving the quality of strategic and operational management.

The cash budget is an indispensable tool for Seven Refractories Asia LLP in terms of management: it prevents cash gaps, ensuring the fulfillment of obligations, allows comparing sales volume and the necessary cash resources, determines the need for credit financing, and increases profitability by reducing financial expenses. Also, a cash flow budget is not only a cash flow plan, but also a strategic controlling tool that allows you to increase the economic stability of the company in the competitive construction materials market.

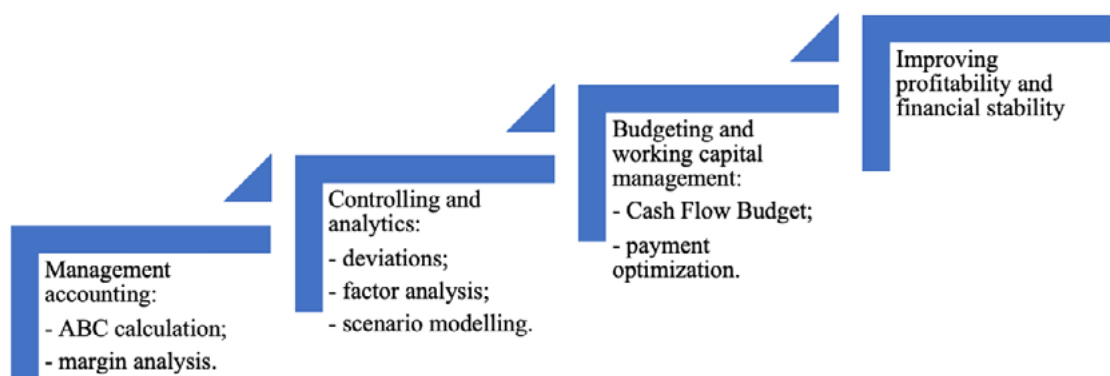


Figure 3 – Visual diagram of the integrated accounting, controlling, and budgeting system model for increasing the profitability of construction material sales

Note: compiled by the authors based on data from Seven Refractories Asia LLP

This model combines three key components:

- Management accounting: classification of expenses: direct/indirect, variable/fixed, by functional purpose; ABC costing to identify the most costly processes and products; Marginal analysis by product and customer segment.
- Controlling and analytics: monitoring of deviations of actual expenses from budgeted expenses; factor analysis of the impact of costs on profitability; scenario modeling: optimistic, baseline, pessimistic.
- Cash flow budgeting and working capital management: planning of receipts and payments (CDDS) with cash flow gap forecasts; optimization of payment schedules to suppliers and collection from customers; impact of capital investments on financial stability.

These blocks are linked by feedback: information on actual expenses and cash flow adjusts budgets and forecasts, while scenario modeling generates recommendations for reducing costs and increasing profitability.

1. Return on sales (ROS)

$$\text{ROS} = \frac{(\text{Revenue} - \text{Total operating costs})}{\text{Revenue}} \times 100\% \quad (1)$$

To avoid double counting, direct/indirect and variable/fixed costs are treated as alternative analytical classifications rather than additive cost components. For the operating example, revenue equals credit sales of USD 250 thousand plus cash sales of USD 60 thousand, or USD 310 thousand. Total operating costs equal purchase costs of USD 180 thousand plus other operating expenses of USD 90 thousand, or USD 270 thousand.

$$\text{ROS} = \frac{(310 - 270)}{310} \times 100\% = 12.9\%$$

The result means that the company generates approximately USD 12.9 of operating profit for every USD 100 of sales under the assumptions used in the model.

2. Contribution margin and contribution margin ratio

$$\text{CM} = \text{Revenue} - \text{Variable costs} \quad (2)$$

$$\text{CMR} = \frac{\text{CM}}{\text{Revenue}} \times 100\% \quad (3)$$

Using purchase costs as the variable cost component in the illustrative model, $\text{CM} = 310 - 180 = \text{USD } 130$ thousand and $\text{CMR} = 130 / 310 \times 100\% = 41.9\%$. Therefore, the previously reported value of approximately 42% represents the contribution margin ratio, not return on sales.

3. Net cash flow

$$\text{NCF}_t = \text{CF in}_t - \text{CF out}_t \quad (4)$$

January: $\text{NCF} = 320 - 180 - 122 = \text{USD } 18$ thousand

February: $\text{NCF} = 333 - 195 - 123 - 100 = -\text{USD } 85$ thousand

March: $\text{NCF} = 344 - 200 - 123 = \text{USD } 21$ thousand

With an opening cash balance of USD 15 thousand, the resulting closing balances are USD 33 thousand in January, -USD 52 thousand in February, and -USD 31 thousand in March. The calculations show that the liquidity deficit is caused primarily by the timing of the capital expenditure in February combined with the delayed collection of receivables.

4. Scenario analysis of cash receipts

The January sensitivity test keeps total cash payments fixed at USD 302 thousand and changes customer receipts by $\pm 10\%$ relative to the baseline amount of USD 320 thousand.

Optimistic scenario: $352 - 302 = \text{USD } 50$ thousand

Baseline scenario: $320 - 302 = \text{USD } 18$ thousand

Pessimistic scenario: $288 - 302 = -\text{USD } 14$ thousand

The corresponding closing cash balances are USD 65 thousand, USD 33 thousand, and USD 1 thousand. This result demonstrates the sensitivity of liquidity to changes in the timing and amount of customer receipts. The financial stability index formula was excluded because the company data do not establish a formally approved minimum cash balance required for its calculation.

The decision-making sequence used in the model starts with actual sales and cost data. These data are first grouped by type of expense and then examined using ABC analysis to identify the activities and cost items that absorb the largest share of resources. Product and customer segments are subsequently compared on the basis of contribution margin and profitability. The results are then incorporated into the cash flow budget, where the timing of receipts and payments is used to identify periods in which a liquidity shortage may occur. Scenario modeling is used to assess financial risks, including optimistic, baseline, and pessimistic scenarios. Based on the analysis,

payment schedules to suppliers and receipts from customers are adjusted, and working capital is optimized. Finally, actual indicators are monitored, reconciled with forecast data, and adjustments are made to management decisions, ensuring continuous improvement in the financial stability and profitability of the enterprise.

Based on data analysis, management decisions are developed: payment schedules are adjusted, working capital is optimized, monitoring and feedback are carried out for timely strategy adjustments. The integrated approach combines accounting, analytics, and planning, prevents cash gaps, identifies cost reduction reserves, and allows the model to be scaled for different product groups and industries.

Following this approach, the proposed model provides a continuous cycle of management decisions, from data collection and analytics, through financial planning and forecasting, to strategy adjustment, which increases business profitability and sustainability.

The main feature of the proposed model is that management accounting, analysis, and planning are considered within the same framework rather than as separate procedures. This makes it possible to relate changes in costs to their effect on cash flows and profitability. The model allows for the rapid identification of opportunities to reduce costs, prevents cash flow gaps, and contributes to the optimization of working capital utilization. The use of scenario modeling reduces the risk of unforeseen expenses, and the flexibility of the system provides the ability to scale for different types of building materials and other industries, making it a universal tool for increasing the profitability and financial stability of an enterprise.

Study limitations. The findings should be interpreted as case-study evidence. The company-level data cover a six-month planning horizon and a three-month cash flow budget, whereas the official statistics cover 2023–2025 and are used only to describe the external market environment. Consequently, the results illustrate the application of the proposed model but do not constitute a three-year panel analysis or provide industry-wide causal estimates. Further research may test the model using annual observations from several companies and product groups.

Conclusion

A management analysis of costs and cash flows in the sale of building materials showed that the effectiveness of commercial activities depends on the quality of accounting and analytical support and the integration of management accounting, budgeting, and controlling. The cash flow budget confirmed that, despite stable operating receipts, the company faces liquidity risks because payment and receipt schedules are not synchronized. In February, net cash outflow amounted to USD 85 thousand, resulting in a closing cash deficit of USD 52 thousand and a continuing deficit of USD 31 thousand in March.

The sensitivity analysis showed that, with January cash payments fixed at USD 302 thousand, a 10% variation in customer receipts changes monthly net cash flow from USD 50 thousand under the optimistic scenario to -USD 14 thousand under the pessimistic scenario. The corresponding closing cash balance ranges from USD 65 thousand to USD 1 thousand. This confirms that liquidity is materially affected by the timing and amount of receivable collections.

Based on the analysis, a managerial control and cash flow optimization model was developed. The model integrates the collection of sales and expense data, cost classification, contribution margin analysis, preparation of the cash flow budget, scenario modeling, and adjustment of payment schedules. In the case study, the calculations produced a contribution margin of USD 130 thousand, a contribution margin ratio of 41.9%, return on sales of 12.9%, and baseline January net cash flow of USD 18 thousand.

The results of the study confirm that management accounting and cost analytics are not only tools for determining cost price and controlling expenses, but also key elements of predictive analysis. They enable the identification of financial risks, assessment of their impact on profitability, and timely adjustment of management decisions aimed at optimizing inventories, managing accounts receivable, and improving the efficiency of cash utilization.

The practical significance of the study lies in the development of recommendations for improving the financial stability of the enterprise: the introduction of scenario-based cash flow budgeting, automation of working capital monitoring, optimization of payment schedules with counterparties, and the use of factoring and credit line instruments to prevent cash flow gaps.

The scientific contribution of the study lies in presenting an integrated analytical model that distinguishes profitability indicators from liquidity indicators and links cost classification, contribution margin analysis, return

on sales, cash flow budgeting, and scenario testing within one decision-making framework. The calculations provide case-based evidence of how payment timing and cost structure affect operating results and short-term liquidity.

In conclusion, it should be noted that further improvement of the efficiency of the accounting and analytical system is associated with the digitalization of management processes, the introduction of BI platforms, and advanced predictive analytics. This will significantly enhance the enterprise's ability to adapt to changes in market conditions and increase the profitability of commercial operations.

Acknowledgements, conflict of interest. The authors express their sincere gratitude to the management and staff of the organization under study for providing data and assisting in the analysis of the integrated management accounting and controlling system. Special thanks are due to the research supervisor for valuable recommendations, methodological support, and constructive comments, which contributed to improving the scientific quality of the study. The authors also thank their colleagues from the Department of Accounting and Analysis for discussing the interim results and providing useful suggestions that allowed them to deepen the analysis of the impact of integrated accounting and control tools on the profitability of sales of building materials.

The author would like to thank the management and staff of Seven Refractories Asia LLP for providing data and advisory support during the research. Special thanks go to the editorial board of the journal Vestnik ENU. Series: Economics for methodological recommendations on the preparation of scientific publications and assistance in disseminating the results of research work.

The authors confirm that there are no actual or potential conflicts of interest in this study. The study was conducted without financial, advisory, or other support from third parties that could influence the course of the work, data analysis, or final conclusions.

Authors' contribution

N.E. Zhiyenbay contributed to the conceptualization of the study, methodology development, G.D. Amanova contributed to secondary-data extraction and curation, formal analysis, visualization, and preparation of the original manuscript.

A.D. Nurzhanov contributed to the supervision of the study, validation and interpretation of the results, and critical review and editing of the manuscript.

References

1. Al-Mekhlafi, M. A., & Othman, M. S. E. (2023). The role of activity-based costing system in cost control in Saudi manufacturing firms. *International Journal for Quality Research*, 17(2), 603–616. <https://doi.org/10.24874/IJQR17.02-19>
2. Barros, R. S., & Ferreira, A. M. D. S. C. (2023). Management control systems and innovation: A case study grounded in institutional theory. *Journal of Management Control*, 34, 109–133. <https://doi.org/10.1007/s00187-023-00351-4>
3. Bhimani, A., Datar, S. M., Horngren, C. T., & Rajan, M. V. (2023). *Management and cost accounting* (8th ed., 862 pp.). Pearson Higher Ed. <https://books.google.kz/books?id=6ty3EAAAQBAJ> [in English].
4. Blocher, E. J., Juras, P. E., & Smith, S. D. (2024). *Cost management: A strategic emphasis* (2024 release). McGraw Hill. 720 p. [in English].
5. Bruesch, A., & Quinn, M. (2024). Performance management system components and the role of the management accountant. *Qualitative Research in Accounting & Management*, 21(4), 317–341. <https://doi.org/10.1108/QRAM-03-2023-0035>
6. Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2024). On the execution of construction work and commissioning of facilities in the Republic of Kazakhstan (2023). <https://stat.gov.kz/en/industries/business-statistics/stat-inno-build/publications/183368/>
7. Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2025). On the execution of construction work and commissioning of facilities in the Republic of Kazakhstan

-
- (2024). <https://stat.gov.kz/en/industries/business-statistics/stat-inno-build/publications/417433/>
8. Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2026). On the execution of construction work and commissioning of facilities in the Republic of Kazakhstan (2025). <https://stat.gov.kz/en/industries/business-statistics/stat-inno-build/publications/506289/>
9. Datar, S. M., & Rajan, M. V. (2024). *Hornsgren's cost accounting: A managerial emphasis* (17th ed., Global ed.). Pearson.
10. Drury, C. (2022). *Management and cost accounting*. Cengage Learning.
11. Garrison, R. H., Noreen, E. W., Brewer, P. C., & Montague, N. R. (2026). *Managerial accounting* (18th ed., 2026 release). McGraw Hill.
12. Hammouch, H., Manta, O., & Palazzo, M. (2024). Adapting management control systems to organizational contingency factors: A study of Moroccan industrial companies. *Businesses*, 4(4), 883–898. <https://doi.org/10.3390/businesses4040048>
13. Hansen, D. R., Mowen, M. M., & Heitger, D. L. (2022). *Cost management* (5th ed.). Cengage Learning.
14. Merchant, K. A., & Van der Stede, W. A. (2023). *Management control systems: Performance measurement, evaluation and incentives* (5th ed.). Pearson.
15. Mowen, M. M., Hansen, D. R., & Heitger, D. L. (2023). *Managerial accounting: The cornerstone of business decision-making* (8th ed.). Cengage.
16. Okereke, R. A., Zakariyau, M., & Eze, E. C. (2022). The role of construction cost management practices on construction organisations' strategic performance. *Journal of Project Management Practice*, 2(1), 20–39. <https://doi.org/10.22452/jpmp.vol2no1.2>
17. Wang, Y., Li, P., Al-Sayed, M., & Gong, Y. (2025). The evolution of management control combinations in the transformation toward hybridity: A case study. *Accounting Forum*. Advance online publication. <https://doi.org/10.1080/01559982.2025.2574126>
18. Weygandt, J. J., Kimmel, P. D., & Mitchell, J. E. (2024). *Managerial accounting: Tools for business decision making* (10th ed.). Wiley.
19. Yang, F. (2024). Research on the optimization path of strategic cost management under the background of the digital economy. *Journal of Applied Economics and Policy Studies*, 11, 62–66. <https://doi.org/10.54254/2977-5701/11/2024109>
20. Алиева, Н. М. (2023). Экономическая сущность и классификация коммерческих расходов. *Прикладные экономические исследования*, (S2), 16–20. https://doi.org/10.47576/2949-1908_2023_S2_16
21. Головина, А. Н., Комарова, О. В., & Невьянцев, И. Б. (2024). Системный подход к исследованию затрат строительной организации. *Экономика, предпринимательство и право*, 14(8), 4275–4294. <https://doi.org/10.18334/epp.14.8.121455>
22. Гришкина, С. Н., & Честнова, К. С. (2023). Развитие функций управленческого учета в системе корпоративного управления. *Учет. Анализ. Аудит*, 10(5), 38–49. <https://doi.org/10.26794/2408-9303-2023-10-5-38-49>
23. Дмитриева, И. М. (2025). *Бухгалтерский учет с основами МСФО: учебник и практикум для вузов* (8-е изд.). Юрайт.
24. Исабекова, А. Ж. (2023). Аналитика затрат и управление рентабельностью в строительном секторе Казахстана. *Вестник КНЭУ*, (2), 97–107.
25. Ковалева, И. П., & Стрижак, М. С. (2022). Управленческий учет затрат на производстве: российский опыт. *Учет. Анализ. Аудит*, 9(3), 64–77. <https://doi.org/10.26794/2408-9303-2022-9-3-64-77>
26. Колчева, Л. М. (2023). Управление затратами на логистику и сбыт в торговле строительными материалами. *Торгово-экономический журнал*, (3), 88–97.
27. Мальцева, Е. С. (2022). Управленческий учет в строительных организациях: проблемы и направления развития. *Управленческий учет и анализ*, (4), 44–53.
28. Плотникова, О. В. (2022). Бюджетирование и контроллинг в системе управления предприятием. *Управленческий учет*, (5), 13–21.
-

Құрылыс материалдарын сату рентабельділігін арттыруға бағытталған интеграцияланған басқарушылық есеп және контроллинг жүйесінің әсері

Аңдатпа. Зерттеудің мақсаты – басқарушылық есептің, шығындарды талдаудың және бюджеттеудің құрылыс материалдары нарығындағы шығындарды бақылауға, баға белгілеу жөнінде негізделген шешімдер қабылдауға және рентабельділікті арттыруға ықпалын анықтау. *Әдістері.* Зерттеу әдіснамасы өткізу шығындарының құрылымын талдауды, шығындарды жауапкершілік орталықтары мен сату арналары бойынша жіктеуді және коммерциялық тиімділікті бағалауды біріктіреді. Толық және айнымалы өзіндік құнды есептеу әдістерімен қатар залалсыздықты талдау, қызмет түрлері бойынша шығындарды есептеу (ABC) және қызмет түрлеріне негізделген бюджеттеу (ABB) қолданылды. Эмпирикалық базаны Қазақстанның құрылыс саласы бойынша 2023–2025 жылдардағы ресми статистикалық деректер және алты айлық операциялық бюджет пен үш айлық ақша ағындарының болжамын қамтитын кәсіпорынның кейстік зерттеу материалдары құрады. *Нәтижелері.* Талдау барысында шығындардың қалыптасуына әсер ететін негізгі факторлар айқындалып, жекелеген тауар топтары мен сату арналары бойынша маржиналдық табыстың айырмашылықтары анықталды. Басқарушылық есеп пен бюджеттеуді біріктіру өткізу шығындарының ашықтығын арттырып, ауытқуларды бақылауды күшейтетіні және баға белгілеу мен өнім ассортиментінің құрылымы жөніндегі шешімдер үшін неғұрлым сенімді негіз қалыптастыратыны анықталды. *Қорытынды.* Интеграцияланған есептік-талдамалық жүйе шығындарды басқару тиімділігін арттыруға, ақша ағындарын оңтайландыруға, рентабельділікті жоғарылатуға және құрылыс секторындағы сауда кәсіпорындарының қаржылық тұрақтылығын нығайтуға мүмкіндік береді. Оның тиімділігін цифрлық визуализация, тереңдетілген аналитика және өзара байланысты қаржылық әрі операциялық көрсеткіштерге негізделген болжау арқылы одан әрі арттыруға болады.

Түйін сөздер: басқарушылық есеп, шығындарды талдау, құрылыс материалдары, бюджеттеу, контроллинг, рентабельділік, ақша ағындары, маржиналды талдау, ABC-костинг.

Влияние интегрированной системы управленческого учета и контроллинга на прибыльность продаж строительных материалов

Аннотация. Цель исследования – определить, каким образом управленческий учет, анализ затрат и бюджетирование способствуют контролю расходов, принятию обоснованных решений в области ценообразования и повышению рентабельности на рынке строительных материалов. *Методы.* Методология исследования объединяет анализ структуры расходов на реализацию, классификацию затрат по центрам ответственности и каналам продаж, а также оценку коммерческой эффективности. Наряду с методами учета полной и переменной себестоимости применялись анализ безубыточности, функционально-стоимостной анализ (ABC) и функционально-ориентированное бюджетирование (ABB). Эмпирическую базу составили официальные статистические данные строительной отрасли Казахстана за 2023–2025 годы и материалы кейс-исследования предприятия, включающие операционный бюджет на шесть месяцев и прогноз движения денежных средств на три месяца. *Результаты.* В ходе анализа определены основные факторы формирования затрат и выявлены различия в маргинальном доходе отдельных товарных групп и каналов

продаж. Установлено, что интеграция управленческого учета и бюджетирования повышает прозрачность расходов на реализацию, усиливает контроль отклонений и формирует более надежную основу для принятия решений по ценообразованию и структуре ассортимента. *Выводы.* Интегрированная учетно-аналитическая система позволяет повысить эффективность управления затратами, оптимизировать денежные потоки, увеличить рентабельность и укрепить финансовую устойчивость торговых предприятий строительного сектора. Ее результативность может быть дополнительно повышена посредством цифровой визуализации, углубленной аналитики и прогнозирования на основе взаимосвязанных финансовых и операционных показателей.

Ключевые слова: управленческий учет, анализ затрат, строительные материалы, бюджетирование, контроллинг, рентабельность, денежные потоки, маржинальный анализ, метод ABC (функционально-стоимостной анализ).

References

1. Al-Mekhlafi, M. A., & Othman, M. S. E. (2023). The role of activity-based costing system in cost control in Saudi manufacturing firms. *International Journal for Quality Research*, 2023(17:2), 603–616. <https://doi.org/10.24874/IJQR17.02-19> [in English].
2. Barros, R. S., & Ferreira, A. M. D. S. C. (2023). Management control systems and innovation: A case study grounded in institutional theory. *Journal of Management Control*, 2023(34), 109–133. <https://doi.org/10.1007/s00187-023-00351-4> [in English].
3. Bhimani, A., Datar, S. M., Horngren, C. T., & Rajan, M. V. (2023). *Management and cost accounting* (8th ed., 862 pp.). Pearson Higher Ed. <https://books.google.kz/books?id=6ty3EAAAQBAJ> [in English].
4. Blocher, E. J., Juras, P. E., & Smith, S. D. (2024). *Cost management: A strategic emphasis* (2024 release). McGraw Hill. 720 p. [in English].
5. Bruesch, A., & Quinn, M. (2024). Performance management system components and the role of the management accountant. *Qualitative Research in Accounting & Management*, 2024(21:4), 317–341. <https://doi.org/10.1108/QRAM-03-2023-0035> [in English].
6. Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2024). On the execution of construction work and commissioning of facilities in the Republic of Kazakhstan (2023) [Electronic resource]. <https://stat.gov.kz/en/industries/business-statistics/stat-inno-build/publications/183368/> [in English].
7. Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2025). On the execution of construction work and commissioning of facilities in the Republic of Kazakhstan (2024) [Electronic resource]. <https://stat.gov.kz/en/industries/business-statistics/stat-inno-build/publications/417433/> [in English].
8. Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2026). On the execution of construction work and commissioning of facilities in the Republic of Kazakhstan (2025) [Electronic resource]. <https://stat.gov.kz/en/industries/business-statistics/stat-inno-build/publications/506289/> [in English].
9. Datar, S. M., & Rajan, M. V. (2024). *Horngren's cost accounting: A managerial emphasis* (17th ed., Global ed.). Pearson [in English].
10. Drury, C. (2022). *Management and cost accounting*. Cengage Learning [in English].
11. Garrison, R. H., Noreen, E. W., Brewer, P. C., & Montague, N. R. (2026). *Managerial accounting* (18th ed., 2026 release). McGraw Hill [in English].
12. Hammouch, H., Manta, O., & Palazzo, M. (2024). Adapting management control systems to organizational contingency factors: A study of Moroccan industrial companies. *Businesses*, 2024(4:4), 883–898. <https://doi.org/10.3390/businesses4040048> [in English].
13. Hansen, D. R., Mowen, M. M., & Heitger, D. L. (2022). *Cost management* (5th ed.). Cengage Learning [in English].

-
14. Merchant, K. A., & Van der Stede, W. A. (2023). Management control systems: Performance measurement, evaluation and incentives (5th ed.). Pearson [in English].
 15. Mowen, M. M., Hansen, D. R., & Heitger, D. L. (2023). Managerial accounting: The cornerstone of business decision-making (8th ed.). Cengage [in English].
 16. Okereke, R. A., Zakariyau, M., & Eze, E. C. (2022). The role of construction cost management practices on construction organisations' strategic performance. *Journal of Project Management Practice*, 2022(2:1), 20–39. <https://doi.org/10.22452/jpmp.vol2no1.2> [in English].
 17. Wang, Y., Li, P., Al-Sayed, M., & Gong, Y. (2025). The evolution of management control combinations in the transformation toward hybridity: A case study. *Accounting Forum*. Advance online publication. <https://doi.org/10.1080/01559982.2025.2574126> [in English].
 18. Weygandt, J. J., Kimmel, P. D., & Mitchell, J. E. (2024). Managerial accounting: Tools for business decision making (10th ed.). Wiley [in English].
 19. Yang, F. (2024). Research on the optimization path of strategic cost management under the background of the digital economy. *Journal of Applied Economics and Policy Studies*, 2024(11), 62–66. <https://doi.org/10.54254/2977-5701/11/2024109> [in English].
 20. Alieva, N. M. (2023). Ekonomicheskaya sushchnost' i klassifikatsiya kommercheskikh raskhodov [Economic essence and classification of selling expenses]. *Prikladnye ekonomicheskie issledovaniya* [Applied Economic Research], 2023(S2), 16–20. https://doi.org/10.47576/2949-1908_2023_S2_16 [in Russian].
 21. Golovina, A. N., Komarova, O. V., & Neviantsev, I. B. (2024). Sistemnyi podkhod k issledovaniyu zatrat stroitel'noi organizatsii [A systems approach to studying the costs of a construction organization]. *Ekonomika, predprinimatel'stvo i pravo* [Journal of Economics, Entrepreneurship and Law], 2024(14:8), 4275–4294. <https://doi.org/10.18334/epp.14.8.121455> [in Russian].
 22. Grishkina, S. N., & Chestnova, K. S. (2023). Razvitie funktsii upravlencheskogo ucheta v sisteme korporativnogo upravleniya [Development of management accounting functions in the corporate governance system]. *Uchet. Analiz. Audit* [Accounting. Analysis. Auditing], 2023(10:5), 38–49. <https://doi.org/10.26794/2408-9303-2023-10-5-38-49> [in Russian].
 23. Dmitrieva, I. M. (2025). Bukhgalterskii uchët s osnovami MSFO: uchebnyy i praktikum dlya vuzov [Accounting with the fundamentals of IFRS: Textbook and practical course for universities] (8th ed.). Yurait [in Russian].
 24. Isabekova, A. Zh. (2023). Analitika zatrat i upravlenie rentabel'nost'yu v stroitel'nom sektore Kazakhstana [Cost analytics and profitability management in Kazakhstan's construction sector]. *Vestnik KNEU* [Bulletin of KNEU], 2023(2), 97–107 [in Russian].
 25. Kovaleva, I. P., & Strizhak, M. S. (2022). Upravlencheskii uchët zatrat na proizvodstve: rossiiskii opyt [Management accounting of production costs: Russian experience]. *Uchet. Analiz. Audit* [Accounting. Analysis. Auditing], 2022(9:3), 64–77. <https://doi.org/10.26794/2408-9303-2022-9-3-64-77> [in Russian].
 26. Kolcheva, L. M. (2023). Upravlenie zatratami na logistiku i sbyt v trgovle stroitel'nymi materialami [Management of logistics and distribution costs in the construction materials trade]. *Torgovo-ekonomicheskii zhurnal* [Russian Journal of Retail Management], 2023(3), 88–97 [in Russian].
 27. Maltseva, E. S. (2022). Upravlencheskii uchët v stroitel'nykh organizatsiyakh: problemy i napravleniya razvitiya [Management accounting in construction organizations: Problems and development directions]. *Upravlencheskii uchët i analiz* [Management Accounting and Analysis], 2022(4), 44–53 [in Russian].
 28. Plotnikova, O. V. (2022). Biudzhetrovanie i kontrolirovaniye v sisteme upravleniya predpriyatiem [Budgeting and controlling in the enterprise management system]. *Upravlencheskii uchët* [Management Accounting], 2022(5), 13–21 [in Russian].

Information about authors:

Zhiyenbay N.E. – Doctoral student, 1st year, Educational Program «Accounting and Analysis», Graduate School of Economics and Tourism, L.N. Gumilyov Eurasian National University, Kazhymukan Street, 11, 010008, Astana, Kazakhstan.

Amanova G.D. – corresponding author, Candidate of Economic Sciences, Professor, Head of the Department of Accounting and Analysis, L.N. Gumilyov Eurasian National University, Graduate School of Economics and Tourism, Kazhymukan Street, 11, 010008, Astana, Kazakhstan.

Nurzhanov A.D. – Head of IFRS Group, Navoi Mining and Metallurgical Combinat JSC, Navoi Street, 27, 210100, Navoi Region, Republic of Uzbekistan.

Жиенбай Н.Е. – «Есеп және талдау» білім беру бағдарламасының 1-курс докторанты, Л.Н. Гумилев атындағы Еуразия ұлттық университеті, Экономика және туризм жоғары мектебі, Қажымұқан, 11, 010008, Астана, Қазақстан.

Аманова Г.Д. – хат-хабар авторы, «Есеп және талдау» кафедрасының меңгерушісі экономика ғылымдарының кандидаты, профессор, Л.Н. Гумилев атындағы Еуразия ұлттық университеті, Экономика және туризм жоғары мектебі, Қажымұқан, 11, 010008, Астана, Қазақстан.

Нуржанов А.Д. –МСФО бойынша топ жетекшісі, «Навои тау-металлургиялық комбинаты» АҚ, Навои, 27, 210100, Навои, Өзбекстан.

Жиенбай Н.Е. –докторант 1 курса образовательной программы «Учет и анализ» высшей школы экономики и туризма, Евразийский национальный университет имени Л.Н. Гумилева, ул. Кажымукана 11, 010008, г. Астана, Казахстан.

Аманова Г.Д. – автор для корреспонденции, кандидат экономических наук, профессор, заведующий кафедрой «Учет и анализ», Высшая школа экономики и туризма, Евразийский национальный университет имени Л.Н. Гумилева, ул. Кажымукана 11, 010008, г. Астана, Казахстан.

Нуржанов А.Д. – Руководитель группы по МСФО АО «Навоийский горно-металлургический комбинат», ул. Навои, 27, 210100, г. Навои, Навоийская область, Республика Узбекистан.



Copyright: © 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY NC) license (<https://creativecommons.org/licenses/by-nc/4>).